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CURRENT AFFAIRS**

**Important Current News for UPSC & UPPSC**

***18th April 2026***

**TOPICS:-**

- 1. Red Sea**
- 2. Annatto**
- 3. Ghaggar River**
- 4. CAR-T Cell Therapy**
- 5. Other Important News of the day**
- 6. Uttar Pradesh in News**

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# RED SEA

EurAsian Times

## Chokepoint Warfare: After Hormuz, Could Malacca, Gibraltar & Red Sea Be Next as Iran Teaches New Tactics?



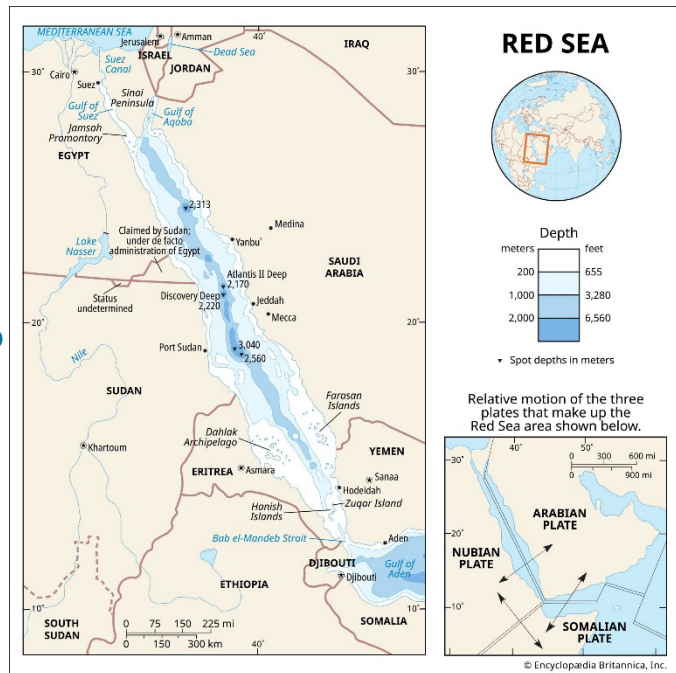
Iran has opened the Strait of Hormuz for now, but it was demanding US\$2 million for the safe passage of every tanker through the strategic...

### Why in News

- Rising geopolitical tensions with threats to block trade routes in the **Red Sea**.

### Geographical Location & Connectivity

- It is a **semi-enclosed water body** between **Africa and Asia**, part of the **Indian Ocean system**.
- It connects to the **Arabian Sea via Gulf of Aden and Bab el-Mandeb Strait**, a major chokepoint.
- In the north, it links to the **Mediterranean Sea through the Suez Canal**.



### Strategic & Economic Significance

- It is one of the **busiest global shipping routes**, facilitating trade between **Europe and Asia**.
- Around **10–12% of global trade** passes through this corridor.
- It is crucial for **energy transport**, especially oil shipments from West Asia to Europe.

### Geological & Physical Features

- It lies in a **rift zone between African and Arabian tectonic plates**, indicating active divergence.
- It has **high salinity and temperature**, supporting unique marine ecosystems.
- The red coloration is occasionally due to **algal blooms (Trichodesmium erythraeum)**.

### Geopolitical Dimensions

- Bordering countries include **Egypt, Saudi Arabia, Yemen, Sudan, Eritrea, Djibouti**.
- Control over **Bab el-Mandeb Strait** is strategically vital for global maritime security.

## ANNATTO

TH The Hindu

### Annatto seed growers pitch for government support

Annatto seed growers seek government assistance for organic certification and fair pricing amid challenges from middlemen in Andhra Pradesh.



### Why in News

- Farmers are demanding policy support for **annatto**, a key natural colouring agent.

### Botanical & Agricultural Features

- It is derived from **Bixa orellana (Achiote tree)**, native to **tropical America**.
- It is cultivated in **India, Southeast Asia, and Africa**, especially in **coffee-growing regions**.
- It is a **low-input crop**, requiring minimal fertilizers, pesticides, and irrigation.

#### Key Features of Annatto Seeds

**NATURAL COLORANT**  
Provides a bright orange-red dye, perfect for coloring dishes.

**CHEMICAL-FREE**  
No synthetic additives, safe for food and cosmetics.



**RICH IN ANTIOXIDANTS**  
Contains tocotrienols and carotenoids for potential health benefits.

**NATURAL PRESERVATIVE**  
Antimicrobial properties to help preserve food and extend shelf life.

SOAPSTORIES

### Chemical Composition & Properties

- Its colour comes from **carotenoid pigments (bixin and norbixin)** present in seed coating.
- It provides **yellow to orange-red coloration**, widely used in food processing.

### Economic & Industrial Uses

- It is the **second most important natural food colour** after **caramel**.
- It is used in **dairy products, cosmetics, textiles, and pharmaceuticals**.
- It possesses **antimicrobial and antioxidant properties**, adding health value.

### Policy & Export Potential

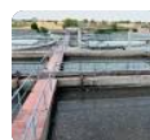
- It offers scope for **agro-based industries and value addition**.
- Promoting annatto can support **natural dye industry and reduce synthetic additives**.

## GHAGGAR RIVER

TH The Hindu

### Cancer courses through the Ghaggar

Villages along Haryana's Ghaggar river face a cancer crisis linked to polluted water, prompting urgent calls for government intervention.



### Why in News

- Rising cancer cases in Haryana villages linked to **polluted Ghaggar river water**.

## Hydrological Characteristics

- It is an **ephemeral (intermittent) river** flowing mainly during the **monsoon season**.
- It originates from **Shivalik Hills (Dagshai, Himachal Pradesh)** at ~1,927 m elevation.

## Course & Drainage System

- It flows through **Punjab, Haryana, and Rajasthan**, eventually disappearing in the **Thar Desert**.
- Downstream in Pakistan, it is known as the **Hakra River**, forming the **Ghaggar-Hakra system**.

## Tributaries & Basin Features

- Major tributaries include **Markanda, Sarsuti, Tangri, Kaushalya, and Chautang rivers**.
- It is often linked with the **mythical Saraswati River hypothesis** in paleo-hydrology.

## Environmental Concerns

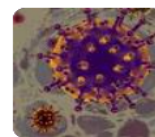
- Industrial discharge and sewage have caused **severe water pollution**.
- It raises concerns **under Water (Prevention and Control of Pollution) Act, 1974**.

# CAR-T CELL THERAPY

**M** Medical Dialogues

CAR-T therapy drives remission in patient with three autoimmune diseases, suggests study

For the first time, scientists have used a cutting-edge cell therapy called CAR-T to treat a patient with three different life-threatening...

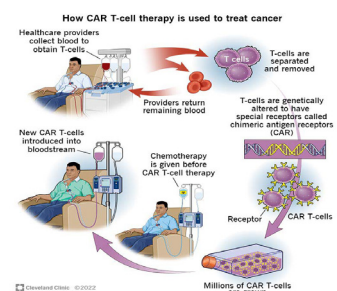


## Why in News

- CAR-T therapy successfully treated **three autoimmune diseases** resistant to conventional treatment.

## Scientific Mechanism

- It is a form of **immunotherapy** using modified **T lymphocytes (white blood cells)**.
- T cells are engineered to produce **Chimeric Antigen Receptors (CARs)** targeting cancer antigens.



- Modified cells are infused back, enabling **targeted destruction of cancer cells.**

### Clinical Applications

- It is used for **blood cancers** like **B-cell ALL, lymphoma, and multiple myeloma.**
- It is typically used when **cancer relapses or is treatment-resistant.**

### Advantages & Risks

- It can provide **long-term immune response** and sometimes **complete remission.**
- Side effects include **cytokine storm, neutropenia (96%), thrombocytopenia (65%),** and infections.


### Policy & Health Implications

- It highlights need for **advanced cancer care infrastructure in India.**
- It requires regulation under **biomedical and gene therapy guidelines.**

## OTHER IMPORTANT NEWS OF THE DAY

**Places in  
News**

### LAKHWAR HYDROELECTRIC PROJECT

 The New Indian Express

Lakhwar Hydro Electric Project gains momentum after secretary's review; 300 MW unit to benefit four states



Highlighting the national significance of the project, Kantarao directed officials to adhere strictly to the timelines and schedule of the...

#### Why in News

- The **300 MW project on Yamuna River** is progressing after **Ministry of Jal Shakti** review.

#### Technical Features

- It includes a **204 m high gravity dam and 3 Francis turbines (100 MW each)**.
- It has a **storage capacity of 330.66 MCM** and generates **612.93 GWh annually**.

#### Strategic Importance

- It enhances **water and energy security in North India**.
- It supports **irrigation for 33,780 hectares** of land.

#### Inter-State Benefits

- It provides drinking water to **Delhi, UP, Haryana, Uttarakhand, HP, Rajasthan**.
- It is linked with **Vyasi Hydroelectric Project (120 MW)** in basin development.

#### Governance Dimensions

- Developed by **Uttarakhand Jal Vidyut Nigam** under multi-state coordination.
- Reflects importance of **river basin management and cooperative federalism**.

Environ-  
ment

## CYRTODACTYLUS JAYADITYAI

TH The Hindu

[New-to-science gecko \*Cyrtodactylus jayadityai\* discovered in Tripura, named after researchers' mentor](#)

A new gecko species, *Cyrtodactylus jayadityai*, has been discovered in Tripura, enhancing the region's biodiversity and conservation...



### Why in News

- A new **gecko species** discovered in **Tripura**.

### Taxonomic Features

- It is a **bent-toed gecko** with **4.7–5.2% genetic divergence** from closest species.
- It belongs to genus **Cyrtodactylus**, increasing NE species count to **31**.

### Ecological Traits

- It inhabits **lowland forest ecosystems**.
- It is **nocturnal**, hiding in **burrows during daytime**.

### Biodiversity Significance

- It highlights **Northeast India as a biodiversity hotspot**.
- It strengthens need for **forest conservation and species documentation**.

## WATER HYACINTH

HT Hindustan Times

[Hyacinth returns to Mula-Mutha River despite repeated clean-ups; residents demand lasting fix | Hindustan Times](#)

Pune: The rapid return of water hyacinth in the Mula-Mutha River, barely weeks after clean-up drives, has renewed concerns over the lack of...

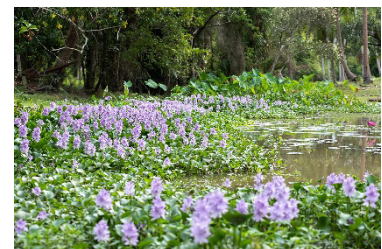


### Why in News

- Rapid regrowth in **Mula-Mutha River (Pune)** raised concerns over ineffective control measures.

### Biological Characteristics

- **Scientific Name: Eichhornia crassipes**, a **free-floating invasive aquatic plant**.
- It grows rapidly in **nutrient-rich, slow-moving freshwater**, doubling biomass in **5 days**.



### Ecological Impact

- It forms **dense mats**, reducing **oxygen levels and water quality**.
- It disrupts ecosystems by **blocking sunlight and outcompeting native species**.
- It obstructs **irrigation canals and water transport systems**.

### Reproductive Capacity

- It reproduces via **fragmentation and seeds**, making eradication difficult.
- Cutting the plant does not eliminate it due to **regenerative ability**.

### Utility & Management

- It can be used for **biofertilizer, handicrafts, and phytoremediation**.
- Long-term solution requires **biological control and nutrient load reduction**.

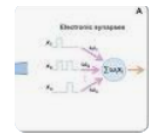
## Science and Technology

### MEMRISTOR

TH The Hindu

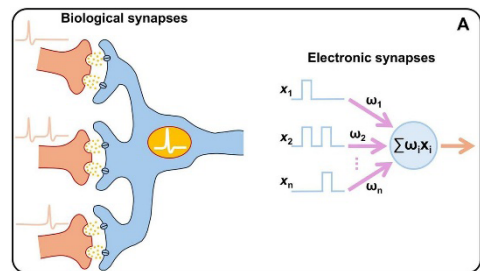
New brain-inspired 'memristors' promise to cut AI energy use

Cambridge researchers develop hafnium-oxide memristors to significantly reduce AI energy consumption by merging memory and computation.



### Why in News

- Researchers developed a **hafnium-oxide memristor** to reduce **AI energy consumption**.



### Concept & Working Principle

- A **memristor (memory + resistor)** is a circuit element whose resistance depends on past current.
- It retains its last resistance state even after **power supply is switched off**.

➤ **Moore's Law** is the observation that the number of transistors on a microchip doubles approximately every two years, accompanied by reduced costs and increased performance.

## Material & Design

- Commonly made using titanium dioxide (TiO<sub>2</sub>) thin films between metal electrodes.
- New designs use hafnium oxide, improving efficiency and scalability.

## Technological Significance

- It enables non-volatile memory (NVRAM) with faster data access.
- It supports neuromorphic computing, mimicking human brain synapses.
- It may help overcome limitations of Moore's Law in semiconductor technology.

## Applications

- Used in AI hardware, edge computing devices, and advanced memory systems.
- Potential to replace or augment transistors in future integrated circuits.

## Health

## SUBACUTE SCLEROSING PANENCEPHALITIS (SSPE)

◆ The Indian Express

Bombay High Court seeks Centre's reply to PIL for welfare of patients of rare neurological disorder

Faced with the "death sentence" of SSPE, desperate parents in Maharashtra have approached the High Court with a heartbreaking ultimatum:...



## Why in News

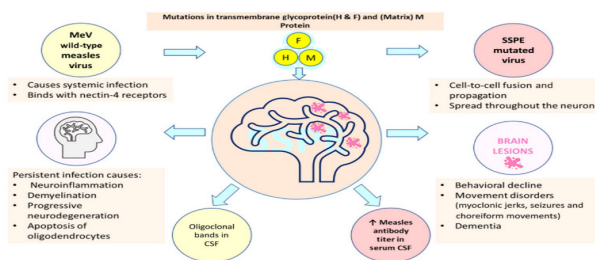
- Maharashtra government has not framed a policy for SSPE, a rare fatal neurological disease.

## Disease Profile

- It is a progressive brain disorder caused by persistent measles (rubeola) virus infection.
- It develops years after measles infection, despite apparent recovery.

### Epidemiology & Severity

- It has a **~95% fatality rate** and occurs in **1 per 50,000 measles cases**.
- It mainly affects **children and adolescents**, with higher incidence in developing countries.



### Symptoms & Progression

- Early signs include **memory loss, behavioural changes, and poor academic performance**.
- Later stages show **seizures, muscle rigidity, vision loss, and cognitive decline**.

### Public Health Significance

- There is **no cure**, and treatment is only symptomatic.
- Prevention depends on **measles vaccination under Universal Immunisation Programme (UIP)**.

## UTTAR PRADESH IN NEWS

### UP SIGNS ₹3,000 CRORE MOUS TO MODERNISE DAIRY SECTOR

TOI The Times of India

Govt signs MoUs of Rs 3,000cr for investment in dairy sector

Uttar Pradesh govt signs 59 dairy MoUs worth ₹3000 crore at a conclave, aiming to create 13000+ jobs and boost milk production and...



#### Why in News

- **Government of Uttar Pradesh** signed **59 MoUs worth ₹3,000 crore** during **Dugdha Swarn Mahotsav** in Lucknow marking **50 years of Dairy Development Department**.

#### Investment & Industrial Expansion

- Total investment of **₹3,000 crore** targets **dairy infrastructure and processing capacity**.
- Major private participants include **Ananda Dairy, Gyan Dairy, and Param Dairy**.

- Focus is on establishing **dairy plants, milk chilling centres, and cattle feed units.**

### **Employment & Rural Economy Impact**

- The MoUs are expected to generate **over 13,000 new jobs** in the state.
- Dairy sector expansion strengthens **rural livelihoods and allied agricultural activities.**

### **Sectoral Performance & Economic Contribution**

- The state has signed **796 MoUs worth ₹25,000 crore**, creating over **60,000 jobs** cumulatively.
- Dairy sector contributes about **₹1.72 lakh crore to Uttar Pradesh's GSV.**

### **Governance Initiatives & Farmer Support**

- Under **Nand Baba Dugdh Mission**, around **₹84 crore** has been transferred via **Direct Benefit Transfer (DBT).**
- The initiative promotes **income diversification, cooperative growth, and technological integration** in dairy sector.