

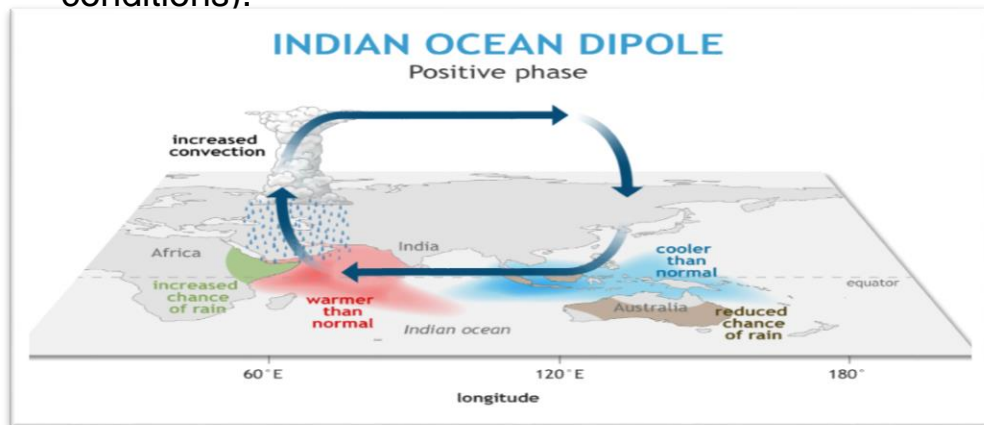
IOD and La-Nina

❖ Context

- According to South Korean agency, the APEC Climate Centre at Busan, Negative IOD may neutralise gains from La-Nina and thus India's South Peninsula may receive below-normal rain.
- However, normal rain for the country as a whole is predicted till August.

❖ Relation Between La Nina and IOD

- **Periods of weaker or stronger-than-average easterly trade winds initiate El Nino/La Nina events.**
- During the **La Nina phase, surface winds (blowing from East to West)** across the entire tropical Pacific are **stronger** than usual, and most of the tropical Pacific Ocean is cooler than average (and warmer to West).
- As **warm water enters the nearby Indian Ocean**, La Nina-induced surface wind anomalies result in large-scale anomalous heat transport in the equatorial Indian Ocean.
- As a consequence, the IOD (a coupled ocean and atmosphere phenomenon) in the equatorial Indian Ocean is also perturbed.
- The change in temperature gradients across the Indian Ocean results in changes in the preferred regions of rising and descending moisture and air (wet and dry conditions).



❖ About Indian Ocean Dipole

- The Indian Ocean Dipole (IOD) is defined by the difference in sea surface temperature between two areas (or poles, hence a dipole) – a western pole in the Arabian Sea (western Indian Ocean) and an eastern pole in the eastern Indian Ocean south of Indonesia.
- The IOD affects the climate of India, Australia and other countries that surround the Indian Ocean Basin, and is a significant contributor to rainfall variability in this region.
- **Positive IOD:**
 - Warmer sea surface temperatures in the western Indian Ocean relative to the east.
 - Floods in the East African countries,
 - Stronger-than-normal Indian summer monsoon rainfall (ISMR).
 - Droughts in Indonesia and southeastern Australia.
 - Often associated with El Niño.
- **Negative IOD:**
 - Cooler sea surface temperatures in the western Indian Ocean relative to the east.
 - Weaker-than-normal Indian summer monsoon rainfall (ISMR).
 - More rainfall in Indonesia and southeastern Australia.
 - Often associated with La Nina.

Coal Shortage

❖ Context

- Recently, **coal stocks in more than 100 thermal power plants in India fell below the critical mark** (less than 25% of the required stock). It was less than 10% in over 50 plants across India.

❖ Key Highlights

- At present **72.5 million tonnes (MT)** of coal is available at different sources of **Coal India, Singareni Collieries and coal washeries**, and 22.01 MT with thermal power plants.
- **Coal accounts for 55% of the country's energy needs.**
- As per the **India Energy Outlook 2021 report** (Published by International Energy Agency (IEA)) :
 - **Energy use** in India has **doubled since 2000.**
 - **80% of demand** still being met by **coal, oil and solid biomass.**
- The IEA estimates that despite the shock from COVID-19, **India's demand is expected to grow by almost 5% a year till 2040.**
- **Coal As Viable Energy Resource:**
 - Coal is **abundantly available.**
 - It has **shorter gestation periods.**
 - Coal-based plants have **lower capital costs** than hydel and nuclear plants.

❖ India Position On Renewable Energy Sources

- As per an estimation, the **share of renewable energy** in the gross electricity generation is expected to be **around 40% by 2030.**
- A total of **152.90 GW of renewable energy capacity** has been installed in the country.
- **This Includes:**
 - **50.78 GW from solar power**
 - 40.13 GW from wind power
 - 10.63 GW from bio-power
 - 4.84 GW from small hydel power
 - 46.52 GW from large hydel power.
- The Govt. aspires to install **500 GW of electricity capacity from non-fossil fuel sources by 2030.**

Face to Face Centres



❖ About International Energy Agency (IEA)

- It is an **autonomous intergovernmental organization**.
- Established in the framework of the **Organization for Economic Co-operation and Development (OECD)** in **1974** in the wake of the **1973 oil crisis**.
- It mainly focuses on its **energy policies** which include **economic development, energy security and environmental protection**.
- IEA member countries are required to **maintain total oil stock levels equivalent to at least 90 days** of the previous year's net imports.
- **Membership- Only OECD member states** can become members of the IEA (31 Member). **India became an Associate member** of IEA in March 2017.
- **Headquarter:** Paris.
- **Publication:** World Energy Outlook (Annual).



News in Between the Lines

Article 191 & 192



❖ Context

- ECI has sought documents from the Jharkhand government related to a mining lease granted to CM, to formulate its opinion under Article 192 of the Constitution.

❖ What Does The Article 192 Say?

- The article contains two provisions: The **Governor shall decide** on the question whether an **MLA has become subject to any of the disqualifications** under Article 191 (1) . The decision of the governor will be final.
 - Before giving any such decision, the **governor shall obtain the opinion of ECI and shall act according to such opinion**.

❖ What Does Article 191 Say?

- The article covers the conditions under which an MLA can be disqualified. It contains two provisions. The **conditions** laid under first provision are :
 - If he holds any office of profit under the Government of India or the Government of any State specified in the First Schedule, other than an office declared by the Legislature of the State by law not to disqualify its holder;
 - If he is of unsound mind and stands so declared by a competent court;
 - If he is an undischarged insolvent;
 - If he is not a citizen of India, or has voluntarily acquired the citizenship of a foreign State, or is under any acknowledgement of allegiance or adherence to a foreign State;
 - If he is so disqualified by or under any law made by Parliament.
- According to the second provision, a member is disqualified if he is disqualified under tenth schedule.

Prunus Dinabandhuana



❖ Context

- In a recent discovery, a team of scientists from Manipur found a **new plant species of Cherry Blossom** in the northeastern state of **Manipur**.

❖ Key Highlights

- The Cherry Blossom or '**Sakura**' is the **national flower of Japan**.
- The scientist named the new species as '**Prunus Dinabandhuana**' after renowned Odia scientist **Dr Dinabandhoo Sahoo**.
- In **2016**, the **first cherry blossom festival of India** was organized in Meghalaya's Shillong by Dr Sahoo.
- Notably, **India has become the 28th country** in the globe to be **part of the plantation of Cherry blossom** which is a common species in East Asian countries like **Korea, China and mainly Japan**. The species **belongs to the family of Rosaceae and blooms during the month of November**.
 - The Japanese cherry blossom that blooms in between March and April.
- This plant species in Manipur **grows in a dense mixed evergreen forest** up to a height of 25 to 30 meters as informed by experts.

Face to Face Centres

Government Order (GO) 111



❖ Context

- Environmentalists and activists are criticizing the **Telangana government for withdrawing an over 25-year-old government order** protecting the historic **Osman Sagar and Himayat Sagar reservoirs in Hyderabad.**

❖ Government Order (GO) 111

- On **March 8, 1996**, the government of erstwhile (undivided) Andhra Pradesh had issued '**Government Order (GO) 111**'.
- It **prohibits development or construction works in the catchment area** of the Osman Sagar and Himayat Sagar lakes **up to a radius of 10 km.**
- The GO **prohibited the setting up of industries, residential colonies, hotels, etc. which cause pollution.** The total catchment area covers around **1.30 lakh acres, spread over 84 villages.** The aim of the restrictions was **to protect the catchment area, and to keep the reservoirs pollution-free.**
- The lakes had been supplying water to Hyderabad for nearly 70 years, and were the main source of drinking water for the city at the time.

Vijayotsav



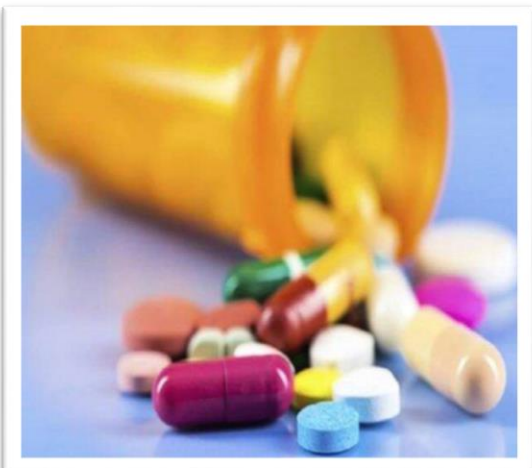
❖ Context

- Recently, **77 thousand national flags waved** in 'Vijayotsav' (victory day) event celebrated as part of the Center's 'Azadi Ka Amrit Mahotsav' programme tribute to the Bihar hero of 1857 uprising.

❖ Key Highlights

- This mega event was **held at the Dulaur ground in Jagdishpur in Bhojpur, the birthplace of freedom fighter** and hero of the **1857 uprising Veer Kunwar Singh.** Veer Kunwar Singh **led the Indian rebellion of 1857.**
- This event will make the **young generation aware of the heroic deeds of Veer Kunwar Singh** and his fight against the British East India Company.
- Previous record of simultaneous waving of **57 thousand 632 national flags was set in Pakistan in 2004.**

Indomethacin



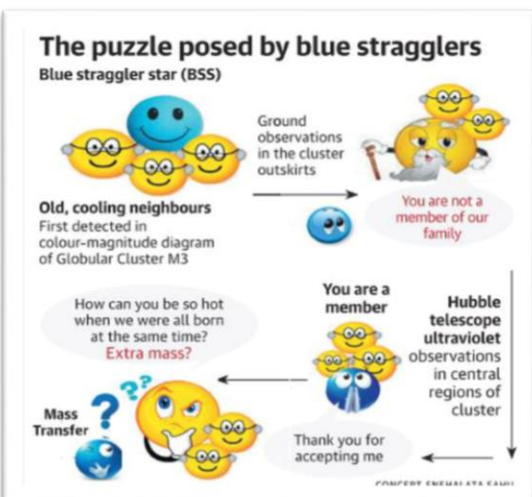
❖ Context

- According to a recent study, a **common anti-inflammatory drug** has been found that is an **effective antiviral agent in treating mild and moderate Covid-19 patients.**
- The study has been published in **Nature Scientific Reports, by IIT Madras.**

❖ Key Highlights

- The drug known as indomethacin is used in **treating various types of inflammation-related conditions.**
- Indomethacin is an **anti-inflammatory non-steroidal drug** which is available as a liquid suspension and a capsule that is to be taken orally.
- As per the US National Library of Medicine: Indomethacin **stops the substance that causes pain, fever, and inflammation** in the body and is used in relieving moderate to severe pain swelling, tenderness and stiffness that is caused by kinds of arthritis, and pain in the shoulder caused by inflammation.

Blue Stragglers Star



❖ Context

- **Blue stragglers**, a particular type of star seen in clusters and also, sometimes, alone.

❖ Key Highlights

- Scientists try to understand their eccentricity and, after studying them for long years, **Indian Institute of Astrophysics, Bengaluru, researchers have found support for one way to understand their aberrant behavior.**
- For this, the researchers also made use of the observations by the **UVIT instrument (UltraViolet Imaging Telescope) of ASTROSAT, India's first science observatory in space.**

❖ Blue Stragglers Star

- Blue stragglers were **first discovered by Allan Sandage in 1953.**
- It is a **class of stars** on open or globular clusters that stand out as **they are bigger and bluer than the rest of the stars.**

Face to Face Centres



• A clue to their origin is that they are **only found in dense stellar systems, where distances between stars are extremely small** (a fraction of a light year). Most are **located at least several thousand light-years away from the sun**, and most are around **12 billion years old or more**.

NICDC




❖ **Context**

- The Union Minister of Commerce and Industry has urged the States to put the NICDC projects on fast track and set a deadline for acquisition and allotment of land in industrial nodes and clusters.

❖ **Key Highlights**

- The National Industrial Corridor Development Corporation (NICDC) was approved by the Government in **December, 2020** for development of **11 industrial corridors with 32 state-of-the-art projects** to be developed in 4 phases by **2026-27**.
- The programme is aiming to develop **new industrial cities as "Smart Cities"** through convergence of next-gen technologies.
- The four 'Smart' industrial cities currently are emerging at **Dholera (Gujarat), Shendra Bidkin (Maharashtra), Vikram Udhogpuri (MP) & Integrated Industrial Township in Greater Noida (UP)**.



NBFC And Card Business




❖ **Context**

- Non-banking financial companies registered with the RBI will not undertake credit card/ debit card business without prior approval from the RBI.

❖ **Key Highlights**

- In **Master Direction – Credit Card and Debit Card – Issuance and Conduct Directions, 2022**, the RBI has said that any company, including a non-deposit taking company, will need a **Certificate of Registration**, apart from specific permission to enter into this business. The directions will be **effective from July 1, 2022**.
- In **Case Of SCBS : Scheduled commercial banks (SCBs)**, other than regional rural banks (RRBs), with net worth of ₹100 crore and above, **can undertake** credit card business either **independently or in tie-up arrangement** with other card issuing banks or NBFCs with the approval of their boards.
- However, **SCBs** (excluding small finance banks and RRBs) **desirous of setting up separate subsidiaries** for undertaking credit card business will **need prior RBI approval**. **RRBs** can issue credit cards in **collaboration with their sponsor bank** or other banks.

FASER



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❖ **Context**

- Large Hadron Collider, the world's largest and most powerful particle accelerator, restarted for experiments after remaining shut for three years for maintenance.

❖ **About FASER (Forward Search Experiment)**

- It is a new experiment that is going to be performed in the third run.
- It is expected to solve puzzles related to: Neutrino mass origin, Nature of Dark matter and Imbalance between matter & antimatter in the present day universe.

❖ **About LHC**

- Built by **European Organisation for Nuclear Research (CERN)**.
- Located under Swiss-French border area near Geneva.
- The LHC consists of a 27-kilometre ring of superconducting magnets with a number of accelerating structures to boost the energy of the particles along the way.
- It is the collider's third run that will go on till 2026 - 2010-12 (first) and 2015-2018 (second).

