DAILY CURRENT AFFAIRS 20-04-2026

Mapping Perspective

1. **Red Sea**

Prelims Perspective

2. **CAR-T cell Therapy**
3. **Hokersar Lake**

Mains Perspective

4. **IT Rules Amendments**
5. **CAFÉ Norms**

Red Sea

Syllabus: GS-1: World Geography – Seas and Oceans – Mapping.

Context:

- Recently, **Iran's military warned it would block trade through the Red Sea, if the US naval blockade continues** → highlights **geopolitical and maritime security significance** of the region

Red Sea: Location & Connectivity

- Semi-enclosed inlet of the **Indian Ocean between Africa and Asia**
- Connected to **Arabian Sea & Indian Ocean (south)** via **Gulf of Aden and narrow strait of Bab el Mandeb**
- Northern portion bifurcated by **Sinai Peninsula** into:
  - Gulf of Aqaba
  - Gulf of Suez → connected to Mediterranean Sea via Suez Canal

Bordering Countries

- Egypt, Saudi Arabia, Yemen, Sudan, Eritrea and Djibouti

Physical & Geological Features

- Unique **color changes due to algae blooms**
- Lies in a **fault depression between Arabian and North African tectonic plates**
- Known for **hot and highly saline waters**

Economic & Strategic Importance

- **Crucial maritime route between Europe and Asia** (via Suez Canal)
- High relevance for **global trade, energy flows and naval geopolitics**

Mineral Resources

- Five major types: **petroleum deposits, evaporite deposits, sulfur, phosphates, heavy-metal deposits**

Important Islands in the Red Sea

- **Tiran Island**: Located near the **mouth of the Gulf of Aqaba**
- **Shadwan Island**: Located at the **entrance of the Gulf of Suez**

Value Addition

- Region forms a **critical chokepoint (Bab el Mandeb + Suez Canal)** → vulnerability to **blockade, piracy, conflict spillover**
- Increasing relevance in **West Asian geopolitics, global supply chains and India's trade security**

CAR-T cell Therapy

Syllabus: GS-3: Science and Technology – Biotechnology.

Context:

- For the first time, scientists have used a cutting-edge cell therapy called **CAR-T** to treat a patient with **three different life-threatening autoimmune diseases** that had resisted years of treatment.

About CAR-T Cell Therapy

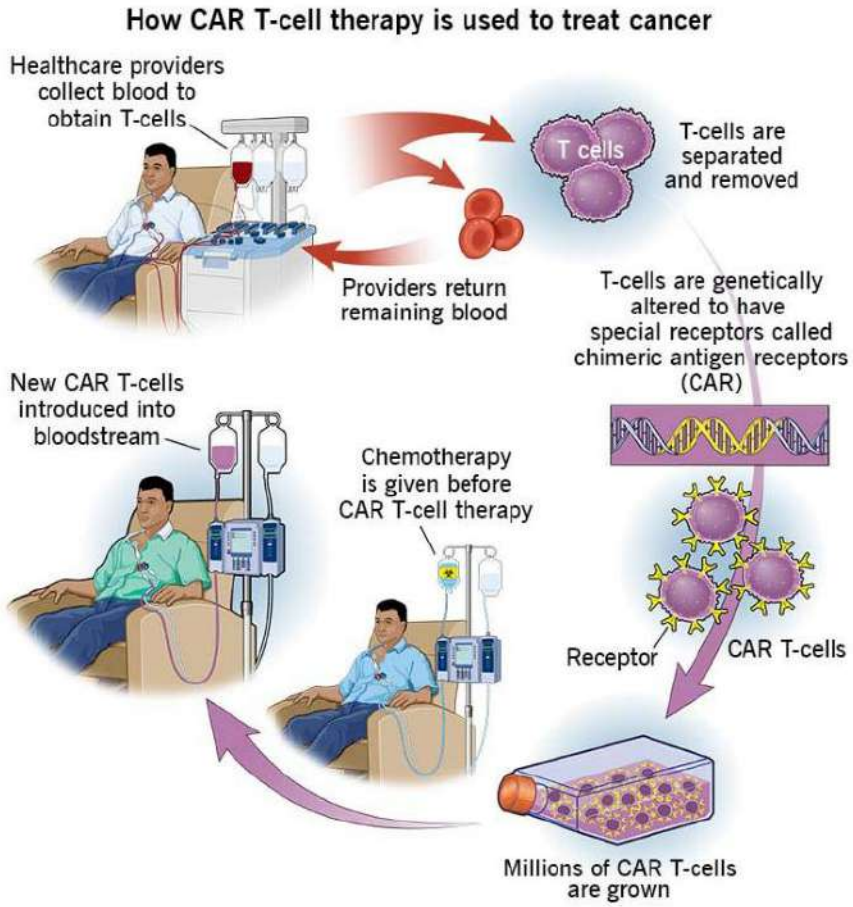
- **CAR T-cell therapy (Chimeric Antigen Receptor T-cell therapy)** is an advanced form of **immunotherapy**.
- Used to treat certain types of **cancer** by modifying a patient's own immune cells to fight the disease.
- Designed for **specific types of blood cancer**.
- Given to patients whose cancer has **relapsed** or **not responded to first-line treatment**.

Mechanism / Working of CAR-T Cell Therapy

- **Collection of T cells**:
  - Patient's immune **T cells (T lymphocytes)** are collected by filtering their blood.
  - T cells are a type of **white blood cell**.
- **Role of T cells**:
  - Key players in immune system due to ability to identify and attack **foreign cells (germs, cancer cells)**.
- **Laboratory modification**:
  - T cells are modified to produce synthetic proteins called **Chimeric Antigen Receptors (CARs)**.
- **Formation of CAR-T cells**:
  - Modified cells are called **CAR-T cells**.
  - Cells are multiplied in the lab.
- **Reinfusion into patient**:
  - CAR-T cells are infused back into bloodstream.
- **Target recognition & action**:

- CARs bind to specific **antigens on cancer cells** → activates T cells to kill cancer cells.

- **Immune amplification**:
  - Dying cancer cells trigger further immune responses.
- **Long-term effect**:
  - CAR-T cells can keep multiplying → **lasting anticancer results**.
- **Outcome**:
  - In some cases → **cure of blood cancer**; in others → **prolonged survival**.



Diseases Treated (Blood Cancers)

- B-cell acute lymphoblastic leukemia (ALL)
- Diffuse large B-cell lymphoma
- Follicular lymphoma
- High-grade B-cell lymphoma

- Mantle cell lymphoma
- Multiple myeloma
- Primary mediastinal large B-cell lymphoma

Side Effects of CAR-T Therapy

- **Severe immune overreaction (hyperinflammation)**:
  - Causes organ damage; seen in **~12% participants**; at least one death reported.
- **Low red blood cell count (Anemia)**:
  - Seen in **~61% participants** → fatigue and weakness.
- **Thrombocytopenia**:
  - Low platelet count → increased risk of bleeding; **~65% patients**.
- **Neutropenia**:
  - Low neutrophil count → high infection risk; **~96% participants**.

Hokersar Lake

Syllabus: GS-3: Wetland Ecosystems.

Context:

- The **Comptroller and Auditor General (CAG)** warned of severe ecological degradation of **Hokersar Lake**, with over **2,500 kanals encroached**.

About Hokersar Lake

Location & Physical Features

- Hokersar (also known as Hokera) is a **large natural wetland near Srinagar in Jammu and Kashmir**.
- Area: **13.75 sq. km**; Elevation: **1,585 meters above sea level**.
- Lies in the **Jhelum River basin** and receives water mainly from the **Doodhganga River (tributary of Jhelum)**.
- Located in the **northwest Himalayan biogeographic province of Kashmir**, behind the snow-draped **Pir Panchal**.

Ecological Significance

- **Largest bird sanctuary in the Kashmir Valley** and a **designated Ramsar site** (international ecological importance).
- Serves as a **critical habitat and resting place for migratory waterbirds** from **Siberia, Central Asia, and Northern Europe**.
- Hosts around **68 waterfowl species**, including some **endangered species**.
- Rich in **aquatic vegetation** such as **reedbeds and water chestnuts**, providing **food and shelter for fish and birds**.

Functions & Importance

- Acts as a **floodwater absorption basin**.
- Supports **local livelihoods** along with biodiversity conservation.

Threats

- Faces threats from **human encroachment, pollution, and conversion to agriculture**.
- These pressures have **reduced its size over time**.

IT Rules Amendments

Syllabus: GS-2: Indian Polity – Freedom of Speech and Government Regulation.

Context:

- Criticism is growing over **Centre's proposed amendments to IT Rules** aiming to bring entire digital news ecosystem, including user-generated "news and current affairs" content, under tighter regulation
- May treat independent creators and influencers like formal publishers → **imposing compliance burdens and stricter content controls**

Impact on Creator Economy & Digital Space

- **Industry concerns**: increased regulation, binding advisories, takedown pressures → self-censorship, reduced visibility for news content, reluctance among brands to collaborate with independent voices
- **Broader concern**: expanding regulation to ordinary users → transforms everyday online speech into compliance-heavy activity → more cautious and restricted digital public space

Expanding Regulatory Control Over Content

- Criticism that amendments go beyond regulating content → **monitoring who creates and posts it**
- Raises concerns on intent as existing laws already provide ample powers to act against harmful/misleading content

Existing Legal Powers for Content Regulation

- **Section 69A, IT Act** → government empowered to block online content
- **Section 79(3)(b)** → central/state authorities can direct platforms to remove content
- These provisions already widely used, including against satirical content → censorship tools already extensive

Key Concerns Raised

- **Government justification**: deepfakes, misinformation; critics: censorship often functions as political tool → risk of selective enforcement
- New rules may allow seeking details of users posting news-related content (even non-professionals) → **undermines anonymity, discourages open expression**

Role of Inter-Departmental Committee (IDC)

- Proposed IDC led by Ministry of Information & Broadcasting (MIB):
  - Review flagged content
  - Recommend actions → apology, modification, takedown
- Adds new layer of oversight with direct intervention in content creation

Psychological & Structural Impact on Online Expression

Expansion of Regulatory Scope

- Extends beyond professional publishers → covers all user-generated content (satire, commentary, fact-checking, sharing/analysing news links)

Blurring User–Publisher Distinction

- Ordinary users (creators, comedians, commentators) treated like formal news entities → expanded compliance expectations

Rise of Self-Censorship

- Oversight may induce psychological tendency toward self-censorship
- Individuals lack resources to challenge state → fear of penalties/scrutiny discourages open expression

Impact on Digital Ecosystem

- Increased caution → less vibrant, less diverse online space
- Contradicts push for creator-driven digital economy ("orange economy")

Limited Resistance from Tech Platforms

- Major tech companies unlikely to strongly oppose → trend of avoiding direct confrontation with government policies

Link with Broadcasting Services (Regulation) Bill, 2024

Continuity in Regulatory Approach

- IT Rules amendments seen as continuation of withdrawn Broadcasting Services (Regulation) Bill, 2024

Key Features of Withdrawn BSR Bill

- Expand MIB jurisdiction to social media users & online creators
- Broad definition of "digital news broadcasters"
- Mandatory government registration
- Content evaluation standards
- Raised concerns over excessive regulatory control

Comparative Assessment

- IT Rules do not mandate registration but grant comparable powers to MIB → monitoring and regulating online news & current affairs content

Analytical Insight

- Reflects shift from **platform regulation → user-level regulation**
- Core tension: **misinformation control vs freedom of expression**
- Raises constitutional concerns (Article 19(1)(a)) and risks of **pre-censorship & chilling effect** on digital discourse

CAFÉ Norms

Syllabus: GS-3: Environment – Climate Change and Related concepts.

Context:

- Government has proposed **draft CAFE-3 norms** introducing flexible compliance and carbon credit trading for automakers

Corporate Average Fuel Efficiency (CAFE) Norms

- CAFE norms are government-regulated standards mandating automobile manufacturers to meet specific fuel efficiency and emission targets across their entire fleet

Objectives

- To reduce vehicular fuel consumption
- To lower greenhouse gas emissions, especially CO_2
- To reduce India's dependence on crude oil imports
- To promote energy-efficient and cleaner mobility technologies

Key Features

- Apply to **fleet-wide average emissions**, not individual vehicles
- Automakers must maintain prescribed average **CO_2 emission limit (g/km)**
- Implemented in phases (**CAFE-1, CAFE-2, CAFE-3**)
- Compliance monitored using standard testing cycles like **Modified Indian Driving Cycle (MIDC)**

Implementation in India

- Introduced in **2017 (CAFE-1)**
- Strengthened under **CAFE-2 (2022 onwards)**
- **CAFE-3 expected from April 2027**
- Forms part of India's climate commitments including **net zero emissions by 2070**

Need for Strengthening CAFE Norms

- Transport sector is a major contributor to emissions and oil imports
- Rising vehicle ownership increases fuel demand
- Global energy disruptions highlight vulnerability to imports
- Climate commitments require systematic emission reductions

- Hence, stricter yet flexible norms like **CAFE-3** needed to balance environmental goals with industry feasibility

Key Highlights of Draft CAFE-3 Norms

Flexible Compliance Mechanism

- Easing penalty structures and focusing on compliance flexibility
- Penalties not primary enforcement tool
- Emphasis on encouraging compliance rather than punishing violations

Carbon Credit Trading System

- Automakers exceeding targets generate surplus credits
- Credits can be sold to non-complying companies
- Reduces compliance costs and promotes efficiency
- Creates a **cap-and-trade-like system** within automobile sector

Offset Mechanism through Bureau of Energy Efficiency (BEE)

- Manufacturers can offset deficits by purchasing credits
- Credits available from **Bureau of Energy Efficiency (BEE)**
- Ensures compliance even for lagging manufacturers

Progressive Emission Reduction Targets

- Significant reduction in fleet emissions
- From **113 gCO_2/km (FY27)** to **78.9 gCO_2/km (FY32)**
- Reflects gradual but firm tightening of standards

Promotion of Clean Technologies

- Incentivises cleaner vehicle technologies
- Higher weightage to **EVs, hybrids, flex-fuel vehicles**
- Encourages diversification beyond conventional fuels

Support for Alternative Fuels

- Promotes multiple fuel pathways
- Focus on **biofuels and ethanol blending**
- Encourages flex-fuel vehicles (petrol + ethanol)
- Reduces fossil fuel dependence and improves energy security

Reduced Penalty Orientation

- Shift from punitive approach to incentive-driven model
- Relaxed penalties with emphasis on industry cooperation

Implementation Timeline

- Applicable from **FY 2027–28 to FY 2031–32**
- Provides sufficient time for industry adaptation

Significance of Draft CAFE-3 Norms

- Encourages innovation in clean mobility technologies
- Supports India's climate targets and net-zero pathway
- Reduces compliance burden through flexibility
- Promotes **market-based environmental regulation**
- Aligns industrial growth with environmental sustainability