

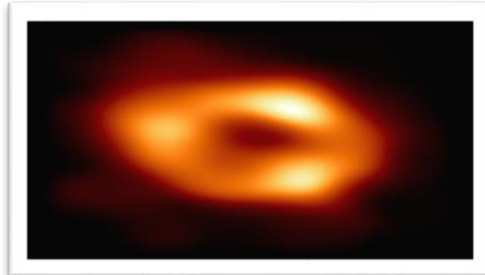
Sagittarius A* (SgrA*)

❖ Context

- The **Event Horizon Telescope (EHT)** consortium has captured a **first ever direct image** of the supermassive blackhole located at the center of the **Milky Way Galaxy**.

❖ About the Blackhole

- The blackhole is named **Sagittarius A***, after the constellation in which it is found - and **M87***, the one at the center of the galaxy M87.
- It is **4 million times** more massive than the sun.
- It is located **27,000 light years** away from us. Its **size is about the orbit of Mercury** around the sun.
- Scientists describe the black hole as a **“gentle giant”** as it is “eating very little” equivalent to a person eating a single grain of rice over millions of years - “a near starvation diet”.



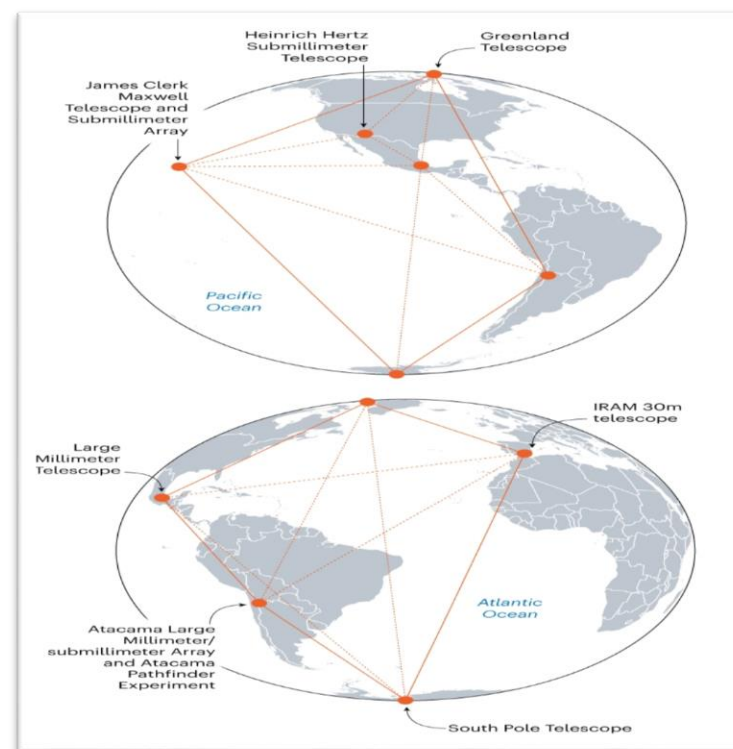
❖ Significance

- It confirms the belief of scientists that nearly all galaxies, including our own, have giant black holes at their center.
- It also confirms **Albert Einstein’s general theory of relativity** - as the **size of the blackhole calculated is precisely the size that Einstein equations dictate**.

❖ EHT

- The whole exercise was possible because of the enormous power of the Event Horizon Telescope, with a **sight that is 3 million times sharper than the human eye**.
- It is a collection of **eight synchronized radio telescopes** around the world, which together act like a giant eye on the earth.

- It is **not the first image of a black hole released by the consortium**.
- In **2019**, the EHT researchers unveiled image of **M87*** - the black hole (1600 times larger than SgrA*) **at the center of a galaxy Messier 87**, which is a supergiant elliptical galaxy 53 million light years away.



Abortion Rights:

- A bill intended to codify abortion rights in the United States failed to advance (voted down 49-51) in the Senate.
- **Criticism:** It went further than most Americans would want to go on abortion rights.

❖ Abortion Rights in India:

➤ Reasons based on which an MTP can be accessed?

- The continuation of the pregnancy would involve a risk to the life of the pregnant woman or result in grave injury to her physical or mental health.
- If the pregnancy is as a result of rape or failure of contraceptive used by the pregnant woman or her partner to limit the number of children or to prevent a pregnancy, the anguish caused by the continuation of such a pregnancy would be considered to be a grave injury to the mental health of the pregnant woman.
- The other reason for seeking an MTP is the substantial risk that if the child was born, it would suffer from any serious physical or mental abnormality.

❖ The Medical Termination of Pregnancy (Amendment) Bill, 2020:

- It amends the Act to increase the upper limit for termination from 20 to 24 weeks for certain categories of women, removes this limit in the case of substantial foetal abnormalities, and constitutes Medical Boards at the state-level.
- It introduces the requirement of the opinion of two registered medical practitioners for termination of pregnancy of 20-24 weeks of gestation.
- It has also enhanced the gestation limit for ‘special categories’ of women which includes survivors of rape, victims of incest and other vulnerable women like differently-abled women and minors.

What is Open Radio Access Network (Open RAN)?

- Telecommunication Engineering Centre (TEC), a technical arm of the Department of Telecommunications (DoT) signed today a Memorandum of Understanding (MoU) with M/s VVDN Technologies Private Limited, an Indian product engineering and manufacturing company working in various technology domains including 5G, Networking, IoT, Cloud & Apps.

Face to Face Centres

❖ **About Open RAN:**

- Open Radio Access Network, or Open RAN, is a key part of a mobile network system that uses cellular radio connections to link individual devices to other parts of a network. It comprises antennae, which transmits and receives signals to and from our smartphones or other compatible devices. The signal is then digitised in the RAN-base station and connected to the network.

❖ **Open RAN Vs Traditional RAN:**

- In the traditional set-up, Radio Access Network is provided as an integrated platform of both hardware & software.

- Therefore, it is difficult to mix vendors for the radio and baseband unit, and in most cases, they come from the same supplier. The idea of Open RAN is to change this, and enable operators to mix and match components.

❖ **Significance:**

- Open RAN would reduce a telecom operator's network deployment cost as it is interoperable with other networks such as 4G. Network flexibility is another advantage of the Open RAN architecture.
- Being software-centric, it is scalable, agile and best of networks with improved network performance using artificial intelligence and machine learning.

Shallow and Deep Ecologism:

- As India continues to grapple with the unrelenting heat waves, it becomes relevant to unpack two strands of environmental philosophy that reinvent the relationship between nature and humans - Shallow and Deep Ecologism.
- The concepts emerged in the **1970s**, when **Norwegian philosopher Arne Næss** sought to look beyond the popular pollution and conservation movements of his milieu to address environmental degradation.

❖ **Shallow and Deep Ecologism:**

- **Shallow ecologism:** He terms the powerful and fashionable fight against pollution and resource depletion as shallow ecologism or environmentalism. Exponents of this philosophy believe in continuing our present lifestyle, but with specific tweaks aimed at minimising the damage to the environment.
- **Deep Ecologism:** Deep ecologism believes that humans should radically change their relationship with nature. Its proponents reject shallow ecologism for prioritising humans above other forms of life, and subsequently preserving the environmentally destructive way of life in modern societies.

❖ **Objectives Of Deep Ecologism**

- Deep ecologism aspires to sustain nature by making largescale changes to our lifestyle. These may include limiting the commercial farming of meat to preserve forest areas and reduce the artificial fattening of animals, or the reshaping of transport systems which involve the use of internal combustion engines.
- Deep ecologism shifts the attention from pollution and conservation narratives to robust policy formulation and implementation. According to Næss, policymaking must be aided by the reorientation of technical skills and inventions in new directions that are ecologically responsible. To recognise the complex richness of different lifeforms, deep ecologism calls for a reevaluation of the **'survival of the fittest'** doctrine. Survival of the fittest should be understood through the human ability to cooperate and coexist with nature, as opposed to exploiting or dominating it. Deep ecologism thus prioritises a **'live and let live'** attitude over an 'either you or me' approach.

India Hypertension Control Initiative (IHCI):

- A project called the India Hypertension Control Initiative (IHCI) finds that nearly 23% out of 2.1 million Indians have uncontrolled blood pressure.

❖ **About IHCI:**

- The India Hypertension Control Initiative (IHCI) is a multi-partner initiative, implementing and scaling up a public health hypertension control program across India.
- Recognizing that hypertension is a serious, and growing, health issue in India, the Health Ministry, the ICMR, State Governments, and WHO-India began a five-year initiative to monitor and treat hypertension.

- The programme was launched in **November 2017**. India has committed to a **"25 by 25" goal**, which aims to **reduce premature mortality due to non-communicable diseases (NCDs) by 25% by 2025**.

❖ **What is Hypertension?**

- Hypertension is defined as having systolic blood pressure level **greater than or equal to 140 mmHg** or diastolic blood pressure level greater than or equal to **90 mmHg**.
- The definition also assumes taking anti-hypertensive medication to lower his/her blood pressure.

News in Between the Lines

Face to Face Centres



Association of Asian Election Authorities (AAEA)



❖ Context:

- India has been unanimously elected as the new Chair of the **Association of Asian Election Authorities (AAEA)** for 2022-2024.

❖ Establishment and Membership of AAEA

- In pursuance of the resolution passed by participants of the Symposium on Asian Elections in the Twenty First Century held from January 26-29, 1997 in Manila, Philippines, the Association of Asian Election Authorities (AAEA) was **established in 1998**. Currently 20 Asian EMBs are members of AAEA.
- **ECI is a founder member** EMB of the AAEA and also served on the Executive Board of the AAEA as the Vice Chair during 2011-13 and Chair during 2014-16.

MACOLIN CONVENTION



❖ Context:

- The 12th meeting of **Interpol's Match-Fixing Task Force (IMFTF)**, in which the Central Bureau of Investigation (CBI) was one of the participants, concluded with a call for harmonised global efforts to curb competition manipulation.

❖ Key Facts:

- The **Council of Europe Convention on the Manipulation of Sports Competitions**, known as the Macolin Convention, is a multilateral treaty aimed at checking match-fixing. It came into force on **September 1, 2019**. The members deliberated on various mechanisms to improve intelligence sharing "such as the establishment of national platforms, as outlined in the Macolin Convention, that centralise and analyse information on irregular and suspicious trends".

India's First EV Charging Station



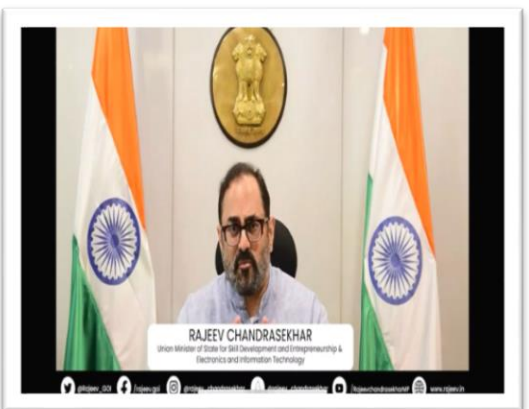
❖ Context:

- The country's first organic waste-powered EV charging station inaugurated at **Mumbai**.

❖ Key Facts:

- The station, a first-of-its-kind, will generate **220 units** of electricity from food waste collected from its nearby areas, mostly from bulk generators like hotels and offices. The project is a joint venture between the civic body and **AeroCare Clean Energy**. This is the first-of-its-kind project in the country that uses food waste to convert to energy.

Grameen Udhyami Project



❖ Context

- The **Ministry of Skill Development and Entrepreneurship** launched the **Rural Tribal Technical Training Program (Grameen Udhyami Project)**.

❖ Key Highlights

- The pilot project envisages **training** for about **250 beneficiaries of 17 clusters of 17 districts selected from 6 states of India** – Madhya Pradesh, Chhattisgarh, Gujarat, Rajasthan, Maharashtra and Odisha.
- Training will be provided to the beneficiaries in **5 disciplines- electrical and solar energy, agricultural mechanization, e-governance, plumbing and masonry, two wheeler repair and maintenance**.
- This training will also **enable the youth to start their own business**, thus generating more employment opportunities for other youth as well.
- Extensive training with multiple skills **will be extended to 50,000 to one lakh students in 50 tribal districts in the coming years**.

National Data & Analytics Platform

❖ Context

- **NITI Aayog** launched the National Data & Analytics Platform (NDAP) for open public use.

❖ Key Highlights

- The platform aims to **democratize access to public government data** by making data accessible, interoperable, interactive, and available on a user-friendly platform.
- It hosts **foundational datasets from various government agencies**, presents them coherently, and provides **tools for analytics and visualization**.

Face to Face Centres

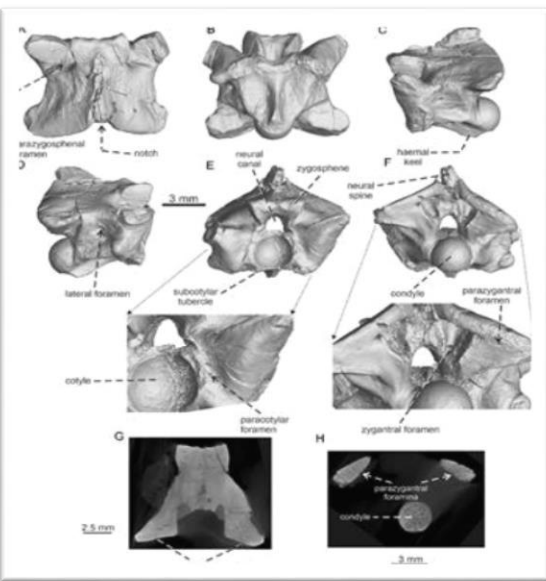


The National Data and Analytics Platform (or NDAP)



- This public launch follows a **beta release of the platform in August 2021** that had provided access to a limited number of users for testing and feedback.
- It follows a **use-case based approach** to ensure that the **datasets** hosted on the platform are **tailored to the needs of data users** from government, academia, journalism, civil society, and the private sector.
- All datasets are **standardized to a common schema**, which makes it **easy to merge datasets and do cross-sectoral analysis**.
- It aims to aid India's progress by promoting **data-driven disclosure, decision making** and ensuring availability of data connecting till the last mile.

Madtsoiidae Snake Fossil



❖ Context

- Scientists have reported spotting of the fossil of a Madtsoiidae snake from the **molasse deposits of Ladakh Himalaya** for the first time.

❖ Significance Of The Finding

- It indicates their prevalence in the subcontinent for a much longer time than previously thought. The occurrence of Madtsoiidae **from the Oligocene of Ladakh indicates their continuity at least to the end of the Paleogene** (geologic period and system that spans 43 million years from the end of the Cretaceous Period 66 million years ago). The global climatic shifts and the prominent **biotic reorganization** across the **Eocene-Oligocene boundary** (which correlates to the European Grande Coupure), **did not cause the extinction** of this important group of snakes in India.

❖ About The Snake

- Madtsoiidae is an **extinct group of medium-sized to gigantic snakes**, firstly appeared during the **late Cretaceous** and mostly **distributed in the Gondwanan landmasses**. Their Cenozoic record is extremely scarce.
- From the fossil record, the whole group **disappeared in the mid-Paleogene across most Gondwanan continents except for Australia** where it survived with its last known taxon Wonambi till late Pleistocene.

Languages in court



❖ Context

- The Tamil Nadu CM has urged the Prime Minister and Chief Justice of India to make Tamil the official language of the Madras High Court and the HC bench in Madurai.

❖ Constitutional Provisions

- As per **Article 348 (1)** of the Constitution of India, unless Parliament by law provides otherwise, **English is the official language for SC and all the high courts**. However as per **clause (2) of Article 348**, the **Governor of a state, with the previous consent of the President of India**, can authorize use of official language of the state in proceedings before its high court.
- Four HCs - **Rajasthan, Madhya Pradesh, Uttar Pradesh and Bihar** - have Hindi as their official language in addition to English.
- As per **section 272 of the criminal procedure code**, the State Government may determine what shall be, for purposes of the Code, the language of each Court within the State other than the High Court.

Food Inflation



❖ Context

- **Consumer Price Index (CPI)** surged to an **8-year high of 7.79%** in April as per data released by the National Statistics Office (NSO).
- The **food price inflation** (combined for rural & urban) surged to a **17 month high of 8.38% in April (yoy)** from 7.68% in March.

❖ Key Highlights

- Food inflation **weightage in CPI is highest at 45.86%**, followed by Miscellaneous, Housing, fuel & light, clothing & footwear and pan & tobacco.
- Among the constituents basket category of food inflation, **cereals have highest weightage followed by milk & products and vegetables**.

| Description | Rural | Urban | Combined |
|-------------------------------------|-------|-------|----------|
| Cereals and products | 12.35 | 6.59 | 9.67 |
| Meat and fish | 4.38 | 2.75 | 3.61 |
| Egg | 0.49 | 0.36 | 0.43 |
| Milk and products | 7.72 | 5.33 | 6.61 |
| Oils and fats | 4.21 | 2.81 | 3.56 |
| Fruits | 2.88 | 2.90 | 2.89 |
| Vegetables | 7.46 | 4.41 | 6.04 |
| Pulses and products | 2.95 | 1.75 | 2.38 |
| Sugar and Confectionery | 1.70 | 0.97 | 1.36 |
| Spices | 3.11 | 1.79 | 2.50 |
| Non-alcoholic beverages | 1.37 | 1.13 | 1.26 |
| Prepared meals, snacks, sweets etc. | 5.56 | 5.54 | 5.55 |
| Food and beverages | 54.18 | 36.29 | 45.86 |

Face to Face Centres