FORTUNE IAS ACADEMY
KERALA'S NO.1 IAS ACADEMY

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FINDER
FORTUNE IAS NEWS DAILY EXPLAINER

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THE HINDU

What do the new E100 vehicle rules mean?

Prelims: General Studies Paper - 1

Current events of national and international importance

Mains: General Studies - 3

Science and Technology- developments and their applications and effects in everyday life.

Why in Focus?

- The **Ministry of Road Transport and Highways** amended the **Central Motor Vehicles Rules, 1989** to allow ethanol-based fuels up to **100% ethanol (E100)** in vehicles.

Ethanol: It is an alcohol produced by fermenting plant biomass like sugarcane, maize, or broken rice.

- This amendment supports the use of **flex-fuel vehicles**, which can operate on petrol, ethanol blends, or pure ethanol.

Flex-Fuel Vehicle: A vehicle with a single common fuel tank and a fuel-composition sensor that can run on petrol, varying ethanol blends or pure ethanol.

Key Highlights:

- India achieved the **20% ethanol-blending (E20) target in 2025**, five years ahead of the 2030 deadline set under the **National Policy on Biofuels, 2018**.
- From **April 2026**, all petrol sold in India **must contain 20% ethanol**, and all **BS-VI vehicles** must fully meet E20 emission standards.
- Building on this, **E100 has been added alongside E85 under Rule 115 of the Central Motor Vehicles Rules, 1989**, which prescribes emission standards for motor vehicles.
- **E85 or E100** may be used only in **flex-fuel vehicles** designed by original equipment manufacturers.
- **Owners of existing vehicles need not switch fuels** or modify their vehicles.
- The amendments will ease **homologation** and **help E100-powered vehicles** secure type approval.

Homologation: The official process of certifying that a vehicle or its components meet prescribed technical, safety and environmental standards before being approved for sale or use.

Implications:

- **Owners of older or non-E20-compliant vehicles fear component damage** and higher maintenance costs.
- **Ethanol's lower energy density** reduces mileage
- **Ethanol's affinity for water raises contamination risks** during the monsoon.
- **Ethanol blending has not lowered retail fuel prices**, as maize is procured at ₹71.86 per litre.

- **Large-scale ethanol production raises concerns** over land and water use and competition between food and fuel.

Way Forward:

- **Build storage and dispensing facilities** for E85 and E100.
- **Mandate clear fuel-compatibility labelling** and improve public awareness.
- **Promote alternatives that do not compete** with food crops, such as agricultural residue.
- **Keep E10 petrol available for older vehicles** during the transition.
- **Balance biofuel promotion** with a stronger push for vehicle electrification.

Mains Question:

Critically evaluate the role of ethanol blending in India's energy transition and its challenges for consumers, food security and the environment. (250 words, 15 marks)

Why are social media takedowns in focus?

Prelims: General Studies Paper - 1

Current events of national and international importance

Mains: General Studies - 2

Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

Why in Focus?

- Many posts, reels and accounts on **Instagram, Facebook and X** were blocked or taken down, amid protests against the **Special Intensive Revision (SIR)** of electoral rolls.
- The blocking has put the government's **takedown powers, shorter compliance deadlines and platforms' automated moderation** under scrutiny.

Key Highlights:

- **MeitY** asked social media platforms to **monitor content relating to public events, misleading information** and AI-generated deepfakes.
- **Meta** was asked to **prevent content public disorder or incite violence**, while protecting lawful discussions.
- The **IT Rules Amendment, 2026** reduced the deadline for intermediaries to remove specified unlawful content from **36 hours to 3 hours** after receiving a qualifying order or government intimation.
- **Section 69A, IT Act** empowers the **Central Government to block online content on grounds** such as national security, sovereignty and public order.
- **Rule 3(1)(d), IT Rules** requires intermediaries to **remove specified unlawful content following a qualifying court order** or government intimation.
- **Section 79(3)(b), IT Act** allows intermediaries to **lose legal protection from liability for third-party content** if they fail to act after legally required notification.
- **Automated moderation** is increasing, with platforms restricting content through their own systems **rather than relying only on government takedown requests**.

Implications:

- **Short deadlines** leave platforms **little time to assess a notice**, leading to over-removal of content.
- **Automated moderation** may block **lawful content without human review**.
- **Platform-level enforcement limits users' access** to constitutional courts.
- **Delayed appeals** through the platform route can take **60–90 days**, harming users' livelihood and credibility.

Way Forward:

- **Require reasoned and transparent takedown notices**, with a public record of orders.
- **Allow platforms reasonable time to assess notices**, with human review before removal.
- **Shorten appeal timelines** and restore content temporarily while appeals are pending.
- **Clearly separate government advisories** from platforms' own community standards.

Mains Question:

Critically evaluate the impact of shorter takedown timelines and automated moderation under the IT Rules on free speech and due process in India. (250 words, 15 marks)

Why is the NVS-03 satellite launch significant?

Prelims: General Studies Paper - 1

Current events of national and international importance

Mains: General Studies - 3

Science and Technology- developments and their applications and effects in everyday life.

Why in Focus?

- The **NVS-03 satellite** was launched by the **Indian Space Research Organisation (ISRO)** on **October 30** from the **Satish Dhawan Space Centre** in **Sriharikota**.
- The launch aims to **restore base-level functionality** to India's **NavIC** system, which has faced recent operational challenges.

Key Highlights:

- The **NVS-03 satellite** was launched aboard **Geosynchronous Satellite Launch Vehicle F18 (GSLV Mk II)**, India's three-stage Geosynchronous Satellite Launch Vehicle.
- **NavIC (Navigation with Indian Constellation)**, originally called **IRNSS**, is India's regional satellite navigation system, providing **Positioning, Navigation and Timing services** over India and approximately **1,500 km beyond its boundaries**.
- It's first-generation satellites were launched between **2013 and 2018**
- NavIC provides two categories of signals: an **open signal** for civilian applications and a **restricted signal** for authorized users, including the armed forces.
- Several **first-generation NavIC satellites** became non-functional due to **satellite failures and atomic clock malfunctions**.
- In **March 2026**, IRNSS-1F's last **working atomic clock failed**, leaving only **three functional NavIC satellites** against the four required.
- **NVS-03**, a second-generation satellite, carries indigenous **rubidium atomic clocks** developed by ISRO's Space Applications Centre.

Atomic Clock: A highly accurate clock that uses the natural vibrations of atoms to measure time precisely. In satellite navigation, it provides precise timing signals to calculate location.

- ISRO plans to launch **NVS-04 and NVS-05** and increase onboard clocks to **five per satellite** for redundancy.

Implications:

- Indigenous atomic clocks promote **self-reliance** but **face manufacturing and procurement challenges**.
- **Dependence on new components** create **operational challenges**.
- The absence of a **dedicated NavIC management agency** may affect **operational efficiency**
- Recent **PSLV failures** highlight the **need for stronger launch systems** and redundancy.

Way Forward:

- **Strengthen indigenous supply chains** to ensure reliable availability of flight-ready components.
- **Create a dedicated NavIC agency** to improve constellation management and efficiency.
- **Investigate launch failures** and improve ISRO's launch reliability.

Mains Question:

Discuss the significance of NVS-03 for India's NavIC system and examine ISRO's challenges in maintaining the constellation. Suggest measures to improve its reliability and efficiency. (250 words, 15 marks)

KEYWORDS

Automotive Research Association of India (ARAI)

- The **Automotive Research Association of India (ARAI)** was established in **1966** and is headquartered in **Pune, Maharashtra**.
- It is an **autonomous organisation affiliated** with the **Ministry of Heavy Industries**, Government of India.
- ARAI is a testing and certification agency notified under **Rule 126 of the Central Motor Vehicles Rules, 1989**, responsible for vehicle testing and homologation.
- It evaluates **vehicle mileage, fuel efficiency and EV battery range** under controlled laboratory conditions.
- It undertakes **research and development** in alternative fuels and **supports the formulation of automotive standards**.

Rashtriya Ekta Diwas (National Unity Day)

- **Rashtriya Ekta Diwas** is observed annually on **31 October** to commemorate the birth anniversary of **Sardar Vallabhbhai Patel**, marking his **151st birth anniversary in 2026**.
- The observance was established in **2014** to honour Patel's contribution to the **integration of princely states** and promote national unity and solidarity.
- Known as the **"Iron Man of India"**, Patel served as India's first **Deputy Prime Minister and Home Minister** and led the integration of more than **560 princely states** into the Indian Union.
- Patel is also known as the **"Father of All India Services"** for supporting their establishment and describing them as the **steel frame of India**
- The day is observed through the **Run for Unity** and official ceremonies at the **Statue of Unity** in **Kevadia, Gujarat**.
- The **Statue of Unity**, dedicated to Sardar Vallabhbhai Patel, stands approximately **182 metres tall** and was unveiled on **31 October 2018**.

ECINET Platform

- **ECINET** is a unified digital platform developed by the **Election Commission of India (ECI)** to provide a single interface for electors, election officials, political parties and other stakeholders.
- ECINET was officially launched in **2026** at the **India International Conference on Democracy and Election Management** in New Delhi and is available in **22 scheduled languages and English**.
- It integrates over **40 existing ECI mobile and web applications**, including the **Voter Helpline App, cVIGIL, Suvidha 2.0, Saksham and Know Your Candidate (KYC) App**.
- The platform provides services such as **voter registration, electoral roll search, application tracking, e-EPIC downloads** and grievance redressal.

CRMA-1001

- **CRMA-1001** is an investigational, **liver-targeted therapy** developed by **nChroma Bio** (US-based biotechnology company) to treat chronic HBV infection.
- **Hepatitis B (HBV) is a liver-infecting virus** transmitted through infected blood, body fluids and childbirth.
- The therapy uses **Lipid Nanoparticles** (tiny fat-based particles used to safely deliver medicines) to deliver the treatment to liver cells.
- Unlike traditional **CRISPR gene editing**, CRMA-1001 **does not cut DNA**, reducing the risk of unintended genetic damage.
- **Preclinical animal studies** showed reduced levels of **Hepatitis B** and viral DNA without unintended changes to the human genome.

PRAGYA Tokamak

- PRAGYA is **India's first privately developed nuclear fusion tokamak**, built by Bengaluru-based **Pranos Fusion to study plasma control and superconducting magnets** for future fusion reactors.

- A **nuclear fusion tokamak** is a doughnut-shaped machine that **uses powerful magnets to hold extremely hot gas (plasma)** so that atomic nuclei can combine and release energy.
- PRAGYA uses **powerful magnetic fields** to confine superheated plasma, **preventing it from touching the reactor walls**.
- It is a precursor to **PRANIK**, a larger planned tokamak for **developing a practical fusion reactor**.
- PRAGYA is **not designed to generate commercial electricity**; its experiments will support the development of **plasma control systems and High-Temperature Superconducting (HTS) magnets**.



Places in News

Rub' al Khali

- Researchers surveying a **1,500-km stretch** of the Rub' al Khali Desert discovered evidence of **55 extinct lakes**, but no stone tools or signs of human life.
- **Rub' al Khali**, meaning **Empty Quarter**, is one of the world's largest continuous sand deserts, located in the **Arabian Peninsula**.
- It covers parts of **Saudi Arabia, Oman, the United Arab Emirates and Yemen**, with the largest portion lying in Saudi Arabia.
- It is characterised by **vast sand dunes, extreme temperatures, scarce rainfall and limited vegetation**.
- The discovery of **55 extinct lakes** provides evidence of past wetter climatic conditions in the Arabian Peninsula.



Species In News

Mawal (Cockscomb Flower – Celosia cristata)

- Mawal, the dried flower of the **Cockscomb plant**, is traditionally used in **Kashmiri cuisine** to provide its signature ruby-red colour.
- **Mawal** is the dried flower of **Celosia cristata**, recognised by its velvety, fan-shaped crest resembling a rooster's comb.
- It is cultivated in the **fertile valleys of Kashmir**, where flowers are sun-dried and stored for year-round culinary use.
- Mawal is an important ingredient in **Wazwan**, Kashmir's traditional multi-course royal feast prepared by chefs known as **Wazas**.
- Mawal reflects Kashmir's traditional use of **local flora in natural cooking** and is also valued in traditional medicine for its **soothing and cooling properties**.



Manx Shearwater (Puffinus puffinus)

- A GPS-based study of over **1,000 Manx Shearwaters** found that disrupted body

clocks cause them to temporarily veer off course during long flights.

- It is a migratory seabird belonging to the **Procellariidae family**, found mainly in the **North Atlantic Ocean**.
- It has **black upperparts and white underparts** and breeds mainly in **Britain and Ireland**.
- It migrates to the **South Atlantic**, particularly the coastal waters of Brazil and Argentina.
- It uses an **internal body clock synchronised with daylight** for navigation.
- The Manx Shearwater is classified as **Least Concern (LC)** on the IUCN Red List of Threatened Species.

