

# MANTHAN

**AUGUST 2025: WEEK-4** 

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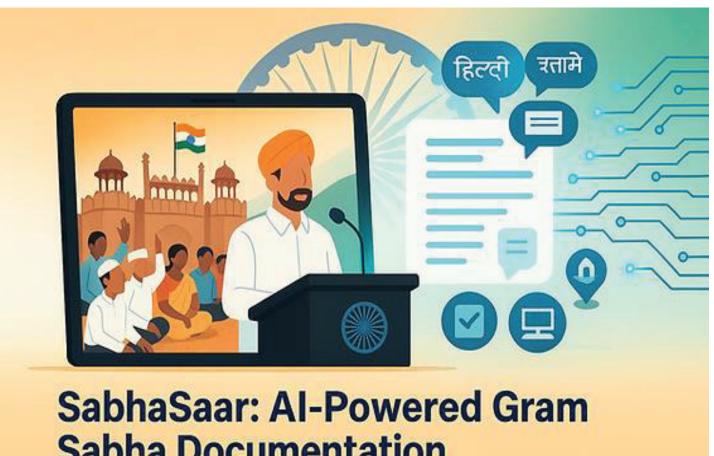
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### . 'SabhaSaar', AI tool for Gram Sabha



## Sabha Documentation

Multilingual, Digital, Transparent - Empowering Every Village

- The Union Ministry of Panchayati Raj has launched an innovative AI-powered tool named 'SabhaSaar' to automatically generate minutes of meetings for gram sabhas.
- SabhaSaar uses advanced Artificial Intelligence (AI) and Natural Language Processing (NLP) technologies to transcribe audio and video recordings of gram sabha meetings, identify key decisions and action points, and produce structured, well-formatted minutes.
- Integrated with Bhashini, the Government of India's National Language Translation Mission, SabhaSaar currently supports 13 Indian languages, including Kannada and English.
- This multilingual capability ensures inclusivity and accessibility for Panchayat officials across various regions.
- The Ministry has urged all States and Union Territories to adopt SabhaSaar for generating minutes of Special Gram Sabhas scheduled for August 15, 2025.
- As a pilot, all 1,194 Gram Panchayats of Tripura, including traditional local bodies, will utilize the tool for the upcoming meetings.
- This AI-driven solution is expected to significantly reduce the administrative burden on Panchayat officials, allowing them to concentrate more on governance and public service delivery instead of spending extensive time manually preparing meeting minutes.

- According to the Ministry, India has a vast network of local governance bodies comprising 2,55,397 village panchayats, 6,742 intermediate panchayats, 665 district panchayats, and 16,189 traditional local bodies. Gram sabhas are mandated to meet at least four times annually—on January 26, May 1, August 15, and October 2.
- To ensure regularity and transparency of these meetings, the Ministry also launched the Panchayat NIRNAY portal for monitoring gram sabha activities.
- Overall, SabhaSaar represents a significant step towards digital transformation in local governance, improving efficiency, inclusiveness, and transparency in Panchayat functioning.

#### Bhashini, the Government of India's National Language Translation Mission

- Bhashini, short for Bhasha Interface for India, is a government-led initiative under the Ministry of Electronics and Information Technology (MeitY), launched in August 2022.
- It is a cornerstone of the National Language Translation Mission (NLTM), aiming to bridge India's linguistic diversity through AI-driven language technologies.

#### What Is Bhashini?



- Bhashini is an open-source, AI-powered platform designed to provide real-time language translation and multilingual accessibility across digital services.
- It supports over 22 Indian languages and offers tools like machine translation, speech recognition, text-to-speech, and optical character recognition. The platform is managed by the Digital India Corporation (DIC) under MeitY.

#### **Key Features**

- Multilingual Support: Enables voice and text interactions in more than 22 Indian languages.
- Open AI Models: Hosts over 300 pre-trained AI models accessible via APIs for developers and startups.

- Crowdsourced Data: Encourages public participation through the 'Bhasha Daan' initiative, collecting voice recordings and translations to improve model accuracy.
- **Integration with Government Services:** Used in platforms like CPGRAMS for grievance redressal and e-Gram Swaraj for rural governance.

#### **Achievements**

- **High Usage:** Surpassed 100 million monthly inferences, indicating widespread adoption.
- Extensive Stakeholder Engagement: Collaborated with over 50 entities, including government bodies like NPCI, RBI, and MoRD.
- **Mobile App Reach:** Bhashini-powered apps have been downloaded over 700,000 times, enhancing accessibility.
- **Diverse Use Cases:** Supports more than 100 applications across various sectors.

#### **Notable Collaborations**

- Indian Railways: In June 2025, Bhashini partnered with the Centre for Railway Information Systems (CRIS) to implement multilingual AI solutions across railway passenger platforms, aiming to eliminate language barriers for millions of passengers.
- Educational Institutions: Collaborated with AICTE and UGC to translate undergraduate and postgraduate course materials into multiple Indian languages via the Anuvaadini App.
- State Governments: Rajasthan developed the 'Pehchan' app, utilizing Bhashini's AI for multilingual voice commands in birth and death registrations.

#### NIRNAY portal

- The NIRNAY portal is an online platform launched by the Government of Maharashtra, India.
- It provides citizens with easy access to various government services, including paying utility bills, property taxes, and other civic payments online.
- The portal aims to make government services more transparent, efficient, and accessible to the public.

#### **Key features of the NIRNAY portal:**

- Payment of electricity, water, and property tax bills.
- Access to various government notifications and circulars.
- Facility to track the status of different applications.
- One-stop platform for multiple government services.

#### **QUESTIONS**

- 1. With reference to SabhaSaar, consider the following statements:
  - 1. It is an AI-powered tool launched by the Ministry of Panchayati Raj to generate automatic minutes of Gram Sabha meetings.
  - 2. It is integrated with Bhashini, India's National Language Translation Mission.
  - 3. It currently supports 22 Indian languages.

Which of the statements given above is/are correct?

A. 1 and 2 only

C. 2 and 3 only

B. 1 and 3 only D. 1, 2 and 3

- 2. Bhashini, sometimes seen in the news, is:
  - A. An AI-driven agricultural monitoring system for crop forecasting.
  - B. An open-source AI platform for real-time multilingual translation in India.
  - C. A digital payment interface for Panchayati Raj institutions.
  - D. A citizen grievance redressal portal for e-governance.
- **3.** Which of the following statements about the NIRNAY portal is/are correct?
  - 1. It was launched by the Government of India to monitor Gram Sabha activities.
  - 2. It allows payment of electricity, water, and property tax bills online.

Select the correct answer using the code given below:

A. 1 only

C. Both 1 and 2

B. 2 only

D. Neither 1 nor 2

- 4. Which of the following is/are examples of Bhashini's collaboration and applications?
  - 1. Partnering with CRIS to provide multilingual support on railway platforms.
  - 2. Translating educational course material via Anuvaadini App.
  - 3. Supporting Rajasthan's "Pehchan" app for birth and death registrations.

Select the correct answer using the code given below:

A. 1 and 2 only

C. 1 and 3 only

B. 2 and 3 only

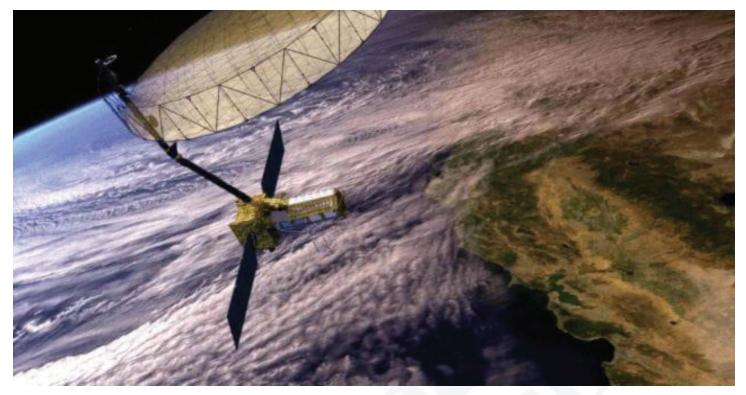
D. 1, 2 and 3

- 5. Which of the following correctly matches the Gram Sabha meeting schedule in India?
  - A. January 26, May 1, August 15, October 2
  - B. January 1, June 5, August 15, December 25
  - C. January 26, March 8, August 15, October 31
  - D. January 26, April 14, August 15, November 14

# 2. PixxelSpace India-led consortium to establish India's first commercial earth observation satellite constellation

• The Indian National Space Promotion and Authorisation Centre (IN-SPACe) announced the selection of the PixxelSpace India-led consortium to design, build, and operate India's first fully indigenous commercial earth observation (EO) satellite constellation under the public-private partnership (PPP) model.

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- The Bengaluru-based PixxelSpace India consortium comprises Piersight Space, Satsure Analytics India, and Dhruva Space.
- The selection of the PixxelSpace India consortium was done following a competitive bidding process which involved two more consortia.
- It is for the first time in the history of the Indian space sector that a private consortium would invest more than ₹1,200 crore over the next five years to launch a constellation of 12 state-of-the-art EO satellites equipped with panchromatic, multispectral, hyperspectral, and microwave Synthetic Aperture Radar (SAR) sensors.
- The constellation will deliver Analysis Ready Data (ARD) and Value-Added Services (VAS) for applications in climate change monitoring, disaster management, agriculture, infrastructure, marine surveillance, national security, and urban planning, while also catering to the global demand for high-quality geospatial intelligence.
- By generating high-resolution, indigenous satellite data, the initiative will significantly reduce India's reliance on foreign sources, ensure data sovereignty, and position the country among the global leaders in space-based data solutions.
- "This initiative signals the coming of age of India's private space industry in the space sector. It demonstrates the capability and confidence of Indian companies to lead large-scale, technologically advanced, and commercially viable space missions that serve both national and global markets. The EO PPP model fosters an ecosystem where public and private capabilities reinforce each other to drive growth, innovation, and self-reliance,".
- Under the PPP framework, the Union government will provide strategic, technical, and policy support, while the PixxelSpace India-led consortium will own and operate the EO system, including satellite manufacturing, launches from Indian soil, ground infrastructure, and commercialisation of data services.
- IN-SPACe further added that the EO constellation will be deployed in a phased manner over the next four years to ensure continuous service upgrades and expanded coverage.
- Once operational, it will be among the most advanced EO systems in the world, designed, built, and operated entirely in India by Indian talent.

#### **Indian National Space Promotion and Authorisation Centre (IN-SPACe)**



- IN-SPACe is an autonomous body under the Department of Space, Government of India.
- It was established to promote, regulate, and authorize private sector participation in the Indian space sector.

#### **Key Objectives of IN-SPACe**

#### **Promote Private Sector Participation:**

• Facilitate and encourage private companies and startups to contribute to space activities in India.

#### **Authorization & Regulation:**

• Provide a single-window clearance system to private companies for using Indian space infrastructure and resources.

#### **Resource Sharing:**

• Enable private entities to utilize ISRO's infrastructure such as testing facilities, launch pads, and ground stations.

#### **Create a Level Playing Field:**

• Act as a bridge between ISRO and private sector companies to ensure smooth collaboration and healthy competition.

#### Why was IN-SPACe formed?

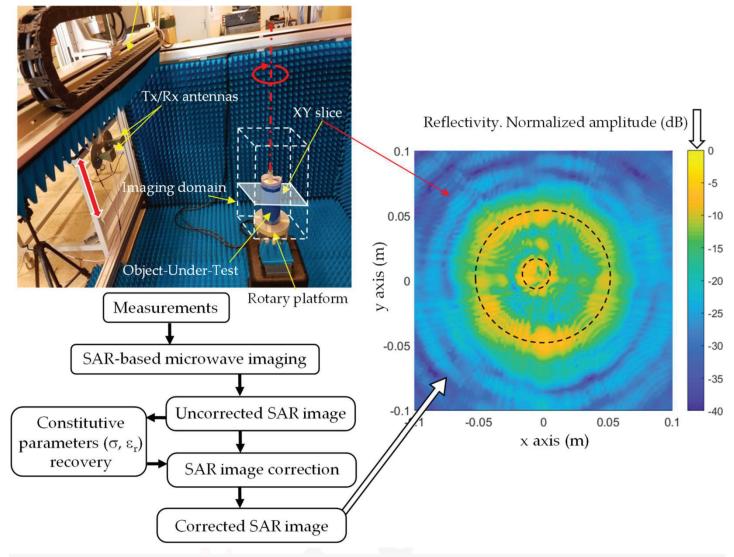
- To accelerate the growth of the Indian space ecosystem.
- To align with the government's vision of promoting Atmanirbhar Bharat (self-reliant India) in space technology.
- To open up space activities to private players in a regulated manner.
- To encourage innovation, commercial ventures, and increase India's space economy.

#### **How does IN-SPACe function?**

- Acts as a facilitator, regulator, and promoter for private companies.
- Coordinates between ISRO and private industry for sharing of facilities.
- Authorizes private companies for space launches, satellite deployment, and other related activities.
- Monitors compliance with regulatory standards.

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Picture of the measurement setup and flowchart of the Synthetic Aperture Radar (SAR)-based technique for microwave imaging and constitutive parameters characterization.

#### **Importance in India's Space Sector:**

- Previously, ISRO was the sole agency for space activities.
- IN-SPACe marks a shift towards a more collaborative approach with private players.
- It helps reduce the workload on ISRO and leverages private innovation.
- Opens doors for private participation in satellite building, launch services, space-based applications, and more.

#### Microwave Synthetic Aperture Radar (SAR)

• Microwave Synthetic Aperture Radar (SAR) is a type of radar technology that uses microwave signals to create high-resolution images of the Earth's surface or other targets.

#### What is SAR?

- Synthetic Aperture Radar (SAR) is a remote sensing technique that synthesizes a large antenna (aperture) by moving a smaller antenna over a target area.
- The radar emits microwave pulses and records the reflected signals.
- By processing the returned signals over time, SAR systems generate detailed 2D or 3D images with much higher resolution than conventional radar.

#### Why microwaves?

- SAR typically operates in the microwave portion of the electromagnetic spectrum, typically between 1 GHz and 40 GHz (corresponding to wavelengths of 30 cm to 7.5 mm).
- Microwaves can penetrate clouds, rain, and vegetation to some extent, allowing SAR to image in almost all weather and lighting conditions, day or night.
- The specific frequency bands used (e.g., L-band, C-band, X-band) affect resolution and penetration capabilities.

#### How does Microwave SAR work?

- **Pulse emission:** The SAR antenna transmits short pulses of microwave energy toward the target area.
- **Echo reception:** The antenna receives the reflected signals (echoes) from the ground or objects.
- Platform movement: The SAR sensor is usually mounted on a moving platform (aircraft or satellite). As it moves, it collects echoes from successive positions.
- Signal processing: The recorded echoes are processed coherently, combining information from multiple pulses to simulate a very large antenna aperture.
- **Image formation:** The coherent processing enhances resolution beyond what a physical antenna of the same size could achieve.
- **Applications of Microwave SAR** 
  - o Earth observation: Mapping terrain, vegetation, glaciers, oceans, and urban areas.
  - **Disaster monitoring:** Floods, earthquakes, landslides.
  - Military surveillance: Target detection and reconnaissance.
  - o Agriculture: Crop monitoring and soil moisture estimation.
  - Archaeology and geology: Detecting hidden structures and faults.

#### **QUESTIONS**

- **6.** With reference to the PixxelSpace India-led consortium, consider the following statements:
  - 1. It is India's first fully indigenous commercial Earth Observation (EO) satellite constellation under the PPP model.
  - 2. The consortium includes Piersight Space, Satsure Analytics India, and Dhruva Space.
  - 3. It plans to deploy a constellation of 12 satellites equipped with multispectral and SAR sensors.

Which of the statements given above are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3
- 7. The main advantage of Synthetic Aperture Radar (SAR) in Earth observation is:
  - A. It can provide higher resolution images than optical satellites but only in clear weather conditions.
  - B. It can penetrate clouds, rain, and vegetation, enabling imaging in all weather and at night.
  - C. It relies on solar reflection and cannot function in darkness.
  - D. It can only map ocean surfaces and not land areas.

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- **8.** With reference to the Indian National Space Promotion and Authorisation Centre (IN-SPACe), consider the following:
  - 1. It functions as an autonomous body under the Department of Space.
  - 2. It provides single-window clearance for private companies in space activities.
  - 3. It was set up to facilitate public-private collaboration in the space sector under Atmanirbhar Bharat.

Which of the statements given above is/are correct?

A. 1 only C. 1 and 3 only

B. 1 and 2 only D. 1, 2 and 3

- 9. Which of the following is/are applications of Microwave SAR technology?
  - 1. Mapping terrain, glaciers, and oceans.
  - 2. Estimating soil moisture and monitoring crops.
  - 3. Detecting hidden structures in archaeology.
  - 4. Providing high-resolution data in cloud-free daylight conditions only.

Select the correct answer using the code given below:

A. 1 and 2 only

C. 2 and 4 only

B. 1, 2 and 3 only D. 1, 2, 3 and 4

- 10. What is the significance of the PixxelSpace EO-PPP initiative for India?
  - 1. It reduces dependence on foreign sources of satellite data.
  - 2. It ensures data sovereignty and supports national security applications.
  - 3. It positions India among global leaders in commercial space-based geospatial intelligence.

Select the correct answer using the code given below:

A. 1 and 2 only

C. 1 and 3 only

B. 2 and 3 only D. 1, 2 and 3

# 3. Sudarshan Chakra: PM Modi announces India's next-gen multi-layered shield against missile threats

- India is embarking on a major new missile defence and cybersecurity initiative titled 'Mission Sudarshan Chakra', as announced by Prime Minister Narendra Modi during his Independence Day address.
- The ambitious project aims to create a comprehensive, multi-layered defence system that integrates advanced surveillance, cyber protection, and physical defence mechanisms to safeguard citizens and critical infrastructure.



- Inspired by the mythical weapon wielded by Lord Krishna, the Sudarshan Chakra symbolizes a powerful and precise defensive tool.
- The initiative is designed to be entirely indigenous, with research, development, and manufacturing to be carried out within India.
- The government has set a roadmap for major expansion and modernisation by 2035.
- While India already operates systems like the Integrated Air Command and Control System (IACCS)—which successfully neutralized Pakistani missile threats during Operation Sindoor—Mission Sudarshan Chakra is envisioned to go beyond conventional missile defence.
- It will likely include precision counterstrike capabilities and advanced cybersecurity measures to combat threats such as hacking, phishing, and cyber espionage.
- The announcement follows heightened security concerns in the aftermath of the April Pahalgam terror attack and the May attacks during Operation Sindoor, during which India's defence systems thwarted attempts to strike military and urban targets.
- These events have underlined the urgency for an upgraded and more integrated national defence mechanism.
- Mission Sudarshan Chakra will involve collaboration between India's defence forces, top scientific
  institutions, and private sector innovators, marking a significant step towards technological self-reliance
  and resilience.
- The initiative represents a strategic evolution in India's security doctrine, positioning the country to better respond to the dynamic nature of modern warfare, which now includes both physical and digital battlegrounds.

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#### 1. United States

#### **Systems:**

- Ground-Based Midcourse Defense (GMD): Designed to intercept long-range ballistic missiles in space during their midcourse phase.
- Aegis Ballistic Missile Defense (Aegis BMD): Sea-based system using ships equipped with SM-3 interceptors to destroy short to intermediate-range missiles.
- Terminal High Altitude Area Defense (THAAD): A mobile system that intercepts missiles in their terminal phase at high altitudes.
- Patriot PAC-3: Primarily for short-range ballistic missile defense.
- Strengths: Multiple layered systems covering different phases of missile flight (boost, midcourse, terminal).

#### 2. Russia

#### **Systems:**

- A-135 (Amur) System: Protects Moscow with anti-ballistic missile interceptors.
- S-400 Triumf: Advanced surface-to-air missile system that can target aircraft and ballistic missiles.
- S-500 Prometey: Newer system, designed for hypersonic missiles and ballistic missile defense.
- Strengths: Highly advanced radar and missile systems with the capability to target multiple threats simultaneously.

#### 3. China

#### **Systems:**

- HQ-9: Long-range surface-to-air missile system with some ballistic missile interception capability.
- PL-15 and HQ-19: Newer systems aimed at intercepting ballistic and cruise missiles.
- Potential development of space-based and layered missile defense, but less publicly detailed.
- Strengths: Rapid modernization and integration of missile defense technology, strong regional focus.

#### 4. Israel

#### **Systems:**

- **Iron Dome:** Designed for intercepting short-range rockets and artillery shells.
- David's Sling: Targets medium to long-range missiles and rockets.
- Arrow Program (Arrow 2 and Arrow 3): Developed with the US for high-altitude ballistic missile defense.
- Strengths: Integrated multi-tier system focused on threats from regional missile attacks.

#### 5. India

#### **Systems:**

- Ballistic Missile Defense Program (BMD): Includes two-tier defense with Prithvi Air Defense (PAD) and Advanced Air Defense (AAD) missiles.
- S-400 System: Purchased from Russia to bolster air and missile defense.
- Strengths: Developing indigenous missile defense layered system and integrating Russian technology.

#### 6. Japan

#### **Systems:**

- Aegis Ashore: Land-based version of the US Aegis system planned for ballistic missile defense.
- PAC-3 Patriot: Active for missile interception.
- Strengths: Cooperation with the US, focus on regional threats, particularly from North Korea.

#### 7. South Korea

#### **Systems:**

- THAAD: Deployed to counter North Korean missile threats.
- PAC-3 Patriot: For shorter-range missile threats.
- KAMD (Korea Air and Missile Defense): Developing indigenous layered missile defense.
- Strengths: Strong US alliance and focus on North Korean missile threat.

#### 8. European Union / NATO

#### **Systems:**

- Aegis Ashore: Deployed in Romania and Poland to protect Europe from missile threats.
- Patriot Systems: Deployed in various NATO countries.
- Future European missile defense initiatives focusing on integrated defense.
- Strengths: Collaborative defense architecture with US technology integration.

#### **QUESTIONS**

- 11. With reference to Mission Sudarshan Chakra, consider the following statements:
  - 1. It is India's next-gen indigenous multi-layered missile defence and cybersecurity initiative.
  - 2. It aims to integrate advanced surveillance, physical defence, and cyber protection.
  - 3. It is jointly developed with Israel as part of the Arrow missile defence program.

Which of the statements given above is/are correct?

A. 1 and 2 only

B. 1 and 3 only

D. 1, 2 and 3

12. Which of the following countries operates the Iron Dome missile defence system?

A. United States C. Russia
B. Israel D. Japan

- 13. Consider the following pairs of countries and their missile defence systems:
  - 1. United States THAAD and Ground-Based Midcourse Defense
  - 2. Russia S-400 and S-500 systems
  - 3. China HQ-9 and HQ-19 systems
  - 4. South Korea KAMD and THAAD

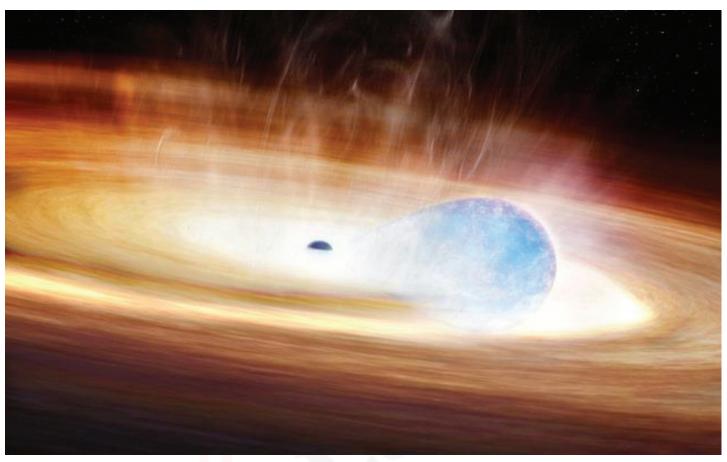
Which of the pairs given above are correctly matched?

A. 1, 2 and 3 only

C. 1, 2, 3 and 4

B. 2, 3 and 4 only
D. 1 and 4 only

# 4. New type of supernova detected as black hole causes star to explode



- Astronomers have discovered what appears to be a new type of supernova resulting from a rare and violent interaction between a massive star and a black hole in a binary system.
- The event, which occurred around 700 million light-years from Earth, involved a massive star—at least 10 times the mass of our Sun—and a black hole of similar mass.
- As the two objects spiraled closer over time, the black hole's immense gravitational pull distorted the star, gradually siphoning off its outer layers.
- After years of this gravitational "death dance," the star exploded in a supernova, releasing more energy in a single second than the Sun will emit in its entire lifetime.
- The exact mechanism behind the explosion remains unclear.
- Researchers are still debating whether the black hole triggered the star's collapse by causing instabilities or if it tore the star apart before the supernova occurred.
- What is evident is that the black hole not only survived the explosion but became more massive by consuming the leftover stellar debris.
- This event was first identified by an AI algorithm designed to detect unusual cosmic explosions in real time, enabling astronomers to begin follow-up observations almost immediately.
- These included both ground-based and space-based telescopes, which captured the entire sequence of events—from years of material shedding to the final explosion and aftermath.

- Prior observations revealed that the black hole had stripped away the star's hydrogen layer, exposing helium beneath. Post-explosion emissions confirmed the black hole's continued consumption of stellar remnants.
- This discovery highlights how the presence of a companion object, especially one as extreme as a black hole, can drastically alter a star's life and death.
- It offers valuable insight into stellar evolution and black hole behavior in binary systems, marking an exciting advancement in astrophysics.

#### Supernova

- A supernova is the powerful and dramatic explosion of a star.
- It marks the end of a star's life cycle and is one of the most energetic events in the universe.
- During a supernova, a star can shine as brightly as an entire galaxy for a short time, releasing an enormous amount of energy and often outshining all the other stars in its galaxy combined.

#### **Types of Supernovae**

#### There are two main types:

#### Type I Supernova

- Occurs in binary star systems.
- One of the stars is usually a white dwarf that gains matter from its companion until it reaches a critical mass and explodes.

#### Type II Supernova

- Happens when a massive star (typically more than 8 times the mass of the Sun) runs out of nuclear fuel.
- The core collapses under gravity and then rebounds in a violent explosion.

#### What Happens After a Supernova?

- The core may become a neutron star or even a black hole if the original star was massive enough.
- The explosion throws off outer layers into space, forming a supernova remnant—a cloud of gas and dust.
- These remnants contribute to the creation of new stars and planets, spreading heavy elements (like iron, gold, and uranium) throughout the universe.

#### Why Are Supernovae Important?

- They help us understand stellar evolution and the life cycle of stars.
- They seed galaxies with heavy elements necessary for planets and life.
- Type Ia supernovae are used as standard candles in cosmology to measure distances to faraway galaxies and determine the expansion rate of the universe (which led to the discovery of dark energy).

#### Black Hole

• A black hole is a region of space where gravity is so strong that nothing—not even light—can escape from it.

#### What Is a Black Hole?

- A black hole forms when a massive object (like a star) collapses under its own gravity, compressing all of its mass into an incredibly small point called a singularity.
- Surrounding the singularity is the event horizon—the "point of no return." Once something crosses it, it cannot escape.

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#### **Types of Black Holes**

#### **Stellar-Mass Black Holes**

- Formed from collapsing stars.
- A few to dozens of times more massive than the Sun.

#### **Supermassive Black Holes**

- Found at the centers of galaxies.
- Millions to billions of solar masses.
- **Example:** Sagittarius A\* at the center of the Milky Way.

#### **Intermediate Black Holes**

- Hundreds to thousands of solar masses.
- Harder to detect—possible "missing link" in black hole evolution.

#### **Primordial Black Holes (hypothetical)**

- Might have formed in the early universe.
- Could be tiny or massive.

#### **Cool Facts**

- Time slows down near a black hole due to extreme gravity (general relativity).
- Black holes can merge, producing ripples in spacetime called gravitational waves (detected by LIGO and Virgo).
- They can "evaporate" slowly over time due to Hawking radiation (a quantum effect).

#### **QUESTIONS**

- 14. With reference to the newly detected supernova event (2025), consider the following statements:
  - 1. It involved a binary system of a massive star and a black hole.
  - 2. The black hole survived the explosion and gained mass by consuming stellar debris.
  - 3. The explosion released more energy in a single second than the Sun will emit in its entire lifetime.

Which of the statements given above is/are correct?

A. 1 only C. 1, 2 and 3

B. 1 and 2 only
D. 2 and 3 only

- 15. Which of the following best describes a Type I Supernova?
  - A. Explosion of a white dwarf in a binary system after accreting too much matter.
  - B. Core collapse of a massive star after exhausting nuclear fuel.
  - C. Explosion triggered by interaction between a star and a black hole.
  - D. Explosion of a star more massive than 20 solar masses only.
- **16.** Which of the following statements about supernovae is/are correct?
  - 1. They distribute heavy elements like iron and uranium into interstellar space.
  - 2. Type Ia supernovae serve as "standard candles" in measuring cosmic distances.

3. After a supernova, the core always turns into a black hole.

Select the correct answer using the code below:

A. 1 and 2 only

C. 1 and 3 only

B. 2 and 3 only D. 1, 2 and 3

- 17. Consider the following about black holes:
  - 1. A black hole forms when a massive star collapses under gravity.
  - 2. The event horizon marks the boundary beyond which not even light can escape.
  - 3. Time dilation occurs near a black hole due to extreme gravity.

Which of the statements given above is/are correct?

A. 1 and 2 only C. 1, 2 and 3

B. 2 only D. 3 only

- **18.** Which of the following phenomena provided the first direct observational evidence for black hole mergers?
  - A. Gamma-ray bursts
  - B. Gravitational waves detected by LIGO
  - C. X-ray emissions from accretion disks
  - D. Neutrino bursts from supernova explosions

### 5. GST Reforms 2025



- The Indian government's announcement of next-generation GST reforms marks a pivotal move toward simplifying the country's indirect tax structure.
- A key proposal under review is the reduction of GST on small cars (under 1200cc) and two-wheelers from 28% to 18%, shifting the tax classification to engine capacity rather than vehicle type.
- The GST Council is expected to assess this proposal before Diwali, aligning the potential tax relief with the festive season when auto sales typically surge.

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- This reform arrives at a critical juncture for the automobile industry, which is experiencing uneven growth.
- In FY25, domestic two-wheeler sales grew by 9% to 19.61 million units, slightly below the 13% growth seen in FY24.
- Passenger vehicle sales, however, slowed to just 2% growth at 4.30 million units, compared to 8% the previous year.
- Entry-level vehicles have been hit hardest due to rising ownership costs and subdued consumer sentiment. In June 2025, car dispatches to dealerships dropped to an 18-month low of 0.31 million units, reflecting a 7.4% year-on-year decline, largely due to weak demand in urban areas.
- The proposed GST cut, combined with the recent RBI repo rate reduction to 6%, is expected to enhance vehicle affordability through cheaper loans and revive demand, particularly in the entry-level segment.
- This is anticipated to provide a significant boost to the industry during the festive period.
- A precedent exists for such reforms: the 2018 GST cut on auto components from 28% to 18% resulted in greater industry formalisation and improved standards. Similar outcomes are expected if the current reforms are implemented.
- Overall, the GST overhaul focuses on structural simplification, rate rationalisation, and improving ease of doing business—key pillars that could stimulate the auto sector and contribute meaningfully to India's broader economic recovery.

#### What is GST?

- GST (Goods and Services Tax) is a comprehensive, multi-stage, destination-based indirect tax levied on every value addition.
- It replaced a complex system of indirect taxes like excise duty, service tax, VAT, CST, etc., in India from 1<sup>st</sup> July 2017.
  - o Comprehensive: Subsumes almost all indirect taxes (central and state level)
  - o Multi-stage: Levied at every point of sale or purchase in the supply chain
  - O **Destination-based:** Tax is collected by the state where goods/services are consumed, not where they are produced

#### Structure of GST in India

#### GST in India is structured in a dual model:

#### 1. CGST (Central GST)

• Levied by the Central Government on intra-state supply of goods and services.

#### 2. SGST (State GST)

• Levied by the State Government on intra-state transactions.

#### 3. IGST (Integrated GST)

• Levied by the Central Government on inter-state transactions and imports.

Type	Levied by	When Applicable
CGST	Central Government	Intra-state supplies
SGST	State Government	Intra-state supplies
IGST	Central Government	Inter-state and import/export

#### Working of GST

Example: Supply Chain

Manufacturer → Wholesaler

GST on value added

• Manufacturer claims input tax credit (ITC) on raw material taxes paid

Wholesaler → Retailer

GST levied on the margin

• ITC claimed on taxes paid to manufacturer

Retailer → Consumer

GST charged on selling price

- Retailer claims ITC for taxes paid to wholesaler
- End consumer bears the full GST, as no ITC is available to consumers.

#### **FUNCTIONS OF GST**

#### **Eliminates Tax Cascading**

• Removes the "tax on tax" effect by allowing seamless Input Tax Credit.

#### **Uniform Taxation**

• Harmonized system of taxation across the country.

#### **Boosts Compliance**

• Enforced through e-invoicing, GSTN portal, and online return filing.

#### **Broadens Tax Base**

More taxpayers brought into the formal economy.

#### **Improves Logistics**

• No check-post delays due to uniformity and e-way bills.

#### **Enhances Transparency**

• Technology-driven administration (returns, refunds, compliance all online).

#### **Promotes Cooperative Federalism**

• GST Council allows central and state governments to jointly decide tax matters.

#### **COMPONENTS & RATES**

#### GST Slabs (as of 2025)

Rate	Items
0%	Essentials – Milk, fruits, vegetables, books
5%	Basic necessities – Edible oil, sugar, spices, tea
12%	Processed food, computers, garments
18%	Most services and industrial products
28%	Luxury goods, automobiles, air conditioners
+ Cess	On luxury and sin goods (e.g., tobacco, high-end cars)

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#### **GST COUNCIL**

• Constitutional body (Article 279A)

#### **Composed of:**

- Union Finance Minister (Chairperson)
- State Finance Ministers
- Decisions by 75% majority vote
- Decides tax rates, exemptions, thresholds, laws, and procedures

#### **GST RETURN FILING**

- Every registered business must file GST returns monthly/quarterly/annually via the GSTN Portal. Returns include:
  - o GSTR-1: Outward supplies
  - o GSTR-3B: Summary return of sales + ITC claim
  - o GSTR-9: Annual return

#### **INPUT TAX CREDIT (ITC)**

#### A critical feature:

- You can deduct the GST paid on purchases from the GST collected on sales.
- Ensures no double taxation and reduces tax liability.

#### **ADVANTAGES OF GST**

Advantage	Details
One Nation, One Tax	Unified indirect tax system
Simplified Compliance	Online filing, payments, and registration
Better Revenue Efficiency	Wider tax base, reduced evasion
Increased Transparency	Audit trails and digital records
Improved Logistics	Elimination of state border delays
Competitive Pricing	Reduction in hidden taxes, leading to lower prices

#### CHALLENGES IN IMPLEMENTATION

- Technical issues with GSTN portal
- Frequent rule changes
- Refund delays, especially for exporters
- Compliance burden for small businesses
- Interpretation issues in classification

#### **IMPACT OF GST**

- Formalized large parts of the informal sector
- Boosted indirect tax revenue
- Increased efficiency in supply chain
- Helped increase transparency in the economy

- 19. The GST Council, as per Article 279A of the Constitution, is chaired by:
  - A. The Prime Minister of India
  - B. The Union Finance Minister
  - C. The Chief Economic Adviser
  - D. The Governor of the Reserve Bank of India
- 20. Which of the following correctly describes Input Tax Credit (ITC) under GST?
  - A. ITC allows businesses to deduct the GST paid on inputs from the GST payable on final sales.
  - B. ITC benefits are available only to consumers, not businesses.
  - C. ITC increases the cascading effect of taxes by allowing multiple deductions.
  - D. ITC applies only to exports and not to domestic transactions.
- 21. Which of the following is NOT a key advantage of GST?
  - A. Removal of tax cascading
  - B. Increased transparency through digital compliance
  - C. One nation, one tax
  - D. Guarantee of zero compliance burden for small businesses
- 22. Consider the following GST slabs in India (as of 2025):
  - 1. 0% Essential goods such as milk, books, fruits, vegetables
  - 2. 5% Basic necessities such as edible oil, tea, sugar
  - 3. 12% Processed food, garments, computers
  - 4. 18% Most services and industrial products
  - 5. 28% Automobiles, luxury goods, air conditioners

Which of the following codes is correct?

A. 1, 2 and 3 only

C. 1, 2, 3, 4 and 5

B. 2, 3 and 4 only

D. 1, 4 and 5 only

# 6. African Union joins calls to end use of Mercator map that shrinks continent's size

• The African Union (AU) has endorsed a campaign to replace the widely used 16<sup>th</sup>-century Mercator map with a more accurate world map that better represents Africa's true size.

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- The Mercator projection, created by cartographer Gerardus Mercator for navigation purposes, significantly distorts the sizes of continents.
- It enlarges regions near the poles such as North America and Greenland while shrinking large continents near the equator like Africa and South America.
- This distortion has contributed to a misleading perception of Africa as a "marginal" continent, despite it being the world's second-largest continent both in terms of land area and population, home to over one billion people.
- The AU, which consists of 55 member states, supports this initiative as part of efforts to challenge historical misrepresentations and promote a more accurate global perspective.
- While criticism of the Mercator projection is longstanding, the Correct the Map campaign, led by advocacy groups Africa No Filter and Speak Up Africa, has reinvigorated the discussion.
- This campaign urges governments and international organizations to adopt the 2018 Equal Earth projection, a map designed to portray countries' relative sizes more accurately, thereby correcting distortions inherent in traditional maps.
- Despite these efforts, the Mercator projection remains in widespread use, particularly in education and by major technology companies.
- For instance, Google Maps used the Mercator projection on desktop platforms until 2018 when it transitioned to a 3D globe view, though users still have the option to revert to the Mercator view.

• The campaign emphasizes the importance of maps that reflect geographical realities to foster a better understanding of Africa's prominence on the world stage and to challenge outdated colonial-era perspectives embedded in traditional cartography.

#### What is the African Union (AU)?

- The African Union (AU) is a continental organization consisting of 55 African countries.
- It was established to promote unity, peace, security, economic development, and political integration among African nations.
  - o **Founded:** 2001 (replacing the Organization of African Unity, OAU, which was founded in 1963)
  - o Headquarters: Addis Ababa, Ethiopia



#### **Main Goals:**

- Promote peace and security across Africa
- Foster economic development and integration
- Encourage democratic governance and human rights
- Coordinate common policies on health, education, and environmental issues

#### Structure of the AU:

- Assembly of the African Union: Composed of heads of state and government, the highest decision-making body.
- Executive Council: Ministers from member states, responsible for implementing Assembly decisions.
- Pan-African Parliament: Provides advisory and consultative roles.
- African Court on Human and Peoples' Rights: Ensures protection of human rights.
- Commission: The AU's secretariat, handling day-to-day administration.

#### **Key Initiatives:**

- African Continental Free Trade Area (AfCFTA): Aims to create a single continental market for goods and services.
- Peacekeeping Missions: AU deploys missions in conflict zones like Somalia, Darfur, and Mali.
- Agenda 2063: A strategic framework for Africa's socio-economic transformation over 50 years.

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#### Agenda 2063

- Agenda 2063 is the African Union's (AU) strategic framework for the socio-economic transformation of the continent over a 50-year period, from 2013 to 2063.
- It was adopted in 2015 and represents Africa's collective vision and roadmap for development, unity, prosperity, and peace.

#### Overview of Agenda 2063

- Motto: "The Africa We Want"
- **Timeframe:** 2013–2063 (to coincide with the 100-year anniversary of the OAU's founding in 1963)
- **Purpose:** To guide Africa's development based on inclusive growth, sustainable development, continental integration, good governance, and peace and security

#### 7 Aspirations of Agenda 2063

#### These are the foundational pillars:

#### A Prosperous Africa

- Inclusive growth and sustainable development
- Modern agriculture, blue economy, industrialization, and technological innovation

#### **An Integrated Continent**

- Free movement of people, goods, capital
- A united Africa through regional and continental integration (e.g., AfCFTA)

#### Good Governance, Democracy, and Respect for Human Rights

• Rule of law, justice, equality, and participatory democracy

#### **Peace and Security**

• Conflict prevention and resolution, common defense, and security policy

#### A Strong Cultural Identity and Common Heritage

• Promotion of African culture, languages, and values

#### **People-driven Development**

• Empowerment of women, youth, and civil society

#### A Strong, United, and Influential Africa on the Global Stage

• Africa speaking with one voice in global negotiations and institutions

#### Flagship Projects of Agenda 2063

#### Some key projects include:

- African Continental Free Trade Area (AfCFTA)
- Integrated High-Speed Train Network
- Pan-African e-Passport
- Silencing the Guns by 2030
- African Outer Space Strategy
- Great Museum of Africa
- African Virtual and E-University
- Grand Inga Dam Project

#### **Implementation**

- **Ten-Year Implementation Plans:** The first (2013–2023) focused on setting up institutions, launching flagship projects, and aligning national strategies.
- AUDA-NEPAD (African Union Development Agency) plays a key role in coordination and implementation.
- **Monitoring & Evaluation:** Progress reports, national development alignment, and African Peer Review Mechanism (APRM)

#### **QUESTIONS**

- 23. With reference to the Mercator projection map, consider the following statements:
  - 1. It was originally designed in the 16<sup>th</sup> century for navigation purposes.
  - 2. It exaggerates the size of regions near the equator while shrinking polar areas.
  - 3. The African Union has called for replacing it with the Equal Earth projection.

Which of the statements given above is/are correct?

- A. 1 only
- B. 1 and 3 only
- C. 1, 2 and 3
- D. 2 and 3 only
- 24. Which of the following is a flagship project under Agenda 2063 of the African Union?
  - A. Great Green Wall of Africa
  - B. Integrated High-Speed Train Network
  - C. One Sun One World One Grid
  - D. Global Gateway Project
- **25.** Agenda 2063 of the African Union is best described as:
  - A. A continental program to combat climate change in Africa by 2063.
  - B. A strategic framework for socio-economic transformation of Africa over 50 years.
  - C. A defense pact among AU members for collective security.
  - D. A global partnership framework between Africa and the United Nations.
- **26.** With reference to the African Union (AU), consider the following statements:
  - 1. It was established in 2001, replacing the Organization of African Unity (OAU).
  - 2. Its headquarters is located in Addis Ababa, Ethiopia.
  - 3. The AU currently has 55 member states.

Which of the statements given above is/are correct?

A. 1 and 2 only

C. 1, 2 and 3

B. 2 only

D. 1 and 3 only

# 7. India 'successfully tests' nuclear-capable missile able to reach deep into China



- India has successfully test-fired the Agni-5, an intermediate-range ballistic missile capable of carrying a nuclear warhead to any part of China.
- The test was conducted in Odisha state and reportedly validated all technical and operational parameters.
- The Agni-5 is part of India's broader effort to enhance its defense capabilities, particularly in the context of ongoing regional tensions with both China and Pakistan.
- India and China, the world's two most populous nations, have been locked in strategic rivalry, competing for influence across South Asia.
- Their relationship worsened significantly after a deadly border clash in 2020. Despite efforts to deescalate, underlying mistrust remains.
- India is also a member of the Quad alliance alongside the US, Australia, and Japan, widely seen as a counterbalance to China's growing influence in the Indo-Pacific region.
- In October, Indian Prime Minister Narendra Modi met Chinese President Xi Jinping for the first time in five years during a summit in Russia. Modi is also expected to visit China to attend the Shanghai Cooperation Organisation (SCO) summit.
- India's relations with the United States, however, have been strained due to economic and geopolitical tensions.
- Former President Donald Trump's trade policies continue to impact ties, particularly over India's continued purchase of Russian oil, which remains a major revenue source for Moscow amid its war in Ukraine.

• The US has warned of doubling tariffs on Indian imports if New Delhi fails to shift away from Russian crude.

#### **Quad Alliance**

• The Quad Alliance (officially the Quadrilateral Security Dialogue, or Quad) is a strategic forum involving four countries:

United States

Japan

o India

Australia

#### **Purpose:**

#### The Quad aims to promote:

• A free and open Indo-Pacific

Maritime security

• Democratic values

- Economic cooperation
- Counterbalance to China's growing influence in the region

#### **Background:**

- Originally formed in 2007, initiated by Japanese PM Shinzo Abe, with support from the other three countries.
- It became inactive for a few years but was revived in 2017 due to rising concerns over China's assertiveness in the Indo-Pacific.
- The first leader-level summit was held in 2021.

#### **Key Areas of Cooperation:**

- Maritime security and joint naval exercises (like Exercise Malabar)
- COVID-19 response (especially vaccine distribution in Asia)
- Infrastructure development
- Climate change
- Cybersecurity and emerging technologies

#### Agni missile system

- The Agni missile system is a family of medium to intercontinental-range ballistic missiles developed by India under its Integrated Guided Missile Development Programme (IGMDP).
- These missiles are named after "Agni," the Sanskrit word for fire, symbolizing power and energy.

#### **Overview of Agni Missile Series**

Variant	Range	Type	Status
Agni-I	700 – 1,200 km	Short-range ballistic missile (SRBM)	Operational
Agni-II	2,000 – 3,000 km	Medium-range ballistic missile (MRBM)	Operational
Agni-III	3,000 – 5,000 km	Intermediate-range ballistic missile (IRBM)	Operational
Agni-IV	4,000 km	IRBM with better accuracy and mobility	Operational
Agni-V	5,000 – 8,000 km	Intercontinental ballistic missile (ICBM)	Operational
Agni-VI	8,000 – 10,000+ km	ICBM with MIRV capability	Not yet deployed
(under			
development)			

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#### **Key Features**

- Solid fuel propulsion (in later versions for faster launch readiness)
- Canisterized launch (Agni-IV and V) for quicker mobility and protection
- Road and rail mobility for strategic flexibility
- High accuracy with improved guidance systems (Ring Laser Gyroscopes, GPS)
- MIRV Capability (Multiple Independently targetable Reentry Vehicles) expected in Agni-VI

#### **Strategic Importance**

- Forms a major component of India's nuclear triad (land, air, sea-based deterrence)
- Provides credible minimum deterrence under India's No First Use (NFU) nuclear policy
- Capable of targeting adversaries deep inside Asia, including all of China
- Enhances second-strike capability and ensures survivability in case of nuclear aggression

#### **Developers and Operators**

- Developer: DRDO (Defence Research and Development Organisation), India
- Operator: Indian Strategic Forces Command (SFC), a part of India's Nuclear Command Authority

#### **QUESTIONS**

- 27. With reference to the Agni-5 missile, consider the following statements:
  - 1. It is an Intercontinental Ballistic Missile (ICBM) with a range of 5,000–8,000 km.
  - 2. It uses solid-fuel propulsion and can be launched from canisterized systems.
  - 3. It is developed by DRDO and operated by India's Strategic Forces Command.

Which of the statements given above are correct?

A. 1 and 2 only

C. 1 and 3 only

B. 2 and 3 only

D. 1, 2 and 3

- 28. The Quad Alliance (Quadrilateral Security Dialogue) does NOT focus on which of the following?
  - A. Maritime security and joint naval exercises
  - B. Promotion of democratic values in the Indo-Pacific
  - C. Vaccine distribution and health cooperation
  - D. Collective defence pact under Article 5, similar to NATO
- 29. Which of the following correctly matches the Agni missile variants with their ranges?
  - 1. Agni-I 700 to 1,200 km
  - 2. Agni-II 2,000 to 3,000 km
  - 3. Agni-III -3,000 to 5,000 km
  - 4. Agni-IV 4,000 km

Select the correct answer using the code below:

A. 1 and 2 only

C. 1, 2, 3 and 4

B. 2 and 3 only

D. 1 and 4 only

- **30.** The strategic importance of the Agni missile system lies in:
  - 1. Forming a key component of India's nuclear triad.
  - 2. Enhancing India's credible minimum deterrence policy.
  - 3. Providing second-strike capability in case of nuclear aggression.

Select the correct answer using the code below:

A. 1 only C. 1, 2 and 3

B. 1 and 2 only
D. 2 and 3 only

- **31.** With reference to India's Integrated Guided Missile Development Programme (IGMDP), consider the following pairs of missile families:
  - 1. Prithvi Short-range surface-to-surface missile
  - 2. Agni Ballistic missile series
  - 3. Akash Surface-to-air missile
  - 4. Nag Anti-tank guided missile

Which of the pairs given above are correctly matched?

A. 1, 2 and 3 only C. 1, 2, 3 and 4

B. 2 and 4 only
D. 1 and 3 only

## 8. Alaska Summit Report Card 2025

- The Alaska Summit of 2025 marked the first face-to-face interaction between U.S. President Donald Trump and Russian President Vladimir Putin since the war in Ukraine erupted more than three and a half years ago.
- Though it did not result in an immediate ceasefire or concrete peace agreement, the summit was still significant in diplomatic terms, symbolizing a thaw in relations between two powerful adversaries and suggesting a possible shift in the dynamics of the Ukraine conflict.

#### A Symbolic Encounter

- Held at a U.S. military base in Alaska, the meeting lasted three hours, with a stage backdrop titled "Pursuing Peace."
- While both leaders delivered vague, non-committal post-meeting statements and refused to take questions, the very fact that the summit occurred was itself a diplomatic milestone.
- Notably, Trump—known for his lengthy, impromptu press interactions—was unusually reserved, contributing to the air of uncertainty around the summit's true outcomes.

#### **Putin's Victory in Optics and Strategy**

- From Russia's perspective, the summit was largely a success.
- Putin's confident arrival at a U.S. military base, complete with ceremonial honors including B-2 bombers and F-22 Raptors, symbolized a return to the international stage after years of isolation due to Western sanctions and accusations of war crimes.

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- Merely being welcomed by the U.S. President on American soil helped him reclaim a sense of legitimacy and parity with the West.
- Putin's goals were clear: to push for sanctions relief and to reset U.S.-Russia economic ties. His delegation included key business advisers, highlighting his focus on restoring economic relations.
- He pointed out that U.S.-Russia trade had grown by 20% under Trump's administration—albeit from a low base—and emphasized potential areas of cooperation: energy, high-tech, space, digital innovation, and Arctic development. He also advocated for renewing interregional connections between Russia's Far East and the U.S. West Coast.
- On the security front, Putin echoed Trump's comments about Ukraine's need for security guarantees but added a caveat that was laden with implications. His statement subtly ruled out NATO membership for Ukraine or any NATO troop presence near Russian borders.
- Implicitly, Putin was advocating for a security arrangement that would leave Ukraine under Moscow's influence or approval, rather than being absorbed into Western defense structures.

#### **Trump's Measured Gains**

• For President Trump, the Alaska summit was expected to be a showcase of his deal-making prowess, positioning himself as the global peacemaker.

- While he succeeded in bringing Putin to the negotiating table and securing a Russian statement expressing interest in ending the Ukraine war, no concrete outcomes were announced.
- Trump described the summit as a "10" in a post-meeting interview though this assessment seemed inconsistent with the lack of substance in the joint statements and the abrupt cancellation of a planned luncheon.
- While he framed the event as a productive "feel-out meeting," the atmosphere suggested that it was Putin, rather than Trump, who did the real feeling-out.
- Trump made it clear that no agreement had yet been reached but claimed some "headway" had been made.
- His challenge now is to convince European allies and Ukraine's President Volodymyr Zelenskyy that his engagement with Putin wasn't a hollow diplomatic gesture.
- These stakeholders are wary, especially after cautioning Trump that Putin might not be serious about pursuing peace.
- Trump had earlier warned that Russia would face "very severe consequences" if Putin appeared unserious during the summit—a point Zelenskyy will surely press him on in follow-up discussions.

#### **Implications for India: Watching Closely**

- For India, the Alaska summit was watched with high stakes. India currently faces a punitive 50% tariff on key exports to the U.S., half of which is a direct penalty for continuing to buy oil from Russia during the war.
- Trump has publicly credited this economic pressure on India as a factor in compelling Russia to the negotiating table.
- Thus, New Delhi had a vested interest in a successful summit that could pave the way for easing sanctions.
- While no definitive relief emerged, Putin's statement that the Alaska agreements could be a starting point for resolving the Ukraine crisis gives India a glimmer of hope. The absence of any negative outcome, for now, is viewed positively by Indian officials.
- India will now seek more clarity from both Washington and Moscow on what transpired behind closed doors.
- The Indian government is likely to intensify diplomatic outreach to assess whether the tide is turning and if U.S. tariffs might be lifted in the near future.

#### **Conclusion: An Inconclusive Yet Strategic Step**

- The Alaska summit did not result in a ceasefire, peace treaty, or immediate diplomatic breakthrough.
- However, it served as a critical first step in re-engaging two major powers that had been locked in geopolitical confrontation.
- For Putin, it restored international stature and advanced his economic and security agenda.
- For Trump, it was a cautious opening move in a high-stakes negotiation process.
- Much now depends on the follow-up: how Trump communicates the results to NATO allies, what assurances are given to Ukraine, and whether Russia demonstrates tangible signs of winding down the war.
- The absence of a deal does not equate to failure—but it does mean that the road to peace remains long and uncertain.
- For India, the summit offers hope without assurance. New Delhi remains in wait-and-watch mode, navigating between its strategic autonomy and the real pressures of economic penalties tied to the Ukraine conflict.

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• Ultimately, Alaska may be remembered not for a breakthrough, but as a moment where diplomacy restarted, however hesitantly, after years of open hostility.

#### **OUESTIONS**

- **32.** With reference to the Alaska Summit 2025, consider the following statements:
  - 1. It was the first face-to-face meeting between Donald Trump and Vladimir Putin since the Ukraine war began.
  - 2. The summit produced a formal ceasefire agreement in Ukraine.
  - 3. It was held at a U.S. military base in Alaska.

Which of the statements given above is/are correct?

A. 1 and 2 only

C. 2 only

B. 1 and 3 only

D. 1, 2 and 3

- **33.** Consider the following statements:
  - I. Anadyr in Siberia and Nome in Alaska are a few kilometers from each other, but when people are waking up and getting set for breakfast in these cities, it would be different days.
  - II. When it is Monday in Anadyr, it is Tuesday in Nome.

Which of the statements given above is/are correct?

A. I only

C. Both I and II

B. II only

D. Neither I nor II

- 34. For India, why was the Alaska Summit closely watched?
  - A. India was a formal observer at the talks.
  - B. India faces punitive tariffs linked to its continued purchase of Russian oil.
  - C. India expected a defense pact with the U.S. to counterbalance China.
  - D. India was mediating between the U.S. and Russia.

## 9. Difference between civil & criminal cases

#### **Recent Supreme Court Interventions**

- The Supreme Court of India has recently taken a firm stand against the misuse of criminal proceedings in what are essentially civil disputes.
- In two separate instances, the apex court intervened after High Courts allowed criminal action in matters stemming from commercial disagreements.

#### **Plywood Consignment Case**

• In one such case, the Supreme Court set aside a Rajasthan High Court order that denied anticipatory bail to a couple over an unpaid amount related to a plywood consignment. Justice J.B. Pardiwala, part of the Bench along with Justice R. Mahadevan, stated:

"There is no question of criminal breach of trust once there is a sale transaction. This is a settled position of law."



• This affirmed the principle that a mere failure to pay in a commercial sale does not inherently amount to a criminal offence, especially in the absence of criminal intent.

#### Allahabad HC Judge Stripped of Criminal Roster

- In a similar matter, the same Bench passed a stern order against a judge of the Allahabad High Court who had allowed criminal proceedings in another case concerning an unpaid business transaction.
- The Supreme Court described the High Court's reasoning as "shocking" and a "mockery of justice." Initially, the SC directed that the judge should not be assigned criminal cases in the future.

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• However, following intervention by the Chief Justice of India, this part of the order was later withdrawn on August 8, showing the Supreme Court's willingness to correct its own overreach while maintaining the core legal principle.

#### **Difference: Civil vs Criminal Law**

• A clear distinction between civil and criminal law is vital to understanding why such interventions were necessary.

#### **Civil Law**

- **Purpose:** To resolve private disputes between individuals or organizations.
- Nature of Relief: Seeks remedies, not punishment—usually in the form of compensation or injunctions.
- Common Examples:
  - Contract breaches
  - Property disputes
  - o Divorce and custody battles
  - o Recovery of money
- **Terminology:** The person bringing the case is the plaintiff, while the opposite party is the defendant.

#### **Criminal Law**

- **Purpose:** To penalize actions that harm society or the state.
- Nature of Relief: Involves punishment—such as imprisonment, fines, or even the death penalty.
- Common Offences:

o Theft

Assault

Cheating

o Murder

• **Prosecution:** Initiated by the state against the accused.

#### **Burden of Proof**

- Civil Cases: Based on a "preponderance of probabilities"—i.e., one party's version is more likely to be true.
- Criminal Cases: Must be proven "beyond reasonable doubt" due to the severe consequences involved.

#### Overlap Between Civil and Criminal Law

• While the two branches are distinct, certain actions can give rise to both civil and criminal proceedings.

#### The Supreme Court's Stance on Dual Proceedings

• In the two cases it reviewed, the Supreme Court concluded that the allegations—though framed as cheating and breach of trust—lacked a demonstrable criminal intent. The disputes essentially stemmed from a breach of contract, a civil issue.

#### The Court emphasized that:

- Criminal proceedings require intent to deceive from the very beginning of the transaction.
- Absence of such intent means the matter should be resolved through civil litigation.
- This reasserts the established legal principle that commercial disputes should not be criminalized unless there's clear evidence of fraud.

#### Perception of Delay: Civil vs Criminal Proceedings

#### **Time Taken for Case Resolution**

- One of the reasons judges and litigants sometimes prefer criminal routes is the perception that civil cases take too long.
- This belief was also cited by the Allahabad HC judge whose decision was later overturned.

#### NJDG Data (as of August 14, 2025)

- 70.17% of criminal trials in district courts were disposed of within a year.
- Only 37.91% of civil suits were resolved in the same timeframe.

#### **Reasons for Delay in Civil Cases**

- According to Surya Prakash B S of DAKSH (a legal think-tank), the delay in civil litigation is often due to:
  - Lack of urgency (since personal liberty isn't at stake).
  - o Parties using delay tactics to push for out-of-court settlements.
  - o Procedural delays like summons and notices dragging the process.
  - O DAKSH's research in Bengaluru courts found a large number of civil suits getting stuck even before the case fully begins.

#### **Detailed Comparison of Average Case Duration**

#### Despite the perception that criminal cases are quicker, the reality is more nuanced:

Type of Case	Average Time for Disposal
Civil suits	4.91 years
Execution petitions (enforcing court orders in civil cases)	3.97 years
Criminal bail applications	6.12 months
Criminal Sessions Court trials (serious offences)	4.65 years
Magisterial criminal cases (less serious offences)	2.45 years

#### **Key Takeaways:**

- Serious criminal cases take nearly as long as civil suits.
- Only minor criminal matters and bail applications are disposed of relatively quickly.
- Execution of civil decrees (enforcement) also adds years to final relief, further dragging civil litigation.

#### **Conclusion: Curbing Criminalisation of Civil Disputes**

- The Supreme Court's recent rulings reaffirm a vital tenet of Indian jurisprudence: criminal law should not be misused as a tool for settling private business scores.
- By stepping in to quash criminal proceedings arising out of commercial disputes, the apex court:
- Prevented harassment of individuals via the criminal justice system.

- Reiterated that civil and criminal law must not be conflated.
- Warned lower courts to exercise restraint and uphold legal distinctions.
- At the same time, the Court acknowledged the need for judicial reform in civil procedures, so that civil remedies don't lose their efficacy due to delays—thereby reducing the temptation to seek quicker, though inappropriate, criminal remedies.

#### **QUESTIONS**

- **35.** With reference to the Supreme Court's recent interventions (2025) in misuse of criminal law, consider the following statements:
  - 1. The SC quashed anticipatory bail denial in a plywood consignment case, ruling that mere non-payment in a commercial transaction is not criminal breach of trust.
  - 2. The SC initially barred an Allahabad High Court judge from handling criminal cases after a controversial order but later withdrew this direction.
  - 3. The SC held that criminal proceedings in business disputes are valid even without evidence of intent to deceive.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2 and 3
- **36.** The key difference between civil and criminal law in terms of burden of proof is:
  - A. Civil law requires proof beyond reasonable doubt, while criminal law requires preponderance of probabilities.
  - B. Civil law requires preponderance of probabilities, while criminal law requires proof beyond reasonable doubt.
  - C. Both civil and criminal law require proof beyond reasonable doubt.
  - D. Both rely on preponderance of probabilities.
- **37.** According to National Judicial Data Grid (NJDG, 2025), which of the following statements is correct?
  - A. Over 70% of civil suits are disposed of within a year, compared to less than 40% of criminal cases.
  - B. Civil suits take longer than most criminal trials, with only 37.91% resolved in a year.
  - C. Average time for disposal of bail applications is longer than civil suits.
  - D. Execution petitions in civil cases are disposed of quicker than criminal bail applications.

## 10. Constitution 130<sup>th</sup> Amendment Bill 2025



• On August 20, 2025, amid intense protests and uproar in the Lok Sabha, the government introduced The Constitution (One Hundred and Thirtieth Amendment) Bill, 2025, which was subsequently referred to a Joint Parliamentary Committee (JPC) for detailed scrutiny.

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- The 130<sup>th</sup> Amendment Bill proposes significant changes to Article 75 of the Indian Constitution, which governs the appointment and responsibilities of the Prime Minister and the Council of Ministers.
- The Bill introduces a clause that mandates the removal of a minister who is arrested and detained for 30 consecutive days in connection with a serious offence punishable with imprisonment of five years or more.

#### According to the draft

- If a minister is detained for 30 days on serious criminal allegations, the President shall remove the minister on the advice of the Chief Minister by the 31<sup>st</sup> day.
- If the Chief Minister fails to advise removal by the 31<sup>st</sup> day, the minister automatically ceases to hold office from the following day.
- Importantly, the Bill also states that once released from custody, the individual may be re-appointed as a minister or Chief Minister.

#### **Government's Justification**

- The Bill's statement of objects and reasons argues that ministers accused of serious crimes and held in custody may undermine constitutional morality, good governance, and public trust.
- The government asserts that such individuals should not be allowed to remain in power during their detention, as it could compromise the integrity of the administration.

#### **Opposition's Concerns**

• The Bill has triggered strong backlash from the Opposition, who argue that the move could be misused to destabilize democratically elected governments, particularly in Opposition-ruled states.

#### **Critics argue that:**

- The Bill allows the removal of a minister based solely on arrest, rather than conviction, violating the presumption of innocence a cornerstone of Indian law.
- Agencies like the CBI and ED, which report to the Union Government, could be weaponised to arrest ministers from rival parties for political gains.
- The Bill disrupts the separation of powers, giving executive agencies the indirect authority to remove elected ministers, a role traditionally reserved for courts or legislatures.
- AIMIM MP Asaduddin Owaisi strongly opposed the Bill, calling it a violation of constitutional principles and a danger to the principle of judicial independence. West Bengal Chief Minister Mamata Banerjee went further, calling it a step toward a "super-Emergency," and a threat to democracy and federalism.

#### Joint Parliamentary Committee (JPC)

- To address the controversy and facilitate deeper scrutiny, the Bill was referred to a Joint Parliamentary Committee, comprising 31 members from both the Lok Sabha and Rajya Sabha.
- The Speaker of the Lok Sabha and the Chairman of the Rajya Sabha will nominate the members.
- The Home Minister has requested that the committee submit its report before the next Parliamentary session.
- A Joint Parliamentary Committee (JPC) is a special committee formed for investigating complex legislative matters. Though its recommendations are not binding, they often influence the final form of a Bill.

#### **Indian Constitution Amendment**

• The Indian Constitution Amendment process is designed to allow the Constitution of India to be updated as needed, while also ensuring that core principles are protected.

• Amendments can be made under Article 368 of the Constitution.

#### **Types of Amendments**

#### There are three types of constitutional amendments in India:

#### 1. By Simple Majority of Parliament

- Some provisions can be amended by a simple majority of the members present and voting in both Houses of Parliament.
- These are not considered formal amendments under Article 368.

#### **Examples:**

- o Admission or establishment of new states (Article 2)
- o Formation of new states or alteration of areas, boundaries, or names of existing states (Article 3)

#### 2. By Special Majority of Parliament

- Most constitutional amendments fall under this category. They require:
- A majority of the total membership of each House, and
- A two-thirds majority of the members present and voting.
- This method is under Article 368(2).

#### **Examples:**

- o Abolition of Right to Property (44<sup>th</sup> Amendment)
- o Introduction of Goods and Services Tax (101st Amendment)

#### 3. By Special Majority and Ratification by Half of the States

• For certain amendments that affect the federal structure, in addition to the special majority in Parliament, ratification by at least half of the state legislatures is required.

#### **Examples:**

- Election of the President
- o Representation of States in Parliament
- o Powers of the Union and the States

#### **Notable Constitutional Amendments**

Amendment	Year	Key Changes
1 <sup>st</sup>	1951	Restrictions on freedom of speech; added Ninth Schedule
42 <sup>nd</sup>	1976	Known as the "Mini Constitution"; added words "Socialist," "Secular" and "Integrity" to the Preamble
44 <sup>th</sup>	1978	Removed Right to Property as a fundamental right
73 <sup>rd</sup> & 74 <sup>th</sup>	1992	Strengthened Panchayati Raj and Urban Local Bodies
86 <sup>th</sup>	2002	Made education a fundamental right for children aged 6–14
101 <sup>st</sup>	2016	Introduced the Goods and Services Tax (GST)

#### **Total Amendments So Far**

• As of August 2025, the Constitution of India has been amended over 106 times since it came into effect on January 26, 1950.

#### **QUESTIONS**

- **38.** Consider the following statements regarding the Constitution (130<sup>th</sup> Amendment) Bill, 2025:
  - 1. It seeks to amend Article 75 of the Indian Constitution.
  - 2. It mandates automatic removal of a minister if detained for 30 consecutive days for a serious offence.
  - 3. Once released from custody, the individual is barred permanently from being reappointed as a minister.

Which of the statements given above is/are correct?

A. 1 and 2 only

C. 1 and 3 only

B. 2 and 3 only

D. 1, 2 and 3

- **39.** Consider the following statements about the Joint Parliamentary Committee (JPC) examining the 130<sup>th</sup> Amendment Bill:
  - 1. It consists of 31 members drawn from both Lok Sabha and Rajya Sabha.
  - 2. Its recommendations are binding on Parliament.
  - 3. Members are nominated by the Speaker of Lok Sabha and Chairman of Rajya Sabha.

Which of the statements given above is/are correct?

A. 1 and 2 only

C. 1 and 3 only

B. 2 and 3 only

D. 1, 2 and 3

- **40.** Which of the following pairs of Constitutional Amendments and their significance is/are correctly matched?
  - 1. 42<sup>nd</sup> Amendment Added "Socialist," "Secular," and "Integrity" to the Preamble.
  - 2. 44<sup>th</sup> Amendment Abolished Right to Property as a Fundamental Right.
  - 3. 73<sup>rd</sup> & 74<sup>th</sup> Amendments Strengthened local governance institutions.
  - 4.  $101^{st}$  Amendment Introduced Goods and Services Tax (GST).

Select the correct answer:

A. 1 and 2 only

C. 2, 3 and 4 only

B. 1, 2 and 3 only

D. 1, 2, 3 and 4

#### ANSWER KEY AND EXPLANATION

#### 1. A 1 and 2 only

- o SabhaSaar auto-generates Gram Sabha minutes using AI/NLP → correct.
- o Integrated with **Bhashini** for multilingual support (13 languages currently)  $\rightarrow$  correct.
- o Not 22 languages (that's Bhashini, not SabhaSaar)  $\rightarrow$  3 is incorrect.
- 2. B An open-source AI platform for real-time multilingual translation in India.
  - o Bhashini is part of **National Language Translation Mission (NLTM)** under MeitY.
  - o Provides AI-driven multilingual support in 22+ Indian languages.

#### 3. B 2 only

- The NIRNAY portal mentioned here refers to Maharashtra's online service platform for utility and tax payments.
- The Panchayat NIRNAY portal by the Union Ministry is a different initiative for monitoring Gram Sabhas.

Hence, only statement 2 is correct.

#### 4. D 1, 2 and 3

- o All three are correct: Railways (CRIS), higher education (AICTE/UGC), and state-level initiative (Rajasthan's Pehchan app).
- 5. A January 26, May 1, August 15, October 2
  - By mandate, Gram Sabhas must meet at least four times annually: Republic Day (26 Jan),
     Labour Day (1 May), Independence Day (15 Aug), and Gandhi Jayanti (2 Oct).

#### 6. D 1. 2 and 3

- o The **PixxelSpace** consortium is India's first fully indigenous commercial EO constellation → correct.
- o Partners include Piersight Space, Satsure Analytics India, and Dhruva Space → correct.
- o It will deploy 12 EO satellites with panchromatic, multispectral, hyperspectral, and SAR sensors

  → correct.
- 7. B It can penetrate clouds, rain, and vegetation, enabling imaging in all weather and at night.
  - o SAR operates in the microwave spectrum (1–40 GHz), making it independent of sunlight.
  - It can penetrate clouds, rain, and even vegetation → suitable for all-weather, day-night imaging.
     Hence, (b) is correct.

#### 8. D 1, 2 and 3

- o IN-SPACe is an autonomous body under the Department of Space  $\rightarrow$  correct.
- o It provides single-window clearances to private space companies  $\rightarrow$  correct.
- Formed to align with Atmanirbhar Bharat vision, boosting private sector participation in space
   → correct.

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#### 9. B 1, 2 and 3 only

- SAR has diverse applications: terrain mapping, crop monitoring, disaster management, archaeology.
- o It works in all-weather conditions, day or night, not limited to clear daylight  $\rightarrow$  4 is incorrect.

#### 10. D 1, 2 and 3

- o The constellation will generate **high-resolution indigenous satellite data** → reduces reliance on foreign sources.
- o It ensures **data sovereignty** and supports climate monitoring, disaster management, and national security.
- o It enhances India's role in **global geospatial intelligence** markets  $\rightarrow$  all 3 correct.

#### 11. A 1 and 2 only

- o Mission Sudarshan Chakra is an indigenous initiative announced by PM Modi (2025).
- o It integrates surveillance, cyber, and physical defence  $\rightarrow$  correct.
- o It is **not developed with Israel**; it is India's fully indigenous project → statement 3 incorrect.

#### 12. B Israel

- o Iron Dome is Israel's short-range defence system against rockets and artillery.
- o Israel also uses **David's Sling** (medium-range) and **Arrow 2/3** (ballistic defence with US collaboration).

#### 13. C 1, 2, 3 and 4

- o US: GMD, THAAD, Patriot PAC-3, Aegis  $\rightarrow$  correct.
- $\circ$  Russia: S-400, S-500  $\rightarrow$  correct.
- China: HQ-9, HQ-19  $\rightarrow$  correct.
- o **South Korea**: KAMD (indigenous), THAAD (US deployed) → correct.

#### 14. C 1, 2 and 3

- The event involved a binary system (star + black hole)  $\rightarrow$  correct.
- The black hole not only survived but grew more massive  $\rightarrow$  correct.
- $\circ$  Energy released exceeded the Sun's lifetime energy output  $\rightarrow$  correct.

Thus, all three statements are correct.

- **15.** A Explosion of a white dwarf in a binary system after accreting too much matter.
  - o Type I: White dwarf in binary  $\rightarrow$  accretes matter  $\rightarrow$  reaches Chandrasekhar limit  $\rightarrow$  explodes.
  - o **Type II**: Core collapse of massive star (>8 solar masses).
  - o The newly found case (black hole + star) might be a distinct class, but not the standard Type I or II.

#### 16. A 1 and 2 only

- o Supernova remnants enrich space with heavy elements  $\rightarrow$  correct.
- o **Type Ia supernovae** are critical for cosmology  $\rightarrow$  correct.
- o The core may form a **neutron star or black hole**, not always a black hole → statement 3 incorrect.

#### 17. C 1, 2 and 3

- o **Formation**: Collapse of massive stars  $\rightarrow$  correct.
- $\circ$  **Event horizon**: The "point of no return"  $\rightarrow$  correct.
- $\circ$  Time dilation near strong gravity fields predicted by general relativity  $\rightarrow$  correct.

#### 18. B Gravitational waves detected by LIGO

- o In 2015, LIGO detected gravitational waves for the first time from merging black holes, confirming Einstein's general relativity predictions.
- o Gamma-ray bursts and neutrino bursts are linked to other cosmic events.
- X-ray emissions suggest accretion but are indirect.

#### **19. B** The Union Finance Minister

- o The Union Finance Minister is the Chairperson of the GST Council.
- Members include all **State Finance Ministers**.
- Decisions are made by 75% majority vote, ensuring cooperative federalism.

#### 20. A ITC allows businesses to deduct the GST paid on inputs from the GST payable on final sales.

- o ITC ensures no tax on tax (no cascading).
- o End consumers cannot claim ITC; it is only for registered businesses.
- o ITC applies across domestic and export transactions.

#### 21. D Guarantee of zero compliance burden for small businesses

- o GST does reduce compliance complexity compared to the old tax regime, but small businesses still face filing and classification burdens.
- Options (a), (b), and (c) are true advantages of GST.

#### 22. C 1, 2, 3, 4 and 5

- o India follows a **multi-slab GST system**: 0%, 5%, 12%, 18%, 28% (+cess on luxury/sin goods).
- o All five categories listed are correct.

#### 23. B 1 and 3 only

- $\circ$  The Mercator projection (1569, Gerardus Mercator) was meant for navigation  $\rightarrow$  correct.
- o It enlarges polar regions (Greenland, Europe) while shrinking equatorial areas (Africa, South America). Statement 2 is wrong.
- The African Union supports Equal Earth projection (2018)  $\rightarrow$  correct.

#### **24. B** Integrated High-Speed Train Network

- o Agenda 2063 flagship projects include: AfCFTA, Pan-African e-Passport, High-Speed Train Network, Silencing the Guns by 2030, African Outer Space Strategy, etc.
- The Great Green Wall is an African Union initiative but not listed under Agenda 2063 flagship projects.

#### **25. B** A strategic framework for socio-economic transformation of Africa over 50 years.

- o Agenda 2063 (2013–2063) is AU's 50-year vision plan for unity, prosperity, good governance, security, and cultural identity.
- o Adopted in 2015, motto: "The Africa We Want."

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#### 26. C 1, 2 and 3

- o AU was **founded in 2001** (replacing OAU, 1963).
- HQ: Addis Ababa, Ethiopia.
- Membership: 55 countries (including all African nations). The Assembly (heads of states), Executive Council (ministers), Pan-African Parliament, and African Court form important organs of the AU structure.

#### 27. D 1, 2 and 3

- o **Agni-5** is classified as an ICBM (5,000-8,000 km range).
- Uses solid-fuel propulsion and is canisterized for mobility.
- o Developed by **DRDO** and deployed under **Strategic Forces Command**  $\rightarrow$  All statements correct.

#### **28. D** Collective defence pact under Article 5, similar to NATO

- o The Quad is a **strategic forum**, not a military alliance.
- It promotes maritime security, democratic values, economic cooperation, vaccine diplomacy, climate, and cyber-tech.
- o Unlike NATO, there is **no collective defence commitment** under Article 5.

#### 29. C 1, 2, 3 and 4

All ranges match correctly:

- o **Agni-I**: SRBM, 700–1,200 km
- o **Agni-II**: MRBM, 2,000–3,000 km
- o **Agni-III**: IRBM, 3,000–5,000 km
- o Agni-IV: 4,000 km (IRBM with better accuracy & mobility).

#### 30. C 1, 2 and 3

- o The **Agni series** is part of India's **land-based nuclear deterrent** within the nuclear triad.
- o Strengthens credible minimum deterrence under India's No First Use (NFU) policy.
- $\circ$  Ensures survivability and second-strike capability  $\rightarrow$  All correct.

#### 31. C 1, 2, 3 and 4

- o **Prithvi**: short-range surface-to-surface → correct.
- o Agni: ballistic missiles (SRBM to ICBM) → correct.
- o Akash: SAM (air defence)  $\rightarrow$  correct.
- Nag: anti-tank guided missile  $\rightarrow$  correct.

All four are correct.

#### 32. B 1 and 3 only

- O Statement 1 is correct: This was their first meeting since the Ukraine war began.
- O Statement 2 is incorrect: The summit was **symbolic** and did not result in a **ceasefire or treaty**.
- O Statement 3 is correct: It was held at a U.S. military base in Alaska.

#### 33. A 1 only

#### o Statement I:

"Anadyr in Siberia and Nome in Alaska are a few kilometers from each other, but when people are waking up and getting set for breakfast in these cities, it would be different days."

#### ✓ Correct.

- Because of the IDL, Anadyr is about 21 hours ahead of Nome.
- Example: If it is 8 AM Monday in Anadyr → it will still be 11 AM Sunday in Nome. Thus, the two are on different calendar days.

#### o Statement II:

"When it is Monday in Anadyr, it is Tuesday in Nome."

#### X Incorrect.

- It's actually the **opposite**:
- When it is **Monday in Anadyr**, it is still **Sunday in Nome** (not Tuesday).
- Russia is ahead in time, not behind Alaska.
- 34. B India faces punitive tariffs linked to its continued purchase of Russian oil.
  - o India currently faces 50% tariffs on key exports, half of which are linked to oil imports from Russia.
  - o India hoped a thaw in U.S.-Russia ties could eventually ease economic penalties.

#### 35. A 1 and 2 only

- o Statement 1 is correct: SC held **non-payment in a sale is civil, not criminal** without intent.
- Statement 2 is correct: SC barred judge from criminal cases, but later withdrew after CJI's intervention.
- O Statement 3 is incorrect: SC said **criminal intent must exist from the beginning**; otherwise, only civil remedy applies.
- **36. B** Civil law requires preponderance of probabilities, while criminal law requires proof beyond reasonable doubt.
  - $\circ$  Civil law  $\rightarrow$  standard of proof is lighter: preponderance of probabilities.
  - o Criminal law → higher standard: beyond reasonable doubt due to serious consequences like imprisonment.
- 37. B Civil suits take longer than most criminal trials, with only 37.91% resolved in a year.
  - o NJDG data: 70.17% of criminal trials finished in a year, but only 37.91% civil suits.
  - o Bail applications are fastest (avg. 6 months), not slower than civil suits.
  - $\circ$  Execution petitions still take  $\sim$ 3.97 years, slower than bail but faster than full suits.

#### 38. A 1 and 2 only

- o Article 75 is being amended. Amendment to Article 75 (Union Executive) requires **special majority**, not simple majority. If amendment affects **federal features**, state ratification is required. → Correct.
- $\circ$  Automatic removal after 30 days detention  $\rightarrow$  Correct.
- o Reappointment is allowed after release  $\rightarrow$  so statement 3 is wrong.

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#### 39. C 1 and 3 only

- O Statement 1: Correct (31 members from both Houses).
- o Statement 2: Incorrect (recommendations are influential but **not binding**).
- o Statement 3: Correct (members nominated by Speaker & Chairman).

#### 40. D 1, 2, 3 and 4

- o 42<sup>nd</sup> (1976): Mini-Constitution, added "Socialist, Secular, Integrity."
- o 44<sup>th</sup> (1978): Removed Right to Property from Part III.
- o 73<sup>rd</sup> & 74<sup>th</sup> (1992): Gave constitutional status to Panchayati Raj & ULBs.
- o 101st (2016): Introduced GST. All are correct.