

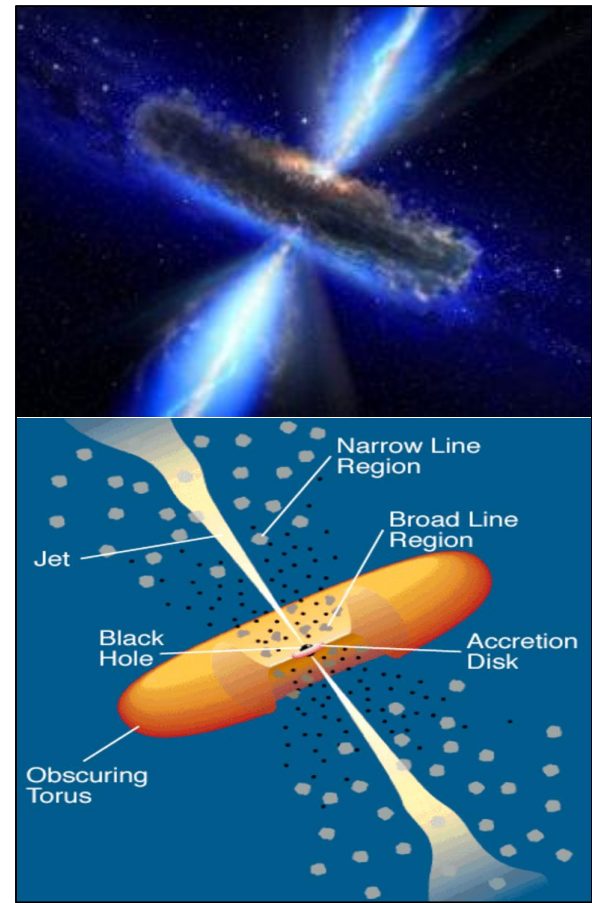
## Active Galactic Nuclei

### ❖ Context

- Scientists' observations involving the supermassive black hole at the centre of a galaxy **Messier 77** and its surrounding cloud lend support to predictions made three decades ago about what are called "active galactic nuclei."
- The observations were made using the **European Southern Observatory's Very Large Telescope** in **Chile's Atacama Desert**.

### ❖ Key Highlights

- These are **places at the centres of many large galaxies** that have **tremendous luminosity** – sometimes outshining all of a galaxy's billions of stars combined
- They produce the **universe's most energetic outbursts** seen since the Big Bang event 13.8 billion years ago
- **The energy arises from gas violently falling into a supermassive black hole that is surrounded by a cloud of tiny particles of rock and soot along with mostly hydrogen gas.**
- The dust and gas in these clouds are probably blown out of the atmospheres of stars at a larger distance – hundreds of light years – from the black hole, and are falling in towards the centre under the influence of the black hole gravity.
- Some **clouds spiral** in towards the black hole while others are **pushed up into a 'fountain'** that falls back onto the galaxy. **Because of the dust, it is very difficult to see with telescopes** what is going on in this region, but it is easier at infrared wavelengths because the **dust does not absorb infrared light as much.**
- According to scientists, the **Milky Way's supermassive black hole**, which has a **mass 4 million times greater than the Sun**, is currently "fairly quiet," but previously may have been more active like Messier 77's.



## Section 126 of RPA, 1951

### ❖ Context

- The Chief Electoral Officer of Punjab ordered the registration of FIRs against senior leaders of political parties. One of the leader of the parties had circulated video on Facebook in the "silent period" appealing to the voters.

### ❖ Key Highlights

- **Section 126** of the Representation of People Act 1951 prohibits a person, in any polling area, **during the period of 48 hours ending with the hour fixed for conclusion of poll**, to
  - Convene, hold or attend, join or address any public meeting or procession in connection with election.
  - **Display to the public any election matter by means of cinematograph, television or other similar apparatus;**
  - Propagate any election matter to the public by holding, or by arranging the holding of, any musical concert or any theatrical performance or any other entertainment or amusement with a view to attracting the members of the public there to.
- Any person who contravenes the aforesaid provisions can be punished with imprisonment for a term which may extend to two years, or with fine, or with both.

- **"Election matter"** means any matter intended or calculated to influence or affect the result of an election.
- ❖ **Other major electoral offences under the RPA 1951**
- **Section 125A** penalises failure to furnish information, give false information or conceal any information.
- **Section 125** make it offence to promotes or attempts to promote on grounds of religion, race, caste, community or language, feelings of enmity or hatred, between different classes of the citizens of India.
- **Section 126A** restricts publication or dissemination of exit polls.

## Eat Right Campus

### ❖ Context

- Recently, four police stations in New Delhi have been designated as **'Eat Right Campus'** by the **Food Safety and Standards Authority of India (FSSAI)**.
- It was designated for providing **nutritious and wholesome meals daily to police personnel** at their canteens and mess.

### Face to Face Centres

## ❖ Key Highlights

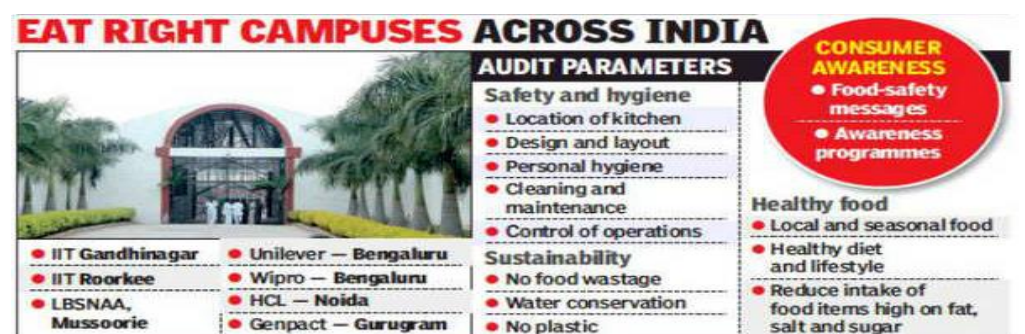
- **Eat Right India** is a **flagship mission of FSSAI**, Under this initiative, '**Sehatmand Delhi**' programme has been launched to identify premises that can be recognised as '**Eat Right Campus**'.
- The New Delhi district took up this initiative to focus on the health of its personnel across canteens, kitchens and mess in the district.
- **Features of the Programme**
  - The programme included
    - A preliminary **audit** of the campus,
    - Identifying the **gaps and rectifying them** through **capacity building**,
    - **Training and sensitisation**,
    - Creation of **standard operating procedures**, followed by final the audit by third party agencies,

## ❖ About FSSAI

- **Statutory body** established under the **Ministry of Health & Family Welfare, Government of India**.
- Established under the **Food Safety and Standards Act, 2006 (Set up in 2008)**.
- **Headquarter-** New Delhi.
- **Functions**
  - **Regulations** are being drafted by FSSAI to establish **food safety standards and guidance**.
  - Food enterprises are granted FSSAI **food safety licenses and certifications**.
  - Laying down **procedures and guidelines** for laboratories in food businesses.
- **Major Initiatives of FSSAI**
  - Eat Right India.
  - Clean Street Food.
  - Diet4Life.

## ❖ Eat Right India Initiative

- It is a **flagship mission of FSSAI** which has been in place since 2017.
- **Aims**
  - It ensures that citizens of the country are provided **nutritious meals which help in reducing the burden of various lifestyle related diseases**.
- **Goals**
  - Making India **trans-fat free India by 2022**
    - To meet this goal, FSSAI has already put the regulation to reduce trans-fats to **less than 2 percent in all oils, fats and food products** in place.
  - **Reducing India's Salt Consumption**.
  - **Cutting down sugar and oil consumption** by 30 per cent in three years' time.
    - FSSAI has prescribed a limit for **Total Polar Compounds (TPC) at 25%** in cooking oil to avoid the harmful effects of reused cooking oil.
  - The 'Eat Right India' movement is working on three main initiatives –
    - **Safe and Nutritious Food Initiative**
      - This focus on social and behavioral change around food safety and nutrition at home, school, workplace and on-the-go.
    - **Eat Healthy Campaign**
      - Under this, the focus is on the reduction of high fat, sugar and salt foods in the diet.
    - **Food Fortification**
      - Fortification is basically the addition of key vitamins and minerals such as Iron, Iodine, Zinc, Vitamins A and D to staple foods such as rice, wheat, oil, milk and salt to improve the nutritional content.



## India-UAE CEPA

### ❖ Context

- Recently, India and the United Arab Emirates signed a **Comprehensive Economic Partnership Agreement (CEPA)**.
- The bilateral trade pact is India's first in the region and the first comprehensive trade agreement with any country in a decade.

### ❖ Key Highlights of the Deal

- **Reducing Tariff**
  - It will allow **90% of the country's exports duty-free access** to the Emirates.
  - The CEPA is likely to benefit about **\$26 billion worth of Indian products** that are currently subjected to **5% import duty by the UAE**.
  - It is set to reduce tariffs for **80 percent of goods**.
  - Indian exports are set to get zero duty access within a further 5 to 10 years, including electronic goods, chemicals and petrochemicals, cement etc.

## Face to Face Centres



### Expediting Market Access

- UAE has agreed to allow market access for medicines from Indian companies **within 90 days of approval** in the US and UK.

### Investments

- It also focuses on expediting work on a dedicated investment zone for UAE companies and joint ventures, focusing on **setting up a food corridor and establishing a dedicated IndiaMart** in the Jebel Ali Free Zone.

### Safeguard Mechanism

- The deal provides a safeguard mechanism for both countries' businesses against an unnecessary surge in the flow of products.

### ❖ Significance of the Deal

- It is expected to **boost bilateral trade to \$100 billion** in the next five years
- Indian exporters will also get access to the much **larger Arab and African markets**.
- India's **labor intensive and employment generating industries** expected to gain the most from the pact.
- This pact will create **investment opportunities** for Indian investors .

### ❖ India-UAE Economic Relations

- UAE is India's **third-biggest trading partner** behind the US and China.
- India was the **UAE's largest export destination** and second-largest trade partner in 2019.
- Bilateral trade** between both nations stood at \$43.3 billion as of 2020-21
- India imported \$10.9 billion of **crude oil** from the UAE in 2019-2020.

### ❖ India's CEPA

- Apart from negotiations with the UAE, India has long-standing negotiations underway with Canada.
- India has signed CEPAs with South Korea and Japan.**
- India has been looking to advance a CEPA with Bangladesh.

## News in Between the Lines

### Moths Pollinators



### ❖ Context

- Recently, a study revealed that **moths are vital to pollination in the Himalayan ecosystem** of northeast India.

### ❖ Key Findings of the Study

- The study establishes 91 species of moths as potential pollinators of 21 plant families in **Sikkim and Arunachal Pradesh** in the northeastern Himalayas.
- Teliphasa sp. (Crambidae) and Cuculia sp. (Noctuidae)** are found to carry the highest quantity of pollen.
- Geometridae (geometer moths) and Erebidae** (erebid moths, tiger moths, lichen moths, among others) turned out to be the most important moth families for pollen transportation in the Himalayan region.
- About Moths**
  - Moths are a **paraphyletic group of insects** that includes all members of the **order Lepidoptera** that are not butterflies.
  - Butterflies VS moths:** While the butterflies form a monophyletic group, the moths, comprising the rest of the Lepidoptera, do not.
- Pollination**
  - The process by which plant pollen is transferred from the male reproductive organs (stamen) to the female reproductive organs (pistil) to form seeds.
  - In flowering plants, pollen is transferred from the anther to the stigma, often by the wind or by insects.
  - Pollination can occur between plants when pollen is carried by the wind or by insects such as the honeybee (cross-fertilization), or within the same plant, in which case it is called self- fertilization.

### Kisan Drones

### ❖ Context

- Recently, The PM flagged off **100 Kisan drones** in different cities and towns of India to spray pesticides in farms across India.

### ❖ Key Highlights

- Aim**
  - This step was taken as the government aims to **promote chemical-free national farming.**

## Face to Face Centres





• **Benefits**

- Kisan Drones will be used to **boost the agricultural sector in the country**, the use of Kisan Drones will be promoted for **crop assessment, digitization of land records and spraying of insecticides and nutrients.**
- Kisan Drone will usher in a new edge revolution as high capacity drones will be used to **carry vegetables, fruits, fishes to the market directly from the farms.**
- Development of the drone market in India will generate **fresh employment and new opportunities for the youth.**

❖ **Context**

- Recently, PM virtually inaugurated **Asia's biggest Bio-CNG plant, Gobar-Dhan**, in Madhya Pradesh's Indore.

❖ **Key Highlights**

- The plant is in line with PM Modi's vision of creating **“garbage-free cities” under the Swachh Bharat Mission Urban 2.0**
- **Aim**
  - To ensure **“cleaner urban spaces under the principle of Waste to Wealth.”**
- **Features**
  - The Gobar-Dhan plant, with a capacity to **treat 550 tonnes of segregated wet organic waste per day**, is expected to **produce around 17,000 kg CNG and 100 tonnes of organic compost** every day.
  - The produced CNG will be **96 percent pure methane gas.**
  - **50 per cent** of the biogas generated will be **provided to run public transport vehicles**, while the remaining will be made available for different industries.
  - The Bio-CNG plant has been set up based on the concept of **waste-to-wealth innovation in India's cleanest city,**
- **Benefits**
  - It is also expected to yield multiple environmental benefits like **reduction in greenhouse gas emissions, providing green energy along with organic compost as fertilise.**
- **Implemented By**
  - **Indore Clean Energy Pvt Ltd**, a Special Purpose Vehicle set up by Indore Municipal Corporation (IMC) and **Indo Enviro Integrated Solutions Ltd. (IEISL).**

**Bio-CNG plant 'Gobar-Dhan'**



**ICJS**



❖ **Context**

- The Government approved the implementation of the **Inter-Operable Criminal Justice System (ICJS)** project by the **Ministry of Home Affairs** at a total cost of **Rs.3,375 crore** during the period from **2022-23 to 2025-26.**

❖ **Key Highlights**

- Inter-Operable Criminal Justice System (ICJS) is a **national platform for enabling integration of the main IT system** used for delivery of Criminal Justice in the country by **five pillars** namely:-
  - **Police (Crime and Criminal Tracking and Network Systems)**
  - **e-Forensics for Forensic Labs**
  - **e-Courts for Courts**
  - **e-Prosecution for Public Prosecutors**
  - **e-Prisons for Prisons.**
- In **Phase-I** of the ICJS project, **individual IT systems** have been **implemented and stabilised**; also **search of records** have been **enabled** on these systems.
- Under **Phase-II**, the system is being built on the **principle of ‘one data one**

**Face to Face Centres**



entry' whereby data is entered only once in one pillar and the same is then available in all other pillars without the need to re-enter the data in each pillar.

- The ICJS system would be made available through a **dedicated and secure cloud-based infrastructure** with high speed connectivity. **National Crime Records Bureau (NCRB)** will be responsible for the implementation of the project in association with **National Informatics Centre (NIC)**. The project will be implemented in collaboration with the States and Union Territories.

## RUSA



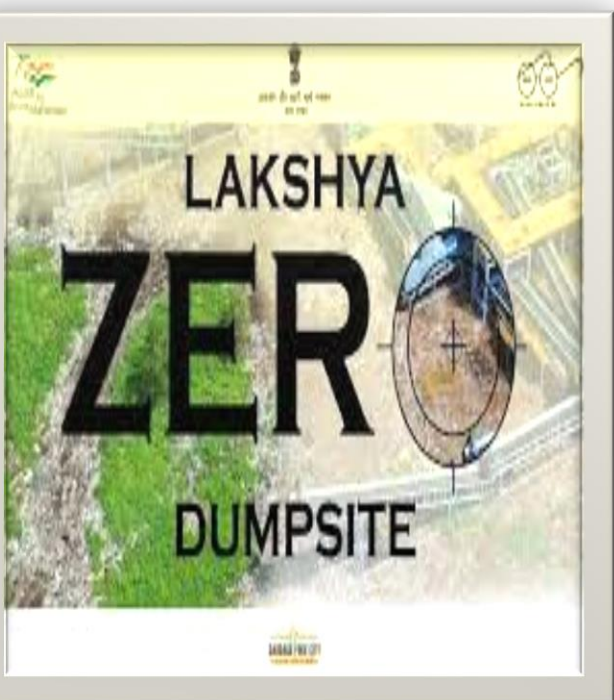
### ❖ Context

- The Government approved the scheme of **Rashtriya Uchchatar Shiksha Abhiyan (RUSA)** for continuation till 31.03.2026.

### ❖ Key Highlights

- The **Centrally Sponsored Scheme (CSS)** is an overarching scheme, operating in mission mode for funding the state government universities and colleges to achieve the aims of **equity, access and excellence**.
- New phase** of RUSA targets to reach out the **unserved, underserved areas; remote/ rural areas; difficult geographies; LWE areas; NER; aspirational districts, tier-2 cities, areas with low GER etc.**, and to benefit the most disadvantaged areas and SEDGs.
- Under the new phase of the scheme, State Governments will be supported for **Gender inclusion, Equity Initiatives, ICT, Enhancing employability through vocationalisation & skill upgradation**. States will also be supported for creation of new **Model Degree Colleges**.
- State Universities will be supported for **Multi-Disciplinary Education and Research**. Grants will be provided for strengthening both accredited and non-accredited Universities and Colleges for undertaking various activities including teaching-learning in Indian languages.

## Lakshya Zero Dumpsite



### ❖ Context

- The **Ministry of Housing and Urban Affairs (MoHUA)** approved the proposal worth ₹77.66 crore submitted by **Andhra Pradesh** for **remediation of over 42 lakh MT of waste in 28 ULBs**.

### ❖ Key Highlights

- Currently, 118 lakh MT of unremediated legacy waste is present across the State locking up over 463 acres of valuable land.
- MoHUA's approval makes this **the largest one-time approval of funds** for legacy dumpsite remediation to Andhra Pradesh
- Swachh Bharat Mission-Urban 2.0 (SBM-U 2.0)** was launched by the government on 1st October, 2021, with the vision of creating **Garbage Free Cities by 2026**.
- Towards this end, one of the major objectives under the **Mission** is 'Lakshya Zero' Dumpsite to **remediate 16 crore metric tonnes (MT) of legacy waste dumpsites** occupying nearly **15,000 acres of city land**.
- Legacy dumpsites pose a major threat to the environment and contribute to air pollution and water pollution.
- As per the Central Pollution Control Board (MSW Annual Report, 2018-19), **India generates approx. 152,000 tonnes per day (TPD) MSW**, out of which **over 98% is collected**. **Out of this collected waste, approx. 35% is treated and 65-70% is dumped in un-scientifically operated dump sites** leading to problems of health and environmental degradation.
- In **smaller cities**, the situation is even worse and the **waste collection itself is less than 50%**. **India has over 300 unscientific dumpsites**.
- More than 260 cities across 5 States/UTs have submitted their Action Plan for Legacy Waste Remediation to MoHUA, thus signifying their commitment to the vision of garbage free cities.