CURRENT AFFAIRS WEEKLY

WEEK: 2
AUGUST
2022

MAINS

GS-I

- EARTH HAS RECORDED ITS SHORTEST DAY SINCE THE 1960s

GS-II

- WHY INDIA WANT TO ENSURE THE SUPPLY OF RARE EARTH METALS?
- RECALLING INDIA'S ANTARCTICA ACTIVITIES
- SC MOOTS VERDICT FOR 'BODILY AUTONOMY' UNDER MTP ACT
- ADDRESSING THE CHALLENGES IN NEW-AGE DIGITAL COMMERCE
- THE PRIVILEGE OF MPS DOES NOT EXTEND TO CRIMINAL CASES
- WITHDRAWAL OF PERSONAL DATA PROTECTION BILL

GS-III

- SEBI PROPOSES BLUE BONDS CONCEPT FOR SUSTAINABLE FINANCING ACTIVITIES
- RBI'S FI INDEX SHOWS RISE
- HOW EXPANSION OF MONEY IN AN ECONOMY DOES NOT HAPPEN UNIFORMLY?

PRELIMS

GEOGRAPHY

- NOAA predicts above-average Atlantic hurricane season

ART & CULTURE

- Gorima Hazarika, one of first women pioneers Sattriya dance, dies at 83
- International Day of Indigenous People

HISTORY

- Recalling 'Quit India'
- International Relations
- India begins cooperation with Bahrain-based Combined Maritime Forces
- India-Maldives Relations

POLITY & GOVERNANCE

- Swachh Sagar, Surakshit Sagar Campaign
- India to become Atmanirbhar in Diammonium Phosphate (DAP)
- Delhi HC questions need for ration card to avail aid
- A self-regulatory organisation (SRO) for India's gold industry

ENVIRONMENT

- India's Climate commitments
- Lok Sabha passes bill to implement global norms on endangered species

SCIENCE & TECH

- ISRO launches its smallest rocket to unfurl Tricolour in Space
- Indian Virtual Herbarium
- Hellfire R9X missile
- Deep Sea Biodiversity
- United Launch Alliance's Atlas V rocket launched with US Space Force satellite
- NASA's James Webb captures deeper edifice of Cartwheel Galaxy
- Researchers identify fungus for pyrene remediation
- How scientists fixed the Lucy probe's solar array while it was in space

QUICK BYTES

- Heritage sites identified for the 'national importance' tag
- Sowing Wheat early in Eastern India can Increase yield by 69%: Study
- Nanotech tattoo as health monitoring device

MISCELLANEOUS

- AVRA Technology Award – 2021 presented to Dr Krishna M Ella
- Commonwealth Games 2022

SPECIAL

- India's gain from British India

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— Disclaimer —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS WEEKLY

CONTENTS

WEEK - 2 (AUGUST, 2022)

Section - A: MAINS CURRENT AFFAIRS			
	Area of GS	Topics in News	Page No.
GS I	GEOGRAPHY	• Earth has recorded its shortest day since the 1960s	02
GS II	INTERNATIIONAL RELATIONS	• Why India want to ensure the supply of Rare earth metals?	04
		• Recalling India's Antarctica activities	07
	POLITY & GOVERNANCE	• SC moots verdict for 'bodily autonomy' under MTP Act	10
		• Addressing the challenges in new-age digital commerce	12
		• The privilege of MPs does not extend to Criminal Cases	14
		• Withdrawal of Personal Data Protection Bill	16
GS III	ECONOMY	• SEBI proposes blue bonds concept for sustainable financing activities	18
		• RBI's FI Index shows rise	21
		• How expansion of money in an economy does not happen uniformly?	23
Section - B: SPECIAL			
Topics in News			Page No.
GS I	HISTORY	• India's gain from British India	26
Section - C: PRELIMS CURRENT AFFAIRS			
	Area of GS	Topics in News	Page No.
GS I	GEOGRAPHY	• NOAA predicts above-average Atlantic hurricane season	32
	ART & CULTURE	• Gorima Hazarika, one of first women pioneers Sattriya dance, dies at 83	83
		• International Day of Indigenous People	36
	HISTORY	• Recalling 'Quit India'	37

GS II	INTERNATIONAL RELATIONS	• India begins cooperation with Bahrain-based Combined Maritime Forces	39
		• India-Maldives Relations	41
		• Swachh Sagar, Surakshit Sagar Campaign	42
		• India to become Atmanirbhar in Diammonium Phosphate (DAP)	43
	POLITY & GOVERNANCE	• Delhi HC questions need for ration card to avail aid	44
		• A self-regulatory organisation (SRO) for India's gold industry	46
		• India's Climate commitments	47
		• Lok Sabha passes bill to implement global norms on endangered species	49
GS III	ENVIRONMENT	• ISRO launches its smallest rocket to unfurl Tricolour in Space	50
		• Indian Virtual Herbarium	51
		• Hellfire R9X missile	52
	SCIENCE & TECH	• Deep Sea Biodiversity	53
		• United Launch Alliance's Atlas V rocket launched with US Space Force satellite	56
		• NASA's James Webb captures deeper edifice of Cartwheel Galaxy	56
		• Researchers identify fungus for pyrene remediation	58
		• How scientists fixed the Lucy probe's solar array while it was in space	59

Section - D: QUICK BYTES

Topics in News		Page No.
1	• Heritage sites identified for the 'national importance' tag	63
2	• Sowing Wheat early in Eastern India can Increase yield by 69%: Study	64
3	• Nanotech tattoo as health monitoring device	65

Section - E: MISCELLANEOUS

Topics in News		Page No.
1	• AVRA Technology Award – 2021 presented to Dr Krishna M Ella	68
	• Commonwealth Games 2022	68

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SECTION: A

(MAINS)

CURRENT AFFAIRS

EARTH HAS RECORDED ITS SHORTEST DAY SINCE THE 1960S

CONTEXT:

On June 29th, the Earth completed one full spin in 1.59 milliseconds less than its routine 24 hours. It was the shortest day recorded since the 1960s.

⦿ DETAILS:

- The Earth has set the record for the shortest day ever recorded since scientists began using atomic clocks to measure its rotational speed.
- In recent years, the Earth's rotation has accelerated, shortening some days by milliseconds. Since 2016 the Earth started to accelerate.

The method

- Scientists used **precise atomic clocks** to measure the Earth's rotational speed.
- This change was not witnessed since the **beginning of precise radio astronomy in the 1970s**
- Scientists use a **measurement scale** called ***"length of day"*** to describe how fast or slow a planet is spinning.
- The data from **International Earth Rotation and Reference Systems Service (IERS)** shows how the length of day measurement has been on a **constant downward trend for a while**.

The length of the day is the difference between the time the planet takes to complete one rotation on its axis or 86,400 seconds.

What factors are affecting the rate of Earth's Spin?

- **Chandler wobble phenomenon:** It is a phenomenon that refers to the **small deviation** in the movement of Earth's geographical poles. The normal amplitude of the Chandler wobble is about three to four meters at Earth's surface, but from 2017 to 2020 it disappeared.
- **Long-term tidal effects:** It could just be long-term tidal effects working in parallel with other periodic processes to produce a temporary change in Earth's rotation rate. The research attributed the larger trend of the Earth's slower spin mostly to the gravitational pull of the Moon, which causes tidal friction and slows down the Earth's rotations.
- **Climate change-induced surface variations**: Melting ice sheets in Greenland and Antarctica Changes in ocean circulation.
- **Geomorphic factors:** Movements in the planet's inner molten core Seismic activity, Wind speed, and shifting atmospheric gases.
- **Other reasons**: Activities that push mass towards the center of the Earth will hasten the planet's rotation. Anything that pushes mass outwards will slow down the spin.

What can happen if the Earth continues to spin faster on a sustained basis?

- **Difficulty in Timekeeping:** The changes brought to the speed of the rotation of the earth by any reason makes **timekeeping a difficult job.** If the Earth continues to spin faster and days subsequently become shorter, scientists may have to introduce the first ever **'negative leap second,'** which involves subtraction of a second from clocks.

A **negative leap second** is a second that is subtracted from our clocks to keep them in sync with the Earth's rotation. It is the opposite of a positive leap second, which is a one-second addition to our clocks. The system of leap seconds was introduced in the early 1970s.

- ➤ It involves one-second adjustments to **Coordinated Universal Time (UTC),** the time standard used to synchronize clocks around the world. **Due to the long-term slowing** in the planet's spin, **27 leap seconds have been added to UTC.**
- ➤ As opposed to leap years, which have an extra day added, a negative leap second would mean clocks skip one second.

Coordinated Universal Time (UTC): Before 1972, this time was called **Greenwich Mean Time (GMT)** but is now referred to as *Coordinated Universal Time* or *Universal Time Coordinated (UTC).* It is a coordinated time scale, maintained by the Bureau International des Poids et Mesures (BIPM). It is also known as "Z time" or "Zulu Time"

- **The devastating effect on software:** Since a negative leap second has never been tested on a large scale, "it could have a devastating effect on the software relying on timers or schedulers". In the year 2012, the website ***Reddit*** was left inaccessible for 30-40 minutes due to the addition of leap second.

Is Earth spinning faster than it used to be?

- **The answer is "No".** While the Earth has been completing its rotations faster in recent years, when looked at over a much longer period of time, our planet is actually spinning slower.
- Every century, the Earth takes a few milliseconds longer to complete one rotation — and on average, days are actually getting longer. So, 1.4 billion years ago, a day would have ended in less than 19 hours.

⊙ CONCLUSION:

Such oscillations can occur at any time and therefore do not point towards a one-way progression or regression in a period of time.

While there may be a reduction in the length or duration of a day, it is possible that in the future, there could be an increase that can compensate for the same.

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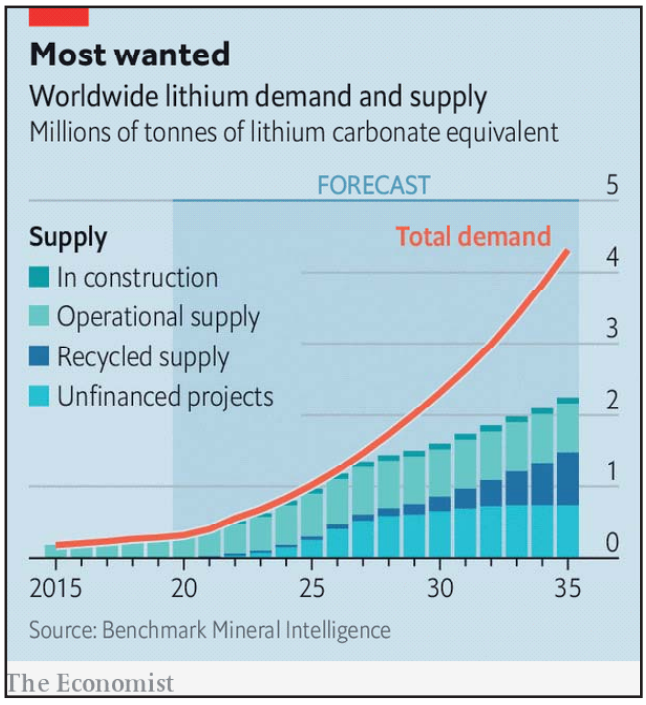
INDIA KEEN TO JOIN US'S 'MINERALS SECURITY PARTNERSHIP' TO ENSURE THEIR SUPPLY

CONTEXT

Energy security and shift to a green future have put the focus on rare earth elements. However, India is import dependent on critical minerals. Thus, it needs "mining reforms, US partnership".

BACKGROUND

- China is one of the leading producers globally of critical minerals, with an estimated 70 per cent of the global production.
- In order to break the dominance and reduce dependence on China in mining and processing rare earth minerals, the United States recently announced the formation of a global alliance called the **Mineral Security Partnership (MSP).**
  - Apart from the US, the other countries to have joined this partnership are: Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea, Sweden, the UK, and the European Commission.



ANALYSIS

What is Minerals Security Partnership (MSP)?

Members

Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea, Sweden, the United Kingdom, the United States, and the European Commission

- MSP is an ambitious new alliance formed by the US to secure supply chains of critical minerals.
- The goal of the alliance is to ensure that critical minerals are produced, processed, and recycled in a manner that supports the ability of countries to realise the full economic development benefit of their geological endowments.
- The focus would be on the supply chains of minerals such as **Cobalt, Nickel, Lithium** and also the 17 "rare earth" minerals.
- However, India is not a part of this partnership.

What is the aim of MSP? (Decrease Dependency On China For Critical Minerals)

- China is responsible for around half of the worldwide production of rare earth minerals.
- According to the US Geological Survey, 38 per cent of world production of rare earth minerals in 1993 was in China, 33 per cent in the US, 12 per cent in Australia, and five per cent each in Malaysia and India.
- However, China accounted for more than 90 per cent of the world production of rare earth minerals in 2008. By 2011, China accounted for 97 per cent of world production.
- Since 1990, supplies of rare earth minerals became an issue because the Chinese government began to change the amount of rare earth minerals it allows to be produced and exported, and also started limiting the number of Chinese and Sino-foreign joint venture companies that could export rare earth minerals from China.
- The MSP is aimed at reducing dependency on China for rare earth minerals, according to media reports.
- Both the **MSP and the Australia-India Critical Minerals Investment Partnership** are aimed at unlocking the benefits of the critical minerals sector.

Australia-India Critical Minerals Investment Partnership

- The Australia-India Critical Minerals Investment Partnership is an investment partnership that is set to unlock mutual benefits for India and Australia from Australia's world-leading critical minerals sector.

- In March 2022, the Australian Government allocated $5.8 million to the three-year Australia-India Critical Minerals Investment Partnership.

What Are Critical Minerals?

- Critical minerals are mineral resources that are essential to the economy, and whose supply may be disrupted, and the 'criticality' of which changes with time as supply and society's needs change.

What are Rare Earth metals?

- The **17 rare earth elements** (REE) include the 15 Lanthanides (atomic numbers 57 — which is Lanthanum — to 71 in the periodic table) plus Scandium (atomic number 21) and Yttrium (39).
- REEs are classified as
  - light RE elements (LREE)
  - heavy RE elements (HREE)
- They were discovered in 18th-19th century, with **Yttrium** being the first and **Promethium** the last discovered rare earth element.'

SEVENTEEN RARE EARTH ELEMENTS

Rare earth name	Discovery year	Atomic name & number	Light/heavy REE	Critical/ Uncritical
Yttrium	1788	Y-39	Heavy	Critical
Cerium	1803	Ce-58	Light	Excessive
Lanthanum	1839	La-57	Light	Uncritical
Erbium	1842	Er-68	Heavy	Critical
Terbium	1843	Tb-65	Heavy	Critical
Ytterbium	1878	Yb-70	Heavy	Excessive
Holmium	1878	Ho-67	Heavy	Excessive
Scandium	1879	Sc-21	Heavy	Critical
Samarium	1879	Sm-62	Light	Uncritical
Thulium	1879	Tm-69	Heavy	Excessive
Praseodymium	1885	Pr-59	Light	Uncritical
Neodymium	1885	Nd-60	Light	Critical
Dysprosium	1886	Dy-66	Heavy	Critical
Europium	1886	Eu-63	Heavy	Critical
Gadolinium	1886	Gd-64	Heavy	Uncritical
Lutetium	1907	Lu-71	Heavy	Excessive
Promethium	1947	Pm-61		

Source: Author

India's position on Rare earth metal production

- Some REEs are available in India — such as **Lanthanum, Cerium, Neodymium, Praseodymium and Samarium,** etc.
- Others such as **Dysprosium, Terbium, and Europium**, which are classified as HREEs, are not available in Indian deposits in extractable quantities.
- Hence, there is a dependence on countries such as **China for HREEs,** which is one of the leading producers of REEs, with an estimated **70 per cent s**hare of the global production.
- If India is not able to explore and produce these minerals, it will have to depend on a handful of countries, including China, to power its energy transition plans to **electric vehicles.**

Why these metals are 'rare' and 'significant'?

- REEs are an essential — although often tiny — component of more than **200 consumer products**, including mobile phones, computer hard drives, electric and hybrid vehicles, semiconductors, flat screen TVs and monitors, and high-end electronics.
- They are known as "rare" because **it is very unusual to find them in a pure form**, but it turns out there are deposits of some of them all over the world - **cerium**, for example, is the 25th most common element on the planet.
- The term "earth" is simply an archaic term for something you **can dissolve in acid.**

India's concerns

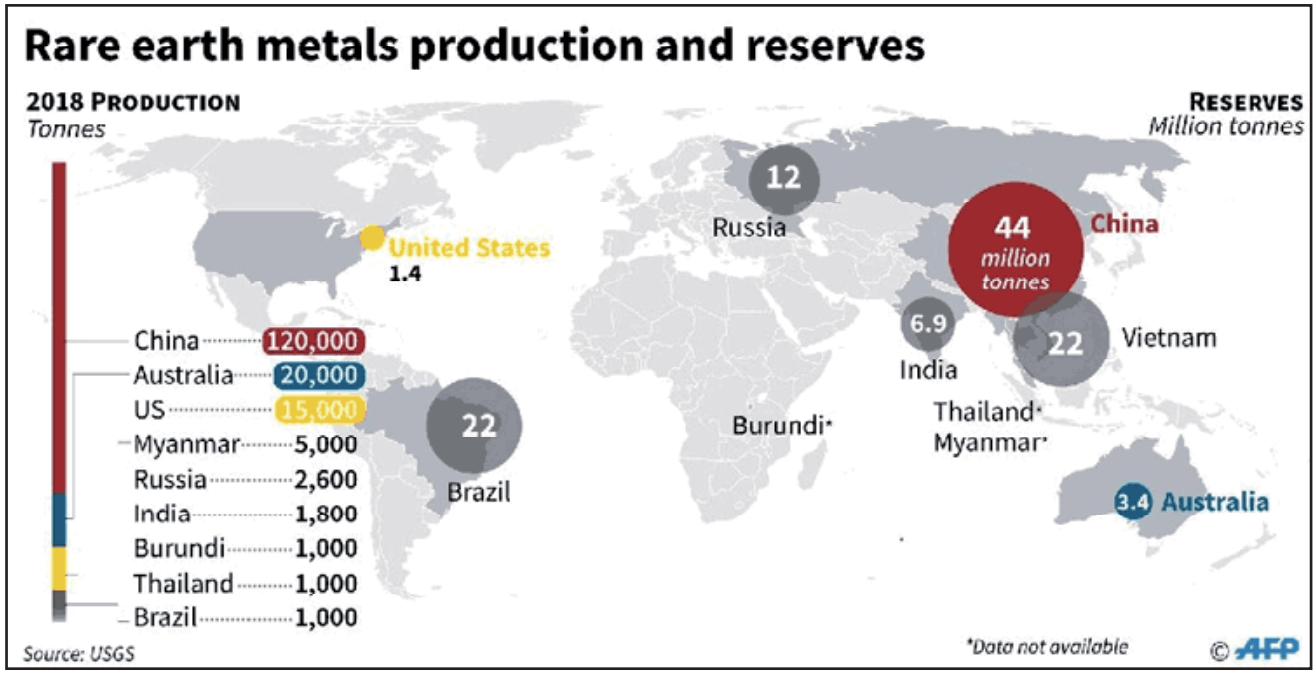
- Some of the rare earth elements available India are: **Lanthanum, Cerium, Neodymium, Praseodymium and Samarium.** While others classified as heavy RE elements such as **Dysprosium, Terbium, Europium** are not available in extractable quantity.
- India relies heavily on China for HREE, which is one of the leading producers with an estimated 70 per cent of the global production.
- Hence, there is a lot at stake for India.
- Therefore, India wants to explore the possibility of how it can join the 11-member group.

The plan

- The year 2022 is likely to be an inflection point for **battery technology** — with several potential improvements to the **Li-ion technology**, with alternatives to this tried-and-tested formulation being in advanced stages of commercialisation.
- India has an ambitious plan to convert a large percentage of its transport to electric, and would require these minerals.
- According to the plan, 80 per cent of the country's two- and three-wheeler fleet, 40 per cent of buses, and 30 to 70 per cent of cars will be EVs by 2030.

◉ CONCLUSION

Although the two countries have different resource endowments and capabilities, their green future has potential to build a more developed, resilient and sustainable clean energy supply chain.



RECALLING INDIA'S ANTARCTICA ACTIVITIES

CONTEXT:

The Indian Antarctic Bill, 2022, passed in Parliament, seeks to protect the Antarctic environment and regulate activities in the region.

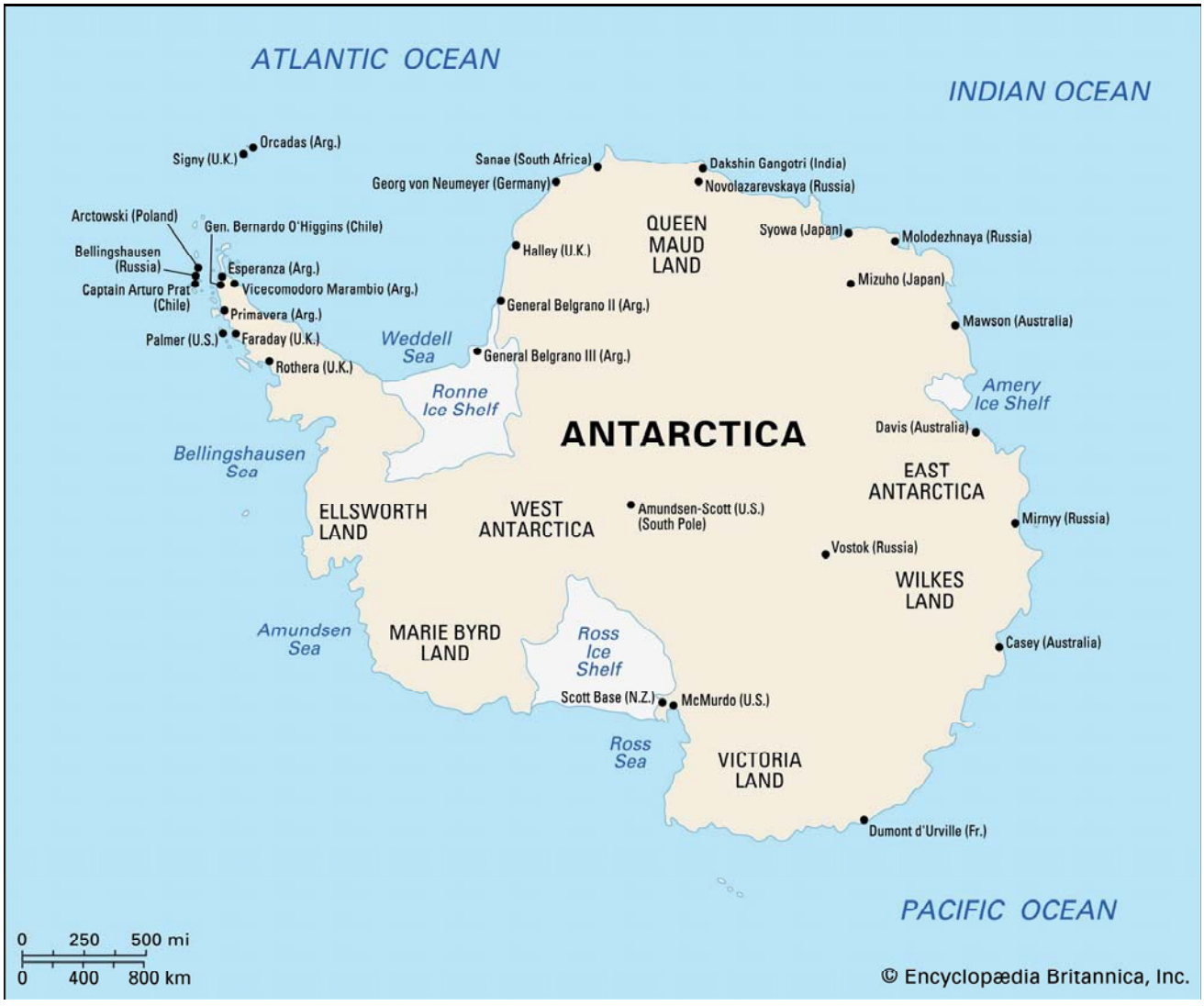
- **The government is aiming to have India's own national measures for protecting the Antarctic environment and associated ecosystem.**

The region

- It is a cold terrain, located in a remote area in the **Southern Hemisphere** covered by the **Antarctic Convergence** – an "uneven line of latitude where cold, **northward-flowing Antarctic waters** meet the warmer waters of the world's oceans."
- Antarctica is an exclusive landmass without a native population, though there are human settlements with scientists and their support staff working round the year.
- The continent of Antarctica, including its ice-shelves, and all areas of the continental shelf adjacent to it along with all islands (including their ice-shelves), seas, and air space south of 60°S latitude, are part of the legislation's jurisdiction.

What is the Indian Antarctic Bill 2022?

- The Bill seeks to give effect to the **Antarctic Treaty, the Convention on the Conservation of Antarctic Marine Living Resources, and the Protocol on Environmental Protection to the Antarctic Treaty.**



- It also seeks to protect the Antarctic environment and regulate activities in the region.

India signed the Protocol on Environmental Protection to the Antarctic Treaty on 14th January, 1998.

About Antarctic Treaty:

- The Antarctic Treaty came into force on 23 June 1961 after ratification by the twelve countries then active in Antarctic science.
- The Treaty covers the area south of 60°S latitude.
- **Its objectives**:
  - Demilitarize the Antarctica region.
  - Establish a zone free of nuclear tests and the disposal of radioactive waste.
  - Ensure that it is used for peaceful purposes only.
  - Promote international scientific cooperation in Antarctica.
  - Set aside disputes over territorial sovereignty.
- **Forty-six countries** have acceded to it, comprising around 80% of the world's population.
- Consultative (voting) status is open to all countries that have demonstrated their commitment to the Antarctic by **conducting significant research**.

Antarctic Treaty System (ATS) includes the three international agreements are:

- Convention for the Conservation of Antarctic Seals (1972)
- Convention on the Conservation of Antarctic Marine Living Resources (1980)
- Protocol on Environmental Protection to the Antarctic Treaty (1991)

Key features of the Indian Antarctic Bill:

- **Applicability:**
  - The provisions of the Bill will apply to any person, vessel or aircraft that is a part of an Indian expedition to Antarctica under a permit issued under the Bill.
  - Areas comprising Antarctica include all islands (including their ice-shelves), seas, and air space.
- **Central Committee:**
  - The central government will establish a Committee on Antarctic Governance and Environmental Protection.
  - The Committee will be chaired by the Secretary of the Ministry of Earth Sciences.
  - There are the nominated members - 10 members (to be nominated from various ministries) + two experts (on the Antarctic) + chairman (Secretary of the Ministry of Earth Science).
  - **The functions of the Committee include:**
    - Granting permits for various activities.
    - Implementing and ensuring compliance of relevant international laws for protection of Antarctic environment.
    - Obtaining and reviewing relevant information provided by parties to the Treaty, Convention, and Protocol.
    - Negotiating fees/charges with other parties for activities in Antarctica.
  - **Need for permit:** A permit by the Committee or written authorization from another party to the Protocol (other than India) will be required for various activities such as:
    - An Indian expedition to enter or remain in Antarctica.
    - A person to enter or remain in an Indian station in Antarctica.
    - A vessel or aircraft registered in India to enter or remain in Antarctica.
    - A person or vessel to drill, dredge or excavate for mineral resources, or collect samples of mineral resources.
    - Activities that may harm native species.
    - Waste disposal by a person, vessel, or aircraft in Antarctica.

About Indian Antarctic Authority (IAA):

- The Bill provides to set up the **Indian Antarctic Authority (IAA)** under the **Ministry of Earth Sciences**.
- That shall be the apex decision-making authority and shall facilitate programs and activities permitted under the Bill.
- It shall provide a stable, transparent, and accountable process for the sponsorship and supervision of Antarctic research and expeditions, ensuring the protection and preservation of the Antarctic environment.

What are the prohibited activities under Indian Antarctic Bill?

- **Nuclear explosion or disposal of radioactive wastes**.

- Introduction of **non-sterile soil**.
- **Discharge of garbage**, plastic, or other substance into the sea which is harmful to the marine environment.

What are the offenses and penalties under Indian Antarctic Bill?

- **Nuclear Explosion -** Conducting a nuclear explosion in Antarctica will be punishable with an **imprisonment of 20 years** which **may extend to life imprisonment** and **a fine of at least Rs 50 crore**.
- **Drilling for Mineral resources/ Introducing non-native Animals/ Plants in Antarctica without a permit** - will be punishable with imprisonment of up to **seven years and a fine between Rs 10 lakh and Rs 50 lakh**.
- The central government may notify one or more **Sessions Courts** to be the **Designated Court** under the Bill and specify its territorial jurisdiction to try offenses punishable under the Bill.

How is Antarctica governed?

- The continent is a no-man's land — a natural reserve that belongs to no country.
- It is only governed by global agreements—Antarctic Treaty and the Protocol on Environment Protection to the Antarctic Treaty or 'Madrid Protocol', and the 1980 Convention on the Conservation of Antarctic Marine Living Resources.
  - India is a signatory to all three treaties and the proposed bill is in adherence to them.
- The 1959 Antarctic Treaty now has close to 54 countries on board, of which 29 countries — including India — have the status of Consultative Party with a right to vote in the Antarctic Consultative meetings.

Can India make a law in no-man's land?

- While no single country can stake any claim on any part of Antarctica, they have liberty to govern the areas where they have set up their research stations.
- Over the years, several countries have laid down their laws to enforce the existing global treaties more effectively and keep a check on any violations.
- India, so far neither had any law, nor any teeth to take action if a violation takes place.
- The enforcement of such laws will confer jurisdiction on the courts of India to deal with any dispute or crimes committed in parts of Antarctica.
- Legislation of such a kind will bind the citizens to the policies of the Antarctic treaty system.

India's presence in Antarctica

- Currently, India has two operational research stations in Antarctica named Maitri, commissioned in 1989, and Bharati, commissioned in 2012.
- India has successfully launched 40 annual scientific expeditions to Antarctica till date.
- With Himadri station in Ny-Alesund, Svalbard, Arctic, India now belongs to the elite group of nations that have multiple research stations within the Polar Regions.

Why the Antarctic matters today?

- **Huge landmass:** The continent of Antarctica, the **fifth-largest** in terms of total area, covers a significant part of the Antarctic region.
- **World's natural laboratory:** Called one of the world's most significant 'natural laboratories,' Antarctica witnesses as many as 30,000 tourists each year to experience Earth's most exquisite features.
- **Vital for science: It** is even more vital for science insofar as its great impact on the world's climate and ocean systems is a matter of intense research investigation.
- **Rich nature:** Though Antarctica is fragile and even more vulnerable, it is believed to hold rich deposits of oil and vital minerals. That is what attracts the world's major powers.
- **A competive location:** Antarctica's competition is rising day by day with major economies showing direct interest.
  - China has already marked its presence as "a polar power with stated goals of greater leadership in international polar organisations and securing future resources to sustain economic growth, energy and food security."
  - The US is also citing China and Russia as a reason to step up its own Antarctic deployment.

CONCLUSION:

India has conducted a wide range of research on topics including the climate process and its connection with climate change, environmental processes and conservation, terrestrial ecosystem, observational research, and polar technology in the Antarctic. It will protect and maintain the ecological balance in the Antarctic region.

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SC MOOTS VERDICT FOR 'BODILY AUTONOMY' UNDER MTP ACT

CONTEXT:

The Supreme Court said it may loosen the restrictive grip of a 51-year-old abortion law which bars unmarried women from terminating pregnancies which are up to 24 weeks old, saying the prohibition was "manifestly arbitrary and violative of women's right to bodily autonomy and dignity".

⊙ BACKGROUND:

- The Supreme Court noted that the Rules permit termination of pregnancies of up to 24 weeks in seven specific categories.
- It includes survivors of rape or sexual assault, minors, in case of physical disabilities, and fetal malformation.

MTP Act: The **Medical Termination of Pregnancy Act of 1971** and its Rules of 2003 prohibit unmarried women who are between 20 weeks to 24 weeks pregnant to abort with the help of registered medical practitioners.

⊙ ANALYSIS

What is women's 'bodily autonomy'?

- Bodily autonomy and integrity can be understood as the power to make our own choices about our own bodies.
- They are grounded in gender equality and human rights, and are necessary for women's empowerment and to achieve the Sustainable Development Goals.
- Laws regarding body autonomy pertain to abortion laws, marriage laws, gender identity laws, and even laws related to medicine, amongst others.

The sad reality

- In India, 12 per cent of currently married women (15-49 years of age)make independent healthcare decisions, 63 per cent decide jointly and for 23 per cent, the spouse decides, according to National Family Health Survey-4.

Reproductive choice in India

- India has a **strong jurisprudence on reproductive rights** where reproductive choices are read within the personal liberty guaranteed under **Article 21** of the Constitution.

- The Supreme Court has said that "reproductive rights include a woman's entitlement to carry a pregnancy to its full term, to give birth, and to subsequently raise children; and that these rights form part of a woman's right to privacy, dignity, and bodily integrity".
- But the recently passed the MTP Act falls short of giving a woman full authority in deciding if an abortion is required after 24 weeks and relegates it to a board of specialists.

Barriers to Accessing Safe Abortion Services in India

Despite the **Medical Termination of Pregnancy Act, 2021** allowing all women in India to abort a foetus up to 20 weeks of pregnancy and 24 weeks for women under special conditions, thousands have their **reproductive rights denied and physical autonomy curtailed**, mainly by the:

- Patriarchal attitudes of doctors and service providers
- Denied abortion service
- Improper implementation of abortion and anti-foeticide laws
- Social pressure
- Patriarchal morality
- lack of women's agency and fear of anti-foeticide laws
- lack of contraception options
- lack of medical or legal awareness
- lack of agency or autonomy over their own bodies (which is equally pervasive in urban spaces)

Need of Bodily Autonomy & Integrity:

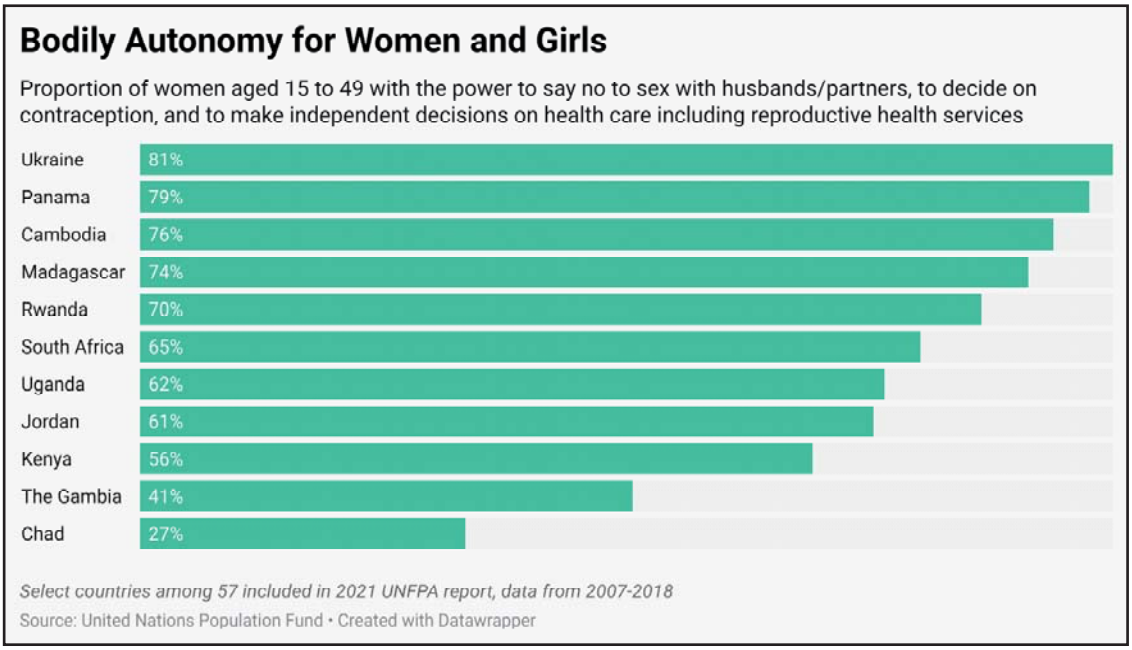
- **Attainment of rights:** The recognition of women's sexual and reproductive rights - that is their ability to take decisions in relation to their bodies and sexuality - is a prerequisite for ensuring their full enjoyment of rights.
- **Towards betterment:** Women's having the autonomy to determine their own fate without undue policing of their bodies is a pre-requisite to living a life with dignity.
- **Development of all:** Places that afforded women more autonomy by enabling them to put off marriage until comfortably into adulthood, like the United Kingdom on the eve of the Industrial Revolution, thrived economically, the study found. Those that did not fell behind.

According to **United Nations Population Fund (UNFPA)** "Where there are gender-discriminatory social norms, women's and girls' bodies can be subject to choices made not by them, but by others, from intimate partners to legislatures. When control rests elsewhere, autonomy remains perpetually out of reach".

See Figure below:

⊙ CONCLUSION:

Depriving women and girls of bodily autonomy is wrong. It causes and reinforces inequalities and violence, all of which arise from gender discrimination.



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ADDRESSING THE CHALLENGES IN NEW-AGE DIGITAL COMMERCE

CONTEXT:

Despite the rapid advancement of the digital platform, the process of integration of local businesses with a platform-centric e-commerce system is moving at a snail's pace.

ANALYSIS:

Transformation in India's Consumer Behaviour:

- **Increased penetration of smartphones:** Rise in smartphones and affordable data plans has catalyzed the online revolution in the country. The e-retail sector has received a push due to the cumulative effect of cheaper data plans and the increased use of smartphones.
- **Coronavirus pandemic**: It worked as a blessing in disguise in terms of changing the behaviour of Indian consumers. It has further accelerated the process of digital inclusion. From groceries to online medical consultations and even to resolving disputes online- all of this has become a reality now.
- **Additional Factors:**
  - Adoption of Time-Saving Products and Services
  - Growing Interest in Customized Products
  - The Rise of the Female Decision Maker

Major problem faced by small businesses:

- **Additional cost and Restricted participation:** The local store/enterprises are still confined to a digital vacuum, owing to the additional cost to register their presence on numerous platforms. This not only restricts their participation despite of rapid advancement of digital platforms.
- **Different terms and conditions:** Every e-commerce platform has distinct terms and conditions which limit the sellers' flexibility.
- **Centralizing Tendency of Digital Commerce Transactions**: Transactions on a single platform create a single point of failure. Single Points of Failure are possible in both software and hardware layouts or in the context of cloud computing, on which the e-retails services heavily rely upon.

Steps taken by the government to make e-commerce a level playing field:

- **Open Network for Digital Commerce (ONDC)**: Department for Promotion of Industry and Internal Trade (DPIIT) has established the Open Network for Digital Commerce (ONDC), which is **open e-commerce** and enables access to small businesses and dealers.
  - It has made it possible for products and services from all participating e-commerce platforms to be displayed in search results across all network apps.
- The project to integrate e-commerce platforms through a network based on open-source technology has been tasked to the **Quality Council of India.**
- ONDC is expected to digitise the entire value chain, standardise operations, promote inclusion of suppliers, derive efficiency in logistics and enhance value for consumers.
- **Dual objective:**
  - Wider choice for consumers
  - Access to a wider consumer base for sellers
- **Pilot projects:** The ONDC began its pilot in five cities in April 2022, i.e., New Delhi, Bengaluru, Coimbatore, Bhopal, and Shillong.
  - Currently, the project has been expanded to 18 cities, and there are immediate plans to add more cities.

Need for ODR:

- Disputes will be the obvious by-product of this e-commerce revolution. Therefore, it is imperative to support this initiative with a modern-day, cost-effective, timely and high-speed dispute resolution system. This can be done by **Online Dispute Resolution or ODR. Online Dispute Resolution (ODR)** can offer affordable, enforceable outcomes and can be tailormade for the specific use case keeping the participants in mind.

About ODR:

- ODR is the **system of resolution of disputes**, particularly small- and medium-value cases, using digital technology and techniques of Alternate Dispute Resolution.
- **ODR has received impetus across Government**, businesses and even the judicial processes to

tide over the constraints due to the Covid-19 pandemic.

- The **ODR is not restricted to the use of legal mechanisms** such as mediation, conciliation and arbitration in an online environment but can be tailormade for the specific use case keeping the participants in mind. The ODR will help mitigate litigation risk and provide valuable insights into problems faced by consumers.

Benefits of the Online Dispute Resolution System:	**Problems Associated with Online Dispute Resolution:**
• ODR has the potential to reduce legal costs, by way of reduced time for resolution • **Flexible Nature** • **Encourages Negotiations:** • **Simple to Access** • **Availability in regional languages** • **Easing the Judicial logjam**	• Lack of Digital infrastructure • Lack of Digital Literacy • Privacy and Confidentiality Concerns • Mutual Consent of Parties:

Example: **eBay Resolution Centre** uses the ODR and resolves over 60 million disputes between small traders every year. Another example is **Alibaba**, an e-commerce company, that has also adopted the ODR to resolve disputes arising out of transactions over the platform.

Improve Online Dispute Resolution Mechanism:

- **Increase Access to Digital Infrastructure:** Increased physical access to technology and infrastructure can only be achieved by the combined efforts of two key stakeholders - the Government and the judiciary.
- **Increase Digital Literacy:** Physical access to technology and infrastructure is only one aspect of access to digital infrastructure. To unlock its true potential, users of such technology should be digitally literate.
- **Mainstream E-stamping**: As ODR often deals with inter-state disputes where disputing parties are residing in different jurisdictions, there is a need to harmonise stamp duty and procedural requirements across different States.
- **Block-Chain Technology**: It can be leveraged for the protection of e-evidence from being tampered with, thereby providing tamper-proof storage of evidence.
- **Government Participation**: Government and Public Sector Undertakings (PSUs) are amongst the biggest litigants in India.

Growing Adoption:

- Governments, regulators and private enterprises have been adopting and encouraging its use. For example, the **National Payments Corporation of India (NPCI)** has mandated platforms in the UPI ecosystem to adopt the ODR for complaints and grievances connected to failed transactions. **Ingram, SEBI SCORES**, **RBI CMS**, **MahaRERA** (or the Maharashtra Real Estate Regulatory Authority), and **RTIOnline** (or the Right to Information Online) are other examples of ODR systems that are widely used in the country.

⊙ CONCLUSION:

With **India's e-commerce industry set to reach $200 billion by 2027**, this shift from a platform-centric paradigm to the democratization of the nation's online market will **catalyze the inclusion of millions of small business owners and Kirana businesses**. And in this process, ODR can help to mitigate litigation risk and provide valuable insights into problems faced by consumers.

A dispute resolution framework that includes a customised ODR process can play a role in the network achieving its steep five-year target of **adding $48 billion in gross merchandise value** to India's e-commerce market.

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THE PRIVILEGE OF MPS DOES NOT EXTEND TO CRIMINAL CASES

CONTEXT:

Recently, the Rajya Sabha Chairman made the clarification in the House that "Members of Parliament do not enjoy any immunity from being arrested in a criminal case during the Session or otherwise."

⦿ BACKGROUND:

- The chairman's observation came a day after Congress leader of house Mallikarjun Kharge raised the issue in the House that he was summoned by the Enforcement Directorate when the session was on.

What are parliamentary privileges?

- Parliamentary privileges are **special rights, immunities, and exemptions** enjoyed by the **two Houses of Parliament**, their **committees,** and **their members** so that they can *"effectively discharge their functions"*.
- It should be noted here that the Parliament, till now, has not made any special law to exhaustively codify all the privileges. They are based on five sources, namely,
  - Constitutional provisions
  - Various laws made by Parliament
  - Rules of both the Houses
  - Parliamentary conventions
  - Judicial interpretations.

Who has the entitlement to such privileges?

- Other than members of Parliament and members of the state assemblies, the Constitution has also extended parliamentary privileges to those persons who are entitled to speak and take part in the proceedings of a House of Parliament or any of its committees. **These include the attorney general of India and Union ministers.**
- It must be clarified here that the **parliamentary privileges do not extend to the president** who is also an integral part of the Parliament. **Article 361** of the Constitution provides for privileges for the President.

Classification of Parliamentary privileges:

- those that are enjoyed by each House of Parliament **collectively,** and
- those that are enjoyed by the members **individually.**

Constitutional provisions for such Privileges:

- The Constitution (**Article 105** for Parliament and **Article 194** for State Assemblies) mentions such privileges.
  - **Article 105:** Under Article 105 of the Constitution, Members of Parliament enjoy certain privileges so that they can perform their parliamentary duties without let or hindrance.
- **Important Note:** Both the Articles, **Article 19(1)(a) and Article 105** of the Constitution talk about freedom of speech. **Article 105 applies to the members of parliament not subjected to any reasonable restriction.** Article19(1)(a) applies to citizens but is subject to reasonable restrictions.

Reason for this special right: The reason behind giving parliamentarians a special right to speech was that *Article 19* contains some reasonable restrictions but it was observed by the court in the case of *Tej Kiran Jain & Ors v. N. Sanjiva Reddy & Ors* that **Art. 105(3) confer immunity**, in respect of anything said in Parliament. The word ***'anything'*** is of the widest import and is equivalent to ***'everything'***. Therefore, this article gives the parliamentarians immunity to say anything without any restrictions.

Parliamentary Privileges:

- **Freedom of Speech:** The members of Parliament/ state assembly enjoy the freedom of speech and expression. No member can be taken to task anywhere outside the four walls of the House (e.g., court of law) or cannot be discriminated against for expressing his/her views in the House and its Committees.
- **Freedom from Arrest:** No member shall be arrested in a civil case 40 days before and after the adjournment of the House and also when the House is in session. It also means that no member can be arrested within the precincts of the Parliament without the permission of the House to which he/she belongs. This privilege is also incorporated under **Section 135A of the Civil Procedure Code, 1908.**

- **Exemption from Attendance as Witnesses**: The members of Parliament/ assemblies also enjoy freedom from attendance as witnesses.
- **Right to Publish Debates and Proceedings**: Parliament/Assembly can prohibit the press to publish its proceedings when needed.
- **Right to exclude strangers**: The object of including this right was to exclude any chances of daunting or threatening any of the members. The strangers may attempt to interrupt the sessions.
- **Right to Punish Members and Outsiders:** In India, the Parliament/Assembly has been given punitive powers to punish those who are judged guilty of contempt of the House.

Important judgments on Parliamentary Privileges:

- **K Anandan Nambiar case**: The Supreme Court of India held that a Member of Parliament can claim no special status higher than that of an ordinary citizen and is as much liable to be arrested, detained, or questioned even during the Session.
- **State of Kerala Vs K. Ajith and Others:** The Supreme Court has observed that "privileges and immunities are not gateways to claim exemptions from the general law of the land, particularly as in this case, the criminal law which governs the action of every citizen."

Ruling by the Presiding Officer: Dr. Zakir Hussain in 1966 mentions that, "Members of Parliament do enjoy certain privileges, but freedom from arrest is limited only to civil cases".

Significance of Parliamentary Privileges:

- **Ensures independence** and effectiveness of the actions taken by them.
- **Secure the members of the houses** from any obstruction in their discharge of actions.
- **Help to maintain the dignity**, authority, and honor of the members of parliament.

⊙ CONCLUSION:

There is an urgent **need for codifying privileges** and **giving primacy to a citizen's right to free speech over legislative privileges.** Also, legislators should act within the parameters of the public trust imposed on them to do their duty. It is now high time for the legislature which is responsible for making laws for the people of our country to make a law for themselves. The **legislators who indulge in vandalism** and general mayhem **cannot claim parliamentary privilege and immunity** from criminal prosecution.

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WITHDRAWAL OF PERSONAL DATA PROTECTION BILL

CONTEXT:

The government has withdrawn the Personal Data Protection Bill from Parliament after several amendments were proposed by the Joint-Parliamentary Committee.

⦿ BACKGROUND:

- The **Personal Data Protection Bill** was first introduced in Parliament in December 2019, in the wake of the Supreme Court deemed the **"right to privacy"** as a fundamental right under the Constitution.
- The court had then asked the government to come up with a policy framework that could be duly followed by all the relevant stakeholders, including big tech companies.

⦿ ANALYSIS

What was the Bill all about?

- The idea of this bill was to ensure that there is a framework or rules to abide by when it comes to the handling of personal data by institutions and big tech companies. **Personal data, in the bill, was divided into three categories:**
  - Sensitive personal data (like health, sexual orientation, finances),
  - Critical personal data (left to be defined by the government), and
  - basic personal data
- Companies were supposed to inform consumers about how are they utilizing data and take consent from them.
- The bill gave the consumers the right to withdraw consent whenever they wanted and companies had to oblige and provide a mechanism to enable this.
- The law **proposed strict regulations on the flow of data outside of India's borders**, including giving the government powers to seek information about users from companies. The bill was sent to a joint parliamentary committee for further deliberation on its provisions.

Why government withdrew the Personal Data Protection Bill?

- The Personal Data Protection Bill 2019 was under consideration by the joint parliamentary committee (JPC), and had been "*deliberated in great detail*". It had proposed major amendments as well as recommendations for a comprehensive legal framework for the digital ecosystem.
- Considering the report of the JCP, the government has decided that there is a need for a ***'comprehensive legal framework'***, so it has decided to withdraw the bill and decided to start afresh.

Concerns Regarding the Policy:

- **Lack of Data Protection Law:** Any data accessibility-and-use policy is incomplete without adequate public safeguards provided through a comprehensive data protection framework. Unfortunately, the progress on that front has been slow.
- **Misuse of Data**: There are also issues of conflict of interest and misuse of such data for commercial or political purposes.
- **Citizens' Attempts to Obtain Public Data**: Administrative control over data has also been used to thwart attempts by users and citizens to obtain data for public use.
- **Disregards Reliable Independent Surveys**: Public data has often been used to discredit independent credible surveys, rather than complement them. Such records are often used to suit a political narrative.
- **Impact of Commercial Interests in Data**: Given that more data means more money, commercial interests will prompt the government to collect granular personal details through greater capture and increased retention periods. Over time, the original objectives for which databases are built will get diluted in favour of commercial interests.
- **Federalism:** The policy, even notes that the State governments will be, "free to adopt portions of the policy," but it does not specify how such freedom will be realized.

What did the JCP recommend?

- **Broader Data Protection**: JCP has expanded the scope of the proposed law to cover discussions on non-personal data — thereby changing the mandate of the Bill from personal data protection to broader data protection.

- **Trusted Hardware:** It has also recommended changes on issues such as regulation of social media companies, and on using only **"trusted hardware**" in smartphones, etc.
- **Provision of regulation for social media**: Changes on issues such as the regulation of social media.
- **Social media as a content publisher**: It has been proposed that social media companies that do not act as intermediaries should be treated as content publishers. Thus, making them liable for the content they host.
- **Inclusion of non-personal data:** JCP has recommended the inclusion of non-personal data**.**

Personal Data:

- Data can be broadly classified into two types: **personal and non-personal data.**
- Personal data pertains to characteristics, traits, or attributes of identity, which can be used to identify an individual.
- Non-personal data includes aggregated data through which individuals cannot be identified.

Data Protection:

- Data protection refers to policies and procedures seeking to minimize intrusion into the privacy of an individual caused by the collection and usage of their personal data.

How is personal data regulated presently?

- As of now the usage and transfer of personal data of citizens are regulated by the Information Technology (IT) Rules, 2011, under the IT Act, 2000.
- The rules hold the companies using the data liable for compensating the individual, in case of any negligence in maintaining security standards while dealing with the data.

Issues with IT Rules, 2011

- The IT rules were a novel attempt at data protection at the time they were introduced but the pace of development of the digital economy has shown its shortcomings.
- For instance, (i) the definition of sensitive personal data under the rules is narrow, and (ii) some of the provisions can be overridden by a contract.
- Further, the IT Act applies only to companies, not to the government.

Conclusion:

Legislation with imperfections may **institutionalize bad privacy practices**. Seeking changes in the law at a later date may be difficult. But we must not foresee the relentless pace of digitization, that relies on gathering personal data in all spheres of our lives — agriculture, education, financial records, health, welfare, and labour benefits. If all of this is done in a legal vacuum, without any oversight or remedy, then it must require immediate action.

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SEBI PROPOSES BLUE BONDS CONCEPT FOR SUSTAINABLE FINANCING ACTIVITIES

CONTEXT:

The Securities and Exchange Board of India (SEBI) has proposed the concept of blue bonds as a mode of sustainable finance as such securities can be utilised for various blue economy-related activities, including oceanic resource mining and sustainable fishing.

⊙ BACKGROUND

- Welfare schemes are programmes that are meant to improve lives and provide support to vulnerable people in society.
- Indian Government, at all levels, announces welfare schemes from time to time like Antyodaya Anna Yojana, Bharat Ni **Background**
- In the Union Budget of India 2019 the Finance Minister laid out the Vision 2030 while highlighting India's transformation in the last five years.
- India is poised to become a USD 5 trillion economy by 2025 and aspires to become a USD10 tn economy by 2030.
- In 2007, green bonds were launched by few development banks such as the European Investment Bank and the World Bank.
- Subsequently, in 2013, corporates too started participating, which led to its overall growth.

- India has tremendous scope for deployment of blue bonds in various aspects of the blue economy" like oceanic resource mining, sustainable fishing and national offshore wind energy policy and in the area of blue flag beach eco-tourism model.

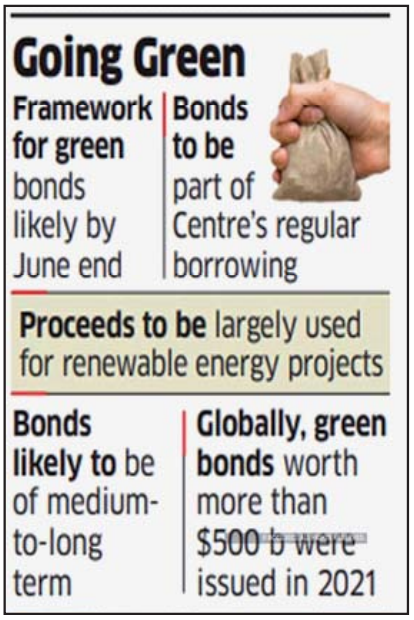
⊙ ABOUT

- SEBI has suggested for strengthening the framework of '**green bonds'** by enhancing the definition of **green debt securities** and disclosures.
- The proposals are aimed at aligning with the updated **Green Bond Principles (GBP)** published by the **International Capital Market Association** (ICMA).
- It also suggested adding two categories of projects; **pollution prevention and control** and **circular economy adapted products** -- as eligible green projects.

What are Green Debt securities (GDS)?

- SEBI defines **Green Debt Securities (GDS)** as debt securities issued for raising funds that are to be utilised for projects or assets falling under certain categories.

- The regulator has suggested that the issuer should inform investors about the intended types of temporary placement for the balance of unallocated net proceeds. Also, the utilisation of proceeds from each issue of GDS made by an issuer should be tracked and disclosed separately.
- In addition, the issuer should disclose any taxonomies, green standards or certifications, if referenced in the project selection.



⊙ ANALYSIS

What is Blue economy?

- According to the World Bank, the blue economy is the "sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem".

What are Green Bonds?

- A green bond is a debt instrument with which capital is being raised to fund 'green' projects, which typically include those relating to renewable energy, clean transportation, sustainable water management etc.
- A bond is a **fixed income instrument** that represents a loan made by an investor to a borrower (typically corporate or governmental).
- Bonds traditionally paid a **fixed interest rate** (coupon) to investors.

Who regulates Green bonds in India?

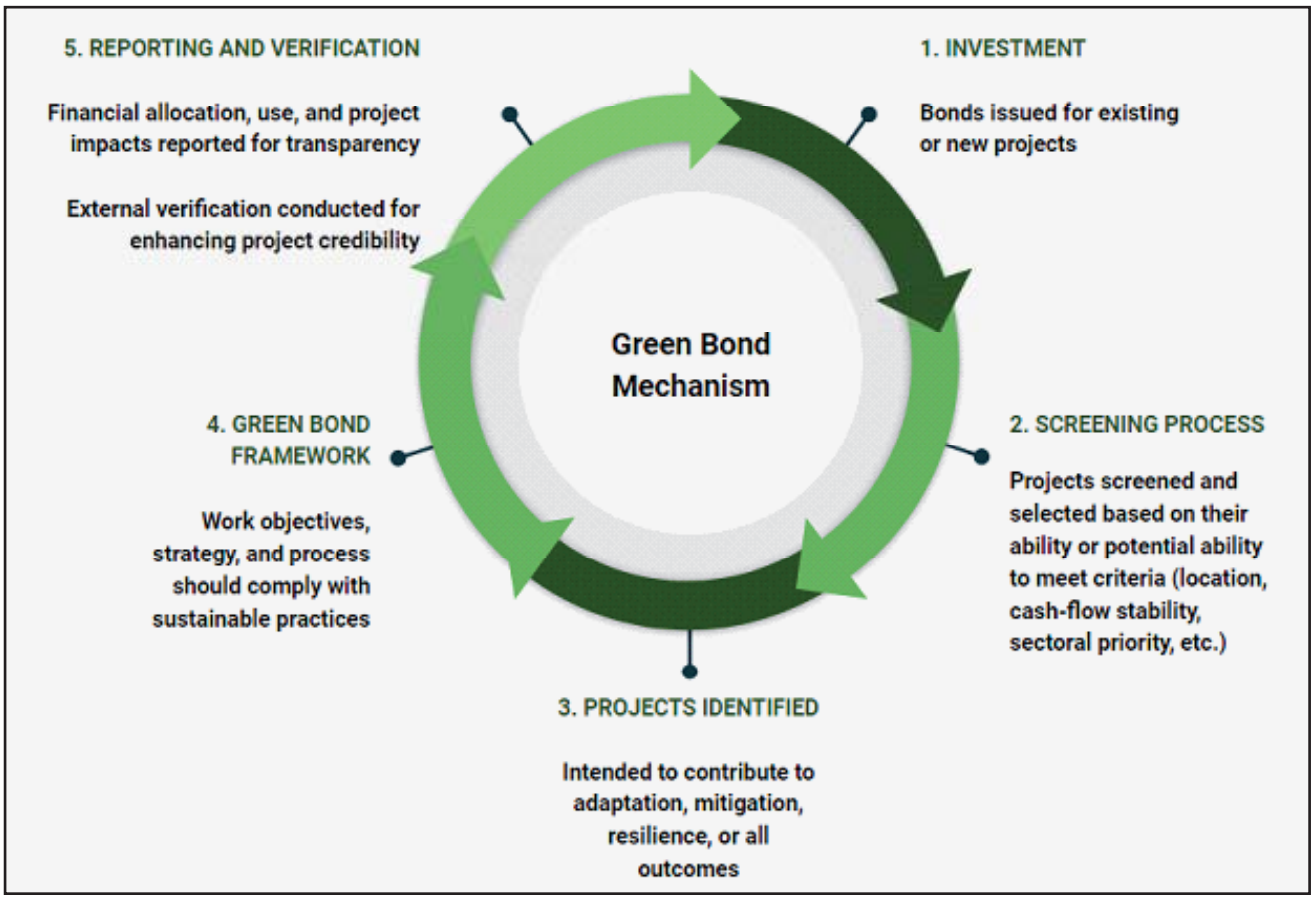
- The **Securities and Exchange Board of India (SEBI)** has put in place **disclosure norms** for issuance and listing of green bonds.

How Green Bonds can help Blue economy to grow?

- **India's potential**: India has a 7,500 kilometre-long coastline and 14,500 kilometres of navigable inland waterways, and the development of the blue economy can serve as a growth catalyst.
  - At present, the blue economy comprises 4.1 per cent of India's economy.
- **Enhances Reputation:** Green bonds enhance an issuer's reputation, as it helps in showcasing their commitment towards sustainable development.
- **Fulfillment of Commitments:** Ability to meet commitments, for signatories to climate agreements and other green commitments.
  - India's Intended Nationally Determined Contribution (INDC) document puts forth the stated targets for India's contribution towards climate improvement and following a low carbon path to progress.
- **Rise at Lower Costs:** Green bonds typically carry a lower interest rate than the loans offered by the commercial banks.
  - With an increasing focus of foreign investors towards green investments, it could help in reducing the cost of raising capital.
- **Support Sustainable Growth:** These green bonds have been crucial in increasing financing to sunrise sectors like renewable energy, thus contributing to India's sustainable growth.

What are the Challenges for expanding Green bonds in India?

- **High Coupon Rate**: The average coupon rate for green bonds issued since 2015 with maturities



between 5 to 10 years have generally remained higher than the corporate government bonds with similar tenure.

- **High Borrowing Cost**: It has been the most important challenge due to the asymmetric information. High coupon rate is one of the reasons for high borrowing cost.
- **Lack of Credit Ratings**: Lack of credit rating or rating guidelines for green projects and bonds.
- **Shorter Tenor:** Green bonds in India have a shorter tenor period of about 10 years whereas a typical loan would be for a minimum 13 years. Further Green Projects require more time to bring returns.

CONCLUSION

Appropriate capacity building efforts for issuers in emerging markets to spread knowledge on the benefits and related processes and procedures pertaining to green bonds, would help in addressing the institutional barriers to entry into this market.

In the context of green bonds, **strategic public sector investment could help in attracting private investment** as well as inspire investor confidence in the green bond market overall.

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RBI'S FI INDEX SHOWS RISE

CONTEXT:

The RBI's composite financial inclusion index (FI-Index) is showing growth.

ABOUT

Financial Inclusion Index (FI-Index):

- The FI-Index has been conceptualized as a comprehensive index incorporating details of **banking, investments, insurance, postal** as well as the **pension sector**.

The financial Inclusion Index is based on a range between 0 and 100.

- **0 - Financial Exclusion**
- **100 - Financial Inclusion**

- It comprises **three broad parameters** - **access**, **usage**, and **quality**.
- The Index is responsive to **ease of access, availability, usage of services, and quality of services, comprising all 97 indicators**.
- A unique feature of the **financial inclusion index** is the **Quality parameter** which captures the quality aspect of financial inclusion as reflected by:
  - Financial literacy
  - Consumer protection
  - Inequalities and deficien cies in services

- **NSFI:** The National Strategy for Financial Inclusion 2019-2024 sets forth the vision and key objectives of the **financial inclusion policies** in India to help expand and sustain the financial inclusion process at the national level.

- **Aim:** The strategy aims to provide access to formal financial services in an affordable manner, broadening & deepening financial inclusion and promoting financial literacy & consumer protection.

Government Vision: National Strategy for Financial Inclusion (NSFI)

- **Defining Financial Inclusion in the Indian Context:**

- Financial inclusion may be defined as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost.
- Financial Inclusion refers to universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity products.

- **Issues with financial inclusion in India:**
  - Challenges faced in accessing financial services while opening an account, seeking credit, or opening other financial inclusion products like Micro Insurance, Pension, Investments, and Remittances.
  - Issues faced while using digital financial services.
  - Attitude of the financial service provider.
  - Complete knowledge of the product features including terms and conditions.
  - Knowledge of Customer Rights.
  - Grievance Redressal Mechanisms.
  - Satisfaction in using the products.

⊙ CONCLUSION

The quality of financial services delivered to various target groups would be very useful to see the impact of financial inclusion policies on overall financial wellbeing.

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HOW EXPANSION OF MONEY IN AN ECONOMY DOES NOT HAPPEN UNIFORMLY?

CONTEXT:

It is generally accepted by economists today that an increase in the overall money supply in an economy causes a proportionate rise in the prices of goods and services over the long-run which is known as the 'Cantillon effect'.

◉ ABOUT

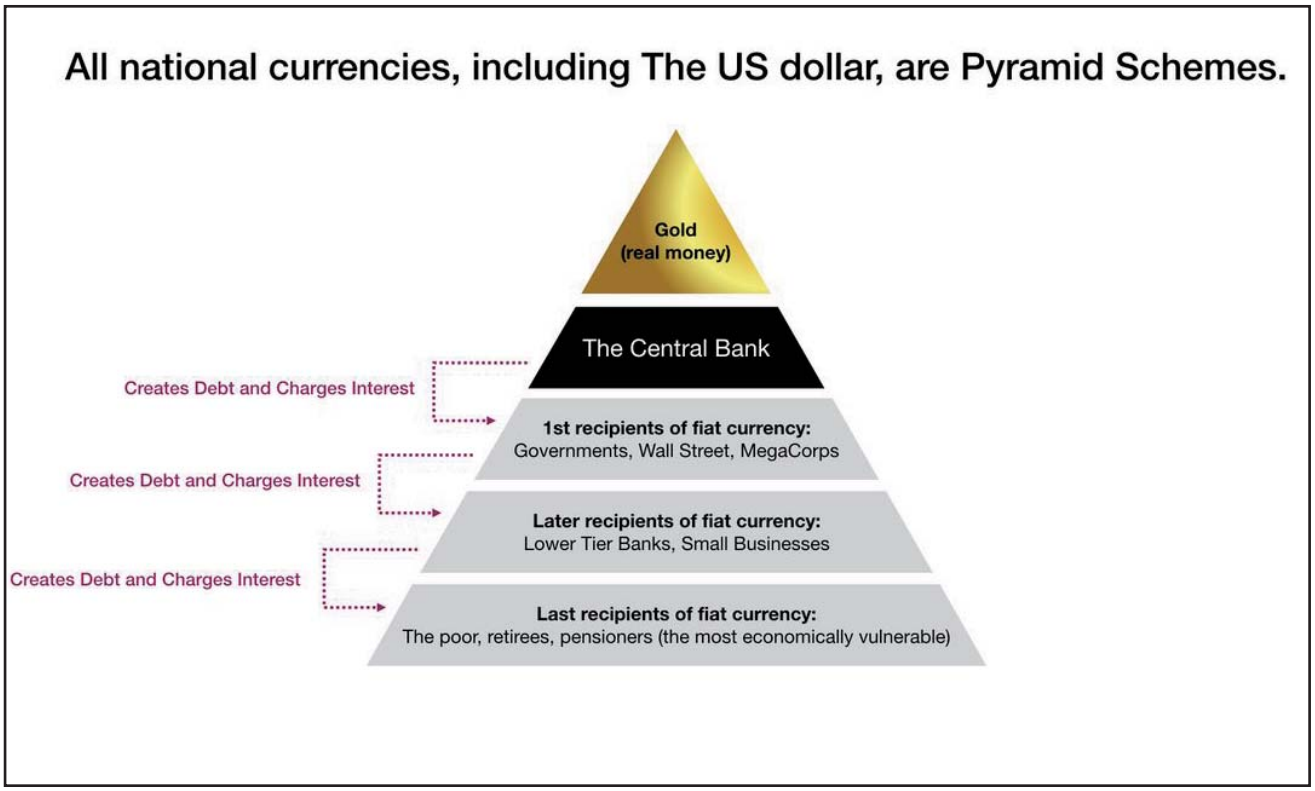
- The Cantillon effect refers to the idea that **changes in the money supply** in an economy causes **redistribution of purchasing power** among people, disturbs the relative prices of goods and services, and leads to the misallocation of scarce resources.
- The Cantillon effect is named after the **18th century** French economist **Richard Cantillon.**

According to the **Quantity theory of money**, the total amount of money in an economy plays a crucial role in determining the general price level.

So, if the money supply in an economy doubles this should lead to a rough doubling of prices across the economy. In other words, money has largely been considered to be "neutral," in the sense that changes in its supply have no real effect on the economy.

How this effect does works in an economy?

- A Cantillon effect is a change in **relative prices** resulting from a change in **money supply.**
- Making lots of cheap money available via banks does not automatically mean that demand for everything will rise simultaneously.
- It is also evident that the shows that certain assets take favour over others, leading to rising in some areas of the economy and falling prices in others.
- Because money added to the economy (through lending and asset purchases by the **central bank)** or removed from the economy (through **debt write-downs** and liquidations) happen at specific points in the economy rather than in all markets simultaneously, both inflation and deflation tend to occur.
- The resulting relative price changes that occur may confuse observers over whether the economy is undergoing overall inflation or deflation.



What are its Impacts on the Economic Activities?

- **On Relative Prices of Commodities:** Relative prices play a crucial role in the allocation of scarce resources in an economy.
- **Impact on Businesses:** Prices act as important signals to entrepreneurs in the allocation of scarce resources towards various ends of society and changes in relative prices can thus affect the scarce resources are allocated.
- **Changes in money supply**: It can also lead to the misallocation of savings in the credit market as investors may allocate savings based on the signals sent by relative prices.
- **Drawback to Expansionist Policies**: Expansionary monetary policy compensates the drop in aggregate demand, but can lead to Cantillon effect.

What is Biflation?

- Biflation is the simultaneous occurrence of **inflation and deflation** in an economy.
- Biflation is a **neologism** for a type of **Cantillon effect** which occurs when expansionary monetary policy is applied to alleviate a recession.
- It is a specific type of Cantillon effect. It happens when during a period of debt deflation (and resulting recession) the central bank pumps money into the economy in an attempt to re-inflate asset prices.

Is Cryptocurrency Susceptible to the Cantillon Effect?

- Cryptocurrencies are usually based on their underlying blockchain network, e.g., the BTC network of Bitcoin.
- The new supply of cryptocurrency on these networks is managed via the processes of mining, on Proof of Work (PoW) block chains, or staking, on Proof of Stake (PoS) platforms.
- In both cases, the new supply is distributed among the **special validator nodes** that help process transaction blocks and keep the block chains functioning.
- **Blockchain validators** do not act as intermediaries between the system that issues the new supply and the rest of the user community.
- On the contrary, banks in the modern economy are the **primary recipients** of the new monetary supply issued by the government.
- Thus, the nature of the new supply generation and distribution on blockchains ensures that the Cantillon effect is not applicable to **cryptocurrency platforms**. Compared to the traditional **fiat money** institutions, cryptocurrency is a much more equitable system.

How this can be controlled for stabilizing the economy?

It can be controlled by using various monetary policy measures like;

- Quantitative easing
- Cutting tax rates
- Lowering interest rates
- Open market operations
- Lowering bank reserve limits
- Increasing spending by the Government

Section: B
(SPECIALS)

CURRENT AFFAIRS

INDIA'S GAIN FROM BRITISH INDIA

Introduction (The debate about British rule in India)

- The rule of the British in India is possibly the most controversial and the most hotly debated aspect of the history of the British empire.
- Admirers of British rule point to the **economic developments**, the **legal and administrative system**, and the fact that India became the center of world politics.
- Critics of British rule generally point out that all of these **benefits went to a tiny British ruling class and the majority of Indians gained little.**
- Recent research by economic historians suggests that the **British Raj was not an unmitigated disaster** for India, as it was thought to be by earlier historians and economists.
- While colonial rule in India had harmful aspects, such as the low provision of public goods, it also helped galvanize Indian industry, making the country a vital part of global supply chains.

In this article we shall focus more and identify the gains from British raj in India.

Gains from British rule in India:

- The biggest gain from British rule was the economic, political and social integration of India and the rise of Nationalism in the country.
- British rule also highlighted the deep rooted social evils in the Indian subcontinent.
- The gains from British rule can be divided into Social and Cultural gains, Economic Gains, Legal and Administrative gains and lastly gains in Modern Infrastructure.

- **Social and Cultural gains**
  - Till early 19th century, the British followed a policy of non-interference in the social and cultural life of the Indians.
  - But the influence of British rule in economy and polity did have an impact on the social fabric of India in fields like - Education, Status of Women, and various social practices.

Education:

  - Initially, the East India Company did not think that it was its duty to impart education to Indians..
  - Around the beginning of the 19th century, the Company became aware of the need for introducing **Western education in India**.
  - The Charter Act of 1813 directed the Company to spend one lakh rupees on the education of Indians.
  - Gradually, western education in the English medium was introduced and propagated throughout the country.
  - Though access to Education was very limited, British education policy did create a cadre of well educated youth.
  - These educated personalities later became the flag bearers of India's independence movement and nation building after independence

- **Social reforms:**
  - The demand for social and religious reform that manifested itself in the early decades of the 19th century partly arose as a response to Western education and culture.
  - India's contact with the West made educated Indians realise that socio-religious reform was a prerequisite for the all-round development of the country.
  - Educated Indians like **Raja Rammohan Roy** worked systematically to eradicate social evils.
  - In 1829, **Sati** or the practice of burning a widow with her dead husband was made illegal or punishable by law. Earlier, female infanticide was banned.
  - With Iswar Chandra Vidyasagar's assistance, the **Widow Remarriage** Act was passed by Lord Dalhousie in 1856.

Rediscovery of India's past by the British:

  - In order to rule India effectively, an understanding of her past traditions and culture was required.
  - Many European scholars and government employees became increasingly interested in Indian languages.
  - William Jones founded the **Asiatic Society** in Bengal. Jones himself was a great scholar of Sanskrit.
  - The **Archaeological Survey of India** was set up due to the efforts of Alexander Cunningham and John Marshall.
  - James Princep deciphered the **Ashokan inscriptions** which were written in Brahmi.
  - India's rich and glorious history, as revealed by Western scholars, helped Indians to regain

their lost pride and confidence and contributed to the development of nationalism.

- **Economic gains**

Commercialization of agriculture

- Till the end of the first half of the 19th century, the Indian **village was essentially self-sufficient.**
- It had hardly any contact with the world outside except for the occasional visits of the grain or cloth merchant who carried the surplus of one village to make good the deficiency of another.
- Commercialization of agriculture in India became prominent around 1860 A.D. The **first wave** of commercial agriculture was **driven largely by Indigo and Opium.**
- However, after 1860, their importance fell and the next, major wave of commercialization came from **cotton, wheat, sugarcane, tobacco, and oilseeds.**
- **Cash transactions** became the basis of exchange and largely **replaced the barter system**, thereby disturbing the traditional self-sufficient village economy of India.
- **Development of Irrigation:** From the late nineteenth century, major new constructions were undertaken by the British, which consisted of canals taken out of perennial rivers (in Punjab, Sind, and United Provinces), and weirs constructed on major rivers in South India.
- While commercialization of agriculture had positive impact on agricultural productivity in India, it also had great negative effects - like increased frequency of famines, worsening condition of peasants and agriculture labourers etc.

Development of Modern Industry

- India had never been an industrial country in the modern sense of the term.
- A history of modern Indian large scale private industry between 1850 and 1914 is associated with the developments in mainly plantations like jute, cotton, and steel. There was also a limited development of mining, especially coal.
- The foundations of the cotton textile industry were laid also during the early 1850s. Though the **jute industry** was dominated by the foreigners, the **cotton industry** was shaped and cared for by the natives, mainly the Parsee entrepreneurs.
- Some abortive attempts were made by the East India Company in the 19th century to develop the iron **and steel industry.**
- Between 1880 and 1914 **large scale industrial output grew** at the rate of 4%-5%. Per annum. — a rate of growth that is comparable to other contemporary countries of the world.
- In spite of inadequacy of domestic demand and high production costs, industries like **woollen mills, breweries, and paper making industries** made significant progress during this time.
- Although India had begun to modernise her industries, it can hardly be said that she was as yet being industrialised.

Development of new cities

- British planning for Indian cities laboured under serious internal contradictions.
- As a colonial power, Britain ruled India primarily for its own benefit; at the same time, it had to address all the usual issues of urban governance, such as control of space, provision of water, sewerage, roads, street lighting and police.
- British planning bequeathed to India enduring legacies in urban architecture, physical planning, and the administrative mechanisms of governance.
- Cities of **Bombay**, **Calcutta**, and **Madras** are an enduring evidence of the gains.

Excerpt from Dadabhai Naoroji's The Benefits of British Rule, 1871

In the Cause of Humanity: Abolition of suttee and infanticide. Destruction of Dacoits, Thugs, Pindarees, and other such pests of Indian society. Allowing remarriage of Hindu widows, and charitable aid in times of famine. Glorious work all this, of which any nation may well be proud, and such as has not fallen to a lot of any people in the history of mankind.

In the Cause of Civilization: Education, both male and female. Though yet only partial, an inestimable blessing as far as it has gone, and leading gradually to the destruction of superstition, and many moral and social evils. Resuscitation of India's own noble literature, modified and refined by the enlightenment of the West.

Politically: Peace and order. Freedom of speech and liberty of the press. Higher political knowledge and aspirations. Improvement of government in the native states. Security of life and property. Freedom from oppression caused by the caprice or greed of despotic rulers, and from devastation by war. Equal justice between man and man (sometimes vitiated by partiality to Europeans). Services of highly educated administrators, who have achieved the above-mentioned results.

Materially: Loans for railways and irrigation. Development of a few valuable products, such as indigo, tea, coffee, silk, etc. Increase in exports. Telegraphs.

Generally: A slowly growing desire of late to treat India equitably, and as a country held in trust. Good intentions. No nation on the face of the earth has ever had the opportunity of achieving such a glorious work as this. I hope in the credit side of the account I have done no injustice, and if I have omitted any item which anyone may think of importance, I shall have the greatest pleasure in inserting it. I appreciate, and so do my countrymen, what England has done for India, and I know that it is only in British hands that her regeneration can be accomplished. Now for the debit side.

Rise of Middle Class and free Press:

- The Western Education introduced by Britishers led to the f**ormation of a new, learned middle class** in India.
- The Middle class gave India its **greatest leaders** like Raja Ram Mohan Roy, Dadabhai Naroji, Gopal Krishna Gokhale, Bal Gangadhar Tilak, Subhash Chandra Bose and Jawahar Lal Nehru.
- They worked to eliminate social evils in the country, establishing better economic and political systems and providing citizens of India the rights that they deserved.
- The **rise of the press in India** also came from this Middle class.
- Despite various restrictions by colonial rulers like the **Vernacular press Act, 1878, India Press act 1910**, the native press grew and played a crucial role in generating awareness among the masses about British policies and their impact.
- The **first newspaper in India** was started by J**ames Augustus Hickey in 1780, named 'The Bengal Gazette'** or Calcutta General Adviser.

Legal and Administrative machinery

- Britishers introduced the system of **judiciary**, **supreme court** and **Criminal Procedure Code** and **Indian Penal code**. Our modern judiciary is dependent on these statutes and the framework. In fact many nationalists of the independence era used to be lawyers.
- Introduced **bureaucracy** and **competitive exams** for entrance with age limits. By 1947, many Indians had entered the covenanted Indian Civil Services and the structure was retained. Even today it is the steel frame of administration.
- The **system of file, noting, drafting** and the Official Secrets Act exist today. They however focused on revenue collection and maintenance of law and order but not welfare.
- We borrowed the idea of **parliamentary democracy, legislative sovereignty** and other features from their Westminster model. But during the British period, Indian participation was limited in legislatures due to limited franchise.
- Introduction of **modern financial institutions** of **banking** and **life insurance were** largely based on foreign capital, though gradually Indian capital also made its way.
- **Census**, training and maintenance of a well-disciplined **army**, **income tax,** are some other contributions.

Modern infrastructure

- At independence in 1947, the most tangible legacy of British rule in India was the modern infrastructure that the regime had left behind, built to a large extent with British expertise.
- Up to the middle of the 19th century, the means of transport in India were backward. They were confined to bullock-cart, camel, and packhorse.
- The British rulers soon realized that a cheap and easy system of transport was a necessity if British manufactures were to flow into India on a large scale and her raw materials secured for British industries.
- The British rulers introduced **steamships on the rivers** and set about improving the roads.

Development of Railways:

- The first railway line running from Bombay to Thane was opened to traffic in 1853. By the end of 1869, more than 4,000 miles of railways had been built.

- The economic effects of the railways can be classified into two types.
- First, the railways had significant forward and backward linkages with other sectors of the economy.
- Second, there was a great reduction in average transportation costs measured in money and time.
- **Reduced food price fluctuation:** Railways also facilitated the integration of markets. This is evident from declining regional variability in prices of food grains.
- Recent research, on the other hand, has attributed the remarkable **reduction in the incidence of famine** after 1900 to easier interregional crop movements that the railways had made possible.
- In 1947, the Indian railways were the **single largest employer** in the organized sector, a distinction maintained today.

Roads and Inland Waterways

- Good and safe roads were scarce in pre-colonial and early colonial India mainly due to limited engineering capability in bridging the numerous rivers.
- The **East India Company restored and constructed** some major roads for military purposes
- Work on the **Grand Trunk Road** from Calcutta to Delhi began in 1839 and completed in the 1850's. Efforts were also made to link by road the major cities, ports, and markets of the country
- Even thereafter, roads were a low priority area of government investment. Road length grew at a much slower pace than the railways.

Ports

- India had a **long and rich tradition** in mercantile marine and shipbuilding.
- The advent of the Europeans in the Indian Ocean created competition for the Indians in coastal shipping.
- However, it also **stimulated the business** of some of the ancient ports like Masulipatnam or Cambay.
- The final blow to **Indian traditional enterprise** in ocean shipping came with the displacement of sailing vessels by steamships in the early to mid-nineteenth century.
- The major ports that carried the bulk of foreign trade in the colonial period were new sites where railways and modern harbors converged, for example, **Bombay**, **Madras**, **Calcutta**, Karachi, and Rangoon.

Posts and Telegraph:

- The British also introduced telegraph and improved postal service.
- The **foundations** for a government postal system were in place before 1858, but it became a widely used utility only in the late nineteenth century.
- This **expansion** was largely driven by the demand for the services of the post office.
- **Money orders:** Migration and money orders had become synonymous. In safety, cost, and wide reach, the postal money order was unprecedented in the history of internal remittance in India.
- In 1849 the East India Company had decided to construct **a telegraph system along the railway lines.**
- From then onward, the commercial uses of the telegraphs began to overwhelm strategic needs, leading to extremely rapid growth in the use of the system.
- **Power**
- **Electricity generation** in colonial India saw significant private-public coexistence and cooperation.
- Electricity was **first introduced in 1897** by a small firm in the Darjeeling Municipality utilizing a mountain stream.
- Two other large hydroelectric projects came up before World War I: the **Sivasamudram** on the Cauvery, erected by the Mysore government, and the **Khopoli plant of Tata Electric Power.**
- In the interwar period a large number of **hydroelectric and thermal power** units were started, many of these in the territories of the princely states.
- In 1947 the installed capacity stood at **7 million kilowatts.**

⊙ CONCLUSION

The impact of British rule was not uniform, and it depended greatly on the nature of institutional arrangements that the British fostered in different areas. Though British rule established various institutions and developed infrastructure, it was mainly for their economic advantage. And with the rise in Indian Nationalism, this faultline in British rule

was recognised and protests against the rule began.

While the British took a lot from India materially, it left India with a functioning democracy and great leaders who could guide India to a new future.

Dadabhai Naroji, in his book The Benefits of British Rule, 1871 wrote:

To sum up the whole, the British rule has been: morally, a great blessing; politically, peace and order on one hand, blunders on the other; materially, impoverishment, relieved as far as the railway and other loans go. The **natives call the British system "Sakar ki Churi," the knife of sugar.** That is to say, there is no oppression, it is all smooth and sweet, but it is the knife, notwithstanding. I mention this that you should know these feelings. Our great misfortune is that you do not know our wants. When you will know our real wishes, I have not the least doubt that you would do justice. The genius and spirit of the British people is fair play and justice.

Section: C

(Prelims)

CURRENT AFFAIRS

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NOAA PREDICTS ABOVE-AVERAGE ATLANTIC HURRICANE SEASON

⊙ CONTEXT: **The on-going North Atlantic Ocean hurricane season will be more active than normal from August to November, according to the latest update issued by the United States' National Oceanic and Atmospheric Administration (NOAA), an American research Institute.**

Key-highlights of the predictions

- NOAA predicted a **60 per cent** chance of an above-normal Atlantic hurricane season.
- The researchers said that there would be **14-20 named storms** in the remainder of the season, out of which **6-10** would likely become hurricanes and **3-5 could turn into major hurricanes.**
- La Niña aids in the formation, intensification and propagation of hurricanes in the North Atlantic Ocean.

- Generally the season of hurricanes began in June but till July this year there had no hurricanes and only three named storms have formed in the North Atlantic basin.

What are Hurricanes?

- Hurricanes are large, swirling storms.
- They can produce winds of **119 kilometres per hour (74 mph)** or higher.
- An **Atlantic hurricane** or tropical storm is a **tropical cyclone** that forms in the Atlantic Ocean, primarily between the months of **June and November.**

Why hurricanes are dangerous?

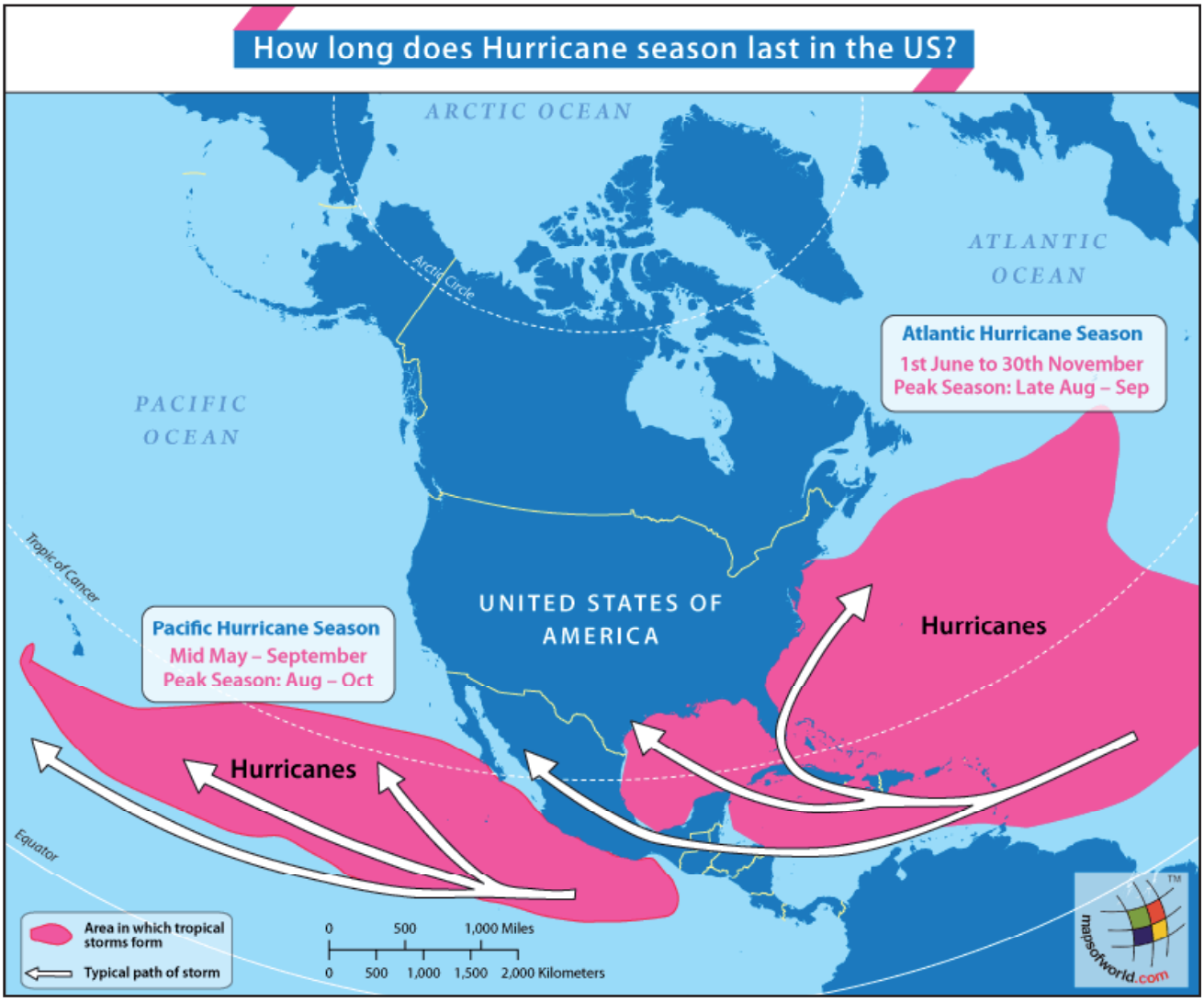
- Winds from a hurricane can damage buildings and trees. Hurricanes form over warm ocean waters. Sometimes they strike land.
- When a hurricane reaches land, it pushes a wall of ocean water ashore. This wall of water is called a storm surge.
- Heavy rain and storm surge from a hurricane can cause flooding in the nearby island regions.

Parts of a Hurricane

- **Eye:** The eye is the "hole" at the centre of the storm. Winds are light in this area. Skies are partly cloudy, and sometimes even clear.
- **Eye wall:** The eye wall is a ring of thunderstorms. These storms swirl around the eye. The wall is where winds are strongest and rain is heaviest.
- **Rain bands:** Bands of clouds and rain go far out from a hurricane's eye wall. These bands stretch for hundreds of miles. They contain thunderstorms and sometimes tornadoes.

How Does a Storm Become a Hurricane?

- A hurricane starts out as a tropical disturbance. This is an area over warm ocean waters where rain clouds are building.
- A tropical disturbance sometimes grows into a tropical depression. This is an area of rotating thunderstorms with winds of 62 km/hr (38 mph) or less.



- A tropical depression becomes a tropical storm if its winds reach 63 km/hr (39 mph).
- A tropical storm becomes a hurricane if its winds reach 119 km/hr (74 mph).

What are the Conditions in favour of hurricanes in North Atlantic Ocean?

- There are several atmospheric and oceanic conditions that are still in favour of an active hurricane season.
- **La Nina:** This includes La Niña conditions, which are favoured to remain in place for the rest of 2022 and could allow the on-going high-activity era conditions to dominate, or slightly enhance hurricane activity.
- **Weaker Tropical Trade Winds**: In addition to a continued La Niña, weaker **tropical Atlantic trade winds**, an active west African Monsoon and likely above-normal Atlantic sea-surface temperatures set the stage for an active hurricane season and are reflective of the on-going high-activity era for Atlantic hurricanes.

How Are Hurricanes Named?

- There can be more than one hurricane at a time. This is one reason hurricanes are named. Names make it easier to keep track of and talk about storms.
- Each year, tropical storms are named in alphabetical order. The names come from a list of names for that year.

- There are six lists of names. Lists are reused every six years. If a storm does a lot of damage, its name is sometimes taken off the list. It is then replaced by a new name that starts with the same letter.

Last major Hurricanes in the North Atlantic Ocean

- 2005 Dennis Katrina Rita Stan Wilma
- Hurricane Santa Ana , 1825

GORIMA HAZARIKA, ONE OF FIRST WOMEN PIONEERS SATTRIYA DANCE, DIES AT 83

⊙ CONTEXT: **One of the pioneer Sattriya and Odissi dancer, Gorima Hazarika, passed away at her residence in Assam.**

Important facts about Gorima Hazarika

- Born in 1939, she was a renowned Sattriya dance exponent.
- She started learning dance from a very early age, under Sattriya stalwarts namely, Raseswar Saikia Borbayan and Ghanakanta Bora.
- Hazarika, a Sangeet Natak Akademi awardee, was also proficient in Kathak, which she learnt from Delhi's Kathak Kendra.
- She also learnt Odissi and was the first person who established Odissi in Assam.
- She is also credited with creating Sattriya dance costumes in a style more appropriate for the women dancers.

Sattriya Dance

- Sattriya is a dance form that has its roots in the **Vaishnavite** movement which was propagated by scholar Sankaradeva in the **15th century in Assam.**
- The Sattriya dancing style was once only performed by the male residents of "sattras" or Vaishnav monasteries.

Origin

- **Srimanta Sankardev** propagated the "**ek sharan naama dharma**" (chanting the name of one God devotedly).
- **Classical Dance**: Sattriya was given the status of a classical dance in the year **2000** by the Sangeet Natak Akademi.

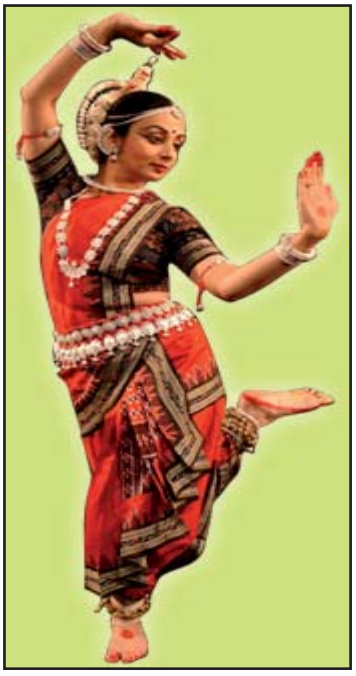
Other classical dances of India are: Bharatnatyam (Tamil Nadu), Kathakali (Kerala), Kuchipudi (Andhra Pradesh), Kathak (North India), Mohiniyattam (Kerala), Manipuri (Manipur) and Odissi (Odisha).

Features

- Sattriya dances differ from other dance forms in its basic stance. For male it is known as **Purush Pak** while for female, **Prakriti Pak**. The dance is based on **mythological themes.**
- They have special mnemonic bols, typical Assamese music known as **Borgeet,** musical instruments like large cymbals, drums, colourful costumes, besides complicated choreographic patterns using various talas for each stanza sung by the vocalist.
- Corpus of Sattriya dances consists of **ankiya bhaona** and also **Ojapali dances** in which the main singer sings and enacts abhinaya, telling stories and a group of dancers dance as back up dancers playing small cymbals.
- Earlier, the roles of both male and female were done by men only. Women were not allowed to perform on stages or take part in dance forms.

Her Contributions in Sattriya

- Hazarika entered the dance world when Sattriya dancers were **mostly males** and were known as ***'bhokots'*.**
- It was very tough back then for ladies to get into form of classical dancing.
- Her first contribution was the costumes Sattriya dancers wear.
- She was the one who designed a costume out of silk — '***mekhela sador'***.
- She has her own centre — **Mitali Kala Kendra**, this is where a lot of students learnt about Sattriya.
- These students have gone on to perform at various stages, nationally and internationally, and some of them have gone on to teach others.



Odissi

It is indigenous to Orissa, eastern India, and follows the principles of the **Natya-shastra.**

Evolution

- The dance has its origin in the temples.
- The carvings found at the Udayagiri Monastery denote that Odissi was patronised as early as the 2nd Century BCE and the trend continued unabated until about the **16th Century AD.**
- After surviving the tumultuous years from 16th century AD till independence, Odissi underwent a renaissance of sorts which helped it become the global phenomenon it is today.

INTERNATIONAL DAY OF INDIGENOUS PEOPLE

CONTEXT: **August 9 is celebrated as International Day of the World's Indigenous People.**

2022 theme: "The Role of Indigenous Women in the Preservation and Transmission of Traditional Knowledge".

International Day of the World's Indigenous Peoples:

- In 1982, the United Nations General Assembly proclaimed 9 August as International Day of the World's Indigenous Peoples.
  - To commemorating the day of the first meeting of the United Nations Working Group on Indigenous Populations of the Sub-Commission on the Promotion and Protection of Human Rights, held in Geneva in 1982.

Who are Indigenous people?

- As **defined by the United Nations**, Indigenous peoples are inheritors and practitioners of unique cultures and ways of relating to people and the environment.
  - They have retained social, cultural, economic and political characteristics that are distinct from those of the dominant societies in which they live.
  - Despite their cultural differences, indigenous peoples from around the world share common problems related to the protection of their rights as distinct peoples.

International Decades of the World's Indigenous Peoples

- The United Nations General Assembly established two **International Decades of the World's Indigenous Peoples:**
  - the first 1995 – 2004 (resolution 48/163)
  - the second 2005 – 2014 (resolution 59/174)

  with the goal of strengthening international cooperation for solving problems faced by indigenous peoples in important areas such as human rights and the environment.
- The year 2022 marks the beginning of a new decade for the indigenous community: the celebration of the **Decade of Indigenous Languages 2022 – 2032**, following the celebration of 2019 as the International Year of Indigenous Languages.

Indigenous People in India

- Indigenous people in India are also called **as Scheduled Tribes.**
- Scheduled Tribes are said to be the earliest inhabitants on the Indian sub-continent.
- They are considered to be socially and economically least advanced.
- Gonds, with a population of 4 million are found in the central Indian states of Madhya Pradesh, Maharashtra, and Andhra Pradesh, are one of the most dominant tribes in India.
- Bhills of Western India, Santhals from the Eastern India, and the Andamanese from the Andaman & Nicobar Islands are some of the dominant tribes in India.

Indigenous People of Banswara villages:

- The region's semi-arid and mixed-miscellaneous forests are home to a large population of tribals from the **Bhil and Damor communities**.
- **Flora:** Trees like Anogeissus pendula (Dhok), Terminalia arjuna (Arjun), Albizia lebbeck (Saras), Dalbergia paniculata (Palash), etc. make up the forests in the region.
- The **primary source of living** is agriculture. On small land holdings, the villagers grow maize, wheat and vegetables like okra, ridged gourd, bottle gourd, tomato, etc.
- The women in the region play a key role in promoting a sustainable, integrated farming system.
- **Dietary Habits**: The communities most commonly consume food grains like kodra (Paspalum scrobiculatum), bati (foxtail millet), kang, (barnyard millet), cheena (proso millet), hama, hamli and gujro (little millet), along with local vegetables.
  - The minor millets are rich in fibre and iron and improves their immunity.

RECALLING 'QUIT INDIA'

⊙ CONTEXT: **On August 9, 1942, the biggest mass movement of the Indian freedom struggle was launched.**

⊙ ABOUT:

- August 8, 2022 marks the **80th anniversary of the Quit India Movement**.
- The Quit India Movement Resolution was passed at the **Wardha Conference** of All India Congress Committee in July 1942.
- The movement was launched at the **Bombay session** of the All India Congress Committee by Mahatma Gandhi on August 8, 1942.
- The **slogan 'Quit India' was coined** by **Yusuf Meherally** who was a socialist and also a trade unionist.
  - A few years ago, in 1928, it was Meherally who had coined the slogan "Simon Go Back".
- **Gowalia Tank Maidan** also known as **August Kranti Maidan**, in Mumbai is the place where Gandhi delivered his speech marking the beginning of the movement.
- Several national **leaders were arrested**, among them were Mahatma Gandhi, Abdul Kalam Azad, Jawaharlal Nehru and Sardar Vallabhbhai Patel.
- The event was followed by an uproar among the people and the **emergence of several young leaders** such as Ram Manohar Lohia, Jai Prakash Narayan, SM Joshi, and others

who continued to fuel the fire of the movement throughout India during the period of World War II.

Quit India movement: History

- On 8 Aug 1942, Mahatma Gandhi gave a clarion call to end British rule and launched the Quit India Movement at the session of the All-India Congress Committee in Mumbai.
- Although the movement was suppressed by 1944, it played an important role in uniting the common people across the country against British rule.

Quit India Movement: Provisions

- The immediate end of British rule in India.
- Declaration of free India commitment to defend itself against all kinds of imperialism and fascism.
- After the withdrawal of the British, the formation of a provisional government of India.
- Sanctioning a civil disobedience movement.

Quit India Movement: Gandhi's Instructions

- Government servants were instructed not to quit their job but to proclaim loyalty to Indian National Congress.
- Soldiers were instructed to continue being with the army but refrain from firing on compatriots.
- Peasants were instructed to pay the agreed-upon rent only to the anti-government Zamindars/landlords, if there were pro-government, no rent should be paid.
- Students were instructed to leave their studies only if there were confident enough.
- Princes were instructed to support the people and accept their sovereignty of them.
- People of the princely states were instructed to support their ruler only if he was anti-government.

Quit India Movement: Immediate Cause

Immediate cause for Quit India failure of **Cripps Mission** was Stafford Cripps that was sent to resolve the Indian question regarding new constitution and self-government. Cripps Mission failed because it did not offer complete freedom to India. It was for '**Dominion Status to India' along with partition.**

Personalities Associated with Quit India Movement during British India

- **M K Gandhi:**

  He planned an all-out campaign to compel British withdrawal from India, after the failure of the Cripps Mission to reach a compromise. At the historic August meeting at (Tank in Bombay, Gandhi proclaimed his mantra- do or die'. He was arrested on August 9, 1942. He undertook a 21 day fast in February 1943 to protest against the Government actions against Indians involved in the movement.

- **Jayaprakash Narayan:**

  He was a member of the Congress Socialist group and played a prominent role in the movement.

- **Ram Manohar Lohia, Aruna Asaf Ali, Sucheta Kripalani, Chliotubhai Puranik, Biju Patnaik, R.P. Goenka and Achyut Patwardhan:**

  They were leaders associated with the underground movement and revolutionary activities in support of Quit India Movement.

- **Chittu Pande:**

  He called himself a Gandhian, formed a parallel government and captured all the ten police stations in Ballia, in east UP in August 1942.

- **Usha Mehta:**

  She actively supported the movement and was an important member of a small group which ran the Congress Radio. Jawaharlal Nehru initially supported the arch Moderates, who was opposed to Gandhi's plan, but later, he moved the Quit India Resolution on August 8, 1942.

- **Sumati Morarjee:**

  She helped Achyut Patwardhan in his underground activities. She later became India's leading woman industrialist.

- **Matangini Hazra:**

  She was a 73-year-old peasant widow in Tamluk, was killed in violence on September 29, 1942, when the Sutahata police-station was captured. Matangini kept the national flag aloft even after being shot.

- **Lakshman Naik:**

  He was an illiterate villager, led a large tribal population from Koraput to protest against the Jeypore zamindari and attack police-stations. Lakshman Naik was hanged on November 16, 1942 for allegedly murdering a forest guard.

INDIA BEGINS COOPERATION WITH BAHRAIN-BASED COMBINED MARITIME FORCES

CONTEXT: **India Starts Working with The Combined Maritime Forces In Bahrain.**

BACKGROUND:

- In April 2022, during the **India-US 2+2** India announced that it would be joining the CMF as an associate partner, in order to **strengthen cooperation in regional security in the western Indian Ocean.**

- Last month, India formally commenced cooperation with the Bahrain-based multilateral partnership, **Combined Maritime Forces (CMF).** The modalities of the exact nature of cooperation were in place and **they are now being worked out.**

⊙ ABOUT CMF:

- The **Combined Maritime Forces (CMF)** is a multinational maritime partnership, which exists to uphold the **Rules-Based International Order (RBIO**) by countering illicit non-state actors on the high seas and promoting security, stability, and prosperity across approximately 3.2 million square miles of international waters, which encompass some of the world's most important shipping lanes.
- **CMF is commanded by a U.S. Navy Vice Admiral**, who also serves as Commander US Naval Forces Central Command (NAVCENT) and US Navy Fifth Fleet. All four commands are co-located at US Naval Support Activity Bahrain. In the immediate neighbourhood.
- **The deputy commander of the CMF-B is a commodore of the United Kingdom's Royal Navy.**
- **India is the 35th member of this grouping. Pakistan is a full member of CMF.**

It is comprised of four task forces:

- CTF 150 (maritime security and counter-terrorism),
- CTF 151 (counter-piracy) and
- CTF 152 (Arabian Gulf security and cooperation)
- CTF 153 (Maritime security in the Red Sea & Gulf of Aden

- It is a flexible organization and members are **not bound by either a political or military mandate.**
- **Role of CMF:** Protection of trade routes, Counter-terrorism, Counter-piracy and Curbing Illegal Fishing

Working of CMF and India's Contribution:

- CMF is a coalition of the willing and does not proscribe a specific level of participation from any member nation. The contribution from each country, therefore, varies depending on its ability to contribute assets and the availability of those assets at any given time.
- CMF is a flexible organization and contributions can vary from the provision of a liaison officer at CMF HQ in Bahrain, to the deployment of warships or maritime reconnaissance aircraft. We can also call on warships not explicitly assigned to CMF to give Associated Support. This allows a warship to offer assistance to CMF whilst concurrently undertaking national tasking
- India has cooperated with CMF on various occasions. For instance, **the CMF's CTF 151** has **coordinated with Indian and Chinese warships** deployed on anti-piracy duties to patrol the Maritime Security Transit Corridor.

INDIA-MALDIVES RELATIONS

⊙ CONTEXT: **Prime Minister of India and President of Maldives held one on one delegation level talks in New Delhi.**

⊙ BACKGROUND:

- India and Maldives share ethnic, linguistic, cultural, religious and commercial links.
- India was among the first to recognize the Maldives after its independence in 1965 and later established its mission at Male in 1972.
- Maldives' proximity to the west coast of India and its situation at the hub of commercial sea-lanes running through the Indian Ocean, and its potential to allow a third nation's naval presence in the area imbues it with significant strategic importance to India.
- India has a pre-eminent position in the Maldives, with relations extending to virtually most areas.
- India's policy of 'Neighbourhood First' and Maldives' policy of 'India First' seem to be in absolute sync with each other.

Key Highlights of the meeting:

- Both sides reviewed bilateral ties and discussed ways to strengthen linkages in areas of development partnership, trade, and connectivity and P2P ties, among others.
- Reviewed projects for the construction of 4,000 social housing units in Greater Male.
- Six agreements were exchanged following the delegation level talks in areas including cyber security, disaster management, and infrastructure.
- The India Maldives development cooperation including Addu roads and reclamation, water and sanitation in 34 islands and Friday Mosque restoration projects was reviewed.

What is the Greater Male Connectivity Project?

It is the largest civilian infrastructure project in the Maldives. The project will connect the Maldives' capital Male with three islands:

- Villingili
- Gulhifalhu
- Thilafushi

SWACHH SAGAR, SURAKSHIT SAGAR CAMPAIGN

⊙ CONTEXT: **The "Swachh Sagar, Surakshit Sagar/Clean Coast Safe Sea "campaign is a 75-day citizen-led campaign for improving ocean health through collective action.**

Swachh Sagar, Surakshit Sagar Campaign:

- The campaign **has 3 strategic underlying goals** that target transformation and environmental conservation through behaviour change. The **three underlying goals** of the campaign are:
  - Consume Responsibly
  - Segregate waste at home and
  - Dispose Responsibly.
- The coastal clean-up drive will be carried out at **75 beaches across the country with 75 volunteers for every kilometre** of the coastline.
- The campaign will culminate with the largest beach cleaning event on Sept 17, 2022 (International Coastal Clean-up Day) covering 75 beaches across India's 7500+km coastline.
- **Ministries involved:** This campaign will includes;
  - Ministry of Earth Sciences (MoES),
  - Ministry of Environment Forest and Climate Change (MoEFCC),
  - Ministry of Education,
  - Ministry of Ports, Shipping and Waterways,
  - Ministry of Jal Shakti,
  - Ministry of Fisheries and Animal Husbandry,
  - National Service Scheme (NSS),
  - Indian Coast Guard, National Disaster Management Authority (NDMA),
  - Paryavaran Sanrakshan Gatividhi (PSG), along with other government departments, social organizations and educational institutions.

- The campaign will **combine both virtual and physical formats** for delivering key messages and engaging the target audience in adopting lifestyle and behavioural changes that promote environmental sustainability.
  - **Examples of virtual activities** include quizzes, pledges and challenges.
  - Physical activities will include the actual beach clean-up along with **rallies, skits** and **contests e**tc.
- It is the **first-of-its-kind and longest running Coastal clean-up campaign** in the world with highest number of people participating in it.
- Through this campaign, a mass **behavioural change** among the masses is intended by raising awareness about how plastic usage is destroying our marine life.

A **mobile app "Eco Mitram"** has been launched to spread awareness about the campaign and also for the common people for voluntary registration for the beach cleaning activity.

- The **target of the programme** is to remove **1,500 tonnes of marine litter** from the sea-coasts which will be a huge relief to marine life and the people staying in coastal areas.

INDIA TO BECOME ATMANIRBHAR IN DIAMMONIUM PHOSPHATE (DAP)

⊙ CONTEXT: **As part of the AtmaNirbhar Bharat initiative to promote self-sufficiency in Fertilisers, Government of India has been advising and supporting the Indian fertiliser companies to strengthen their backend supply chain.**

Diammonium phosphate (DAP):

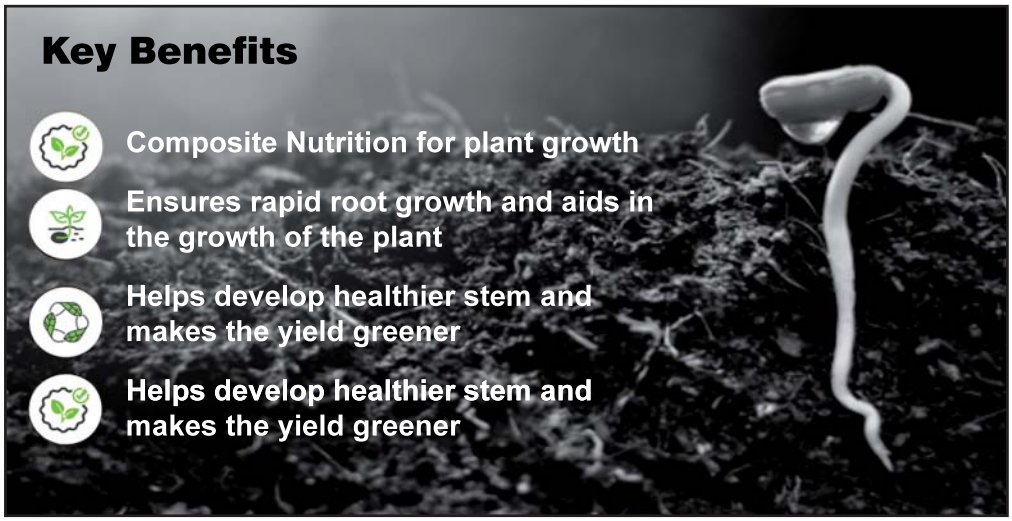
- Diammonium phosphate (DAP) is the world's **most widely used phosphorus fertilizer**.
- It is a preferred fertilizer in India because it contains **both Nitrogen and Phosphorus** which are primary macro-nutrients and part of 18 essential plant nutrients.
- Fertilizer grade DAP Contains **18% Nitrogen** and **46% Phosphorus (P2O5**).
- DAP is **manufactured by reacting Ammonia with Phosphoric acid** under controlled conditions in fertilizer plants.

Chemical Properties

Chemical formula:	$(NH_4)_2HPO_4$
Composition:	18% N
	46% P_2O_5 (20% P)
Water solubility (20 °C):	588 g/L
Solution pH:	7.5 to 8

Properties:

- It is a very **popular fertilizer** because of its excellent physical properties and nutrient content.
- It is **free flowing, dust-free** and does not normally give any storage problem.
- DAP is almost **water-soluble** and ultimately **leaves acid effect on soils** because of ammonia (NH4) it contains.
- DAP on incorporation into soil, **reacts with water and gets converted into HPO4 and NH4.**
  - Ammonium (NH4) follows the same routes as in case of urea.
  - Phosphorus in DAP is present in best available from (HPO4).
- Depending upon the soil reaction (pH), phosphorus exists in 3 forms which can be absorbed by plant roots.
- These are HPO4, H2PO4 and PO4. Phosphorus, which is immobile in soil, is not subjected to leaching losses.



Non-Agricultural Use:

- DAP also acts as a **fire retardant**.
  - **For example**, a mixture of DAP and other ingredients can be spread in advance of a fire to prevent a forest from burning. It then becomes a nutrient source after the danger of fire has passed.
- DAP is used in various industrial processes, too, such **as metal finishing**.
- It is commonly **added to wine to sustain yeast fermentation** and to milk to **produce cheese cultures.**

DELHI HC QUESTIONS NEED FOR RATION CARD TO AVAIL AID

⊙ CONTEXT: **As the below poverty line (BPL) cancer patient was denied financial aid under the Rashtriya Aarogya Nidhi (RAN) for lack of a ration card, the Delhi high court seeks a plea regarding the issue questioning the government's stand on availing aid for poor.**

The issue

- According to the government criteria, the person for availing the benefits under schemes for poor and vulnerable, it is mandatory to have **ration cards** mentioning their status to be **below poverty line (BPL).**
- If the person is unable to present their ration cards, they are not liable for other schemes also.

About the Rashtriya Arogya Nidhi (RAN) Scheme

- **Rashtriya Arogya Nidhi (RAN)** is a centrally sponsored scheme, aims at providing financial assistance to the patients who live under the poverty line.
- The scheme covers patients suffering from diseases that are identified as life-threatening.
- As a part of this scheme, patients can avail of medical treatment at any hospital or institute providing super-speciality facilities or at any other government hospital.
- It provides financial assistance to people belonging to **BPL (below poverty line) group.**

Delhi High Court's stand

- The Delhi High Court questioned the requirement of a ration card for a citizen to avail financial benefits under the Rashtriya Arogya Nidhi (RAN).
- The mandate under RAN to provide a ration card, besides an **income certificate** is said to be one of such document is not sufficient to prove the financial status and is **"arbitrary, discriminatory, unconstitutional, illegal, and irrational."**
- It also stated that the Centre has not extended the new ration cards beyond the limit of **72, 77,995 persons**.

What are the provisions of issuing ration card to person belonging to BPL?

- Criteria are different for the **rural and urban areas**.
- In its **Tenth Five-Year Plan**, the degree of deprivation is measured with the help of parameters with scores given from 0–4, with 13 parameters.
- Families with **17 marks or less** (formerly 15 marks or less) out of a maximum 52 marks have been classified as BPL.
- Poverty line solely depends on the **per capita income** in India rather than level of prices.

Below poverty line (BPL)

- In India, in the year 2011, the poverty line was defined by the **Suresh Tendulkar Committee.**
- It was determined on the basis of monthly expenses on food, education, health, transport and electricity.
- According to this committee, a person who is spending Rs. 33 a day in urban areas and only Rs. 27 a day in rural areas live below the poverty line.

Other criteria for BPL

- It was stipulated that the calorie standard for a typical individual in rural areas was 2400 calorie and was 2100 calorie in urban areas.
- Then the cost of the grains (about 650 g) that fulfil this normative standard was calculated. This cost was the poverty line.
- In **1978, it was Rs.61.80** per person per month for rural areas and Rs.71.30 for urban areas.
- And Since then the Planning Commission calculates the poverty line every year adjusting for inflation. The poverty line in recent years is as follows – (Rs. per month per head)

Year	India	
	Rural	Urban
2000–2001	328	454
2005–2006	368	558
2011–2012	816	1000

- This income is bare minimum to support the food requirements and does not provide much for the other basic essential items like health, education etc.
- That is why some times the poverty lines have been described as starvation lines.

Why few are not deprived of ration cards?

- Some eligible people deprived of ration cards, some ineligible persons included is the harsh reality in India.
- Ration card is considered to be an essential legal document in India that is used for identity and address verification. Ration card also often used as an identification proof while applying for **domicile certificate**, **income certificate**, driver's license, **PAN card**, etc.
- The **National Food Security Act (NFSA)** is the law of the land and we are issuing cards to the beneficiaries according to the provision.

Schemes that mandate ration cards

- National Food Security Act, 2013
- Pradhan Mantri Aawas Yojana (PM-AWAS)

A SELF-REGULATORY ORGANISATION (SRO) FOR INDIA'S GOLD INDUSTRY

⊙ CONTEXT: **With its new report, The World Gold Council-India has announced the launch of India's Self-Regulatory Organization for gold.**

Important facts:

- With India being the second largest gold consuming nation in the world.
- It needs industry wide uniform standards as the World Gold Council (WGC) got its self-regulatory organisation (SRO).
- According to **Somasundaram PR, Regional CEO (India**), World Gold Council, the Indian gold market is one of the world's largest and diverse.
- According to the Council, the SRO should be chaired by an independent and influential figure from outside India's gold industry.
- Other board members should include a 50:50 blend of industry leaders, such as trade body representatives, and senior external figures, with strong public, regulatory, legal service record.

Benefits of Self-Regulatory Organization

- The establishment of professionally run self-regulatory organisation (SRO), will promote :industry's best practices,
- building on the work of the **Swarna Adarsh Abhiyan** initiative
- devising code of conduct for every industry vertical,
- providing certification for members who adopt these codes,
- Engaging wit stakeholders across the gold value chain and advocating for best practice.
- The organisation would serve as the conscience keeper of the industry.

INDIA'S CLIMATE COMMITMENTS

⊙ CONTEXT: **Since the Prime Minister has made promises at the climate change conference at Glasgow, the government now has converted two of those into official targets, which would now be part of India's International climate commitments for 2030.**

⊙ BACKGROUND:

- India's first **Nationally Determined Commitment (NDC)** was submitted in 2015, just before the **Paris Agreement** was finalised.
- India's original NDC contained **three main targets for 2030:**
  - A **33 to 35 per cent** reduction in emissions intensity (or emissions per unit of GDP) from 2005 levels
  - At least **40 per cent** of total electricity generation to come from non-fossil renewable sources
  - An **increase in forest cover** to create an additional carbon sinks of 2.5 to 3 billion tonnes of **carbon dioxide equivalent**

What is Carbon dioxide equivalent?

A **CO_2 equivalent (CO_2e)** is a unit of measurement that is used to standardise the climate effects of various greenhouse gases.

- In order to make the effects of different greenhouse gases comparable, the Intergovernmental Panel on Climate Change (IPCC) of the United Nations has defined the so-called "**Global Warming Potential**".
- This index expresses the warming effect of a certain amount of a greenhouse gas over a set period of time (usually 100 years) in comparison to CO_2

- Again at the Glasgow meeting held in 2021, India has promised to strengthen India's climate commitments. Those were **five promises**, and called it the '**Panchamrita'**.

The Panchamrita Points

- India will get its non-fossil energy capacity to 500 gigawatt (GW) by 2030
- India will meet 50 per cent of its energy requirements from renewable energy by 2030
- India will reduce the total projected carbon emissions by one billion tonnes from now onwards till 2030
- By 2030, India will reduce the carbon intensity of its economy by less than 45 per cent
- So, by the year 2070, India will achieve the target of Net Zero

- Two of these were forward revision of existing targets, the ones that have been made official and put in the updated **nationally determined Commitments (NDC).**

What changes have been made in predetermined targets?

- **Emission intensity:** India will now has to reduce its emission intensity by at least 45 per cent, instead of just 33 to 35 per cent, from 2005 levels by 2030.
- **Electricity generation from renewables:** It would now ensure that at least **50 per cent** of its total **electricity generation**, not just 40 per cent, would come from **renewable sources** by 2030.
- **Conserving forest:** And the forestry target has not been touched.

INDIA'S CLIMATE TARGETS: EXISTING AND NEW

Target (for 2030)	Existing: First NDC (2015)	New: Updated NDC (2022)	Progress
Emission intensity reduction	33-35 per cent from 2005 levels	45 per cent from 2005 levels	24 per cent reduction achieved in 2016 itself. Estimated to have reached 30 per cent
Share of non-fossil fuels in installed electricity capacity	40 per cent	50 per cent	41.5 per cent achieved by the end of June this year
Carbon sink	Creation of 2.5 to 3 billion tonnes of additional sink through afforestation	Same as earlier	Not clear.

Which targets were further added as NDC by India?

India has determined to achieve the goals till 2030 with making the below goals addition to them:

- At least **500 GW** of India's installed electricity generation capacity in 2030 would be based on non-fossil fuel sources.
- Also, the country has pledged to ensure avoided emissions of at least one billion tonnes of carbon dioxide equivalent between now and 2030.

Net-zero emissions

India has also promised for Net-zero emissions till 2070; which means that a situation in which a country's greenhouse gas emissions are offset entirely, either by absorption of carbon dioxide through natural processes like photosynthesis in plants, or through physical removal of greenhouse gases using futuristic technologies.

Present situation

- India's emissions intensity was 24 per cent lower than the 2005 levels in the year 2016 and it is very likely that the 33 to 35 per cent reduction target has already been achieved, or is very close to being achieved as per the official data.
- 41.5 per cent of India's current installed electricity capacity of 403 GW is now powered by non-fossil fuels.
- Renewables (wind, solar and others) alone account for more than 28 per cent of this capacity while hydropower contributes over 11 per cent.

India's Hardships to eliminate coal

Contrary to the Official reports of India, Global stance regarding India's situation is a bit different.

- According to some estimates, India's annual projections are expected to rise from about 3.3 billion tonnes in 2018 to about 4 billion tonnes by 2030.

- Thus, India could be emitting anywhere between **35 to 40 billion tonnes** of carbon dioxide equivalent in total by the year 2030.
- A reduction of **one billion tonnes** from this would represent 2.5 to 3 per cent. Some officials argue that if India achieves its official targets, the gains in terms of avoided emissions could be far in excess of **one billion tonnes.**
- Vagueness in India's speech for targets at Glasgow had mistakenly used 'energy' for 'electricity' and 'renewables' for 'non-fossil energy sources', which makes a lot of difference.

Government Interventions in path of achieving those targets

- **Reforms in Transport Sector:** India leapfrogged from **Bharat Stage-IV (BS-IV)** to B**harat Stage-VI (BS-VI) emission** norms by April 1, 2020, the latter being originally scheduled for adoption in 2024.
- **India's Support to EVs:** India has taken various measures to develop and promote the EV ecosystem:
  - The **remodelled Faster Adoption and Manufacturing of Electric Vehicles** (**FAME II)** scheme
  - **Production-Linked Incentive (PLI) scheme** for Advanced Chemistry Cell for the supplier side
- The recently launched PLI scheme for Auto and Automotive Components for manufacturers of electric vehicles.
- **Role of Industries in Low-Carbon Transition:** The public and private sectors in India are already playing a key role in meeting the climate challenge, helped by growing customer and investor awareness, as well as increasing regulatory and disclosure requirements.

LOK SABHA PASSES BILL TO IMPLEMENT GLOBAL NORMS ON ENDANGERED SPECIES

⊙ CONTEXT: **Lok Sabha recently passed by voice vote the Wild Life (Protection) Amendment Bill-2021 that seeks to provide for implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).**

⊙ ABOUT:

Key provisions of the Wildlife Protection (Amendment) Bill, 2021:

- **Standing Committees of State Boards of Wildlife:**
- The Bill proposes setting up of Standing Committees of State Boards of Wildlife.
- These committees will function like the National Board for Wildlife (NBWL).
- It will be able to make decisions on wildlife management and permissions granted for projects without having to refer most projects to the NBWL.
- **Rationalization of Schedules for Wildlife:**
- The bill rationalises Schedules for Wildlife under the Act by bringing it down from 6 to 4 major schedules.
- For example, A schedule I category of wildlife (such as Tigers) are the highest protected under the Act.

Wildlife Management Plans:

- The Bill mandates that Wildlife Management Plans which are prepared for sanctuaries and national parks across the country will now become a part of the Wildlife Act.

- Further, they will have to be approved by the Chief Wildlife Warden of the state.
- Earlier, the plans were approved through executive orders.
- There is also the insertion of a **new section 42A about surrender of wild animals** and products.
- The inclusion of the **new Section 62A (I) that defines alien invasive species**.
- It has mandated the **need to consult the Gram Sabha** in protected areas falling under scheduled areas or areas recognised to possess forest rights based on claims under the Forest Rights Act, 2006.
- **Regulation on invasive species:** Bill empowers the central government to regulate the import and trade of invasive alien species.
- **Control of Sanctuaries:** Empower the government to regulate the business of Chief Wildlife Warden in line with the regulatory guidelines made by central government.
- **Voluntary Surrender of Specimen:** Any one surrendering any captive animal to the Chief Wildlife Warden, the person will not be compensated and the specimen of the captive animal will be considered as states property.
- **Penalties:** Penalties on violation of the rules has been revised and increased under this bill.

The original Act:

- The original Wild Life (Protection) Act acts to:
  - prohibits people from hunting wildlife
  - provides legal safeguards for different species based on their threat status
  - regulates trade and commerce in wild species
  - imposes penalties for wildlife-related crimes
  - specifies the terms to declare protected areas
- The Act has been amended several times, in 1982, 1986, 1991, 1993, 2002, 2006 and 2013.
- The proposed amendment is likely the most expansive so far in scope: it covers more areas of legislation, from trade in wild species to permitting filmmaking in protected areas and controlling the spread of invasive species.

ISRO LAUNCHES ITS SMALLEST ROCKET TO UNFURL TRICOLOUR IN SPACE

⊙ CONTEXT: **Indian Space Research Organisation (ISRO) is set to launch its smallest commercial rocket 'Small Satellite Launch Vehicle (SSLV)' recently.**

⊙ ABOUT:

- It will be launched to unfurl the Tricolour in space, from Satish Dhawan Space Centre in Sriharikota.
- ISRO chairman S Somanath has called the new satellite a "game changer" that will drive India's dreams of breaking into the lucrative and booming small satellite launch market.
- To mark the country's celebrations of 'Azaadi Ka Amrit Mahotsav', the SSLV will have a co-passenger satellite called 'AzaadiSAT' comprising 75 payloads built by 750 young girls students from 75 rural government schools across India.
- The mission will conduct femto-experiments.

- AzadiSAT also comprise of a solid-state PIN diode-based radiation counter, that will measure the ionising radiation in its orbit, as well as a long-range transponder. ISRO will use ground system developed by Space Kidz India, to establish telemetry and communication with AzadiSAT in orbit.
- This project was specially conceptualized for the 75th Independence Day year celebrations to encourage scientific temper and create opportunities for young girls to choose space research as their career.

INDIAN VIRTUAL HERBARIUM

⊙ CONTEXT: **Indian Virtual Herbarium, the biggest virtual database of flora in the country, is generating a lot of interest and turning out to be an eye-catching endeavour.**

Indian Virtual Herbarium:

- A herbarium specimen is consists of dried plant parts with labelled information on Scientific name and collection data.
- It has immense use in plant identification, systematics studies and ecological studies.
- The Botanical Survey of India has more than 30,00,000 herbarium specimens persevered in different herbaria located in different parts of the country.

What are Herbarium specimens?

- A herbarium (Latin: hortus siccus) is a collection of plant samples with associated data for long-term study.
- These materials may include pressed and mounted plants, seeds, dry fruits, wood sections, pollen, microscope slides, silica-stored materials, frozen DNA extractions, and fluid-preserved flowers or fruits; all are generally referred to as herbarium specimens.
- Herbaria are usually affiliated with universities, museums, or botanical gardens.
- Herbarium specimens help in research work and studies related to the subject.
- It is also essential in plant identification, systematics studies, and ecological studies.

- **Developed by:** Botanical Survey of India(BSI)
- **Purpose:** It is a digital database of plants and preserved parts of plants with labelled information.
- **Features:** The herbarium provides information on plants in different categories such as Cryptogams (spore-bearing plants), Phanerogams (seed-bearing plants).

Both the groups are again divided into two categories which include genera; specimen and type specimens.

  - Each record in the digital herbarium includes an image of the preserved plant specimen, scientific name, collection locality, and collection date, collector name, and barcode number.
  - The digital herbarium also includes features to extract the data State-wise, and users can search plants of their own States, which will help them identify regional plants and in building regional checklists.

- The digital herbarium also includes features to extract the data State-wise and users can search plants of their own States which will help them to identify regional plants and in building regional checklists.
- **Significance:** This is the biggest virtual database of flora in the country. Moreover,

this database also has immense use in plant identification, systematics studies and ecological studies.

Major Herbaria in India

The Botanical Survey of India (BSI) has more than 30,00,000 herbarium specimens persevered in different herbaria located in different parts of the country. The major herbaria in India are:

- The Central National Herbarium (CAL) located at Howrah, was established in 1795 and comprised about 2,000,000 (2 million) specimens. The first herbarium in the country is one of the most important Asian Herbaria.
- Forest Research Institute, Dehradun contains 350,000 specimens.
- The National Botanic Gardens, Lucknow contains 260,000 specimens.
- Blatter Herbarium, St. Xavier's College, Fort Bombay contains 200,000 specimens.
- Botanical Survey of India has herbaria attached to their regional centres and units in different parts of India.

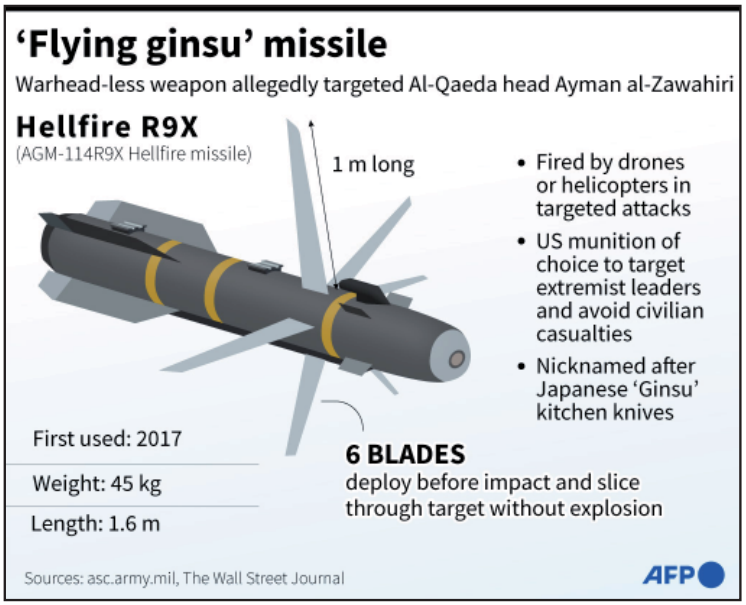
HELLFIRE R9X MISSILE

⊙ CONTEXT: **Ayman al-Zawahiri was killed in a US strike recently. The US military used its 'secret weapon', the Hellfire R9X missile, to kill him.**

Hellfire R9X Missile:

- The Hellfire R9X (or AGM-114 R9X) is a US-origin missile known to cause minimum collateral damage while engaging individual targets.
- It is also known as the 'Ninja Missile'.
- This weapon does not carry a warhead and instead deploys razor-sharp blades at the terminal stage of its attack trajectory.
  - This helps it to break through even thick steel sheets and cut down the target using the kinetic energy of its propulsion without causing any damage to the persons in the general vicinity or to the structure of the building.
- The blades pop out of the missile and cut down the intended target without causing the massive damage to the surroundings which would be the case with a missile carrying an explosive warhead.

- The Hellfire 9RX missile is known to have been in active service since 2017.
  - However, its existence became public knowledge two years later in 2019.
- It is a variant of the original Hellfire missile family which is used in conventional form with warheads and is traditionally used from helicopters, ground-based vehicles, and sometimes small ships and fast moving vessels.
- Hellfire is actually an acronym for Heliborne, Laser, Fire and Forget Missile and it was developed in the US initially to target tanks from the Apache AH-64 attack helicopters.
  - Later, the usage of these missiles spread to several other variants of helicopters and also ground and sea-based systems and drones.
- The Hellfire missile has other variants such as 'Longbow' and 'Romeo' apart from the 'Ninja'.



Ayman al-Zawahiri:

- Zawahiri took over the leadership of Al-Qaeda after the US Forces hunted down Osama bin Laden in Jalalabad of Pakistan.
- He served three years as a surgeon in the Egyptian Army, but his journey from an eye surgeon to becoming a most wanted global terrorist started after he met Laden in 1986, and joined Laden as his personal advisor and physician.
- In 1993, he took over the leadership of Islamic Jihad in Egypt and was found to be involved in the killing of over 1,200 Egyptians.

DEEP SEA BIODIVERSITY

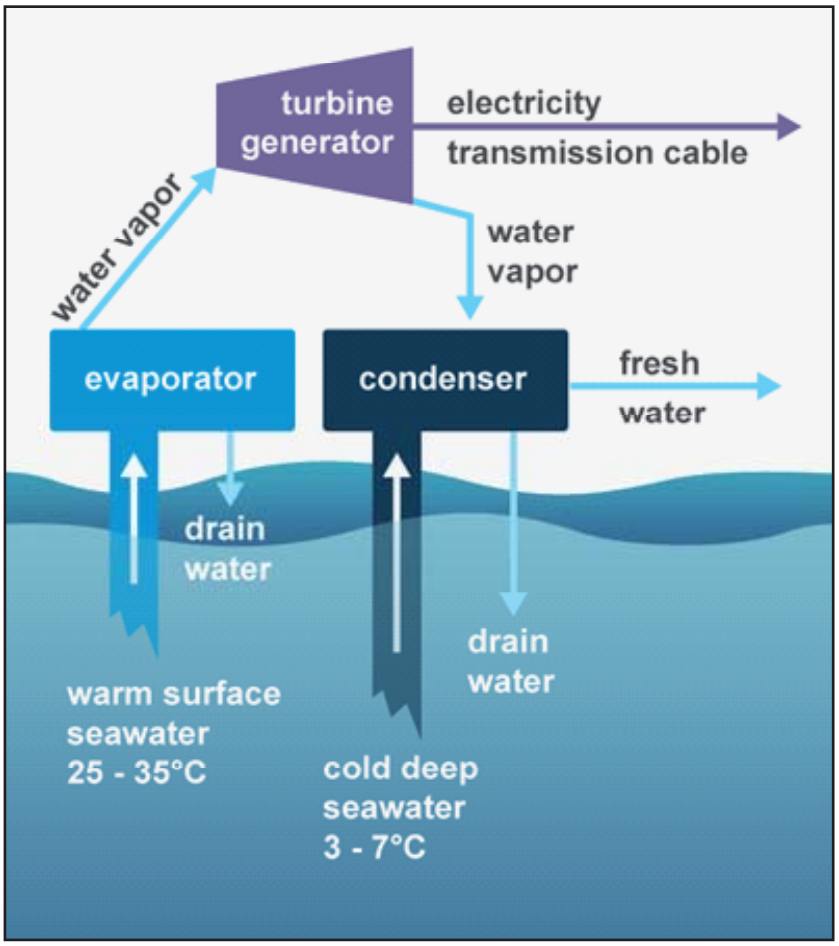
⊙ CONTEXT: **The National Institute of Ocean Technology (NIOT), an autonomous Institute under Ministry of Earth Sciences (MoES) is establishing an Ocean Thermal Energy Conversion plant with a capacity of 65kW in Kavaratti Lakshadweep.**

Ocean thermal energy conversion (OTEC):

- Ocean thermal energy conversion (OTEC) is a process or technology for producing energy by harnessing the temperature differences (thermal gradients) between ocean surface waters and deep ocean waters.

How it works?

- Energy from the sun heats the surface water of the ocean.
- In tropical regions, **surface water can be much warmer than deep water.**
- This temperature difference can be used to produce electricity and to desalinate ocean water.
- Ocean Thermal Energy Conversion (OTEC) systems **use a temperature difference** (of at least 77° Fahrenheit) to power a turbine to produce electricity.
- Warm surface water is **pumped through an evaporator** containing a working fluid. The vaporized fluid drives a turbine/generator.
- The **vaporized fluid is turned back to a liquid in a condenser** cooled with cold ocean water pumped from deeper in the ocean.
- OTEC systems using seawater as the working fluid can use the condensed water to produce desalinated water.



- **Benefits:**
  - **Economic Benefits**
    - Reduced fuel imports
    - Stable utilities pricing
    - Reduced capital expense to Power Companies & Government
    - Allows for power usage to be increased affordably Reduced burden on existing utilities

- **Social & Environmental Benefits**
  - Affordable fresh water production
  - Promotes aquaculture
  - Creates jobs & export opportunities
  - Diversifies fuel options & provides energy independence
  - World leadership role in eco- awareness
  - Environmentally Responsible Limitless renewable energy from local resources
  - Fossil fuel avoidance
  - OTEC can save up to 15,000 bbls of oil per year per MW
  - Zero emissions – OTEC saves nearly 7,000 tons of CO2 per year per MW

OTEC in India:

- India had **planned** to **set up an OTEC plant way back in 1980**, off the Tamil Nadu coast, but with the foreign vendor closing down its operation, it had to be abandoned.
- Chennai-based National Institute of Ocean Technology (**NIOT)**, under the Earth Sciences Ministry has **now developed expertise in design, assembly and deployment** of deep sea pipelines, reviving India's hopes to explore Ocean Thermal Energy.
- **India's Potential:** India has the **potential to generate 180,000 MW** using OTEC, which demonstrates the prospects for OTEC in India in the future.

OTEC Plant:

- Ocean Thermal Energy Conversion plant will be established by NIOT, with a **capacity of 65kW in Kavaratti Lakshadweep**.
- Ocean Thermal Energy Conversion plant **will power the Low Temperature Thermal Desalination (LTTD) based desalination plant** for conversion of **Sea water into Potable water.**
- The capacity of this LTTD plant is **1 lakh litre of potable water per day.**

National Institute of Ocean Technology (NIOT):

- The National Institute of Ocean Technology (NIOT) was established in November **1993** as an **autonomous society** under the **Ministry of Earth Sciences**, Government of India.
- NIOT is **managed by a Governing Council** and the Director is the head of the Institute.
- Major aim of starting NIOT under the Ministry of Earth Sciences, is **to develop reliable indigenous technologies** to solve the various engineering problems associated with harvesting of non-living and living resources in the Indian Exclusive Economic Zone (EEZ), which is about two-thirds of the land area of India.
- **Mission:**
  - To develop world class technologies and their applications for sustainable utilization of ocean resources.
  - To provide competitive, value added technical services and solutions to organizations working in the oceans.
  - To develop a knowledge base and institutional capabilities in India for management of ocean resources and environment.

UNITED LAUNCH ALLIANCE'S ATLAS V ROCKET LAUNCHED WITH US SPACE FORCE SATELLITE

⊙ CONTEXT: **The United Launch Alliance (ULA) has launched an Atlas V rocket with the sixth and final Space Based Infrared System Geosynchronous Earth Orbit (SBIRS GEO 6) spacecraft for the United States Space Force's Space Systems Command.**

The ULA is a joint venture between Lockheed Martin and Boeing.

About SBIRS

- SBIRS is an early missile warning system that will be the successor to the Defense Support Program, whose first satellite launch took place in the 1950s.
- SBIRS will consist of a constellation of three satellites in geosynchronous orbit and two other classified satellites on highly elliptical orbits around the poles.
- The first satellite of the constellation launched in 2011 and before SBIRS-6, the most recent launch was SBIRS-5 in 2021.

Benefits

- The SBIRS constellation has a continuous view of the whole of Earth's surface, which it will image every 10 seconds, while searching for infrared activity heat signatures. This helps it detect missile launches fast while also helping identify missile type, burnout velocity, trajectory and likely point of impact.

US Space Force

- The US Space Force is the sixth and newest department of the US military after its Army, Navy, Marine Corps, Coast Guard and Air Force.
- It was established in 2019, when the National Defense Authorization Act was signed into law.
- The creation of the Space Force came from the recognition that Space was going to be an important national security imperative in the future.

NASA'S JAMES WEBB CAPTURES DEEPER EDIFICE OF CARTWHEEL GALAXY

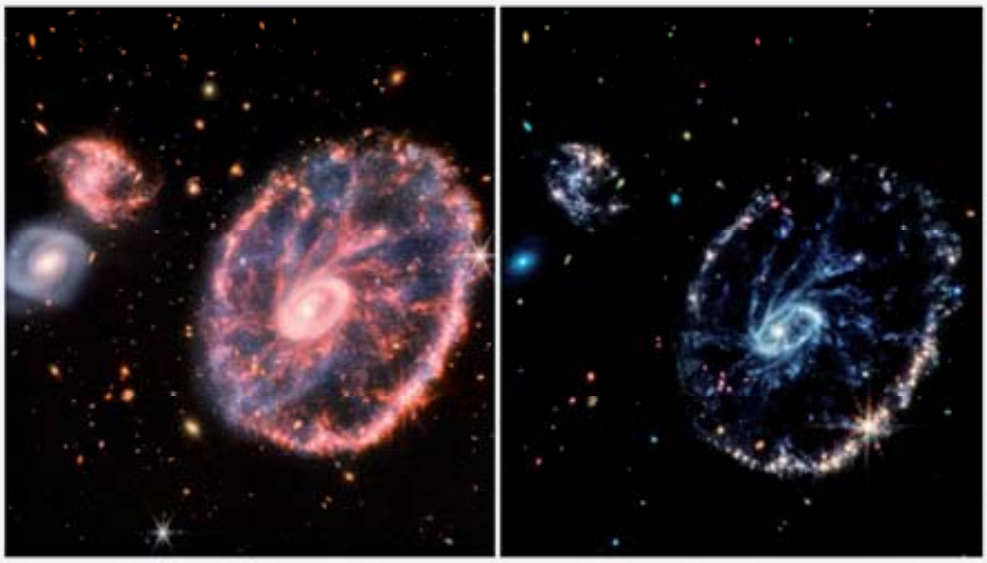
⊙ CONTEXT: **James Webb Space Telescope caught Cartwheel Galaxy that is located about 500 million light-years away and appears like a wheel of a wagon.**

⊙ ABOUT:

- **Cartwheel Galaxy**, located about 500 million light-years away in the **Sculptor constellation**, has been caught with the James Webb Space Telescope.
- The structure **appears like a wheel of a wagon,** and Webb reveals the galaxy's central black hole along with the information about star formation.
- Astronomers called the galaxy a '**ring galaxy'** because of its two rings – a bright inner ring surrounded by a colourful one.
  - The appearance of the galaxy is justified by the high-speed collisions that have taken place internally between a large spiral galaxy and a smaller galaxy which is not visible in the image.

- The rings have been discovered with an extremely hot dust filled bright core consisting of gigantic young star clusters.
- The outer ring, expanded for 440 million years, consists of star formation and supernovas.

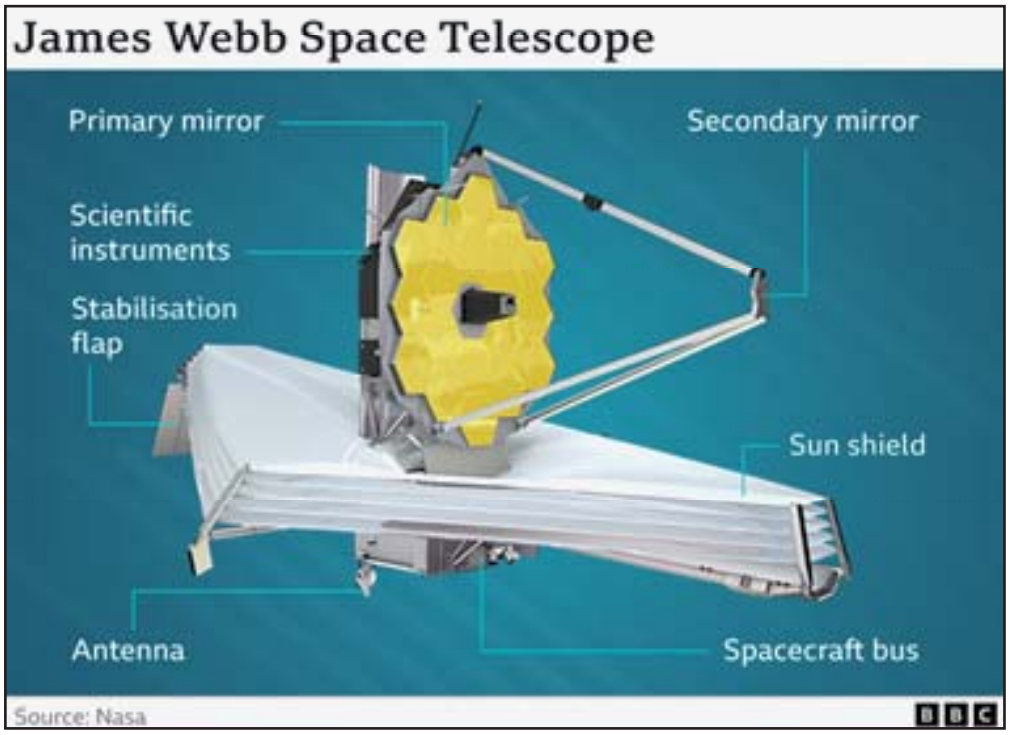
- **Cartwheel galaxy** has been explored **earlier with the Hubble Space Telescope** but the same had failed may be due to the thick layer of dust which obstructs the view. **Webb with an infrared gaze explored the uncovered part of the Cartwheel galaxy.**
- Webb Telescope had not just revealed the observations of the galaxy's present structural formations but also **determined that Cartwheel is in a very transitory stage.**



Left image: A large pink, speckled galaxy resembling a wheel with with a small, inner oval, with dusty blue in between on the right, with two smaller spiral galaxies about the same size to the left against a black background. Right image taken from James Webb Telescope's Mid-Infrared Instrument. (Credits: NASA, ESA, CSA, STScI)

About James Webb Space Telescope:

- It is the most powerful infrared telescopeof National Aeronautics and Space Administration (NASA).
- It is also considered a successor of the Hubble Telescopeand will extend and complement its discoveries.
- JSWT will observe in near-infrared lightrather than light in the visible part of the spectrum (unlike Hubble) and thus it will have a much greater capacity to see obscure stars and galaxies
- Collaboration: It is a joint venture of NASA(US), ESA (Europe), and CSA (Canada)
- Webb was formerly known as the "Next Generation Space Telescope" (NGST)and it was renamed in 2002 after a former NASA administrator, James Webb.
- The JWST observatory includes three main elements-
  - the Integrated Science Instrument Module (ISIM)
  - the Optical Telescope Element (OTE)
  - the Spacecraft Element which comprises the spacecraft bus and the sunshield



Key features of JWST are-

- JWST will operate in an orbit around the Earth-Sun L2 Langrage point, ~ 1.5 million kilometres away from Earth. This makes its operation, pointing and stability requirements much simpler in comparison with HST
- It orbits around the Earth at an altitude of ~570 km above it.
- The telescope and the instruments will operate at the extremely low temperature of -233°C, which prevents the instrument's own infrared emission from overwhelming the signals from the astronomical targets

RESEARCHERS IDENTIFY FUNGUS FOR PYRENE REMEDIATION

⊙ CONTEXT: **Scientists discovered the fungus, growing on dead plants, causes pyrene degradation using special enzymes.**

⊙ ABOUT:

- Researchers at the **Council of Scientific & Industrial Research-Indian Institute of Petroleum (CSIR-IIP), Dehradun,** have identified a fungus capable of removing toxic, recalcitrant, and carcinogenic **polycyclic aromatic hydrocarbons (PAHs**) from the environment.
- The rapid pace of economic development and industrialisation has resulted in the release of several PAHs into the environment.
- The PAHs are **ubiquitous environmental pollutants** originating from multiple sources, including combustion of petrogenic fossil fuels, and incomplete incineration of municipal wastes and biomass.

Polycyclic Aromatic Hydrocarbons (PAHs):

- Polycyclic aromatic hydrocarbons (PAHs) are a **class of chemicals that occur naturally**

in coal, crude oil, and gasoline.

- They result from burning coal, oil, gas, wood, garbage, and tobacco.
- PAHs can **bind to or form small particles in the air**.
- High heat when cooking meat and other foods will form PAHs.
- Naphthalene is a manmade PAH used in the United States to make other chemicals and mothballs.
- **Cigarette smoke** contains many PAHs.

Pyrene:

- Pyrene, possessing four benzene rings, belongs to the highly toxic class of PAHs, with carcinogenic and mutagenic properties.
- It gets lodged into the environmental matrices like soil, water and atmosphere, resulting in widespread environmental pollution, necessitating adequate remediation of contaminated environmental matrices.

New fungus:

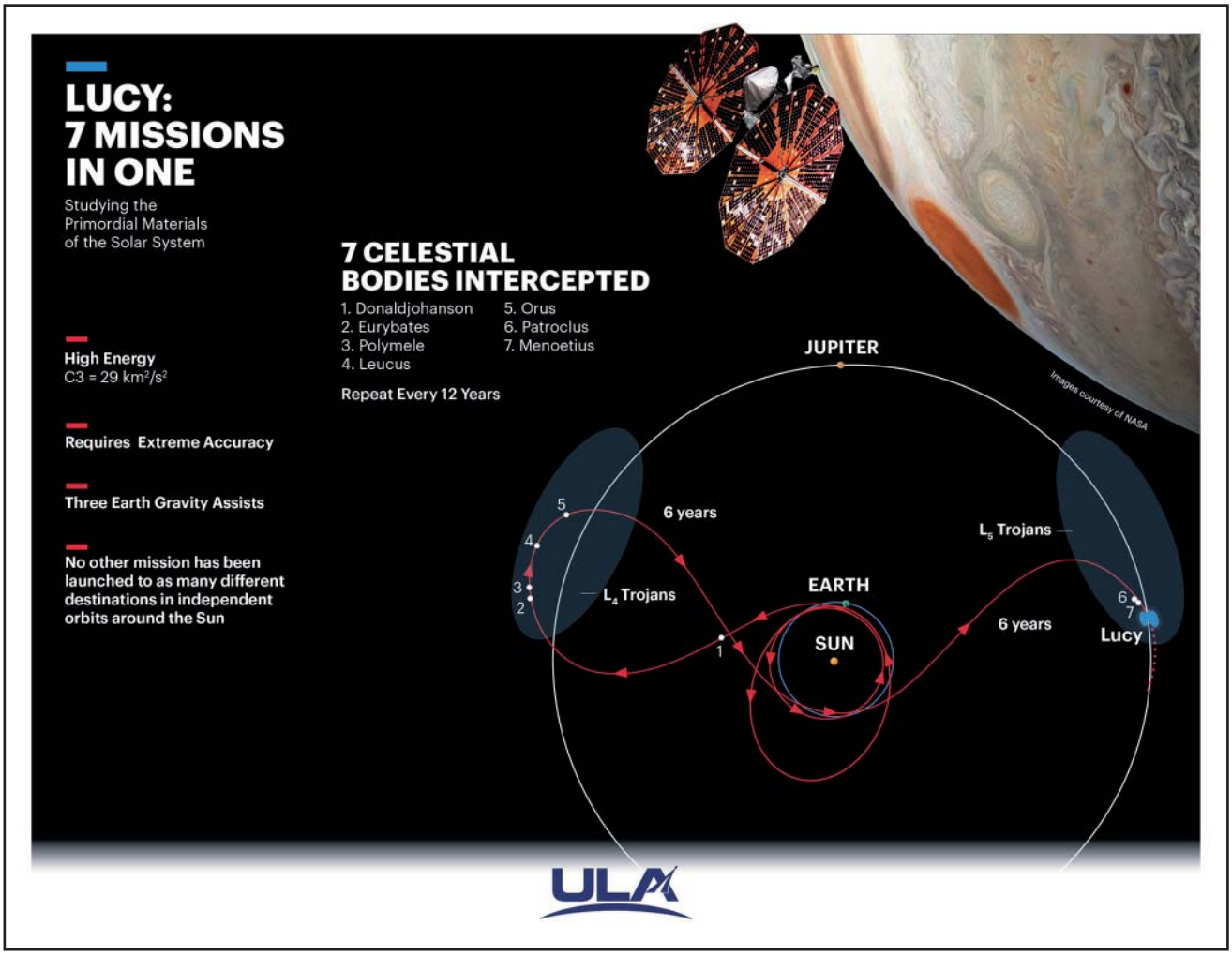
- A white-rot **fungus Trametesmaxima IIPLC-32** has the potential to **causemicrobial degradation of pyrene.**
- According to researchers, growing on dead plants, this fungus causes pyrene degradation using special enzymes.

HOW SCIENTISTS FIXED THE LUCY PROBE'S SOLAR ARRAY WHILE IT WAS IN SPACE

⊙ CONTEXT: **Data from the probe indicated that one of the solar arrays powering it, designed to unfurl like a hand fan, had not fully opened. A recent NASA press statement reveals how mission engineers were able to diagnose and solve the problem.**

Lucy Probe:

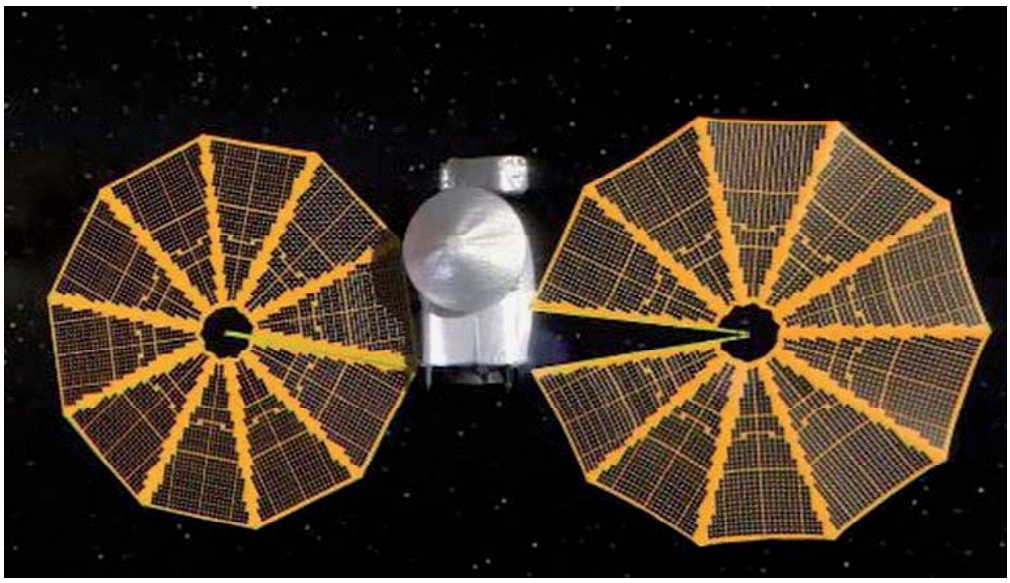
- Lucy will be the first space mission to study the Trojans.
- The mission takes its name from the fossilized human ancestor (called "Lucy" by her discoverers) whose skeleton provided unique insight into humanity's evolution.
- Likewise, the Lucy mission will revolutionize our knowledge of planetary origins and the formation of the solar system.
- Currently on a 12-year-old journey, Lucy will become the first man-made object to fly past one of the trojan asteroids in 2027.
- However, Lucy's first encounter with the asteroids will occur in 2024 when it comes across the Donaldjohanson asteroid into the main asteroid belt.
- According to NASA, all of the spacecraft's flyby will occur between 2027 and 2033 after it will arrive at its main target in 2025.
- The reason for choosing the trojan asteroids is the possibility of these primitive objects hiding new discoveries about the early solar system.



What happened?

- One of Lucy's solar arrays, which was supposed to open 360 degrees in order to power the spacecraft, got stuck and failed to fully unfurl.
- After constant efforts of powering the motor and forcing the array outward, NASA confirmed that it is now between 353 degrees and 357 degrees open.

- While the array is not fully latched, it is under substantially more tension, making it stable enough for the spacecraft to operate as needed for mission operations



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Section: D
(QUICK BYTES)

CURRENT AFFAIRS

HERITAGE SITES IDENTIFIED FOR THE 'NATIONAL IMPORTANCE' TAG

⊙ CONTEXT: **Twenty heritage sites have been identified for the national importance tag.**

Sites identified:

- rock painting at Chintakunta, Andhra Pradesh;
- rock art site Murgi at Rdanag, Leh;
- Kaleshwar Mahadev Temple, Kalesar (Manyala Panchayat), Himachal Pradesh,
- Seven mounds (RGR 1-RGR 7) scattered around two villages (Rakhi Khas and Rakhi Shahpur) in Hisar district of Haryana are part of the Harappan-era Rakhigarhi archaeological site.
- RGR 7 a cemetery site.
- two ancient mounds at Haryana's Rakhigarhi and
- the age-old Anangtal in Delhi

About National Heritage Tag

- The Convention of the Safeguarding of the **Intangible Cultural Heritage** was adopted by the United Nations Educational, Scientific and Cultural **Organization (UNESCO) in 2003** and entered into force in **2006.**
- It comprises **24 members** and is elected in the **General Assembly** of the Convention according to the principles of equitable geographical representation and rotation.
- Members of the Committee are elected for a term **of four years.**

What is Intangible Cultural Heritage?

- Intangible cultural heritage is the practices, expressions, knowledge and skills that communities, groups and sometimes individuals recognise as part of their cultural heritage.
- Also called living cultural heritage, it is usually expressed in one of the following forms:
    - Oral Traditions
    - Performing Arts
    - Social Practices
    - Rituals and Festive events
    - Knowledge and Practices concerning nature and the universe
    - Traditional Craftsmanship

- India has 14 intangible cultural heritage elements on the prestigious UNESCO Representative List of ICH of Humanity.
- Other than the Durga Puja there are 13 Traditions in India recognised by UNESCO as ICH.

Existing Traditions of India Recognised by UNESCO			
1	Tradition of Vedic chanting, 2008	**8**	Buddhist chanting of Ladakh: recitation of sacred Buddhist texts in the trans-HImalayan Ladakh region, Jammu and Kashmir, India, 2012
2	Ramlila, the traditional performance of the Ramayana, 2008	**9**	Sankirtana, ritual singing, drumming and dancing of Manipur, 2023
3	Kutiyattam, Sanskrit Theatre, 2008	**10**	Traditional brass and copper craft of utensil making among the Thatheras of Jandiala Guru, Punjab, India, 2014
4	Ramman, religious festival and ritual theatre of rthe Garhwal Himalayas, India, 2009	**11**	Yoga, 2016
5	**Mudiyettu, ritual theatre and dance drama of Kerala, 2010**	**12**	Nowruz, 2016
6	**Kalbelia folk songs and dances of Rajasthan, 2010**	**13**	Kumbh Mela, 2017
7	**Chhau dance, 2010**		

SOWING WHEAT EARLY IN EASTERN INDIA CAN INCREASE YIELD BY 69%: STUDY

⊙ CONTEXT: **Moving paddy transplantation forward by two weeks can lead to a 36% greater wheat yield.**

⊙ BACKGROUND:

- **Cornell University, the United States**, has found that the sowing dates of wheat have maximum influence on its yield. It supersedes all other crop management, soil, and varietal factors.
- The study has found that by adjusting sowing dates in eastern parts of India will increase production by 69 per cent.

About the study:

- The researchers have studied in 2.25 million hectares of farmland cultivating wheat-paddy in Bihar and seven adjacent districts of Uttar Pradesh.
- In this region, the wheat is sown between **early November and late December**, with **harvest extending from late March through April.** Rice alternates with wheat on the agricultural calendar, with farmers growing rice in the wet season and wheat in the dry one.
- The study divided the data into three:
  - Early (before November 20),
  - Medium (November 20 to December 4) and
  - Late (after December 4).

Key Findings:

- **Advancing the rice crop calendar by up to two weeks** will help wheat productivity.
- The yield increased by 69 per cent for fields sown in early November (5.4 tonnes per hectare) compared with those in late December (3.2 tonnes per hectare).
- A bulk of the sowing, 59 per cent, takes place after December 1st and moving it up by two weeks can lead to a **36 per cent increase in yield.**
- **Rice productivity will not be hampered by early wheat sowing.**

Significance:

- **Policymakers** need to take note of this and help **design an agriculture calendar** so that **paddy transplantation can happen earlier.**
- A calendar that **balances both wheat and rice yields** is needed. Moving to short-duration paddy varieties might be one solution.
- The data can be **crucial for resilient climate farming** in the country.
- Planting wheat earlier helps the crop **avoid heat stress** as it matures.
- The greater production will help **ensure food security and farm profitability** as the planet warms.

Factor	Rice (Kharif Crop)	Wheat (Rabi Crop)
Temperature:	Between 22-32°C with high humidity.	Between 10-15°C (Sowing time) and 21-26°C (Ripening & Harvesting) with bright sunlight.
Rainfall	Around 150-300 cm.	Around 75-100 cm.
Soil Type	Deep clayey and loamy soil.	Well-drained fertile loamy and clayey loamy
Major Producers	West Bengal > Punjab > Uttar Pradesh > Andhra Pradesh > Bihar.	Uttar Pradesh > Punjab > Madhya Pradesh > Haryana > Rajasthan.

NANOTECH TATTOO AS HEALTH MONITORING DEVICE

⊙ CONTEXT: **Researchers in South Korea have developed an electronic tattoo ink made of liquid metal and carbon nanotubes that functions as a bio-electrode.**

⊙ ABOUT:

- The device could be used to send readout of the wearer's vital signs if connected to biosensors, including for instance an electrocardiogram.
- Alongside heart rates it could be used to read glucose or lactate levels for people with diabetes or sepsis.
- The monitors could in theory be located anywhere, including in patients' homes.

About Bioelectrodes and Biosensors

- Bioelectrodes are sensors used to transmit information into or out of the body and are mainly applied in cardiology and neurology applications.

- Surface or transcutaneous electrodes used to monitor or measure electrical events in the body.
- A biosensor uses biological molecules, tissues, organisms to measure chemical or biochemical concentrations. Biosensors can be used in many medical and non-medical applications.
- Biomedical sensors detect simple physical parameters like blood pressure or temperature to blood glucose.
- Biosensors works by changing the pH, ions, blood gases (O2, CO2 and etc.), drugs, hormones, proteins, viruses, bacteria, tumors and etc.

The Electronic Tattoo:

- The electronic tattoo ink is made of liquid metal and carbon nanotubes that can deliver vital body information.
- The ink is non-invasive and made from particles based on gallium, a soft, silvery metal also used in semiconductors or in thermometers.
- Platinum-decorated carbon nanotubes help conduct electricity while providing durability.
- When it is applied to the skin, even with rubbing the tattoo doesn't come off, this is not possible with just liquid metal.

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Section: E
(MISCELLANEOUS)

CURRENT AFFAIRS

AVRA TECHNOLOGY AWARD – 2021 PRESENTED TO DR KRISHNA M ELLA

⊙ CONTEXT: **The AVRA Technology Award – 2021 was presented to Dr Krishna M Ella, Chairman, Bharat Biotech, at CSIR-Indian Institute of Chemical Technology, Hyderabad. Bharat Biotech (in collaboration with the Indian Council of Medical Research (ICMR) - National Institute of Virology) produced India's indigenous vaccine, Covaxin.**

About the Award

- The award is instituted in honour of **Dr AV Rama Rao**, former director of CSIR-IICT, and Founder of AVRA Laboratories, while CSIR-IICT sponsored the award.
- The award carries a cash award of Rs one lakh and a memento.
- It is given to an eminent scientist/technologist who has contributed significantly to the national objectives in the domain of science and technology.

Some of the earlier award recipients include Prof. Sandeep Verma, Secretary, Science, and Engineering Research Board, Department of Science and Technology, Prof UR Rao, former chairman of ISRO, Prof MS Swaminathan, Prof MM Sharma, and Dr Sam Pitroda.

Bharat Biotech

- Bharat Biotech is a pioneering biotechnology company known for its world-class R&D and manufacturing capabilities.
- It is headquartered in Hyderabad
- **Founded in:** 1996

COMMONWEALTH GAMES 2022

⊙ CONTEXT: **The commonwealth games concluded recently.**

Commonwealth Games: History

- The Commonwealth Games bring nations together in a colourful celebration of sport and human performance. But the Games have evolved dramatically since its beginnings in 1930.
- Held every four years, with a hiatus during World War II, the Games have grown from featuring 11 countries and 400 athletes, to a global spectacle of 4,600 sports men and women from across 72 nations and territories.
- The Commonwealth Games Federation (CGF) is the organisation that is responsible for the direction and control of the Commonwealth Games, and for delivering on the vision of the Commonwealth Sports Movement: through sport, we build peaceful, sustainable and prosperous communities across the Commonwealth.
- It has been confirmed that the 2026 Commonwealth Games will be hosted by the State of Victoria in Australia.

2022 Commonwealth Games:

- The Commonwealth Games 2022 were played in Birmingham, United Kingdom.

- India won 22 gold, 16 silver and 23 bronze medals to record its fifth-best medal haul in CWG history.
- **Commonwealth Games Medal Tally:**

Rank	Country	Gold	Silver	Bronze	Total
1	Australia	67	57	54	178
2	England	57	66	53	176
3	Canada	26	32	34	92
4	India	22	16	23	61
5	New Zealand	20	12	17	49
6	Scotland	13	11	27	51
7	Nigeria	12	9	14	35
8	Wales	8	6	14	28
9	South Africa	7	9	11	27
10	Malaysia	8	8	8	24
11	Northern Ireland	7	7	4	18
12	Jamaica	6	6	3	15
13	Kenya	6	5	10	21
14	Singapore	4	4	4	12

Gold medal winners for India in Commonwealth Games 2022

Medal	Player	Sport
Gold	PV Sindhu	Badminton Women's Singles
Gold	Lakshya Sen	Badminton Men's Singles
Gold	Nikhat Zareen	Boxing Women's Light Flyweight
Gold	Vinesh Phogat	Wrestling Women's Freestyle 53kg
Gold	Ravi Kumar Dahiya	Wrestling Men's Freestyle 57kg
Gold	Naveen	Wrestling Men's Freestyle 74kg
Gold	Sharath Kamal	Table Tennis men's singles
Gold	Nitu Ghanghas	Boxing Minimumweight
Gold	Amit Panghal	Boxing Flyweight
Gold	Bajrang Punia	Wrestling Men's Freestyle 65kg
Gold	Sakshi Malik	Wrestling Women's Freestyle 62kg
Gold	Deepak Punia	Wrestling Men's Freestyle 86kg

Gold	Mirabai Chanu	Weightlifting Women's 49kg
Gold	Jeremy Lalrinnunga	Weightlifting Men's 67kg
Gold	Achinta Sheuli	Weightlifting Men's 73kg
Gold	Lovely Choubey, Pinki, Nayanmoni Saikia, Rupa Rani Tirkey	Lawn Bowls Women's Fours
Gold	Sharath Kamal, Sathiyan Gnanasekaran, Harmeet Desai, Sanil Shetty	Table Tennis Men's Team
Gold	Sudhir	Para Powerlifting Men's Heavyweight
Gold	Bhavina Patel	Table Tennis Women's Singles Classes 3-5
Gold	Eldhose Paul	Men's Triple Jump
Gold	Sharath Kamal, Sreeja Akula	Table Tennis Mixed Team
Gold	Satwik Sairaj Rankireddi and Chirag Shetty	Badminton men's doubles

Silver medal winners for India in Commonwealth Games 2022

Medal	Player	Sport
Silver		Indian Women's Cricket Team
Silver	Anshu Malik	Wrestling Women's Freestyle 57kg
Silver	Murali Sreeshankar	Men's Long Jump
Silver	Kidambi Srikanth, Satwik Sairaj, Sumeeth Reddy, Lakshya Sen, Chirag Shetty, Treesa Jolly, Aakarshi Kashyap, Ashwini Ponappa, Gayatri Gopichand, PV Sindhu	Badminton Mixed Team
Silver	Sharath Kamal, G Sathiyan	Table Tennis Men's Doubles
Silver	Vikas Thakur	Weightlifting Men's 96kg
Silver	Shushila Devi Likmabam	Judo Women's 48kg
Silver	Bindyarani Devi	Weightlifting Women's 55kg
Silver	Tulika Maan	Judo Women's +78kg
Silver	Sanket Sargar	Weightlifting Men's 55kg
Silver	Avinash Sable	Men's 3000m Steeplechase
Silver	Priyanka Goswami	Women's 10km Race Walk
Silver	Dinesh Kumar, Chandan Kumar Singh, Sunil Bahadur, Navaneeth Singh	Lawn Bowls Men's Fours

Silver	Abdullah Aboobacker	Men's Triple Jump
Silver	Sagar Ahlawat	Boxing Men's Super-Heavyweight
Silver		Indian men's hockey team

Bronze medal winners for India in Commonwealth Games 2022

Medal	Player	Sport
Bronze	Gururaja Poojary	Weightlifting Men's 61kg'
Bronze	Vijay Kumar Yadav	Judo Men's 60kg
Bronze	Harjinder Kaur	Weightlifting Women's 71kg
Bronze	Lovepreet Singh	Weightlifting Men's 109kg
Bronze	Saurav Ghosal	Squash Men's Singles
Bronze	Gurdeep Singh	Weightlifting Men's 109kg+
Bronze	Tejaswin Shankar	Men's High Jump
Bronze	Divya Kakran	Wrestling Women's 68kg
Bronze	Mohit Grewal	Wrestling Men's 125kg
Bronze	Jaismine	Boxing Women's Lightweight 60kg
Bronze	Pooja Gehlot	Wrestling Freestyle Women's 57=0kg
Bronze	Pooja Sihag	Wrestling Freestyle Women's 76kg
Bronze	Hussamuddin	Men's Boxing Featherweight
Bronze	Deepak Nehra	Wrestling Freestyle Men's 97kg
Bronze	Sonalben Patel	Para Table Tennis Women's Singles Classes 3-5
Bronze	Rohit Tokas	Boxing Men's Welterweight 67kg
Bronze		Indian Women's Hockey Team
Bronze	Sandeep Kumar	Men's 10,000m Race Walk
Bronze	Annu Rani	Women's Javelin Throw
Bronze	Saurav Ghosal and Dipika Palikkal	Squash Mixed Doubles
Bronze	Kidambi Srikanth	Badminton Men's Singles
Bronze	Gayathri Gopichand, Treesa Jolly	Badminton Women's Doubles
Bronze	G. Sathiyan	Table Tennis Men's Singles

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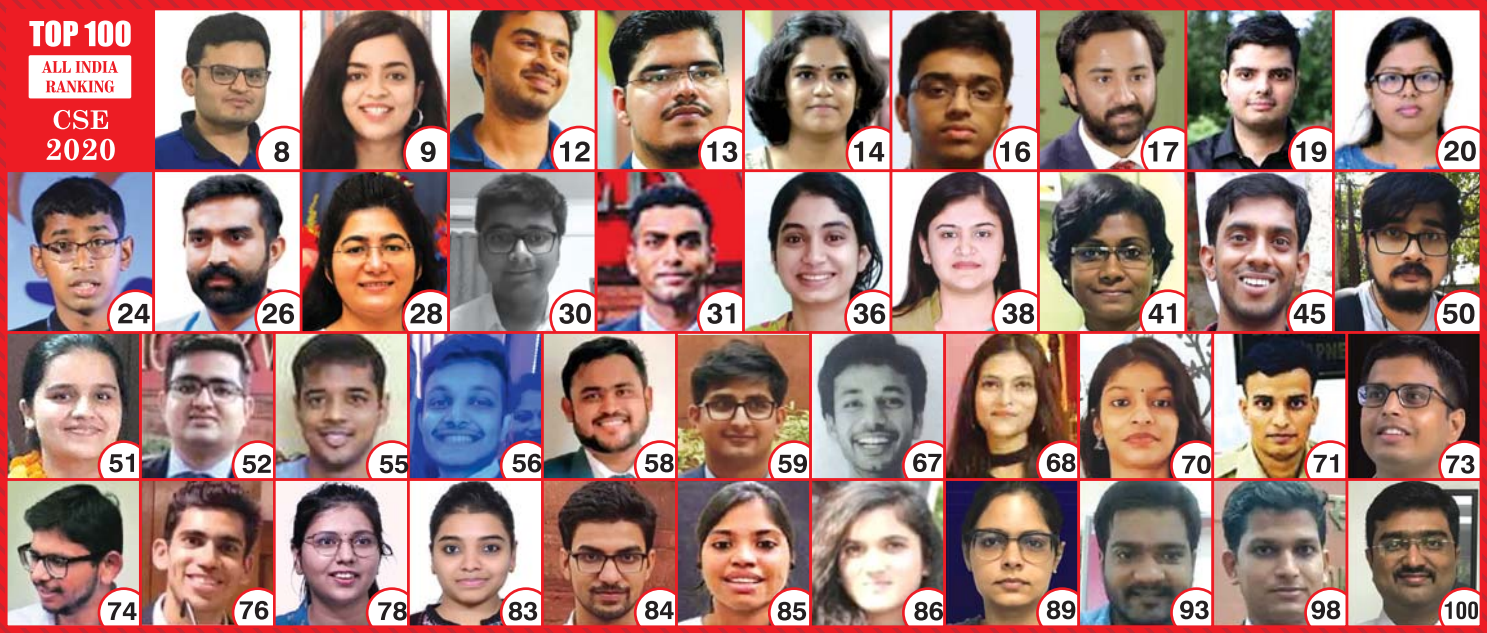
GS SCORE
An Institute for Civil Services

CSE RESULTS

TOP 100 ALL INDIA RANKING CSE 2021

SUCCESS IS A PRACTICE WE DO!

TOP 100 ALL INDIA RANKING CSE 2020



TOP 100 ALL INDIA RANKING CSE 2019