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## Today's Prelims Topics

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### Why are temperatures rising in A.P. and Telangana?

#### Context

Andhra Pradesh and Telangana faced intense heatwaves, with temperatures crossing 41°C in northern A.P. districts and all 33 Telangana districts exceeding 40°C.

#### Reasons Behind Rising Temperature in Telangana and Andhra Pradesh

- **Tropical Location (Near Tropic of Cancer):** Both States lie close to the Tropic of Cancer, receiving intense solar radiation during summer months as the sun is almost directly overhead.
- **Landlocked and Continental Climate (Telangana):** Telangana lacks large water bodies, resulting in limited temperature moderation. This leads to sharp daytime heating, a typical trait of continental climates.
- **Rocky Terrain and Black Soil:** The Deccan Plateau's rocky terrain and heat-absorbing black soil in both States trap more heat, pushing temperatures higher.
- **Lack of Green Cover and Irrigation:** Minimal forest cover and limited summer agricultural activity reduce evaporative cooling. Without moisture in the soil, there's little to moderate surface heating.
- **Delayed Monsoon and Low Pre-Monsoon Rainfall:** With minimal rainfall between March and May and monsoons arriving post-June 10, cloud cover is scarce, allowing unfiltered solar heating.
- **Lack of Evaporative Cooling:** Poor irrigation and rocky land reduce soil moisture, limiting evaporation and transpiration, both crucial for natural cooling of the land surface.
- **Inadequate Heatwave Early Warning Systems:** The absence of robust, hourly-based forecasting systems hampers preparedness and timely response to rising temperatures.

Source: [The Hindu: Why are temperatures rising in A.P. and Telangana?](#)

## Belt and Road Initiative

### Context

Colombia formally agreed to join China's vast Belt and Road infrastructure initiative.

### About China's Belt and Road Initiative

- It is an international cooperation and economic development strategy and also known as "One Belt One Road" (OBOR) or the "New Silk Road".
- Launched:** 2013
- Aims:** To enhance global trade, infrastructure connectivity, and economic integration across Asia, Europe, Africa, and beyond.
- The BRI is divided into two main components:**
  - The Silk Road Economic Belt:** It aims to connect China to Central Asia, West Asia, and Europe through a network of roads, railways, and pipelines. The land-based Silk Road Economic Belt envisions six key corridors for development:
    - China-Pakistan Economic Corridor (CPEC).
    - New Eurasian Land Bridge Economic Corridor.
    - China-Indochina Peninsula Economic Corridor.
    - China-Mongolia-Russia Economic Corridor.
    - China-Central Asia-West Asia Economic Corridor.
    - China-Myanmar Economic Corridor.
  - The 21st Century Maritime Silk Road:** It aims to connect China to Southeast Asia, Africa, and the Middle East through a network of ports and shipping routes.
- Number of Participatory Nations:** About 140



### CRITICISMS AND CHALLENGES



#### Debt and Financial Risks

- Some BRI projects have led to concerns about debt sustainability in recipient countries, with critics warning of "debt trap diplomacy".
- Chinese loan contracts often contain clauses that give Beijing significant leverage, including the right to demand repayment at any time



#### Corruption and Transparency

- There have been multiple reports of corruption and opaque dealings involving BRI projects, particularly in countries such as Pakistan, Indonesia, Malaysia, and Kenya
- The Chinese government has responded by embedding anti-corruption officers in some BRI countries



#### Project Execution

- Not all BRI projects have been successful; for example, the collapse of a renovated railway station in Serbia in 2024 which was part of a BRI project, led to fatalities and public protests over construction quality and transparency

### Facts

- Economic Impact:** The World Bank estimates BRI could **boost trade flows in participating countries by 4.1%** and **cut global trade costs by 1.1% to 2.2%**.
  - The initiative is projected to increase **world GDP by \$7.1 trillion annually by 2040** if momentum continues.

**Source:** [The Hindu: Colombia joins Belt and Road initiative as China courts Latin America to counter U.S.](#)

## Indian Yak

### Context

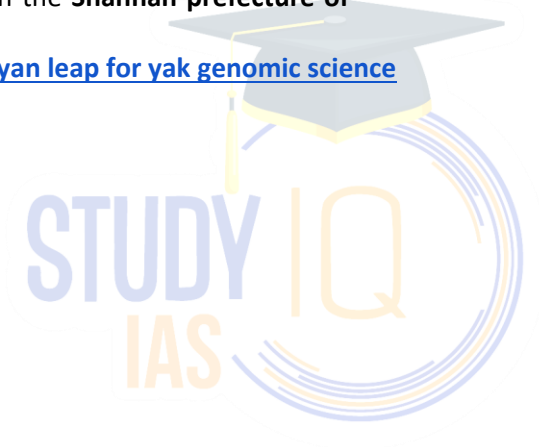
Specialists from four institutions of the Indian Council of Agricultural Research (ICAR) have assembled the first-ever chromosome-level genome of the Indian yak.

### About Indian Yak

- **Scientific Name:** Bos grunniens.
- **Often Referred As:** Ship of the Himalayas
- **Geographical distribution:** In India, yaks are found above 7,000 feet in **Ladakh, Sikkim, Arunachal Pradesh, and Himachal Pradesh.**
- **Significance:** Integral part of the economy of high-altitude dwellers, who depend on it for meat, milk, and transportation.
  - The Himalayan Yak has been accepted as a **Food Animal** by the scientific panel of Food Safety and Standard Authority of India(FSSAI).
- **Earlier Evidence of Domestication:** Discovered in **Bangga**, a settlement in the **Shannan prefecture of Tibet.**



Source: [The Hindu: Himalayan leap for yak genomic science](#)



## e-methanol plant

### Context

World's first commercial-scale e-methanol plant opens in Denmark.

### What is E-Methanol?

- A low-carbon fuel produced by combining **green hydrogen** with **captured carbon dioxide**.
- It serves as a **clean energy alternative** to fossil-based fuels.
- **Production Process:**
  - **Green Hydrogen Generation:** Hydrogen is generated via **renewable energy-powered electrolysis** of water.
  - **Carbon Dioxide Capture:** CO<sub>2</sub> is captured from sources like **industrial flue gases** (e.g. steel or cement plants) or **direct air capture**, helping reduce emissions.
  - **Methanol Synthesis:** Hydrogen and CO<sub>2</sub> are combined in a **catalytic reactor under pressure**, producing methanol with minimal by-products.
- **Key Benefits:**
  - **Infrastructure-compatible:** Can be used without major changes to current fuel systems.
  - **Stable:** Easily stored at room temperature and ambient pressure.
  - **Versatile:** Can be used directly or converted into other fuels (like gasoline or kerosene).
- **Applications:**
  - **Shipping Industry:** Clean marine fuel.
  - **Road and Air Transport:** Through derivatives like **gasoline and kerosene**.
- **Challenges:**
  - **High Cost:** Much costlier than fossil methanol due to:
    - Expensive renewable electricity
    - Production inefficiencies

### Methanol Economy Programme (India) – by NITI Aayog

- **Objective:** Reduce **oil import bill**, **GHG emissions**, and **utilize domestic resources** (like coal and waste) to produce methanol.
- **Feedstock:** Methanol produced from:
  - **High ash coal**
  - **Agricultural residues**
  - **CO<sub>2</sub> from thermal power plants**
  - **Natural gas**
- **Benefits:** Potential to generate **~5 million jobs** in methanol-related sectors.
  - Blending **20% DME** in LPG could save **₹6000 crore annually**.

India is **exploring green methanol** as a clean fuel but **does not yet have a commercial-scale e-methanol plant** like Denmark.

Source: [Reuters: World's first commercial-scale e-methanol plant opens in Denmark](#)

## Article 143

### Context

President Droupadi Murmu has **sought the Supreme Court's opinion** under Article 143(1) of the Constitution regarding the **timelines and judicial review of her assent to Bills sent by state Governors**.

### Article 143 of Indian Constitution

- Article 143 of the Indian Constitution empowers the **President of India** to seek the **opinion of the Supreme Court** on important legal or constitutional matters.
- **Types of Reference under Article 143:**
  - **Article 143(1) – Advisory Opinion on Questions of Law or Fact**
    - The **President may refer any question of law or fact of public importance** to the Supreme Court.
    - The Supreme Court **may** give its opinion after hearing the matter.
    - The opinion is **advisory only** (not binding on the President).
  - **Article 143(2) – Matters Related to Pre-Constitution Treaties or Agreements**
    - If a dispute arises that is **excluded from the Court's jurisdiction** due to provisions of the Constitution (like Article 131), the President can refer it.
    - In such cases, the Supreme Court **must** give its opinion.

### Notable Cases Under Article 143

- **Re Berubari Union Case (1960):** The Court was asked whether Parliament had the power to cede Indian territory (Berubari Union) to Pakistan. The Supreme Court opined that such a transfer required a constitutional amendment, not just a law passed by Parliament.
- **Rama Janmabhoomi-Babri Masjid case (1993):** This is notable as the only reference where a question of fact was referred: whether a Hindu temple or any Hindu religious structure existed prior to the construction of the Babri Masjid.
  - The **Supreme Court declined to answer**, stating the question was not appropriate for its advisory jurisdiction.
- **Special Reference No. 1 of 1998 – On scope of MPs disqualification** in the Jharkhand Assembly case.

Source: [The Hindu: 'Can timelines be imposed and manner of exercise be prescribed through judicial orders?'](#)

## New Chairman Of UPSC Appointed

### Context

Retired Indian Administrative Service officer and former Defence Secretary **Ajay Kumar** took oath as the new Union Public Service Commission (UPSC) Chairman.

### About Union Public Service Commission (UPSC)

- **Constitutional Status:** Constitutional body established under **Part XIV** of the Indian Constitution, covering **Articles 315 to 323**.
- **Appointment of Members:** The **President of India** appoints the **Chairman and members** of the UPSC.
- **Tenure:** **6 years** or until the age of **65 years**, whichever is **earlier**.
- **Re-appointment:** **Not eligible for reappointment** to the same office.
- **Resignation:** A UPSC member can **resign** by submitting a **written letter** to the **President of India**.
- **Removal & Suspension:**
  - The **President** can **remove** the Chairman or a member of the UPSC.
  - The UPSC Chairman can resign by writing to the President and **can be removed only for misbehavior after a Supreme Court inquiry**.
- **Grounds for Removal:** A member can be removed if he/she:
  - Is declared **insolvent/bankrupt**,
  - Takes up **paid employment** outside official duties,
  - Is **physically or mentally unfit**, as decided by the President.
- **Service Conditions Regulation:** The **President** decides the **number of members**, their **service conditions**, and also those of UPSC employees.
  - Once appointed, **service conditions cannot be altered** to the member's disadvantage.
- **Additional Functions:** A **State Legislature** can authorise the UPSC or SPSC to take up **extra functions** for services under the Union, State, or any local authority/public institution.
- **Financial Independence:** The UPSC's **expenses**, including **salaries, allowances, and pensions**, are charged to the **Consolidated Fund of India**, ensuring financial autonomy.
- **Annual Report Submission:** UPSC submits a **yearly report** on its work to the **President**.
  - If the Commission's advice is not accepted, a **memorandum with reasons** must be laid before **both Houses of Parliament**.

### Articles 315 to 323

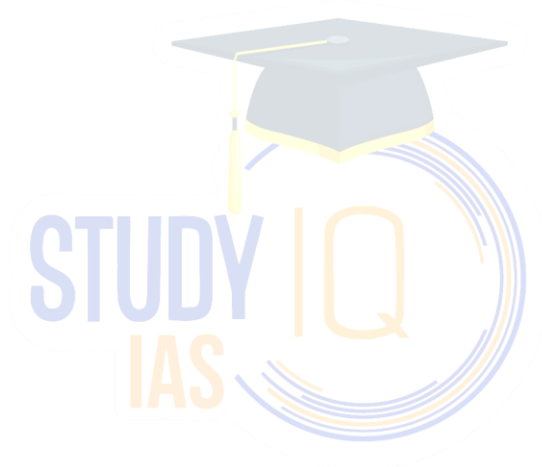
Article	Provision
<b>Article 315</b>	Provides for the <b>establishment</b> of Public Service Commissions (UPSC for the Union, and SPSC for States).
<b>Article 316</b>	Deals with the <b>appointment</b> and <b>term of office</b> of members.
<b>Article 317</b>	Lays down provisions for the <b>removal and suspension</b> of members.
<b>Article 318</b>	Empowers the President (for UPSC) or Governor (for SPSC) to <b>frame regulations</b> regarding number of members, staff, and service conditions.
<b>Article 319</b>	Restricts <b>reappointment</b> of former members of the Commission.
<b>Article 320</b>	Details the <b>functions</b> of Public Service Commissions (e.g., conducting exams, recruitment, disciplinary matters).



**Articles 315 to 323**

<b>Article 321</b>	Permits Parliament or State Legislature to <b>assign additional functions</b> to the UPSC or SPSC.
<b>Article 322</b>	States that Commission <b>expenses are charged on the Consolidated Fund</b> (India or State).
<b>Article 323</b>	Mandates the <b>submission of annual reports</b> to the President or Governor, along with explanation if advice is not followed.

Source: [Indian Express: Former Defence Secretary Ajay Kumar appointed UPSC chairman](#)



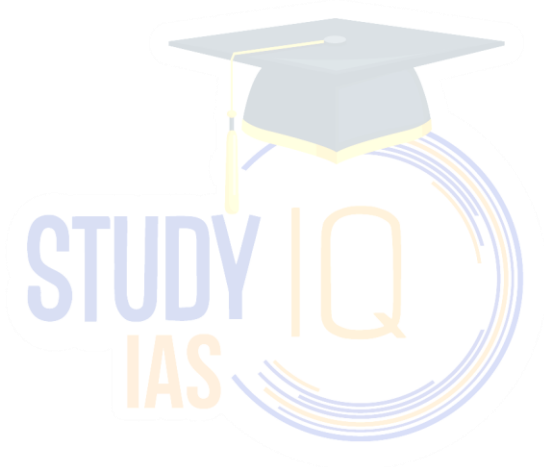
## Places in News

### Uruguay



**News?** José "Pepe" Mujica, former president of Uruguay, passed away.

- **Bordered by:** Brazil, Argentina, and the Atlantic Ocean.
- **Capital:** Montevideo





## Editorial Summary

### Ensuring Responsible Criminalisation Through Procedural Safeguards in India

#### Context

In India, discussions on criminal law often neglect procedural safeguards. However, recent rulings like *Imran Pratapgarhi vs State of Gujarat* highlight the crucial role of procedural law in ensuring responsible criminalisation.

#### Importance of Proper Criminalisation

- **Ensures Responsible Use of State Power:** Criminalisation is an exercise of the state's coercive power. It must be used judiciously to uphold constitutional rights and prevent abuse.
- **Protects Individual Rights and Liberties:** Unprincipled or excessive criminalisation can lead to wrongful arrests and violations of fundamental rights like freedom of speech and personal liberty.
- **Promotes Rule of Law and Public Trust:** When both **substantive** and **procedural** criminal law are followed faithfully, it reinforces public trust in the justice system and enhances the legitimacy of state action.
- **Balances Justice and Social Order:** Proper criminalisation identifies genuinely harmful conduct while avoiding the penalisation of harmless or trivial behaviour, maintaining social equilibrium.
- **Prevents Overreach by Enforcement Agencies:** Judicially guided criminalisation—like the Supreme Court's emphasis on Section 173(3) BNSS—keeps police powers in check, reducing scope for arbitrary FIRs or political misuse.

Section 173(3) of the BNSS allows a **police officer** (not below the rank of the Deputy Superintendent of Police) to **conduct a preliminary inquiry** before registering an FIR for **cognisable offences punishable with imprisonment of 3 years or more but less than 7 years**.

- **Aligns with Constitutional Democracy:** In a constitutional framework, criminalisation is not just about punishment but about upholding values like due process, equality, and non-arbitrariness.

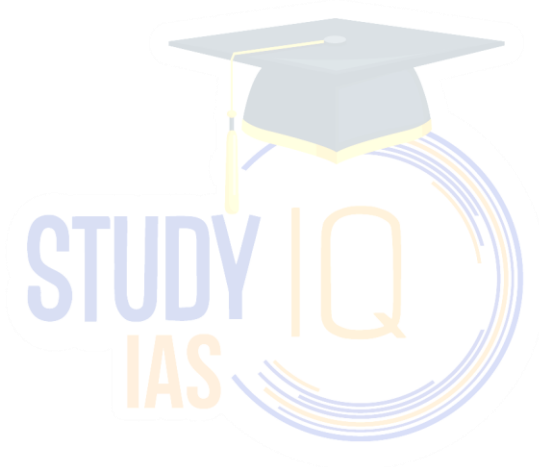
#### Challenges Associated with Criminalisation

- **Discretionary Abuse by Police:** Police discretion in arrest, investigation, or FIR registration can lead to **selective targeting, over-criminalisation, or ignoring serious offences**.
- **Over-Criminalisation of Minor Offences:** Minor or symbolic infractions may be aggressively policed while serious crimes remain under-addressed, distorting the system's priorities.
- **Underuse of Procedural Safeguards:** Legal provisions like **preliminary inquiry (Sec 173(3), BNSS)** are often ignored, as seen in the *Imran Pratapgarhi vs State of Gujarat*, leading to violations of procedural justice.
- **Vague or Overbroad Substantive Laws:** When criminal laws are poorly defined, enforcement becomes arbitrary and can infringe on freedoms like expression or protest.
- **Lack of Police Accountability:** Despite being the first point of contact, police often act with impunity due to weak oversight and rare prosecutions for procedural violations.
- **Social and Political Bias:** Certain communities or individuals (especially minorities or dissenters) may face targeted criminalisation based on political or social factors.

### What Needs to Be Done

- **Enforce Procedural Discipline Rigorously:** Police must strictly follow **BNSS provisions like Section 173(3)** and courts must continue to scrutinize violations with constitutional rigor.
- **Codify and Implement Clear Guidelines:** Provide unambiguous protocols on arrest, FIR registration, and investigation to **reduce discretionary misuse** by enforcement agencies.
- **Strengthen Police Accountability Mechanisms:** Independent oversight bodies, internal audits, and public complaints mechanisms should monitor police compliance with criminal procedure.
- **Decriminalise Petty Offences:** Reassess and remove outdated or unnecessary criminal laws that penalise trivial conduct, to reduce legal clutter and misuse.
- **Promote Public Awareness and Legal Literacy:** Educate citizens and law enforcement about rights, due process, and recent reforms in criminal law to ensure broader compliance and vigilance.
- **Ensure Judicial Oversight:** Courts must continue to play a proactive role in checking executive excesses and reinforcing procedural safeguards.

Source: [The Hindu: Principled criminalisation and the police as pivot](#)



## India's Road Safety Crisis Calls for Urgent and Inclusive Action

### Context

India faces a road safety crisis which calls for urgent need to ensure road safety.

### Why Is There an Urgent Need to Ensure Road Safety in India?

- **High Fatalities:** India recorded **1.68 lakh road accident deaths in 2022**, with a fatality rate of **12.2 per lakh population**, far higher than countries like Japan (2.57) and UK (2.61).
- **Massive Economic Loss:** Road crashes cost **3% of India's GDP annually**, hindering national productivity and growth.
- **Human Right Concern:** Safe travel is part of **Article 21 – Right to Life**. Every citizen has a right to safe public spaces, including roads.
- **Urbanisation & Mobility Surge:** By **2047**, nearly **50% of Indians will live in urban areas**, increasing vehicle ownership and vulnerability of road users.
- **Impact on Vulnerable Groups:** Pedestrians, cyclists, children, elderly, and public transport users are most at risk due to poor infrastructure and road behavior.
- **Global Commitments:** India is a signatory to the **UN's Decade of Action for Road Safety** and has committed to reducing fatalities by **50% by 2030**.

### Key Challenges in Road Safety

- **Poor Road Design & Black Spots:** Lack of pedestrian infrastructure, unscientific intersections, and accident-prone zones.
- **Enforcement Gaps:** Weak enforcement of speed limits, drunk driving rules, helmet and seatbelt use.
- **Lack of Road User Education:** Public unawareness about road signs, traffic discipline, and safe practices.
- **Inadequate Driver Training:** Many drivers, especially in rural areas, operate vehicles without formal training or licenses.
- **Emergency Response Deficiencies:** Poor post-crash care due to delayed ambulance response and inadequate trauma centres.
- **Fragmented Institutional Framework:** Road safety responsibilities are divided across multiple agencies without effective coordination.

### Government's Recent Interventions

- **Engineering (Infrastructure):** Identification and rectification of **5,000+ black spots** on highways.
  - Mandatory **road safety audits** for highway projects.
- **Enforcement:** Implementation of **electronic surveillance**: speed cameras, CCTVs.
  - Strict rules on **seatbelts, helmets, and anti-lock braking systems (ABS)**.
- **Education:** Awareness campaigns and inclusion of road safety in school curriculum.
  - Focus on **people-centric urban design** (Safe System Approach).
- **Emergency Care:** Push for more **trauma care centres** and faster ambulance networks.
  - **Good Samaritan law** to protect bystanders helping accident victims.
- **Training Initiatives:** Setting up **driver training & vehicle fitness centres** in every district (MoRTH initiative).

### Recommendations and Way Forward

- **Adopt Safe System Approach:** Design roads forgiving of human errors — wide footpaths, cycle tracks, raised crossings, and slower urban speed limits.
- **CSR-Based Funding Model:** Mandate automakers to use their **CSR funds for road safety** for 20–25 years — covering education, emergency care, and black spot removal.

- **Data-Driven Policy & Accountability:** Real-time crash data collection and transparent public dashboards to monitor road safety performance.
- **Urban Planning for Vulnerable Users:** Prioritise **pedestrian-first infrastructure** in Smart Cities and urban expansion projects.
- **Integrated 4E Strategy:** Strengthen coordination across **Engineering, Enforcement, Education, and Emergency Care**.
- **Investment Push:** Implement **World Bank's \$109 billion roadmap** to cut fatalities by 50%, with returns up to **₹4 saved per ₹1 invested**.

### Conclusion

Road safety in India is not merely a technical issue but a **societal imperative and constitutional right**. With rising urbanisation and vehicle penetration, India stands at a crossroads — either continue with fragmented efforts or implement a bold, inclusive, and data-backed road safety regime. A **Vision Zero** approach, rooted in human dignity, must guide India's mobility future.

Source: [The Hindu: The road to safety](#)

