IMPORTANT NEWS

Japan earthquake triggers tsunami warning: What is a tsunami, why does it keep forming in the island country?

Inside Story of the News:

Tsunami waves struck various coastal areas of Japan, **prompting immediate evacuation warnings following a 7.6-magnitude earthquake** that rattled the north-central region on Monday, January 1.

Definition of Tsunami:

- The term "tsunami" originates from the Japanese language, meaning "**harbour wave**."
- Tsunamis are massive ocean waves triggered by seismic activities such as earthquakes or underwater volcanic eruptions.
- These waves have the potential to traverse entire ocean basins, resulting in widespread devastation upon reaching coastlines.
- Tsunami waves can reach heights of hundreds of feet and travel at speeds comparable to jet planes over deep waters, slowing down upon reaching shallower areas.

Causes of Tsunami:

- **Earthquake**
  - Tsunamis are generated when earthquakes disturb the seafloor, typically involving vertical displacement.
  - Shifting tectonic plates beneath the Earth's surface can produce seismic waves that propagate through the water, giving rise to a tsunami.
- **Volcanic eruption**
  - Submarine volcanic eruptions, especially those occurring beneath the ocean, can displace large volumes of water and trigger tsunamis.
  - This phenomenon may occur due to the collapse of a volcanic island or an explosive eruption.
- **Landslides**
  - Underwater landslides, resulting from factors such as volcanic activity or coastal erosion, can displace substantial amounts of water, generating tsunami waves.
- **Meteorite Impact**
  - Although infrequent, the impact of a sizable meteorite or asteroid in the ocean can displace water and create waves resembling a tsunami.

Why is Japan prone to earthquakes and tsunamis?

- Japan is positioned along the "Pacific Ring of Fire," the world's most active earthquake tectonic belt.
- The term "Ring of Fire" denotes an imaginary horseshoe-shaped zone encircling the Pacific Ocean, where numerous earthquakes and volcanic eruptions occur.
- Within the Ring of Fire, various tectonic plates, including:
  - the Pacific Plate,
  - Eurasian Plate, and

- Indo-Australian Plate, continuously interact, leading to earthquakes, volcanic eruptions, and tsunamis.

2011 Earthquake and tsunami in Japan:

- In 2011, Japan experienced a devastating 9.0 magnitude earthquake.
- Subsequently, experienced tsunami that wreaked havoc on its northeastern coastal communities.
- Approximately 18,000 lives were lost, and tens of thousands were displaced as a result.
- The tsunami waves triggered a nuclear meltdown at the Fukushima power plant.
- It is marking the most severe nuclear incident since the 1986 Chernobyl disaster in the Soviet Union.

Why truck drivers across states are protesting against new law for hit-and-run cases

Inside Story of the News:

The nationwide transportation strike continued into its second day on Tuesday, January 2, resulting in lengthy queues at petrol pumps as fuel supply dwindled across the country.

- The three-day strike was initiated by truck, bus, and tanker drivers to express their opposition to the stringent jail and fine regulations introduced under the newly implemented Bharatiya Nyay Sanhita (BNS) for hit-and-run cases.
- Under the BNS, drivers responsible for serious road accidents due to negligent driving and fleeing without informing authorities can now face up to 10 years of imprisonment or a fine of Rs 7 lakh.

What is The Bharatiya Nyaya (Second) Sanhita, 2023

- Recently granted Presidential assent, the Bharatiya Nyaya (Second) Sanhita (BNS) is set **to replace the 163-year-old Indian Penal Code,** although the Central government has yet to announce the enforcement date.
- According to various reports, the rollout schedule for the three new criminal codes will be notified by January 26.

Key Highlights of Bharatiya Nyaya (Second) Sanhita, 2023

- Community service has been introduced as a form of punishment under Section 4, although the specific definition of community service remains unspecified.
- The new BNS introduces Chapter V titled "Of Offences Against Woman and Child of Sexual Offences."
- Offences related to women and children have been consolidated into a single chapter, streamlining a system that was previously scattered across various chapters and parts.
- An exception to rape, as stated in Section 63 of BNS, specifies that sexual intercourse or acts by a man with his wife, provided she is not under eighteen years of age, will not be considered rape.

- This contrasts with the IPC, where the age threshold was "fifteen years."
- BNS criminalizes sexual intercourse through deceitful means, punishable by life imprisonment or death.
- The BNS eliminates the offence related to forcible carnal intercourse against a man and bestiality.
- A notable addition is the "Terrorist Act," absent in the IPC, with BNS II clarifying vaguely used terms like "intimidating the public or disturbing public order."
- Sedition is no longer an offence under BNS II, but a new offence addresses acts endangering the sovereignty, unity, and integrity of India.
- 'Mob lynching' is now a separate offence in BNS, carrying a maximum penalty of death.
- It refers to murder by a group of five or more individuals based on identity markers like caste, language, or personal belief.
- Doctors causing death by negligence face lesser punishments compared to other offenders.
- Stringent punishment is introduced for hit-and-run cases.
- Snatching is now recognized as a distinct offence.
- The definition of gender includes transgender individuals.

Why are truck, bus and tanker drivers protesting against it?

- Private transport operators argue that the law discourages drivers and may lead to unjust punishments.
- They express concern that drivers could face mob violence when attempting to transport the injured to hospitals and demand the repeal of the law.
- The lack of stakeholder consultations before implementing the new law is criticized.
- Protestors advocate for a discussion on the issue to address the current misinformation and lack of awareness among the public.

Namibian cheetah Aasha gives birth to 3 cubs in Kuno; 'indicator that animals are acclimatising'

Inside Story of the News:

A triumphant moment unfolded at Kuno National Park in Madhya Pradesh's Sheopur district as Aasha, the Namibian cheetah, **gave birth to three cubs,** announced wildlife officials on Wednesday.

- The initiative to reintroduce cheetahs to India began in 2009, spearheaded by the Wildlife Trust of India.
- **"Project Cheetah"** is a concerted effort aimed at resurrecting the cheetah, the only large mammal to have gone extinct in independent India.
- The project envisions the introduction of 50 cheetahs across various National Parks over a span of five years.
- Following surveys of ten central Indian state sites, Kuno Palpur National Park (KNP) in Madhya Pradesh emerged as the top-rated location.

- Kuno stands out as the sole wildlife site in India where villages have been entirely relocated from within the park.
- Notably, Kuno presents the unique opportunity to house four major Indian big cats—tiger, lion, leopard, and cheetah—and facilitate their coexistence, reminiscent of the past.
- To preserve the critically endangered Asiatic cheetah sub-species from Iran, India plans to acquire cheetahs from Southern Africa, a region capable of providing a substantial number of suitable cheetahs for several years.
- A previous milestone involved Namibian cheetah Jwala giving birth to four cubs following a mating interaction with another cheetah named Gaurav.
- Unfortunately, three of the cubs succumbed to extreme weather conditions in May last year.
- The lone surviving ten-month-old cub, rejected by its mother and entrusted to Kuno park officials after wildlife officials intervened for treatment, continues to be under their care.
- The recent birth of three cubs to Aasha stands as a significant achievement for Project Cheetah, contributing to the broader vision of restoring ecological balance.

ISRO to perform crucial manoeuvre on January 6 to bind Aditya-L1 into L1 orbit.

Inside Story of the News:

Aditya L1, India's pioneering mission dedicated to studying the Sun, is nearing its destination and is scheduled to be placed into its final orbit on the evening of January 6. Launched on September 2, the spacecraft is on course to enter a 'halo orbit' around Lagrange Point 1 (L1), a crucial spot in the dynamic Sun-Earth system where gravitational forces between the two bodies are in approximate balance.

- Developed by the Indian Space Research Organisation (ISRO) and various other Indian Space Research Institutes, Aditya-L1 serves as a coronagraphy spacecraft focused on exploring the solar atmosphere.
- Positioned approximately 1.5 million km from Earth in a halo orbit around L1, Aditya-L1 aims to investigate the solar atmosphere, magnetic storms on the Sun, and their repercussions on the Earth's environment.
- **Launched from the Satish Dhawan Space Centre in Sriharikota on September 2, 2023, Aditya-L1 is India's first space-based observatory specifically designed for Sun study.**
- Nigar Shaji holds the position of the project's director.
- ISRO highlights the advantage of continuous Sun observation without any occultation or eclipse for a satellite placed in the halo orbit around L1, providing uninterrupted monitoring of solar activities.
- Aditya-L1 carries seven payloads equipped with electromagnetic and particle detectors to observe the photosphere, chromosphere, and the outermost layers of the Sun, known as the corona.
- With a mission life of five years, Aditya-L1's payloads are expected to yield critical information on coronal heating, coronal mass ejection, pre-flare and flare activities, space weather dynamics, and the propagation of particles and fields.
- Currently, four operational spacecraft are at L1, including WIND, Solar and Heliospheric Observatory (SOHO), Advanced Composition Explorer (ACE), and Deep Space Climate Observatory (DSCOVER).

- ISRO's Aditya L1 spacecraft is set to reach Lagrangian point (L1) on January 6, where a crucial maneuver will be performed by ISRO Scientists and Engineers from the Mission Operations Complex of ISTRAC around 4 pm.
- This maneuver aims to bind Aditya-L1 to an orbit around L1.
- Aditya-L1's seven payloads will continue their observations of the Sun's photosphere, chromosphere, and corona using electromagnetic and particle detectors during its mission around L1.

Justice Gavai nominated as SC Legal Services Committee Chairman: What law says on free legal aid in India

Inside Story of the News:

Supreme Court judge Justice BR Gavai has been nominated as the Chairman of the Supreme Court Legal Services Committee (SCLSC), replacing Justice Sanjiv Khanna – the seniormost judge of the top court after the Chief Justice of India (CJI).

What is the Supreme Court Legal Services Committee?

- The Supreme Court Legal Services Committee was established under Section 3A of the Legal Services Authorities Act, 1987.
- The purpose of offering "free and competent legal services to the weaker sections of society" in cases within the jurisdiction of the Supreme Court.
- **Section 3A** of the Act specifies that the Central Authority (the National Legal Services Authority or NALSA) is responsible for constituting the committee.
- The committee comprises a sitting Supreme Court judge as the chairman and other members possessing the experience and qualifications stipulated by the Centre.
- Both the chairman and other members are nominated by the CJI.
- Additionally, the CJI has the authority to appoint the Secretary to the Committee.

Who does the SCLSC comprise?

- As of now, the SCLSC is chaired by BR Gavai, with nine members nominated by the CJI.
- The Committee has the authority to appoint officers and other employees as prescribed by the Centre, in consultation with the CJI.
- Rule 10 of the NALSA Rules, 1995, outlines the numbers, experience, and qualifications of the SCLSC members.
- **Section 27 of the 1987 Act** empowers the Centre, in consultation with the CJI, to make rules by notification for carrying out the provisions of the Act.

What is the need for legal services and how is it dispensed to the people?

- The necessity for providing legal services is emphasized in various provisions of the Indian Constitution.
- **Article 39A** underscores the State's obligation to ensure that the legal system promotes justice based on equal opportunity and provides free legal aid to citizens facing economic or other disabilities.
- **Articles 14** (right to equality) and 22(1) (rights to be informed of grounds for arrest) obligate the State to guarantee equality before the law and a legal system that fosters justice based on equal opportunity.

What the Legal Services Authorities Act says

- Enacted in 1987, the Legal Services Authorities Act establishes a statutory foundation for legal aid programs.
- **Its objective is to offer:**
  - free and competent legal services to eligible groups, including women, children, SC/ST and EWS categories,
  - industrial workers, disabled persons, and others.
- NALSA, constituted in 1995, monitors and evaluates the implementation of legal aid programs, formulates policies for making legal services available.
- It oversees a nationwide network for providing legal aid and assistance.
- The Act envisions State Legal Services Authorities (SLSA), District Legal Services Authorities (DLSAs), and Taluk Legal Services Committees.
  - Each responsible for implementing legal aid schemes and conducting Lok Adalats.
- These bodies organize legal awareness camps, provide free legal services, and perform various other functions to ensure equal access to justice.

India is now part of world's largest radio telescope project

Inside Story of the News:

Supreme Court Justice BR Gavai has been nominated as the Chairman of the Supreme Court Legal Services Committee (SCLSC), **succeeding Justice Sanjiv Khanna, the second most senior judge of the top court after the Chief Justice of India (CJI).**

Significant Details about the Square Kilometre Array Observatory (SKAO):

- The Square Kilometre Array Observatory (SKAO) is not a single telescope but an array of thousands of antennas.
- These antennas will be strategically installed in remote, radio-quiet locations in South Africa and Australia, collectively functioning as one large unit for observing and studying celestial phenomena.

- Established as an intergovernmental organization in 2021, SKAO is the outcome of a multinational collaboration, with India actively participating in the negotiations.
- To formally become members of SKAO, countries must sign and ratify the SKAO convention.
- India has taken the first step towards this ratification by securing government approval to join the project, with a financial sanction of Rs 1,250 crore.
- Gravitational wave research, one of the most promising fields for scientific discovery, is a focal point of SKAO.
- The initial detection of gravitational waves by the two existing LIGO detectors in the US earned the Nobel Prize in Physics in 2017.
- SKAO aims to advance astronomical observations, enhancing our understanding of the universe and its evolution.

India's Contribution to SKAO:

- India's primary contribution to SKAO lies in the development.
- The operation of the Telescope Manager element, essentially the "neural network" or software crucial for the telescope's functioning.
- The National Centre for Radio Astrophysics (NCRA) has been entrusted with this responsibility, owing to its successful construction and operation of the Giant Metrewave Radio Telescope (GMRT).
- GMRT is the world's largest and most sensitive radio telescope, operating within the 110-1,460 MegaHertz frequency range.
- It has yielded significant scientific results, studying pulsars, supernovae, quasars, galaxies, and contributing to the detection of nano-hertz gravitational waves.
- In 2021, GMRT received recognition with the Institute of Electrical and Electronics Engineers (IEEE) Milestone facility, making it the third facility in India to achieve this status.
- The SKA-India consortium involves:
    - engineers and scientists from over 20 national-level research institutions,
    - including NCRA, Aryabhatta Institute of Observational Sciences, Inter University Centre for Astronomy and Astrophysics, IIT-Kharagpur, IISER Mohali and Thiruvananthapuram, TIFR, Raman Research Institute, Indian Institute of Science, and Physical Research Laboratory.
- Participating countries in building SKAO include the UK, Australia, South Africa, Canada, China, France, India, Italy, and Germany.