

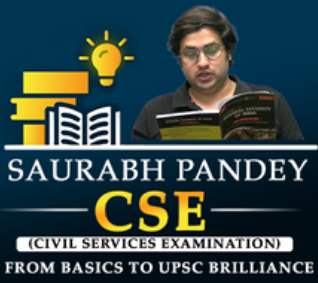


THE HINDU ANALYSIS

22nd Feb 2024

by saurabh
pandey





Topic

Peeling of stars

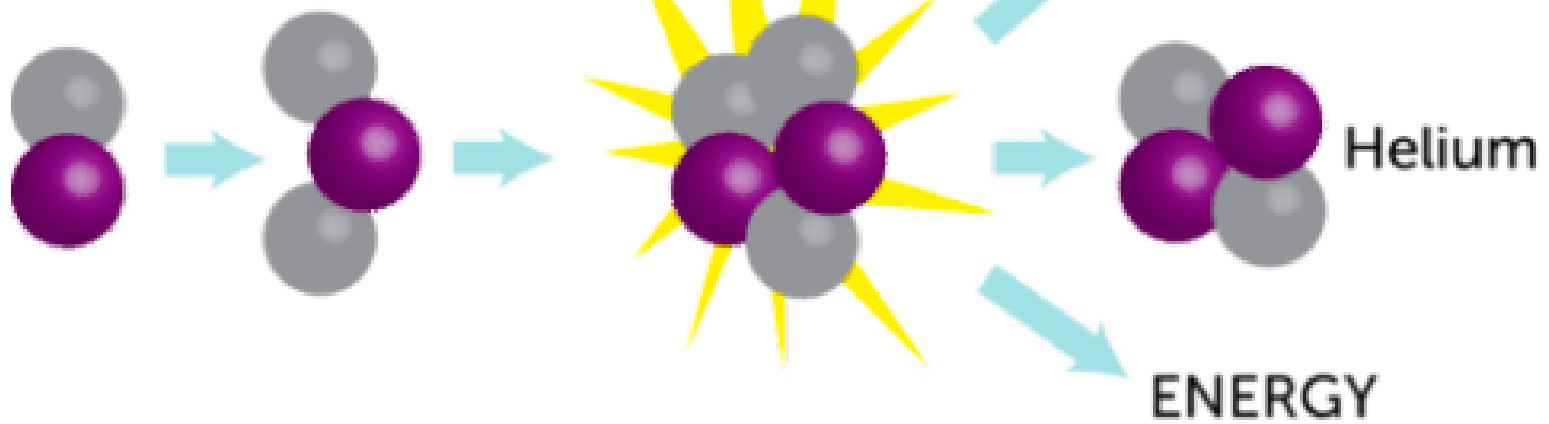
- When a star no longer fuses material and allows gravity to gain the upper hand, it blows up in an explosion called a supernova if it's heavy enough. Scientists have extensively studied the light from many supernovae.
- The light contains signatures of the various elements it has passed through near the dying star's surface. Scientists have observed that some supernovae have shown no signs of hydrogen.

- **Mechanism happens if the star is part of a binary system – i.e. as one of two stars that are orbiting each other.**
- **(Most stars heavier than the Sun are in such binaries.)**
- **The gravitational attraction of one star can peel away the hydrogen layer of the other, leaving an exposed surface of helium.**



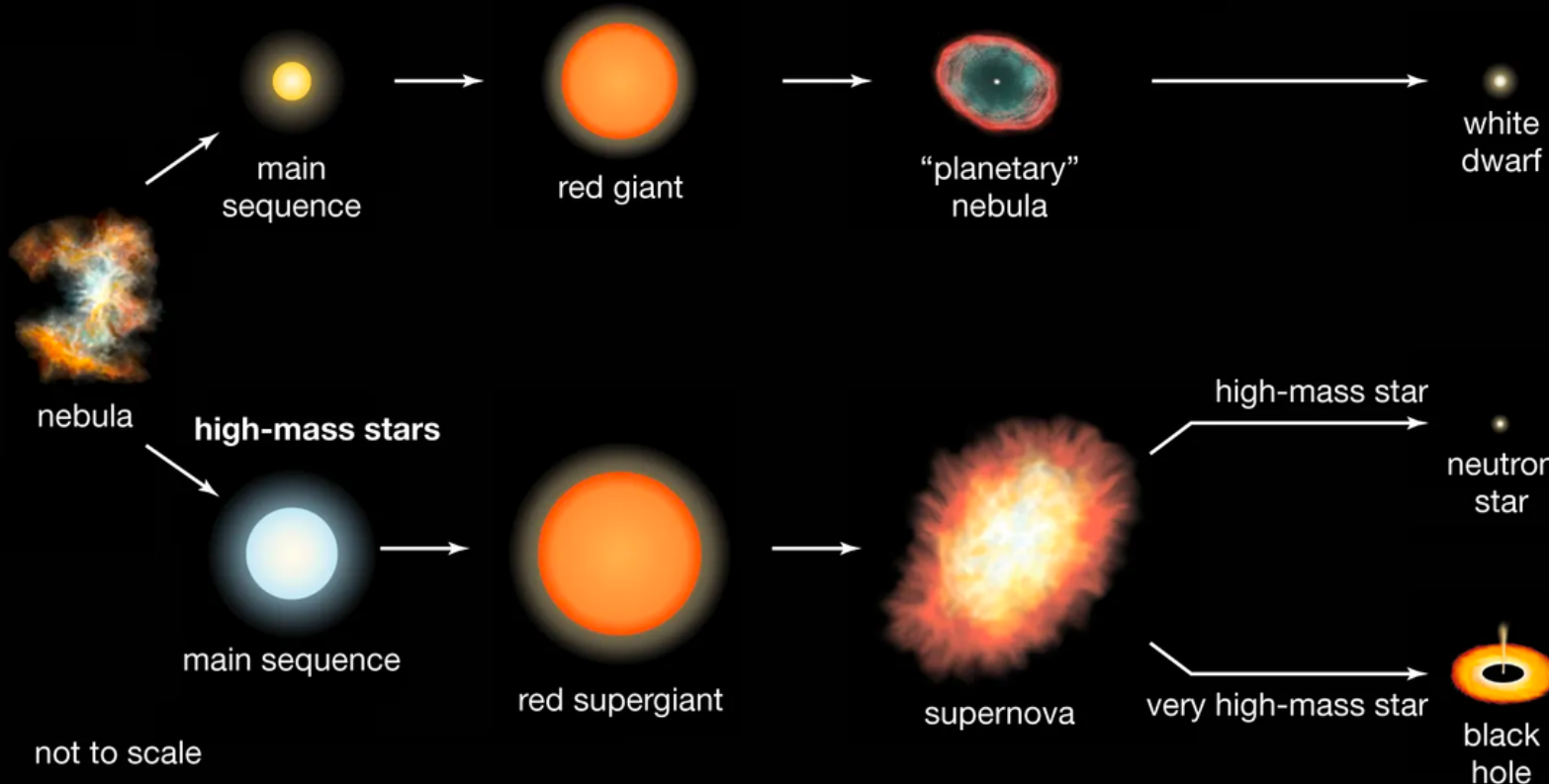
Nuclear Fusion

Deuterium & Tritium (isotopes of hydrogen)



Stellar evolution

low- and medium-mass stars
 (including the Sun)





Topic -2

Nusantara 2

- When a Chinese rocket malfunctioned shortly after launch in April 2020, destroying Indonesia's \$220 million Nusantara-2 satellite, it was a blow to the archipelago's efforts to strengthen its communication networks.
- But it presented an opportunity for one man





GLOBAL HOUSING CHALLENGE

Home solution

The Global Housing Technology Challenge is aimed at introducing best technologies to construct houses quickly and at a lower cost



- 6 winners will design and build projects of 1,000 housing units each

- The State and the Centre each will provide assistance of ₹1.5 lakh

- The Centre will give an additional technology grant of ₹2.5 lakh for each house

- Incubation facilities will be provided to develop building technologies with support from four IITs

- The approved technologies will be displayed by Central Public Works Department along with the rates



About Global House challenge

- The Ministry of Housing and Urban Affairs has conceptualized a Global Housing Technology Challenge - India (GHTC-India) which aims to identify and mainstream a basket of innovative technologies from across the globe for the housing construction sector that are sustainable, eco-friendly and disaster-resilient.
- The Prime Minister declared the year 2019-20 as 'Construction Technology Year' while inaugurating GHTC-India in March 2019.



3 Components of GHTC-India

- **Grand Expo and Conference**
- **Proven Demonstrable Technologies for the Construction of Lighthouse Projects**
- **Potential Future Technologies for Incubation and Acceleration Support:**

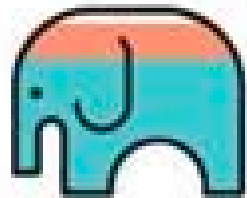


What is happening in WAYANAD??



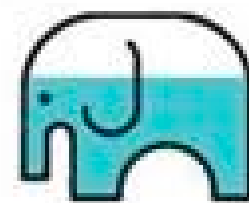
DEADLY PASSAGE

There are 110 elephant corridors in India, spread across



But only about **70%** of the corridors are used regularly. **25%** are used occasionally

29% of corridors now encroached upon



66% of the corridors have highways passing through them

22 corridors already have railway lines passing through them

4 corridors will have new railway lines

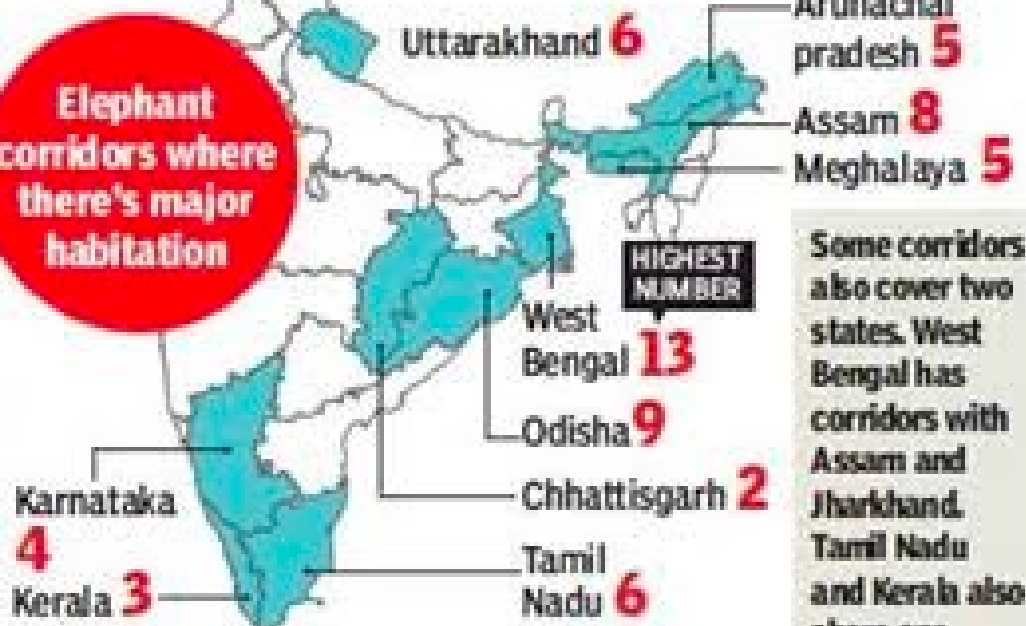
BETWEEN 1987 AND JUNE 2017, APPROXIMATELY

265

ELEPHANTS WERE KILLED BY TRAIN ACCIDENTS IN DIFFERENT PART OF THE COUNTRY



Elephant corridors where there's major habitation



Some corridors also cover two states. West Bengal has corridors with Assam and Jharkhand. Tamil Nadu and Kerala also share one



HUMAN-ELEPHANT CONFLICT

What's the problem?

Human-elephant conflict is a major issue for Asian elephants as human populations expand and elephants' habitats continue to decrease and fragment. Due to infrastructure such as railroads, disrupted migratory routes and lack of food they are increasingly forced into villages and farmland. As a result both humans and elephants are being injured and killed.

Solutions

- Keep protected forest areas for elephants
- Build elephant corridors to allow their natural migrations
- Use non-violent deterrents such as flashing lights
- Beehive fences have been successful in accordance with the elephant's natural fear of bees



What's happening

When elephants eat crops they can damage poor farmers livelihoods. Increased contact is also causing more human deaths. This leads to anger and violence towards wild elephant populations. Conflict with humans is now a leading cause of death for Asian elephants.

Techniques used against elephants

- Electric fences
- Trenches
- Poisoning
- Snares
- Shooting
- Setting off firecrackers
- Throwing firebombs
- Spears dipped in kerosine





Specific to WAYANAD

- **The trend of monoculture plantations and the usage of pesticides and insecticides depleted the soil.**
- **The tourism industry has expanded to bustling destinations towards the forest edges and wildlife corridors. The connectivity with the nearby cities of Bengaluru and Mysuru and the post lockdown induced revenge tourism have aggravated this steep climb in tourist arrivals**



- **the peaks, lakes, waterfalls, sanctuaries, dams, and plantations are all converted as tourism products to make human activities appear harmless without sufficient studies on their several impacts.**
- **non-native trees planted inside the forests have denied food and water for the animals which is resulting in the evacuation of animals from the forest areas as the interiors are turning to barren lands.**



Topic

Financial devolution of states

What is divisible pool of taxes?

- **Article 270 of the Constitution provides for the scheme of distribution of net tax proceeds collected by the Union government between the Centre and the States.**
- **The taxes that are shared between the Centre and the States include corporation tax, personal income tax, Central GST, the Centre's share of the Integrated Goods and Services Tax (IGST) etc.**
- **This division is based on the recommendation of the Finance Commission (FC) that is constituted every five years as per the terms of Article 280.**



- **Apart from the share of taxes, States are also provided grants-in-aid as per the recommendation of the FC.**
- **The divisible pool, however, does not include cess and surcharge that are levied by the Centre.**



How is the Finance Commission constituted?

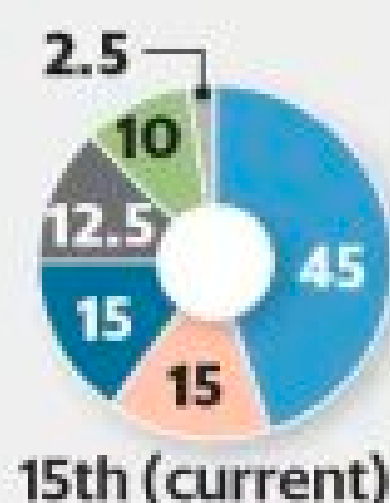
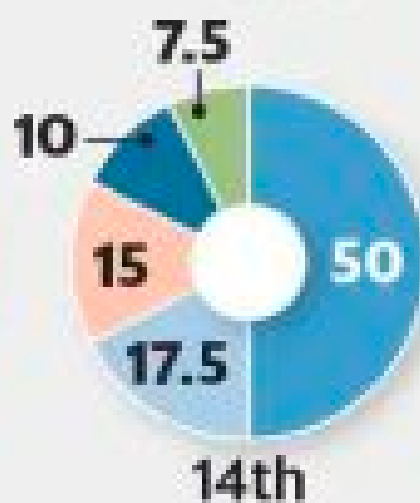
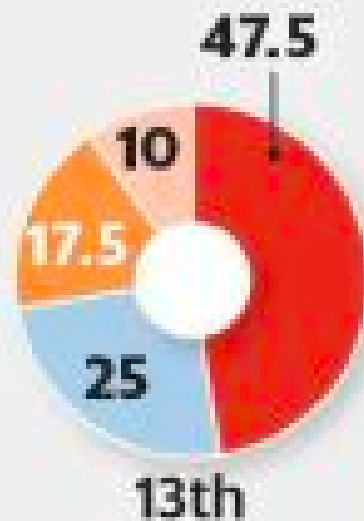
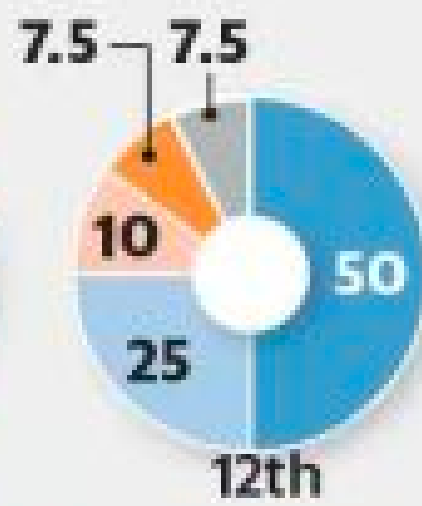
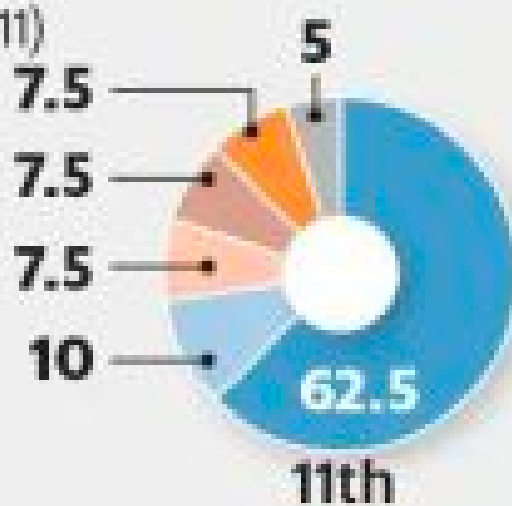
- **The FC is constituted every five years and is a body that is exclusively constituted by the Union Government. It consists of a chairman and four other members who are appointed by the President.**
- **The Finance Commission (Miscellaneous Provisions) Act, 1951, has specified the qualifications for chairman and other members of the commission.**
- **The Union government has notified the constitution of the 16th Finance Commission under the chairmanship of Dr. Arvind Panagariya for making its recommendations for the period of 2026-31.**

Criteria	14 th Finance Commission Weightage (2015-20)	15 th Finance Commission Weightage (2021-26)
Income Distance	50.0	45.0
Population - 1971	17.5	-----
Population - 2011	10.0	15.0
Area	15.0	15.0
Forest Cover	7.5	-----
Forest & Ecology	-----	10.0
Demographic Performance	-----	12.5
Tax Effort	-----	2.5
Total	100.00	100.00

What finance commissions considered to determine what each state receives

Weightage under different finance commissions (in %)

- Income distance ■ Population (1971) ■ Area
- Index of infrastructure ■ Fiscal discipline ■ Tax effort
- Fiscal capacity distance
- Population (2011)
- Forest cover
- Demographic performance





What are the issues?

- **Firstly, cess and surcharge collected by the Union government is estimated at around 23% of its gross tax receipts for 2024-25, which does not form part of the divisible pool and hence not shared with the States.**
- **Secondly, the amount each State gets back for every rupee they contribute to Central taxes shows steep variation.**
- **Third, the percentage share in the divisible pool of taxes has been reducing for southern States over the last six FCs**



What can be the way forward?

- **Firstly, the divisible pool can be enlarged by including some portion of cess and surcharge in it.**
- **The Centre should also gradually discontinue various cesses and surcharges it imposes by suitably rationalising the tax slabs.**
- **Secondly, the weightage for efficiency criteria in horizontal devolution should be increased.**
- **GST being a consumption-based destination tax that is equally divided between the Union and the State means that State GST accrual (inclusive of Integrated GST settlement on inter-state sales) should be the same as the Central GST accrual from a State.**
- **Finally, similar to the GST council, a more formal arrangement for the participation of States in the constitution and the working of the FC should be considered**



ECONOMY IN NEWS

Financial Stability and Development Council

The FSDC, set up in 2010, is a body consisting all regulators and the Ministry of Finance. It is the highest forum in matters relating to financial stability. The Council is chaired by the Union Finance Minister





Target Mains 2024

Q What role finance commission has on maintaining fiscal federalism??

Q राजकोषीय संघवाद को बनाए रखने में वित्त आयोग की क्या भूमिका है??

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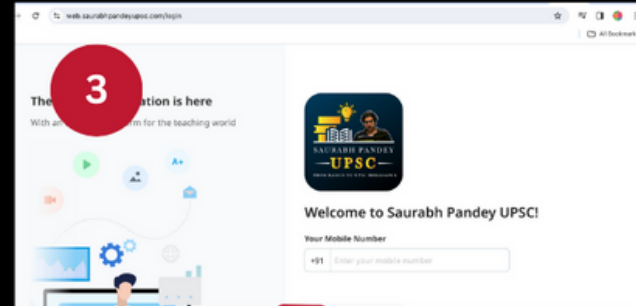
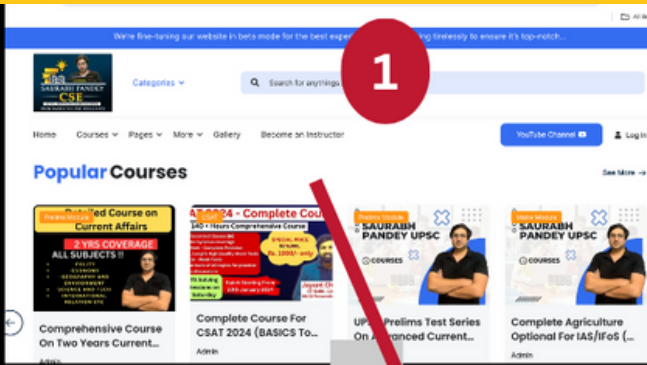
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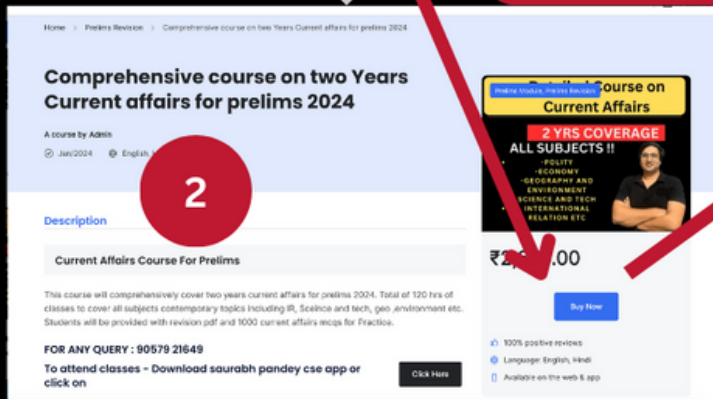
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