

## UNCCD COP 15

### ❖ Context

- Recently, 15th Conference of Parties (COP15) of the United Nations Convention to Combat Desertification (UNCCD) was held in Abidjan, Côte d'Ivoire with the theme - 'Land. Life. Legacy: From scarcity to prosperity'.

### ❖ Key Commitments Made

- Accelerate the restoration of **one billion hectares** of degraded land **by 2030** by:
  - Improving data gathering and monitoring.
  - Establishing a new partnership model for **large-scale integrated landscape investment programmes**.
- Establish an **Intergovernmental Working Group on Drought for 2022-2024** to support a shift from reactive to proactive drought management.
- Improve women's involvement in land management, promote land-based youth entrepreneurship, address forced migration and ensure greater synergies among three Rio conventions.

### ❖ Key Initiatives Launched

- **Business for land initiative:** It will lead to establishment of a pledge programme where businesses can pledge support for land degradation neutrality which will be connected with LDN projects/partnerships.
- **Sahel Sourcing Challenge:** To enable communities growing the **Great Green Wall** to use technology to monitor progress, create jobs and commercialise their produce such as baobab juice, moringa oil and shea butter.
- **Droughtland:** A new public awareness campaign that aims to showcase solutions and rally global action on drought. The campaign will also be featured during **UN Desertification and Drought Day (17 June)**, hosted this year by Spain.

### ❖ Reports Launched

1. **Global Land Outlook 2 :**
  - i. It reported up to **40% of all ice-free land is already degraded**, with dire consequences for climate, biodiversity and livelihoods.
  - ii. Business as usual will, **by 2050**, result in **degradation of 16 million sq. kms.** (almost the size of South America), with 69 gigatonnes of carbon emitted into the atmosphere.
  - iii. But land restoration would help reduce the estimated 700 million people at risk of being displaced by drought by 2030.
2. **Drought in Number 2022.**
3. **South African thematic Report** - part of Global land outlook series.
4. **Study on Differentiated Impacts of Desertification, Land Degradation and Drought on Women and Men** - women are twice more affected by these issues and the burden of unpaid care and domestic work increases.
5. **Sand and Dust Storms Compendium.**

## SpiceJet Faces Ransomware Attack

### ❖ Context:

- Several flights of SpiceJet were delayed and cancelled recently after the **airline faced ransomware attack.**



### ❖ What are Ransomware?

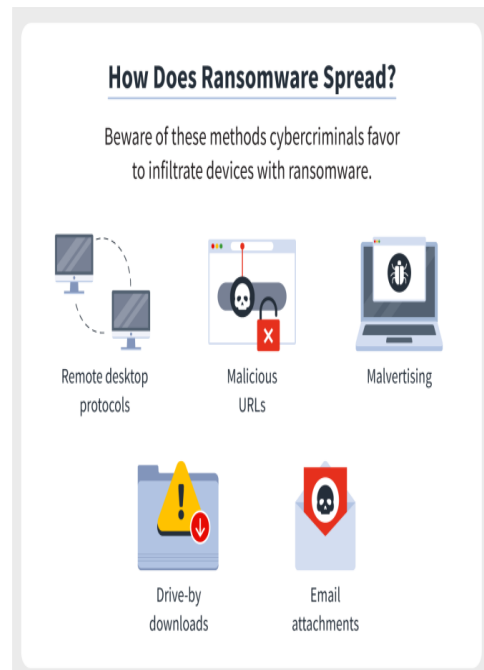
- **Ransomware is a type of malicious software** (malware) that threatens to publish or blocks access to data or a computer system, usually by encrypting it, until the victim pays a ransom fee to the attacker.
- In many cases, the ransom demand comes with a **deadline**. If the victim doesn't pay in time, the **data is gone forever or the ransom increases**.
- Cybercriminals will attack any consumer or any business and victims coming from any industry.

### ❖ Who is At Risk?

- Any device connected to the internet is at risk of becoming the next ransomware victim.
- Ransomware scans a **local device and any network-connected storage**, which means that a vulnerable device also makes the local network a potential victim.
- If the local network is a business, the **ransomware could encrypt important documents and system files** that could halt services and productivity.

### ❖ Prevention:

- Prevention for ransomware attacks typically involves setting up and **testing backups as well as applying ransomware protection** in security tools.
- Security tools such as email protection gateways are the first line of defense, while endpoints are a secondary defense.
- **Intrusion Detection Systems (IDSs)** are sometimes used to detect ransomware command-and-control to alert against a ransomware system calling out to a control server.
- **Examples:** WannaCry, CryptoLocker, CryptoLocker, Bad Rabbit, REvil, Ryuk etc.



## Face to Face Centres



## News in Between the Lines

### Kolkata's Biodiversity Register



#### ❖ Context

- Kolkata became the first major metropolitan city in India to prepare a detailed register of biodiversity.

#### ❖ Key Highlights

- A **520-page documentation** of 399 plant and 283 animal species was unveiled at the Kolkata Municipal Corporation (KMC) headquarters.
- The **People's Biodiversity Register (PBR)**, which details flora and fauna forms within the city as well as its land uses and human activities, has been **prepared by KMC's Biodiversity Management Committee (BMC)**.
- It was supervised by West Bengal's biodiversity board with the help of non-profits organisations.
- The **Forest Survey of India's recent report** had flagged **Kolkata for the least greenery among all metro cities**.
- **Chandigarh and Indore** are other important cities to have prepared the document.
- The Ministry of Environment had framed Biological Diversity Rules 2004 by exercising power under Section 62 of the Biological Diversity Act 2002.
- Under the act & rules, every local body has to constitute a Biodiversity Management Committee (BMC).
- Under the rules, the main function of BMC is to prepare the People's Biodiversity Register in consultation with the local people.

### ABHA Mobile App



#### ❖ Context

- The **National Health Authority (NHA)** under its flagship scheme of **Ayushman Bharat Digital Mission (ABDM)** has announced the launch of a revamped **Ayushman Bharat Health Account (ABHA)** mobile application.

#### ❖ About:

- The ABHA app was previously known as **NDHM Health Records app**.
- The ABHA mobile application enables an individual to create an ABHA address, an easy-to-remember username that can be linked with the **14-digit randomly generated ABHA number**.
- The mobile application also enables users to link their health records created at Ayushman Bharat Digital Mission compliant health facility and view them on their smartphones.
- The application also allows self-uploading of physical health records, along with sharing of digital health records such as diagnostic reports, prescriptions, CoWIN vaccination certificates after the consent of an individual.

#### ❖ About Ayushman Bharat National Digital Mission

- It will ensure access to quality healthcare by promoting the use of technologies such as telemedicine and supporting the national portability of health services.
- Citizens can create their **ABHA (Ayushman Bharat Health Account)** numbers, to link their digital health records.
- The National Health Authority will be the implementing agency of the Ayushman Bharat Digital Mission (ABDM).
- It aims to create a National Digital Health ecosystem that supports universal health coverage in an efficient, accessible, inclusive, affordable, timely and safe manner.

### Obesogens

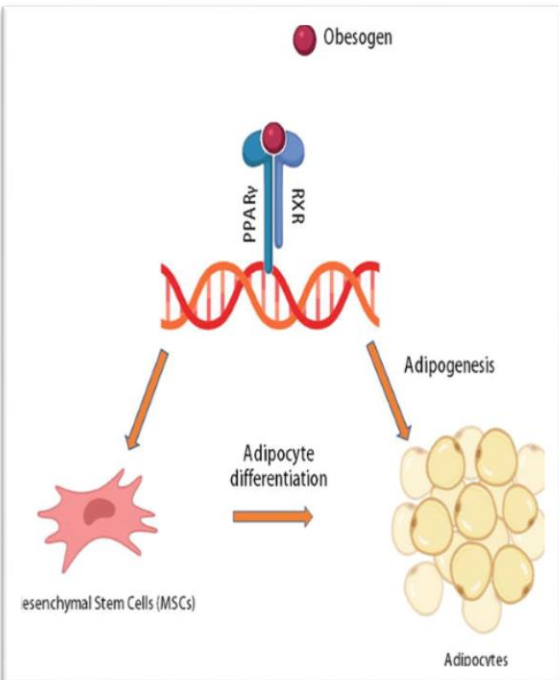
#### ❖ Context

- Toxic levels of a class of chemicals called obesogens in the environment may be accelerating the worldwide obesity pandemic, according to a major scientific review.

#### ❖ Key Highlights

- **Obesity has nearly tripled** across the world since 1975.

## Face to Face Centres

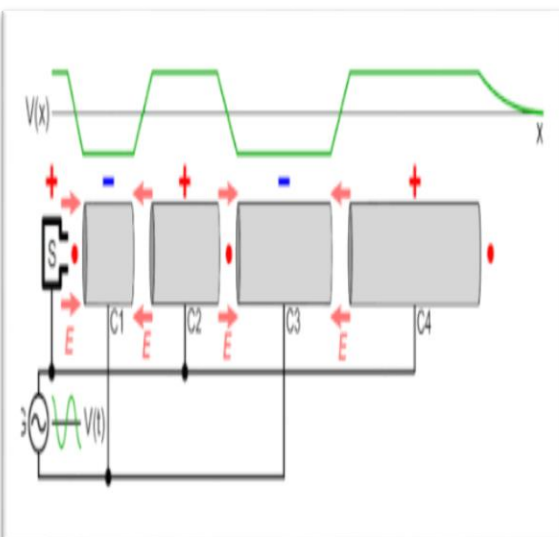


- Obesogens are a **subset of environmental chemicals** that act as **endocrine disruptors**, affecting metabolic endpoints.
- The review found that **obesogens can alter the balance between energy intake and energy expenditure**.
- The review identified about **50 chemical compounds**. These include **bisphenol A**, **phthalates** (which are broadly added to plastics), **perfluoroalkyl substances (PFAs)** compounds which are present in meals packaging, cookware and furnishings.

### ❖ How Do Obesogens Work?

- Obesogens work by **upsetting the body's metabolic thermostat**.
- The body's balance of energy intake and expenditure through activity relies on the **interplay of various hormones** from fat tissue, gut, pancreas, liver and brain.
- The pollutants can directly affect the **number and size of fat cells**, alter the **signals** that make people feel full, change **thyroid function** and the **dopamine reward system**.
- They can also affect the **microbiome in the gut** and cause weight gain by making the **uptake of calories from the intestines more efficient**.
- The **most sensitive time** for obesogen action is in **utero and early childhood**, in part via epigenetic programming that **can be transmitted to future generations**.

## SIDDHARTH II



### ❖ Context

- It was launched recently on National Technology Day.

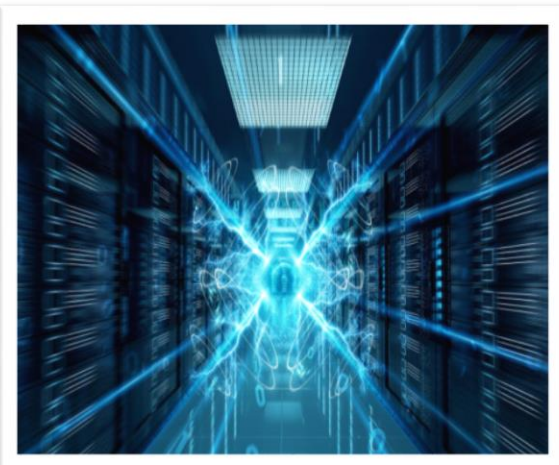
### ❖ About SIDDHARTH II

- It is **India's first most advanced & innovative SBRT enabled Linear Accelerator (LINAC)**. It is capable of performing treatment modalities like 3DCRT, VMAT, IMRT, SBRT and SRS.
- **India would be the third country** to achieve this feat. **England and Japan hold around 80% - 90 % of the global market**.
- This technology has been **developed** indigenously by a **private company** with handholding of **Technology Development Board, DST**.
- A linear particle accelerator (often shortened to LINAC) is a type of particle accelerator that accelerates charged subatomic particles or ions to a high speed by subjecting them to a series of oscillating electric potentials along a linear beamline.

### ❖ Boost for Make in India

- Currently, **India is the fourth largest medical devices market in Asia**, after Japan, China & South Korea and positioned 20th in the global market.
- **India imports about 86% of its requirement of medical equipment** and almost 100% of high-end medical equipment.

## PARAM PORUL Supercomputer



### ❖ Context:

- PARAM PORUL, a state-of-the-art Supercomputer at NIT Tiruchirappalli dedicated to the nation under **National Supercomputing Mission (NSM)** - was inaugurated recently.

### ❖ Key Highlights:

- It is a joint initiative of **Ministry of Electronics and Information Technology (MeitY)** and **Department of Science and Technology (DST)**,
- PARAM PORUL system is based on **Direct Contact Liquid Cooling technology** to obtain a **high power usage effectiveness** and thereby **reducing the operational cost**.

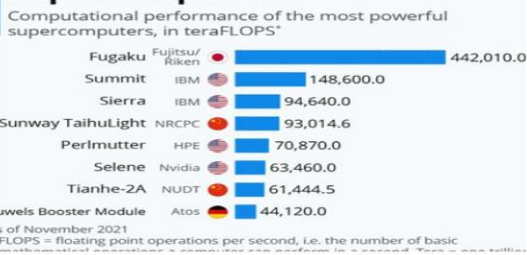
### ❖ Significance:

- Multiple applications from various scientific domains such as Weather and Climate, Bioinformatics, Computational Chemistry, Molecular Dynamics, Material Sciences, Computational Fluid Dynamics etc. has been **installed on the system for the benefit of researchers**.

## Face to Face Centres

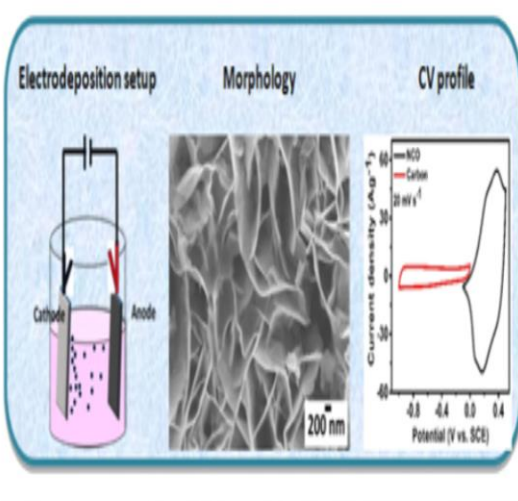
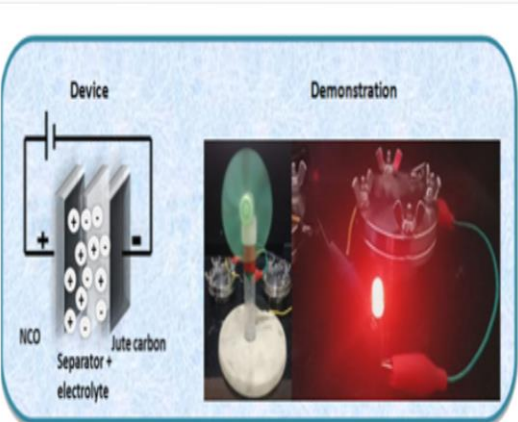


### The World's Top Supercomputers



- This high end computing system will be a **great value addition for the research community**. It would **aid researchers** to solve large-scale problems of different **fields of Science and Engineering**.
- A portion of the total compute power shall also be shared with the **nearby academic and research institutes as per the mandate of NSM**.
- Overall, this Supercomputing facility will provide a **major boost to the research and development initiatives** in Indian academia and industries to reach a position of global esteem.

## High-Performance Hybrid Supercapacitors



### Context:

- Scientists have developed a **low-cost supercapacitor device** with excellent capacitive retention with a **novel electrode material** they have synthesized, which can **pave the way for the next generation high power-high energy storage devices**.

### Key Highlights:

- Scientists have developed a facile, scalable, and cost-effective electrochemical route to synthesize electrodes made of **Nickel cobaltite (NiCo<sub>2</sub>O<sub>4</sub>)** containing **nanosheet structures with incorporated oxygen vacancies as an active material**, for hybrid supercapacitors.
- These electrodes have been found to have excellent electrochemical performance.
- Such hybrid supercapacitors combine the features of both **conventional double layer supercapacitors and batteries and act as high power-high energy storage devices**.
- Electrode:** An **electrode** is an electrical conductor used to make contact with a **nonmetallic part of a circuit** (e.g. a semiconductor, an electrolyte, a vacuum or air). Electrodes are essential parts of batteries that can consist of a **variety of materials depending on the type of battery**.

### Significance:

- This could be an effective alternative to the existing carbon-based electrodes for supercapacitors to achieve high energy density.
- Supercapacitors with high capacitance and excellent capacitive retention developed from low-cost fabrication techniques are the need of the hour, **considering their potential utility in the commercial market**.
- The device could power a LED lamp and a DC fan, as shown in the figure.

## India-Bangladesh Navy exercise begins at Mongla port



### Context:

- The third edition of Indian Navy and Bangladesh Navy Bilateral exercise **Bongosagar** commenced at **Port Mongla, Bangladesh**.

### Key Highlights:

- The **Harbour Phase** of exercise is underway. It will be followed by a **Sea Phase** in the Northern Bay of Bengal.
- Exercise **Bongosagar** is aimed at **developing a high degree of interoperability and joint operational skills** through the conduct of a wide spectrum of maritime exercises and **operations between the two navies**.
- Participants:** Indian Naval **Ships Kora**, an indigenously built Guided Missile Corvette, and **Sumedha**, an indigenously built Offshore Patrol Vessel are participating in the Exercise.
- Bangladesh Navy is being represented by **BNS Abu Ubaidah** and **Ali Haider**, both **Guided Missile Frigates**.
- Harbour Phase:** The harbour phase of the exercise includes **professional and social interactions and friendly sporting fixtures**, in addition to the tactical level planning discussions on the conduct of the exercises at sea.
- Sea Phase:** The sea phase of the exercise would **facilitate ships** from both the navies to participate in **intensive surface warfare drills**, weapon firing drills, seamanship evolutions, and coordinated air operations in a tactical scenario.

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### Face to Face Centres

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