UPSC Daily Current Affairs| Prelim Bits 26-02-2025

Black Plastic

A study found that black plastic contains toxic chemicals that may pose health risks.

- **Source** – It is often made *from recycled electronic waste* such as computers, TVs, and appliances.
- **Manufacturing process** – The casings of products like computers, TVs and coffee machines are typically *treated with flame retardants* to prevent electrical fires.

> ***Legacy Plastic*** *is a high-grade 100% post-consumer processed plastic recovered from used marine gear, coastal shorelines and our oceans for use in the manufacturing of new value-added, durable products.*



- **Usage** – They are used to make cooking spatulas, takeout boxes and kitchen peelers.
- **Health impacts** – The flame retardants and heavy metals associated with black plastic are known to be toxic to humans at high levels of exposure and are now banned in many countries.
    - **Flame retardant** – Bromine, antimony and decabromodiphenyl ether (BDE-209).
    - **Heavy metals** – Lead, cadmium, and mercury.

Toxic chemicals in Black Plastic	Health Risks

Decabromodiphenyl ether (BDE-209)	Hormone imbalances, nervous system damage and cancer.
Bromine	Thyroid hormone imbalances and reproductive problems.
Antimony	Skin irritation, respiratory problems and an increased risk of cancer.
Lead	Impaired brain development, high blood pressure and kidney problems.
Cadmium	Weaken bones and damage kidneys and lungs.
Mercury	Damage the brain and nervous system, especially dangerous for children and pregnant women.

Reference

The Indian Express| Black Plastic

Human Smuggling

The recent deportations of illegal Indian migrants from the U.S. must push Parliament to enact a central law that strikes at the roots of human smuggling.

- **Human Smuggling** – It is also known as *business of death or Kabootarbazi.*
- It generates high net worth profits for criminals, who in turn fuel corruption and organised crime.
- **Vulnerability of migrants** – They face grave risks by ending up being suffocated in containers, perish in scorching deserts, drown at sea or be herded into slave camps to work as forced labour.
- **Legislation in India** –
  - ***Emigration Act of 1983***
  - Immoral Traffic (Prevention) Act, 1956 (ITPA)
  - IPC Section 370

Punjab has enacted a law *related to human smuggling which no other State in India has done.*

- **Issues** – Emigration Act of 1983 *neither defines human smuggling* nor looks at the serious problems connected with this deathly trade.

Punjab Travel Professionals Regulation Act, 2012
• **Objectives** – To *regulate the profession of travel agents* to check and curb illegal, fraudulent activities, and malpractices such as organised human smuggling. • To provide a *licensing regime for travel agents* with penal provisions. • **Travel agent** – It means a person who is doing a profession which involves arranging, managing or conducting affairs related to the sending of persons abroad. • **Human smuggling** – It shall mean and include illegally exporting, sending or transporting persons out of India by receiving money from them by inducing, alluring or deceiving or cheating them.

Reference

The Hindu| India need to Frame a law for Human Smuggling

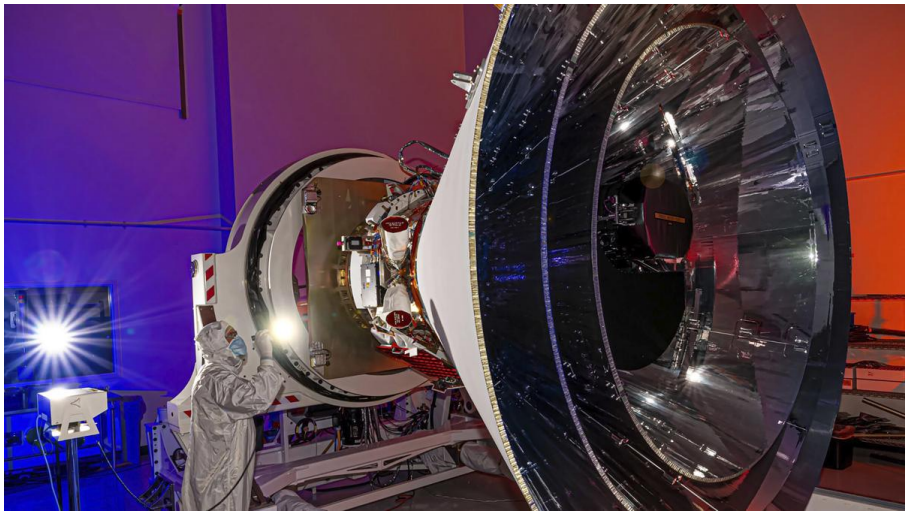
SPHEREx Telescope

A new telescope SPHEREx is set to launch on February 27, 2025.

- **SPHEREx** – Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer.
- It is an *infrared telescope* designed to take spectroscopic images.
- **Launch agency** – NASA.
- **Objective** – To *map the whole sky*, covering 1 billion galaxies, 100 million stars, and 10,000 asteroids.

> ***Spectroscopy*** *is the separation of light into its component colors (or wavelengths) to reveal information about the chemical content, temperature and motion of planets, comets, stars, interstellar gas and galaxies.*

- **Working** – SPHEREx *divides cosmic light into 96 distinct spectral bands* and will generate 8 million new spectroscopic images of life-bearing molecules.



- **Usage** – Spectroscopic images will be able to tell us about the
  - **Formation of the universe** – Growth of all galaxies across cosmic history
  - **Cosmic inflation** – Rapid expansion of the universe after the Big Bang
  - **Biogenic molecules** – Location of water & life-forming molecules in our own galaxy.

> ***Biogenic molecules*** *are organic compounds essential for life, such as water (H_2O), carbon dioxide (CO_2), and methanol (CH_3OH).*

- **Significance** – It complements high-resolution telescopes like James Webb and Hubble, which focus on small sky patches.

Reference

The Hindu | SPHEREx Telescope

SWAYATT Initiative on GeM

SWAYATT Initiative on Government e-Marketplace (GeM) is celebrating its 6th anniversary in public procurement.

- **SWAYATT –** Startups, Women & Youth Advantage through eTransactions.
- **Launched in** – 2019, by Ministry of Commerce and Industry.
- **Objectives** – To *establish direct market linkages* to annual public procurement for startups, women entrepreneurs, Micro & Small Enterprises (MSEs), Self Help Groups (SHGs) and youth, especially those from backward sections of the society.
- To enhance ease of doing business.

Government e-Marketplace (GeM) *is an online platform launched in 2016, for the procurement of goods and services by the government. It addresses the challenges of "access to market", "access to finance" and "access to value-addition" through proper e-market linkages in public procurement.*

- **Focus**
  - Facilitating the training and on boarding of last-mile sellers
  - Developing women entrepreneurship
  - Encouraging participation and small-scale businesses in government procurement.
- **Activities** – It comprises *"Startup Runway" and "Womaniya" storefronts* for dedicated listings, ensuring wider visibility of startups, women entrepreneurs and youth.
- **Progress** – Women entrepreneurs comprise 8% of the total seller base on GeM, with cumulative 1,77,786 Udyam-verified women micro, and small enterprises (MSE) registered on the GeM portal.
- **Future target** – GeM *aims to onboard 1 lakh DPIIT-registered startups*, doubling women entrepreneurs and raising their procurement share from 3.78%.

GeM signed an MoU with FICCI Ladies Organisation (FICCI-FLO), representing over 9,500 women entrepreneurs, on February 19, 2025.

Reference

PIB| SWAYATT initiative on GeM

One Liners 26-02-2025

History, Art and Culture

Herath Poshte

• **Festival celebrated on –** Shiva Ratri by Kashmiri Pandit.
• **Calendar followed –** *Hindu lunar*.
• **Ritual –** Vatuk Pooja, a decorated vessel filled with water and walnuts.
• **Gathering place –** *Shankaracharya Temple, Srinagar.*

Vinayak Damodar Savarkar

• **Born on** – May 28, 1883, Nashik.
• **Death –** 26 Feb, 1966, Mumbai.
• **Ideology** – Hindutva.
• **Member of** – *Hindu Mahasabha*.
• **Work** – *Writings & activism* aimed to inspire and mobilize Indians against British colonial rule.
• **Notable:**
  - Indian War of Independence, 1857.
  - Founded Abhinav Bharat Society (later Known as Mitra mela), & Free India Society.
  - Role in Independence movement.

Jhumoir Dance

• It is the *largest-ever* Jhumoir dance performance at *Guwahati, Assam.*
• **Emerged in** – Assam's tea gardens in the early 1800s.
• **Aims** – To offer workers a joyful outlet after long days of labor.
• **Cultural Expression –** It reflects the unity and cultural heritage of tea garden workers and *Adivasi communities*.
• **Artistic Elements –** Vibrant costumes and synchronized movements characterize the dance.
• **Traditional instruments –** Dhol, madal, and flutes.

Geography

Earthquake recorded in Bay of Bengal (BOB)

• **Epicenter at –** Near *Puri, Odisha*, in BOB.
• **Occurred at** – Depth of *91 km*.
• **Tremor recorded areas** – Across Odisha, including, Paradip, Puri & Berhampur.
  - **Paradip –** *Natural & Deep-water Port,* highest cargo-handling major port in financial year 2023-24.
  - **Puri Known for –** Jagannath Temple.
  - **Berhampur Known as** – Silk City of India.

Polity & Governance

Digital Audit Enhancement

• **MOU between** – CAG & IIT Madras.
• **Aims –** Sharing digital technology, build capacity for *auditing digital data* and remotely assessing institutions.
• **Area of Focus** – Developing protocols for digital audits, ensuring job effectiveness & addresses cybersecurity & updating manuals for auditing entities with digital data.
  - Data security, digital infrastructure, and joint R&D.

International Relations and Issues

Vietnam Defines Gulf of Tonkin Baseline

• **Vietnam Baseline Alignment –** Extended's from Quang Ninh to Quang Tri, adheres to UNCLOS 1982.
• It is aligned with the 2000 Vietnam-China Gulf of Tonkin *Delimitation Agreement*.
  - **Gulf of Tonkin –** Located in the northwestern South China Sea.
  - **Bordered by** – Vietnam and China.
  - **River –** Red River (Vietnam) is the gulf's *largest river inflow*.
• **Territorial Disputes -** China's 2023 *baseline publication* caused diplomatic tensions with Vietnam.
• **Vietnam** – Emphasizes international law compliance and *maritime rights* enforcement.

International Finance Corporation (IFC)

IFC declined against investing in a proposed $40 million loan for waste-to-energy (WTE) incineration projects in Gujarat.
• **Established in** – *1956*.
• **Headquarters –** Washington D.C, USA.
• **Mission –** Fostering economic development.
• **IFC** – It operates as the *private sector lending arm* of the World Bank Group.
• **President** – World Bank President also serves as its President.
• **Function** – Financing private enterprise investments in developing nations.

Environment

Mangrove Bio-Shields

• **Protective Vegetation** – Coastal mangroves act as crucial bio-shields, *mitigating tsunami and flood impacts*.
• **Root System –** It possess complex root systems, thriving in *saline coastal areas*.
• **Impact –** These sturdy structures dissipate wave energy, minimizing storm damage.
• It lessen the impact of debris on coastal infrastructure and buildings.

Security

Crew Deployment for Tamal Commissioning

• **Build by –** *Russia for India* at Yantar Shipyard, Kaliningrad, Russia.
• **Type –** Tushil class frigates follow the Talwar class and are part of Project 1135. 6.
• **Tamal** – It is the *last imported warship*.
• **Indian Shipbuilding Progress –** It is transitioning to domestic warship construction, with over 60 ships, marking a shift to a "builder's navy."

INS Guldar: From Warship to Reef

• The Indian Navy transferred the decommissioned INS Guldar to Maharashtra Tourism Development Corporation Limited.
• **Aims** – To create an *underwater museum and artificial reef*.
• **INS Guldar** – Built in Poland, served the Indian Navy for 39 years.
• **Area of Operation –** Eastern Naval Command and the Andaman and Nicobar Command.
• **Operational Service –** Op Aman and Op Pawan.

SHANKAR IAS PARLIAMENT
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