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DAILY CURRENT AFFAIRS



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S.NO.	TOPIC
1.	DELIMITATION EXERCISE IN INDIA
2.	PARTICULARLY VULNERABLE TRIBAL GROUP (PVTG)
3.	PRELIMS POINTERS

DELIMITATION EXERCISE IN INDIA

SOURCE: [THE HINDU](#)

TAG: GS Paper II- **Indian Constitution, elections, Statutory body**

Practice Question:

Mains

Q Discuss the significance of the delimitation process in India. Evaluate the arguments for and against conducting delimitation, and propose measures for harmonizing democratic and federal principles in the delimitation exercise.

(150 words)

WHY IN NEWS?

- ❖ The impending delimitation exercise for constituencies, particularly in the **Lok Sabha and State Legislative Assemblies**, has garnered attention due to the postponement of the 2021 Census and the upcoming delimitation based on the **first Census after 2026**.
- ❖ This has sparked discussions about the challenges posed by population disparities and the need to reconcile democratic and federal principles in the process.

DELIMITATION PROCESS:

- ❖ **Delimitation** is the process of fixing the number of seats and boundaries of territorial constituencies for Lok Sabha and State Legislative Assemblies, including reserved seats for SCs and STs.
- ❖ Constitutional Requirement:
 - **Democratic Principle:** Ensures government elected by majority with 'one citizen-one vote-one value'.
 - **Seat Allocation:** Seats frozen based on 1971 Census until 2026 to encourage population control.
 - **Re-adjustment:** Population data from the first Census after 2026 will inform seat allocation.
- ❖ It is mandated by **Article 82 and 170** of the Constitution conducted by the Delimitation Commission, dependent on population census.
- ❖ It ensures **proportional representation and fair division of geographical areas**.



DELIMITATION COMMISSION OF INDIA:

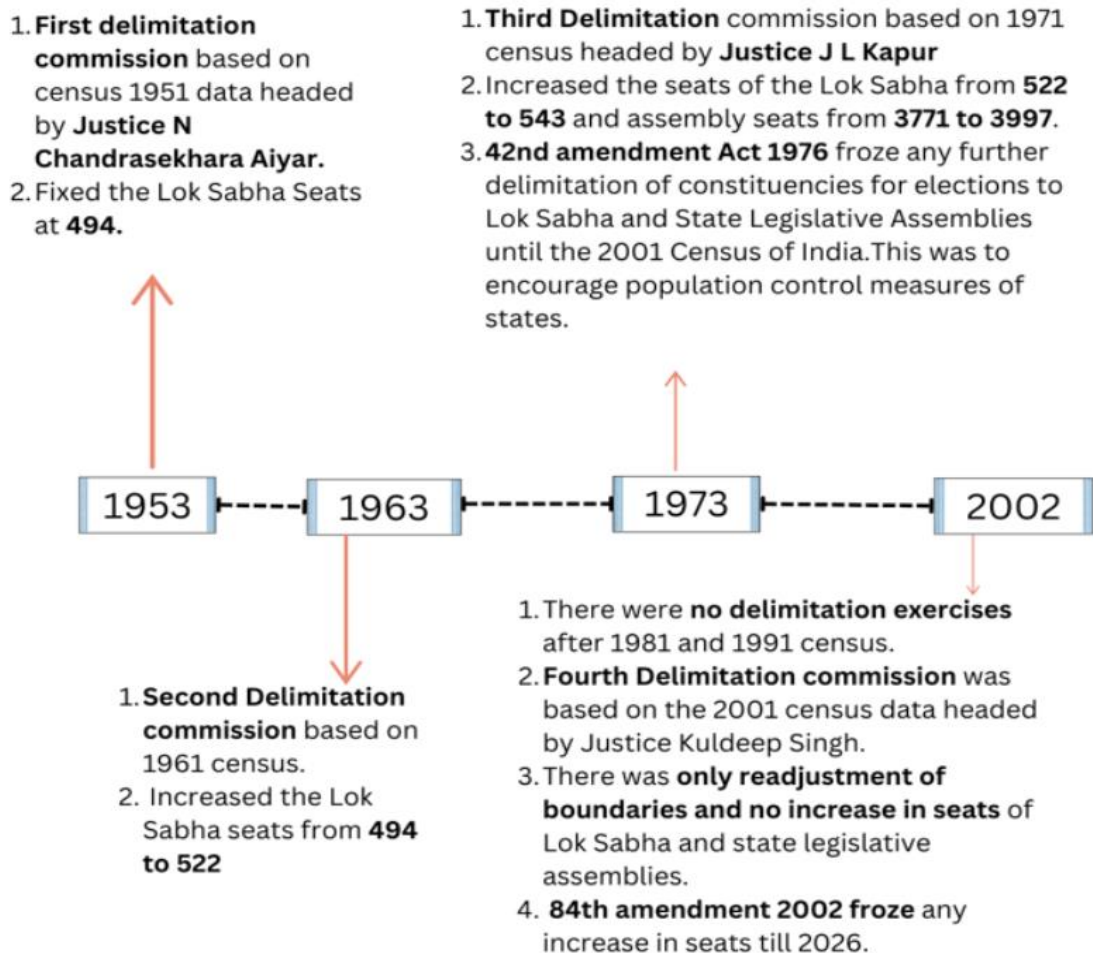
- ❖ **Appointment:** Appointed by the **President of India in collaboration with the Election Commission of India**.
- ❖ **Primary Role:** Redrawing electoral constituency boundaries to ensure roughly equal voter numbers in each constituency.
- ❖ **Functions of the Commission:**



- Determines the **number and boundaries of electoral constituencies**.
- Identifies seats to be reserved for **Scheduled Castes and Scheduled Tribes**.
- ❖ **Publication and Legal Authority:**
 - Publishes final orders in the **Gazette of India and the State Gazette** concerned.
 - Commission's orders hold the force of law and cannot be contested in any court of law.
- ❖ **Power and Independence:**
 - Commission's decisions are **final and binding**.
 - The Commission's orders have the **force of law** and cannot be questioned in any court of law.
 - Constituted **four times in the past**, with the next delimitation **scheduled for 2026**.

HISTORY OF DELIMITATION IN INDIA:

Historical Timeline- Delimitation Commissions



- ❖ These delimitation exercises were crucial in reshaping the political landscape and ensuring fair representation based on population change.

IMPLICATIONS OF NOT CONDUCTING DELIMITATION IN INDIA:

- ❖ **Outdated Representation:**
 - Without delimitation, constituencies may not reflect current population realities, leading to unequal representation for different regions and communities.
- ❖ **Impact on Reserved Seats:**



- Delimitation affects the number of seats reserved for Scheduled Castes (SCs) and Scheduled Tribes (STs), and the lack of timely delimitation can impact the fair allocation of these reserved seats.

❖ **Political and Fiscal Centralization:**

- The absence of delimitation can have significant consequences for political and fiscal centralization in India, potentially affecting the equitable distribution of resources and representation across various regions.

❖ **Equity in Distribution:**

- The delay in conducting delimitation can impact the equity in the distribution of parliamentary and assembly seats, potentially leading to imbalances in political representation.

ARGUMENTS FOR CONDUCTING DELIMITATION IN INDIA:

❖ **Equitable Representation:**

- Delimitation ensures that each constituency has a roughly equal number of voters, thereby promoting equitable representation in the **Lok Sabha and state assemblies**.

❖ **Population Changes:**

- It allows for the adjustment of constituency boundaries to account for population changes, ensuring that the **political map reflects current demographic realities**.

❖ **Fair Allocation of Reserved Seats:**

- Delimitation impacts the number of seats reserved for Scheduled Castes and Scheduled Tribes, and conducting it in a timely manner ensures the **fair allocation of these reserved seats**.

❖ **Political and Fiscal Equity:**

- It contributes to political and fiscal equity by ensuring a fair distribution of resources and representation across different regions of the country.

ARGUMENTS AGAINST CONDUCTING DELIMITATION IN INDIA:

❖ **Political Implications:**

- The delimitation process can have political implications, potentially favouring or **providing an advantage to individual political parties** or candidates, and impacting the state-wise allocation of seats.

❖ **Complexity and Contention:**

- The process of delimitation can be complex and contentious, involving public feedback, objections, and potential political imbalances.

❖ **Disadvantages to some States:**

- Southern, smaller northern, and northeastern states might be disadvantaged, contradicting federal principles.

❖ **Delay in Updating Boundaries:**

- The freeze on delimitation has led to a delay in updating the boundaries of constituencies to reflect current population realities, which can **impact the fairness of representation**.

❖ **Potential for Inequitable Distribution:**

- Without careful consideration, delimitation can lead to inequitable distribution of resources and representation across different regions and communities.

❖ **Challenges involved in conducting Delimitation exercise:**

Table 1: If the number of seats is retained at 543 and reapportioned among States based on the projected population in 2026

State	Number of seats at present	Number of seats projected	Net gain/loss
U.P.	80	91	11
Bihar	40	50	10
Rajasthan	25	31	6
M.P.	29	33	4
Tamil Nadu	39	31	-8
Andhra + Telangana	42	34	-8
Kerala	20	12	-8
Karnataka	28	26	-2
Punjab	13	12	-1
Himachal	4	3	-1
Uttarakhand	5	4	-1

Table 2: If the number of seats is increased to 848 based on the projected population in 2026

State	Number of seats at present	Number of seats projected	Net gain
U.P.	80	143	63
Bihar	40	79	39
Rajasthan	25	50	25
M.P.	29	52	23
Tamil Nadu	39	49	10
Andhra + Telangana	42	54	12
Kerala	20	20	-
Karnataka	28	41	13
Punjab	13	18	5
Himachal	4	4	-
Uttarakhand	5	7	2



- Challenges include population growth, socio-economic disparities, geographical factors, and legal constraints.

WAY FORWARD:

❖ **Harmonizing Principles:**

- Cap Lok Sabha seats at 543 to maintain representation, increase MLAs in each state based on population.

❖ **Strengthening Democracy:**

- Empower local bodies like panchayats and municipalities to engage with citizens, devolve powers and finances to strengthen democracy at grassroots level.





PARTICULARLY VULNERABLE TRIBAL GROUP (PVTG)

SOURCE: THE HINDU

TAG: GS Paper – II- *Issues Related to SCs & STs, Government Policies & Interventions*

UPSC CSE PYQ

Prelims

Q. Consider the following statements about Particularly Vulnerable Tribal Groups (PVTGs) in India: (2019)

1. PVTGs reside in 18 States and one Union Territory.
2. A stagnant or declining population is one of the criteria for determining PVTG status.
3. There are 95 PVTGs officially notified in the country so far.
4. Irular and Konda Reddi tribes are included in the list of PVTGs.

Which of the statements given above are correct?

- (a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 3 and 4

Ans: (c)

WHY IN NEWS?

- ❖ **As Union Finance Minister Nirmala Sitharaman on Wednesday announced to launch the Pradhan Mantri PVTG (Particularly Vulnerable Tribal Group) Development Mission in order to saturate the PVTG families and habitations with basic facilities, Odisha being home to the highest number of PVTG communities in the country, is likely to be benefited the most.**

WHAT IS A PARTICULARLY VULNERABLE TRIBAL GROUP (PVTG)?

- ❖ Tribal communities are often identified by some specific signs such as primitive traits, distinctive culture, geographical isolation, shyness to contact with the community at large and backwardness.
- ❖ Along with these, some tribal groups have some specific features such as dependency on hunting, gathering for food, having pre-agriculture level of technology, zero or negative growth of population and extremely low level of literacy. These groups are called Particularly Vulnerable Tribal Groups.
- ❖ **How are they identified?**
Government of India follows the following criteria for identification of PVTGs:
 - ☞ Pre-agricultural level of technology
 - ☞ Low level of literacy
 - ☞ Economic backwardness
 - ☞ A declining or stagnant population.
 - ☞ Accordingly, 75 PVTGs have been identified in the country.

THE CHARACTERISTICS OF PVTGS

- ❖ In 1973, the Dhebar Commission created Primitive Tribal Groups (PTGs) as a separate category, who are less developed among the tribal groups.
- ❖ In 2006, the Government of India renamed the PTGs as Particularly Vulnerable Tribal Groups (PVTGs).



- ❖ PVTGs have some basic characteristics -they are mostly homogenous, with a small population, relatively physically isolated, social institutes cast in a simple mould, absence of written language, relatively simple technology and a slower rate of change etc.

LIST OF PVTGs IN INDIA

STATE / UT NAME	PVTGs NAME
<u>Andhra Pradesh and Telangana</u>	1. Bodo Gadaba 2. Bondo Poroja 3. Chenchu 4. Dongria Khond 5. Gutob Gadaba 6. Khond Poroja 7. Kolam 8. Kondareddis 9. Konda Savaras 10. Kutia Khond 11. Parengi Poroja 12. Thoti
<u>Bihar and Jharkhand</u>	13. Asurs 14. Birhor 15. Birjia 16. Hill Kharia 17. Konvas 18. Mal Paharia 19. Parhaiyas 20. Sauda Paharia 21. Savar
<u>Jharkhand</u>	Same as above
<u>Gujarat</u>	22. Kathodi 23. Kohvalia 24. Padhar 25. Siddi 26. Kolgha
<u>Karnataka</u>	27. Jenu Kuruba 28. Koraga
<u>Kerala</u>	29. Cholanaikayan (a section of Kattunaickans) 30. Kadar 31. Kattunayakan 32. Kurumbas 33. Koraga
<u>Madhya Pradesh and Chhattisgarh</u>	34. Abujh Macias 35. Baigas 36. Bharias 37. Hill Korbas 38. Kamars 39. Saharias 40. Birhor
<u>Maharashtra</u>	41. Katkaria (Kathodia) 42. Kolam 43. Maria Gond
<u>Manipur</u>	44. Marram Nagas
<u>Odisha</u>	45. Birhor 46. Bondo 47. Didayi 48. Dongria-Khond 49. Juangs 50. Kharias 51. Kutia Kondh 52. Lanjia Sauras 53. Lodhas 54. Mankidias 55. Paudi Bhuyans 56. Soura 57. Chuktia Bhunjia
<u>Rajasthan</u>	58. Seharias
<u>Tamil Nadu</u>	59. Kattu Nayakans 60. Kotas 61. Kurumbas 62. Irulas 63. Paniyans 64. Todas
<u>Tripura</u>	65. Reangs
<u>Uttar Pradesh and Uttarakhand</u>	66. Buxas 67. Rajis
<u>West Bengal</u>	68. Birhor 69. Lodhas 70. Totos
<u>Andaman & Nicobar Islands</u>	71. Great Andamanese 72. Jarawas 73. Onges 74. Sentinelese 75. Shorn Pens

GOVERNMENT SCHEME(S) FOR PVTGS

- ❖ Ministry of Tribal Affairs implements a scheme in the name of 'Development of Particularly Vulnerable Tribal Groups (PVTGs)'.
- ❖ It is a Centrally Sponsored Scheme having a provision of 100% Central assistance to 18 states and Union territory of Andaman & Nicobar Islands.
- ❖ The scheme of Development of PVTGs aims at socio-economic development of PVTGs in a comprehensive manner, while retaining their culture and heritage.

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- ❖ As a part of the scheme, State Governments undertakes projects that are tailored to cater to sectors like education, health and livelihood schemes for the PVTGs.

ISSUES FACED BY PVTGs

- ❖ **Social and Economic Inequalities:**
 - ☞ High levels of inequalities in both social and economic conditions exist among PVTGs.
 - ☞ Disparities differ from group to group, highlighting the diverse challenges they face.
- ❖ **Population Trends:**
 - ☞ Population growth among PVTGs is either stagnant or declining.
 - ☞ Particularly pronounced in the Andaman and Nicobar Islands, where the decline is notable.
- ❖ **Challenges in Andaman and Nicobar Islands:**
 - ☞ The declining rate of population growth is notably high.
 - ☞ Urgent need for targeted interventions to address the specific challenges faced by each PVTG group.
- ❖ **Livelihood Practices:**
 - ☞ Dependence on various livelihoods, including food gathering, Non-Timber Forest Produce (NTFP), Collection of diverse NTFP items such as honey, gum, amla, bamboo, shrubs, fuelwood, dry leaves, nuts, sprouts, wax, medicinal plants, roots, and tubers.
 - ☞ Most NTFP items are for consumption, and the surplus is sold to middlemen.
 - ☞ Shrinking forests, environmental changes, and new conservation policies impact NTFP collection.
 - ☞ Lack of awareness about the value of NTFP exposes PVTGs to exploitation by middlemen.
- ❖ **Health Conditions:**
 - ☞ PVTGs face poor health conditions influenced by social, economic, and political factors.
 - ☞ Multiple factors contribute to their **poor health status**: *Poverty, Illiteracy, Lack of safe drinking water, Poor sanitary conditions, Challenging terrain, Malnutrition, Inadequate maternal and child health services, Limited availability of health and nutritional services, Superstitions, Deforestation*
 - ☞ **Common Health Issues:** Diseases prevalent among PVTGs include: Anemia, Upper respiratory problems, Malaria, Gastrointestinal disorders like acute diarrhea, Intestinal protozoan infections, Micronutrient deficiencies, Skin infections
- ❖ **Education Conditions:**
 - ☞ Poor education conditions with an average literacy rate ranging from 10% to 44% among PVTGs.

WAY FORWARD

- ❖ **PVTG Identification and Vulnerability Assessment:**
 - ☞ Create a specialized census by the Ministry of Tribal Affairs focusing on PVTGs.
 - ☞ Include socio-economic indicators to assess their status comprehensively.
- ❖ **Displacement Considerations:**
 - ☞ Treat displacement of PVTGs as a last resort.
 - ☞ If unavoidable, plan rehabilitation measures in advance to mitigate cultural shock.
- ❖ **Vulnerability Index and Resource Allocation:**
 - ☞ Develop a vulnerability index for PVTGs.
 - ☞ Allocate resources based on the degree of vulnerability identified.
- ❖ **Legal Awareness and Empowerment:**
 - ☞ Raise awareness about laws like PESA, FRA among tribals to empower them legally.
 - ☞ Rights-Based Livelihood Strategies:



- ☞ Develop livelihood strategies and design programs based on a rights-based and felt needs approach for PVTGs.
- ❖ **Conservation of Livelihoods:**
 - ☞ Utilize Tribal Research Institutes and TRIFED for conserving and enhancing existing livelihoods.
 - ☞ Examples: Irula - snake venom extraction, Kattunaikan - honey collection, Kotas - metalwork.
- ❖ **Food Security Prioritization:**
 - ☞ Extend food security schemes to PVTGs on a priority basis to ensure their nutritional well-being.
- ❖ **Involvement of NGOs and Anthropologists:**
 - ☞ Engage NGOs and anthropologists for capacity building among tribals.
 - ☞ Focus on social mobilization, governance, and effective program implementation.





TOPIC	DESCRIPTION
<p>WORLD'S LARGEST GRAIN STORAGE PLAN</p>	<p>WHY IN NEWS?</p> <ul style="list-style-type: none"> ❖ The "World's Largest Grain Storage Plan in Cooperative Sector" has garnered attention due to its ambitious goal of addressing food grain storage shortages in India. <p>ABOUT THE PLAN</p> <ul style="list-style-type: none"> ❖ To address food grain storage capacity shortage in India. ❖ Approved by the government as the "World's Largest Grain Storage Plan in Cooperative Sector". ❖ Rolled out as a Pilot Project in various States/UTs. <p>IMPLEMENTATION STRATEGY</p> <ul style="list-style-type: none"> ❖ Creation of agri infrastructure at Primary Agricultural Cooperative Society (PACS) level. ❖ Includes decentralized godowns, custom hiring centres, processing units, Fair Price Shops, etc. ❖ Convergence of existing government schemes like Agriculture Infrastructure Fund, Agricultural Marketing Infrastructure Scheme, etc. ❖ Financial support provided by NABARD through refinancing at subsidized rates. ❖ Aims to diversify PACS business activities, improve financial sustainability, and strengthen the economic condition. <p>IMPLEMENTATION PARTNERS</p> <ul style="list-style-type: none"> ❖ National Cooperative Development Corporation (NCDC) leading the Pilot Project. ❖ Support from NABARD, Food Corporation of India (FCI), Central Warehousing Corporation (CWC), among others. ❖ Consultancy support extended to PACS through agencies like NABCONS, National Buildings Construction Corporation (NBCC), etc. <p>OBJECTIVES AND BENEFITS</p> <ul style="list-style-type: none"> ❖ Reduce post-harvest losses by creating decentralized storage capacity. ❖ Strengthen food security up to Panchayat/village level. ❖ Prevent distress sale of crops by enabling farmers to realize better prices. ❖ Save transportation costs by operating PACS as procurement centres and Fair Price Shops (FPS).
<p>PMFME SCHEME</p>	<p>WHY IN NEWS?</p> <ul style="list-style-type: none"> ❖ The Ministry of Food Processing Industries' approval of the One District One Product (ODOP) scheme for 713 districts across 35 States and UTs under the "PM Formalization of Micro food processing Enterprises (PMFME) Scheme" reflects a concerted effort towards promoting micro food processing enterprises and enhancing their scale and efficiency. <p>PM FORMALISATION OF MICRO FOOD PROCESSING ENTERPRISES SCHEME (PMFME):</p> <ul style="list-style-type: none"> ❖ Launched in 2020 with a budget of Rs. 10,000 crore. ❖ Nodal Ministry: Ministry of Food Processing Industries. ❖ Duration: 5-year period from 2020-21 to 2024-25.





- ❖ **Fund Sharing:** Shared between **Central and State Governments**, with varying ratios.

OBJECTIVES

- ❖ Formalization of **micro units** through registrations like **GST, Udyog Aadhar, and FSSAI**.
- ❖ Financial assistance for **upgrading processing facilities**.
- ❖ **Quality improvement and skill development through training**.
- ❖ Support for **Farmer Producer Organizations (FPOs), Self Help Groups (SHGs), and cooperatives** in setting up common infrastructure.
- ❖ Branding, marketing support, and assistance in availing bank loans.

FINANCIAL SUPPORT

- ❖ **Individual micro-units:**
 - ☛ **Credit-linked subsidy of 35%** of eligible project **cost up to Rs. 10 lakh**, with a minimum **beneficiary contribution of 10%**.
- ❖ **Support to FPOs/SHGs/Cooperatives:**
 - ☛ **Seed capital provided to SHGs**, grants for various purposes including backward/forward linkages, **infrastructure, packaging, marketing, and branding**.



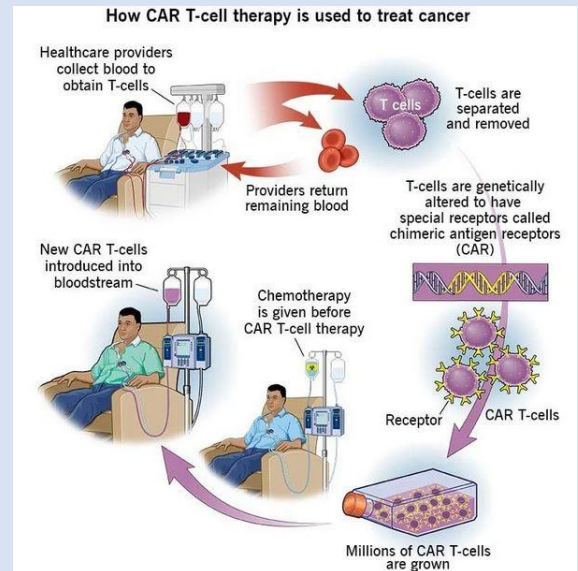
INDIGENOUS CAR-T CELL THERAPY

WHY IN NEWS?

- ❖ *The recent **development of indigenous CAR-T cell therapy** becoming available for commercial use marks a **significant breakthrough in cancer treatment in India**.*

ABOUT CAR-T CELL THERAPY

- ❖ Represents a significant **advancement in cancer treatment** sophistication.
- ❖ **Differs from traditional chemotherapy** or immunotherapy by utilizing a patient's own cells.
- ❖ Modified in the laboratory to **activate T-cells**, part of the **immune system**, to **target tumors**.
- ❖ **Modified cells reinfused** into the **patient's bloodstream** after enhanced multiplication.
- ❖ Currently approved for **treating leukemias and lymphomas**, focusing on cancers originating from **white blood cells and the lymphatic system**.



INDIGENOUS CAR-T CELL THERAPY

- ❖ Developed by ImmunoAct, IIT Bombay, and Tata Memorial Hospital.
- ❖ Administered to 15 patients in India, with three achieving cancer remission.
- ❖ A pioneering treatment genetically reprograms the patient's immune system to combat cancer.

SIGNIFICANCE OF INDIGENOUS CAR-T CELL THERAPY

- ❖ Provides a **cost-effective and accessible alternative for cancer treatment** in India.



**PINAPPLE EXPRESS:
ATMOSPHERIC RIVER**

- ❖ Represents a breakthrough in medical innovation, **offering hope for patients with limited treatment options.**
- ❖ Marks a **significant milestone** in the development of **advanced healthcare technologies within the country.**

WHY IN NEWS?

- ❖ **West coast of USA, especially California experienced heavy rainfall from two distinct "atmospheric rivers" recently, leading to mudslides and flooding.**

What is Atmospheric River?

- ❖ The **Pineapple Express** is a name given to an **atmospheric river**
- ❖ It is a **common feature for the west coast of the US and Canada.**
- ❖ It derives its name from **the warm moist air that gets entrained into the system, that initially starts off near Hawaii - a place famed for growing pineapples.**

➤ An **atmospheric river** is vast airborne current of dense moisture carried aloft for hundreds of miles from the Pacific

➤ **Funnelled over land to fall as bouts of heavy rain and snow.**

- ❖ **Weak atmospheric rivers:** beneficial rain or snow, vital for water supplies and the global water cycle.
- ❖ However, **strong atmospheric river events pose greater risks, leading to severe flooding and landslides.**

What are atmospheric rivers?

Atmospheric rivers (or ARs) are large, narrow streams of water vapour that travel through the sky.



UTTARAKHAND UNIFORM CIVIL CODE

WHY IN NEWS?

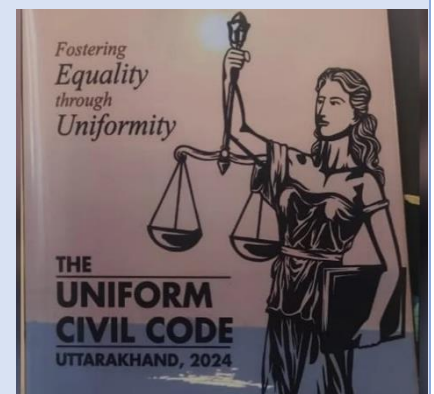
- ❖ **The introduction of the Uniform Civil Code (UCC) Bill in Uttarakhand has ignited a debate over the balance between individual privacy and state intervention in personal relationships.**

MEANING OF UNIFORM CIVIL CODE (UCC)

- ❖ Flashpoint in Indian politics in **1985 during the Shah Bano case**, highlighting disparities in personal laws.
- ❖ **To replace personal laws based on religious scriptures with common rules for all citizens.**
- ❖ Aims to establish a **uniform set of personal laws governing marriage, divorce, inheritance, and succession for every citizen.**

INDIAN CONSTITUTION ON UNIFORM CIVIL CODE:

- ❖ **Article 44 as a Directive Principle of State Policy aims to secure a uniform civil code for all citizens.**
- ❖ Despite constitutional provision, implementation **remains a challenge due to lack of initiative from the executive and legislature.**





**RAJYA SABHA
PASSES BILLS TO
ADD PVTGS OF
ODISHA, A.P. IN
ST LISTS**

KEY PROVISIONS OF UTTARAKHAND UNIFORM CIVIL CODE

- ❖ **Compulsory registration** with the state for heterosexual live-in relationships.
- ❖ Records kept in police stations.
- ❖ Maintenance for women "deserted" by partners, akin to married women.

Equating Live-Ins with Marriage:

- ❖ Live-in relationships **treated similarly to marriage**.
- ❖ Partners must notify **Registrar within a month of starting or ending relationship**.
- ❖ Penalties for **non-compliance**, including **jail terms up to six months**.

CONSTITUTIONAL CONTEXT

Contrasted against legal precedents emphasizing right to privacy and autonomy in personal relationships.

WHY IN NEWS?

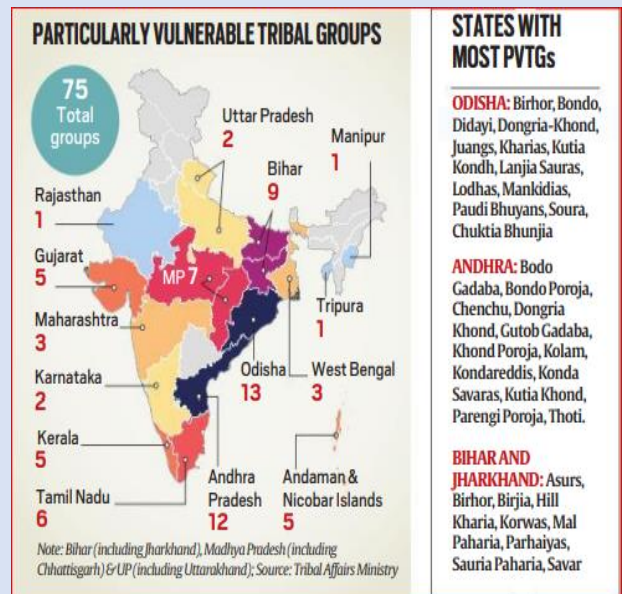
- ❖ *The recent **passage of the Constitution (Scheduled Tribes) Order Amendment Bill, 2024 and Constitution (Scheduled Castes and Scheduled Tribes) Order Amendment Bill, 2024 by the Rajya Sabha has garnered attention.***

TRIBES INCLUDED IN THE LIST:

- ❖ Addition of new communities to **Odisha's Scheduled Tribes (ST) list**.
- ❖ Inclusion of **synonyms and phonetic variations** of existing tribes in **ST lists of both Andhra Pradesh and Odisha**.
- ❖ **Seven Particularly Vulnerable Tribal Groups (PVTGs)** added, with **four in Odisha and three in Andhra Pradesh**.
- ❖ Additions include **synonyms or sub-tribes** of existing communities.

- ❖ **In Odisha:**
Pauri Bhuyan and Paudi Bhuyan as synonyms of Bhuyan tribe, Chuktia Bhunjia as a synonym of Bhunjia tribe, and Bondo as a sub-tribe of Bondo Poraja tribe.

- ❖ **In Andhra Pradesh:**
Bondo Porja and Khond Porja as synonyms of Porja tribe.



PARTICULARLY VULNERABLE TRIBAL GROUP (PVTG)

- ❖ PVTGs are the **most vulnerable** among tribal groups.
- ❖ They **receive less development funding** compared to more developed tribes.
- ❖ Government declared **52 tribal groups as PVTGs in 1975**.
- ❖ Currently, there are **75 PVTGs out of 705 Scheduled Tribes**.
- ❖ Spread across **18 states** and one Union Territory.
- ❖ **Odisha has the highest number of PVTGs**.

Characteristics:

- ❖ **Stagnant or declining population**.
- ❖ **Pre-agricultural technology**.
- ❖ **Extremely low literacy levels**.



BLACK-NECKED CRANE

- ❖ Economy at **subsistence level**.

WHY IN NEWS?

- ❖ *The **Black-necked Crane** is in the news due to recent surveys conducted by the **Wildlife Institute of India and the Zoological Survey of India**, which highlighted the **precarious population status of the species**.*

ABOUT BLACK NECKED CRANE

- ❖ **Male and female Black-necked Cranes** are similar in **size, with males slightly larger**.
- ❖ They have black upper body parts and a **pale gray/whitish body**, with a red crown.
- ❖ Breeding grounds are **high altitude wetlands** in **Tibet, Sichuan, and Ladakh**; **winters in Bhutan and Arunachal Pradesh**.
- ❖ Found in **Sangti valley, Zemithang, and Chug valley** in Arunachal Pradesh.
- ❖ Threats include **feral dog predation**, habitat loss due to development projects, and **grazing pressure**.
- ❖ Conservation by **WWF-India** and **Jammu & Kashmir Wildlife Protection Department** focuses on Ladakh's wetlands; WWF works on **conservation in Arunachal Pradesh**.



PROTECTION STATUS

- ❖ *IUCN Red List - **Near Threatened***
- ❖ *CITES - **Appendix I***
- ❖ *Indian Wildlife (Protection) Act, 1972 - **Schedule I***

GRAPES-3 EXPERIMENT (OR GAMMA RAY ASTRONOMY PEV ENERGIES PHASE-3)

WHY IN NEWS?

- ❖ *The **GRAPES-3 experiment's recent discovery of a new feature in the cosmic-ray proton spectrum**, observed at around **166 tera-electron-volt (TeV) energy**, challenges established theories on **cosmic-ray sources, acceleration mechanisms, and their propagation within our galaxy**.*

ABOUT GRAPES-3:

- ❖ **Origins and Collaborations:**
 - ☛ Started as a collaboration between the **Tata Institute of Fundamental Research, Mumbai, India, and Osaka City University, Osaka, Japan**.
 - ☛ Currently involves **multiple institutions from India and Japan**.
- ❖ **Experimental Design:**
 - ☛ Utilizes an **array of air shower detectors** and a **large area muon detector**.
 - ☛ Located at **N11.4°, E76.7°, 2200m above sea level in Ooty, India**.
- ❖ **Objectives:**
- ❖ Study the origin, acceleration, and **propagation of cosmic rays with energies exceeding 10^{14} eV in the galaxy and beyond**.
- ❖ Investigate the existence of the "**Knee**" in the energy spectrum of cosmic rays.





- ❖ Explore the production and/or acceleration of **highest energy cosmic rays ($\sim 10^{20}$ eV) in the universe.**
- ❖ Analyze **gamma-ray astronomy** from **neutron stars** and other compact objects.
- ❖ **Investigate the Sun's role** as an **accelerator of energetic particles** and its effects on Earth.

OBSERVATIONS

- ❖ **Began observations in 2000** with 217 plastic scintillators and a **560 m² area muon detector.**
- ❖ Currently **operates with approximately 400 scintillators** spread over an area of **25,000 m².**
- ❖ Energy threshold of muon **detectors is 1 GeV.**

SIGNIFICANCE

- ❖ Offers insights into various **astrophysical processes** related to **cosmic ray** acceleration and propagation, contributing to our **understanding of high-energy phenomena** in the universe.

