

DAILY Pre PARE

Current affairs summary for prelims

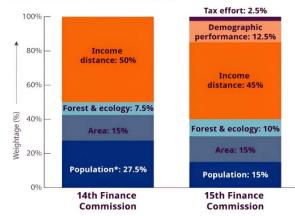
2 January, 2024

Government notifies 16th Finance Commission

Context: The Sixteenth Finance Commission of India has been established with the approval of the President of India, in accordance with Article 280(1) of the Constitution.

- Dr. Arvind Panagariya, former Vice-Chairman of NITI Aayog and Professor at Columbia University, has been appointed as the Chairman of the Sixteenth Finance Commission by the Government of India.
- The members of the Sixteenth Finance Commission will be notified separately, and Shri Ritvik Ranjanam Pandey has been designated as the Secretary to the Commission.
- The commission will provide recommendations on the distribution of net proceeds of taxes between the Union and the States, as per Chapter I, Part XII of the Constitution. It will also suggest the allocation of shares of such proceeds among the States.
- Recommendations will be made on the principles governing grants-in-aid of the revenues of the States from the Consolidated Fund of India, and the sums to be granted to the States under Article 275 of the Constitution for purposes other than those specified in the provisos to clause (1) of that article.
- The commission will address measures required to enhance the Consolidated Fund of a State to support the resources of Panchayats and Municipalities based on recommendations made by the Finance Commission of the State.
- The Sixteenth Finance Commission is empowered to review current financing arrangements for Disaster Management initiatives, with reference to funds under the Disaster Management Act, 2005 (53 of 2005), and provide relevant recommendations.
- The commission has been tasked with submitting its report by the 31st day of October 2025, covering a fiveyear period starting from April 1, 2026.

Revenue-sharing formulas in the 14th and 15th Finance Commissions



Finance Commission:

 A constitutional body, formed every five years by the President of India under Article 280 of the Indian Constitution, to delineate financial relations between the Centre and states.

- The inaugural Commission was established in 1951 through The Finance Commission (Miscellaneous Provisions) Act, 1951.
- Each commission operates under unique Terms of Reference (ToR), governing qualifications, appointments, disqualifications, terms, eligibility, and powers.
- According to constitutional provisions, the Commission comprises a chairman and four additional members.

Functions of the Finance Commission:

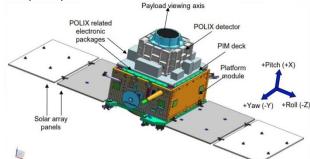
- Recommends net tax proceeds distribution between the Centre and states, and allocation among states.
- Provides **principles for grants-in-aid to states** from the Consolidated Fund of India.
- Suggests steps to augment a state's consolidated fund for Panchayats and Municipalities based on state Finance Commission recommendations.
- Addresses any matter referred by the President in the interest of sound finance.
- Decides the **basis for sharing divisible taxes** and principles for grants-in-aid every five years.
- Evaluates the rise in a state's Consolidated Fund to enhance resources for state Panchayats and Municipalities.
- Submits recommendations and explanatory memoranda to Parliament, detailing government actions on them.
- Empowered with legal authority, the Finance Commission has the powers of a Civil Court, including calling witnesses and requesting document production.

X-ray Polarimeter Satellite

Context: ISRO achieved success on January 1, placing its first polarimetry mission, X-ray Polarimeter Satellite (XPoSat), in a precise 650 km circular orbit after a 21-minute flight.

Mission Purpose:

- XPoSat is the world's second satellite-based mission dedicated to X-ray polarimetry measurements
- Launched by the Indian Space Research Organisation (ISRO).



Mission Components:

- Two primary payloads: Indian X-ray Polarimeter (POLIX) and X-ray Spectroscopy and Timing (XSPECT).
- Developed by Raman Research Institute and UR Rao Satellite Centre in Bengaluru.











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- Operates in low Earth orbit at approximately 650 km with a low inclination of about 6 degrees.
- · Estimated mission life of five years.

POLIX Payload:

- World's first instrument designed for the medium Xray energy band of 8 to 30 kilo electron Volt (keV).
- Components include a collimator and a scatterer with four X-ray proportional counter detectors.
- Observes astronomical sources emitting polarised Xrays, focusing on sources like magnetars and neutron stars.

XSPECT Payload:

- Conducts fast timing and high spectroscopic resolution in a soft X-ray energy band (0.8-15 keV).
- Observes various sources, including X-ray pulsars, black hole binaries, low-magnetic field neutron stars, active galactic nuclei (AGNs), and magnetars.

Significance of XPoSat:

- Breakthrough in X-ray polarisation measurements, especially in the medium energy band (8-30 keV).
- Observations focus on persistent and transient sources, providing valuable data on celestial bodies like magnetars, black holes, and neutron stars.
- Enhances understanding of radiation nature and associated processes in these cosmic entities.

Study of X-ray Polarisation:

- Polarised X-rays offer organized waves vibrating in the same direction.
- XPoSat studies polarised X-rays emitted from sources encountering various materials in the Universe.
- Polarisation measurements provide insights into the nature and complex processes of X-ray-emitting sources.

Comparison with Global Missions:

- Previous missions on X-ray polarisation measurements, such as HX-POL and XL-Calibur, were balloon-based experiments by NASA.
- XPoSat, complementing NASA's Imaging X-ray Polarimetry Explorer (IXPE), operates in the medium X-ray band, expanding the observational energy band.
- IXPE focuses on soft X-ray band (2 to 8 keV energy).

Challenges in X-ray Polarisation Missions:

- Limited attempts globally due to the challenging development of highly sensitive and precise instruments.
- XPoSat addresses this challenge with its advanced POLIX payload.

> Future Impact:

- XPoSat's measurements, along with spectrographic, timing, and imaging data, will contribute to unraveling unknown mysteries of the Universe.
- A pioneering mission that advances the field of X-ray polarimetry globally.

Witness Protection in India

Context: The special investigation team (SIT), appointed by the Supreme Court to re-investigate nine cases related to the 2002 Gujarat riots, has removed police and paramilitary protection from all witnesses, except one.

Definition of a Witness:

- In criminal law, the term "witness" lacks a precise statutory definition.
- Section 161 of the Criminal Procedure Code (CrPC) allows investigating officers to examine anyone "supposed to be acquainted" with case facts.

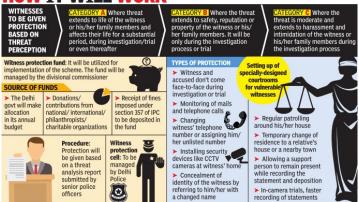
Need for Witness Protection:

- Witnesses are crucial for building a criminal case.
- Witnesses in India face mistreatment, lack facilities, and encounter physical harm, threats, and harassment.
- Hostile witnesses, those not testifying truthfully, pose challenges to prosecution.

Efforts to Protect Witnesses:

- Law Commission Reports in 1958, 1996, and 2001 highlighted witness difficulties.
- The **Criminal Law (Amendment) Bill, 2003**, aimed to prevent witness turning hostile.
- The Justice VS Malimath Committee Report (2003) emphasized enacting laws for witness protection.
- Delhi government notified a witness protection scheme in 2015.

HOW IT WILL WORK



Witness Protection Scheme (2018):

- December 2018: Supreme Court introduced a nationwide Witness Protection Scheme.
- Enforced until Parliament enacts a specific law on witness protection.
- Initiated based on PIL in the Asaram Bapu case.

Working of the Witness Protection Scheme:

Application Process:

- Witness, family, lawyer, or investigating officer submits an application to the competent authority.
- Witness Protection Order requested under the 2018 Scheme.

• Threat Analysis Report:

- Prepared by the Head of Police in the investigating district.
- Assesses threat seriousness, credibility, motives, and resources.
- Categorizes threat perception (A, B, C).









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Categories of Threat Perception:

- Category A: Threats to witness or family lives during investigation, trial, or after.
- Categories B and C: Threats to safety, reputation. or property during investigation or trial, and moderate threat perception.
- **Interim Protection and Immediate Measures:**
 - Competent authority may issue interim protection orders based on urgency.
 - Immediate police protection in cases of grave and imminent threats to life.

Protective Measures:

- Measures include preventing face-to-face encounters, identity protection, witness relocation, confidentiality, and record preservation.
- Recovery of expenses related to protection.

Implementation and Enforcement:

- The Witness Protection Scheme operates through the competent authority, ensuring the safety of witnesses and their families.
- It involves coordination with police, legal authorities, and high courts.

News in Between the Lines

Recently, the Kerala Government launched K-SMART app which will bring all services of the three-tier local selfgovernment institutions on a unified digital platform.

About K-SMART App:

- The K-SMART (Kerala Solutions for Managing Administrative Reformation and Transformation) app is a digital platform to integrate and provide various services offered by three-tier local self-government institutions.
- It is the first such initiative in the country that the entire bouquet of services of a department is being made available to the public on a digital platform.
- It would provide a major relief to ex- patriates who want to avail various services of the local bodies without visiting the offices.
- This initiative will reduce the digital divide in society.
- Initially, it was developed by Information Kerala Mission of the state IT department, will be operational in corporations and municipalities.
- It adapts diverse technological disciplines, encompassing blockchain, artificial intelligence, GIS/spatial data, chatbot, message integration, API integration of various software, machine learning, data science, cloud computing, virtual and augmented reality, Internet of things among others.

Recently, after the Centre issued a clarification letter, the Hattees community was granted Scheduled Tribe (ST)

Hattee Community

K-SMART App

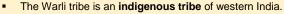


About the Hattee Community:

- The Hattee community is a close-knit group of people who sell their crops, vegetables, meat and wool at small-town markets called "haats".
- Their homeland is located in the basin of the Giri and Tons rivers, which are tributaries of the Yamuna, and straddles the Himachal-Uttarakhand border.
- They are governed by a traditional council called Khumbli, which decides community matters.
- The men of this community traditionally wear a distinctive white headgear on ceremonial occasions.
- According to the 2011 census, the Hattee population at around 2.5 lakh and the current population is around 3 lakh.
- They are living in the Kamrau, Sangrah and Shilliai areas lag behind in education and employment due to topographical disadvantages.

Recently, the Warli tribe has opposed the construction of a Shivaji Museum on their inhabited land in Mumbai.

About the Warli Tribe:



- They live in the mountainous and coastal regions of Gujarat and Maharashtra and are related to the Konkani and Marathi people.
- The word "Warli" comes from the word "Warla," which means "piece of land".
- They are famous worldwide for their paintings, which are called Warli paintings.
- The Warli use circles (represent the sun and the moon) and triangles (depict mountains and conical trees) in their paintings, which come from their observation of nature.
- Some consider the Warli to be a sub-caste of the Bhil tribe and date their origins back to the 10th century AD.
- They are also known for their white paintings, which are made from rice flour, water and gum, and applied with a chewed bamboo stick.
- In 1945, the Warli tribe participated in a peasant struggle in the Thane district of Maharashtra.

Warli Tribe



Face to Face Centres





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Recently, the Indian Tsunami Early Warning Centre, which houses the Indian National Centre for Ocean Information Services (INCOIS), stated that there is no tsunami threat to India after a powerful magnitude 7.5 earthquake struck the west coast of Japan.

About INCOIS:

The Indian National Centre for Ocean Information Services (INCOIS) is an independent organization under the Ministry of Earth Sciences (MoES).

It was established in 1999 and is located in Hyderabad.

state and potential mo tivations for the incident.

INCOIS's mandate is to provide ocean information and advisory services to society, industry, government agencies and the scientific community.

It is a permanent member of the Indian delegation to IOC of UNESCO and a founding member of the Indian Ocean Global Ocean Observing System (IOGOOS) and the Partnership for Observing the Oceans (POGO).

It also has a Coral Bleaching Alert System (CBAS), which uses satellite-derived Sea Surface Temperature (SST) to assess the thermal stress accumulated in the coral environs.

The four main branches of earth sciences it covers are Ocean Science & Technology, Atmospheric and

Climate Science, Geoscience and Technology and Polar Science and Cryosphere Recently, the accused in the Parliament security breach underwent psychoanalysis for insights into their mental

Psychoanalysis



About Psychoanalysis:

- Psychoanalysis is a therapeutic technique and theory that involves analyzing dreams, exploring free association, and examining the transference and resistance between therapist and patient.
- It is a talking therapy that aims to treat mental health issues by investigating the relationship between the unconscious and conscious elements of psychological experience.
- It is based on the belief that all people possess unconscious thoughts, feelings, desires, and memories.
- It highlights the significance of early childhood experiences and the hidden workings of the unconscious mind.
- Sigmund Freud (1856—1939) is considered the father of psychoanalysis.
- He believed that the unconscious could be accessed through dreams, free association and slips of the tongue

Recently, the U.S. Department of Energy has discovered the world's largest Lithium reserve beneath California's Salton Sea.

UT

AZ

Salton

Baja California

Sea

MEXICO

About Salton Sea:

- The Salton Sea is a shallow, saline lake in the lower Colorado Desert of southern California.
- It is the largest lake in California and the third largest saline lake in the United States.
- It is in the Great Lakes region of Minnesota.
- It is an important resting place for migrating waterfowl and a vital habitat for birds migrating north to Canada.
- This sea was accidentally created in the early 20th century when the Colorado River broke an irrigation canal, causing water to flow into the Salton Sink.
- It is a Known Geothermal Resource Area (KGRA) with about 400 MW of geothermal electricity-generation capacity.

Lithium:

- Lithium is a solid element with a low density and is used in rechargeable batteries for mobile phones, laptops, digital cameras and electric vehicles.
- It is also used in ceramics and glasses, greases, pharmaceutical compounds, air conditioners and aluminium production.
- In February 2023, the Geological Survey of India (GSI) discovered 5.9 million tonnes of lithium in the Salal-Haimana area of the Reasi district in Jammu and Kashmir.

Place in News

Salton Sea

Points to Ponder

- Who is the recently elected presiding officer of the Rajasthan Legislative Assembly? Vasudev Devnani
- Which sport is introduced for the first time in the 2024 Khelo India Youth Games? Squash
- On what date is Veer Bal Diwas observed annually, commemorating the martyrdom of Guru Gobind Singh's four sons? 26th December
- Dean Elgar, who recently retired from international cricket, was the former captain of which team? South Africa
- Amnya Fort, in the news recently, is located in which region? Siberia

Face to Face Centres



USA

Sonora

Arizona

California

