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POLITY AND GOVERNANCE

VAIBHAV INITIATIVE

Why in the News?

The Department of Science and Technology (DST) recently announced the inaugural batch of students under the **Vaishvik Bhartiya Vaigyanik (VAIBHAV) project, a strategic initiative focused at strengthening short-term cooperation with Indian-origin scientists working overseas. The** Vaibhav scheme shares features with the Visiting Advanced Joint Research Faculty (Vajra) initiative, which was launched in 2018.

About Vaibhav Scheme

- In **2023**, the government will launch the VAIBHAV fellowships programme **to connect the Indian STEMM (Science, Technology, Engineering, Mathematics, and Medicine) diaspora with Indian educational and R&D institutions for collaborative research work, resulting in the sharing of expertise, wisdom, and innovations in frontier areas of science and technology.**
- The VAIBHAV Fellow would select an Indian institution for partnership and could stay up to **2 months per year for a maximum of 3 years.**
- The VAIBHAV fellows are intended to engage with their Indian counterparts and help kick off research activities in the host university in cutting-edge science and technology.
- The **DST, Ministry of Science and Technology**, will implement the VAIBHAV fellowships programme, which will award outstanding scientists/technologists of Indian origin that are conducting research in their respective countries.
- **Incentives: Fellowship would comprise a fellowship grant (INR 4**,00,000 per month), foreign and domestic travel, lodging, and contingencies. Host institutions get research funding to help them collaborate.
- It promotes international cooperation in scientific research and encourages information exchange and expertise infusion inside Indian academic and research organisations.

About Visiting Advanced Joint Research Faculty Scheme

- **VAJRA (Visiting Advanced Joint Research) Faculty Scheme is a dedicated** programme for overseas scientists and academics, with an emphasis on NRI and PIO/OCI, to work as adjunct / visiting faculty for a set length of time in Indian government-funded academic and research institutes.
- The Scheme recognises the importance of collaborative research as a critical component of information sharing among academics for updating and obtaining knowledge and skills, as well as drawing on multiple viewpoints to tackle a common problem.
- During their stay, faculty members might also teach or guide students. The Faculty will spend **at least one month and no more than three months every year** working at an Indian university.
- Even when the assignment is completed, the Indian host institution may retain him or her for an extended period of time. The part-time faculty position will be initially offered for one year and can be renewed annually.
- **Incentives Offered**: The VAJRA Faculty will be paid a sum of USD **15000 in the first month of participation in a year and USD 10000 per month in the other 2 months to compensate for their travel and honorarium.**
- While no independent funding is offered for items such as housing, medical/personal insurance, and so on, the host institute may consider offering additional assistance. The payout to the academics will be in Indian rupees.

Vaibhav vs. Vajra

The Vaibhav Fellowship Programme primarily seeks

assistance from the Indian diaspora, with a focus on translational successes in crucial areas of scientific research. While **Vajra Scheme is Available to all foreign scientists, it encourages short-term visits by foreign professors to Indian institutions, hence providing a greater platform for global cooperation.**

PRELIMS QUESTIONS

Q1. Consider the following statements regarding Research and Development (R&D) in India:

1. The Department of Science and Technology (DST) is a key government agency overseeing R&D initiatives in India.
2. The Indian Space Research Organisation (ISRO) is primarily focused on healthcare research.
3. The Council of Scientific and Industrial Research (CSIR) is the largest autonomous research and development organization in India.

How many of the above statements is/are correct?

(a) One

(b) Two

(c) Three

(d) None

ANSWERS

S. No.	Answer
1.	C

MAINS QUESTIONS

Q1. Explore the challenges faced by researchers in India, particularly in terms of funding, infrastructure, and collaboration. How can these challenges be addressed to enhance the quality and quantity of research output?

SCIENCE & TECHNOLOGY

ARTIFICIAL INTELLIGENCE ACT OF EUROPE-AN COMMISSION

Why in the News?

In response to fears of excessive regulation on **Artificial Intelligence (AI) in Europe, the European Commission has introduced a set of rules aimed at fostering AI innovation. Following the political agreement reached in December 2023 on the EU AI Act, which is the first-ever comprehensive law on AI globally. The European Commission aims to encourage the development, deployment, and use of trustworthy AI within the European Union (EU).**

About Europe's AI Innovation Plan

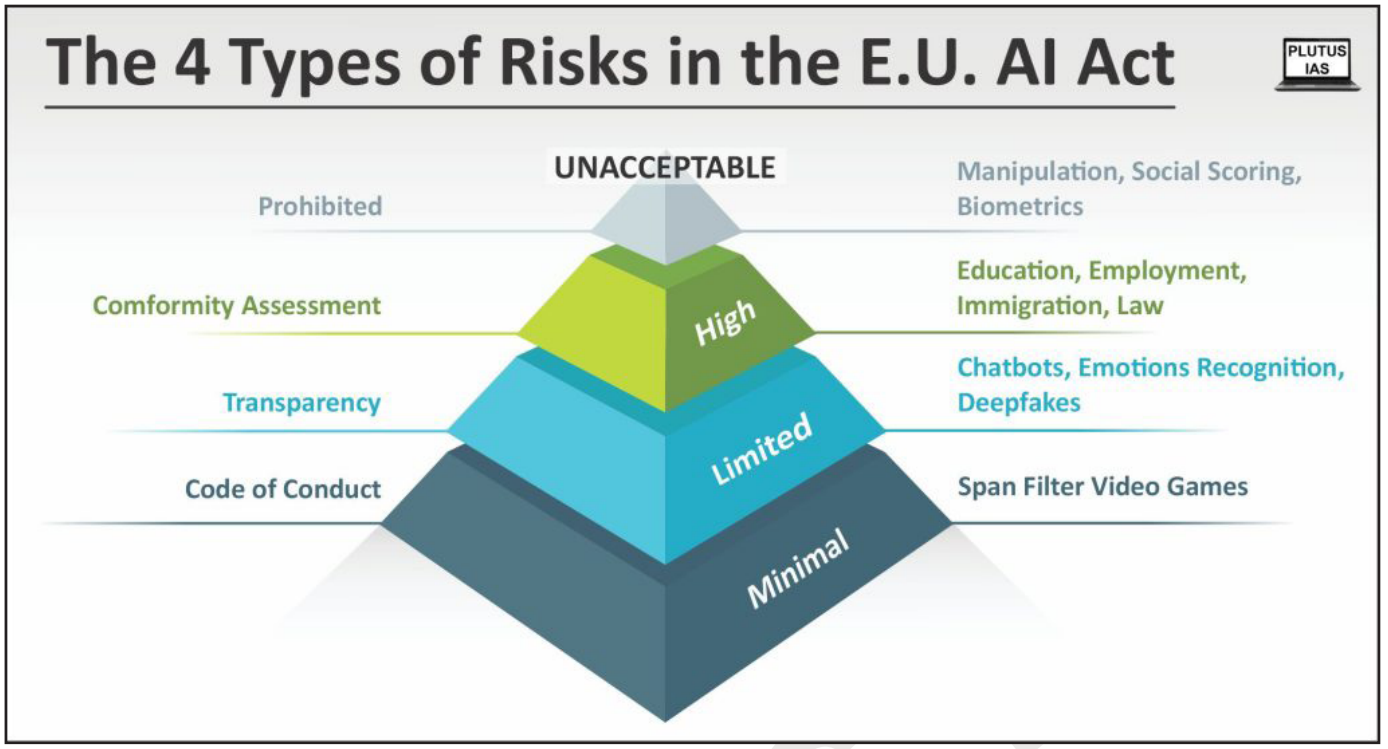
- The European Commission has initiated a comprehensive plan to support startups and small businesses in Europe for the development of trustworthy AI. **Key components of the plan include acquiring, upgrading, and operating AI-dedicated supercomputers to facilitate fast machine learning and the training of large general-purpose AI (GPAI) models.**
- GPAI models are versatile AI systems capable of performing a wide range of tasks with minimal modification, and are at the forefront of the plan. The initiative aims to broaden the use of AI to include public and private users, including startups and SMEs.
- The plan also focuses on supporting the AI start-up and research ecosystem by assisting in algorithmic development, testing, evaluation, and validation of large-scale AI models. **The goal is to enable the creation of diverse emerging AI applications** based on GPAI models.

Why is the EU Putting Emphasis on AI Innovation Off Lately?

- **Challenges of Over Regulation:** Europe's focus on AI innovation stems from concerns about overregulating AI and lagging behind American companies **like OpenAI and Google in terms of visible AI innovation. The EU has faced accusations of preemptively regulating AI before its widespread adoption across the continent.**
- **AI Act Criticism:** The **AI Act implemented in December 2023 has faced criticism for its rules governing AI use within the EU.**
- While it provides clear guidelines for law enforcement agencies, it also imposes strict penalties on companies violating the regulations.
- The Act restricts facial recognition technology and the use of AI to control behavior.
- It allows the government **real-time biometric surveillance in public areas only under specific serious threats.**

About European Union's Artificial Intelligence Act

- **Risk Classification System:**In a groundbreaking move, the AI Act proposes a risk-based regulatory system, categorizing AI systems into unacceptable risk, high risk, and low or minimal risk segments.
- **Unacceptable Risk: AI systems posing a threat to people, like cognitive manipulation and biometric identification, are banned.**
- **High Risk:** Systems operating critical infrastructure or impacting fundamental rights are labeled as high risk. Compliance requirements and obligations for providers are outlined in the Act.
- **Risk Management for High Risk:** The Act outlines risk management efforts for high-risk systems, including documentation, transparency, and human oversight.
- **Low or Minimal Risk:** AI systems must meet minimum transparency standards, enabling users to make informed judgements.



- **Generative AI Softwares need to comply: Specifically targeting generative AI software like ChatGPT**, the AI Act mandates compliance with transparency requirements. These include **disclosing the AI origin of content, implementing safeguards against illegal content generation, and publishing summaries of copyrighted data used in the model's training.**

Comparison of EU's Plan With India's Approach

- **Similarities with India's Strategy**: The EU's plan shares similarities with India's approach to AI innovation. India is also striving to develop its own **sovereign AI**, build computational capacity, and offer compute-as-a-service to startups.
- **India's Capacity Building programmes: India aims to build a compute capacity of 10,000-30,000 GPUs through a public-private partnership model and an additional 1,000-2,000 GPUs through the PSU Centre for Development of Advanced Computing (C-DAC)**. The government is exploring incentive structures, including a capital expenditure subsidy model and a usage fee, to encourage private companies to establish computing centers.
- **Digital Public Infrastructure (DPI):** Similar to the EU's plan, **India aims to create a digital public infrastructure (DPI) using the GPU assembly**, allowing startups to utilize computational capacity at a reduced cost. This innovative approach eliminates the need for startups to invest in expensive GPUs, reducing a significant operational cost.

HYBRID VEHICLES

Why in the News?

HSBC Global Research recently published a note recommending that, over the next 5-10 years, India prioritise the adoption of Hybrid Vehicles as a Sustainable Mobility Solution before switching to full Battery Electric Vehicles. Hybrid vehicles combine a normal internal combustion engine and an electric propulsion system.

Key Highlights of the Research

- **Lower Carbon Emissions:** According to the research, hybrid vehicles presently emit less carbon than both electric and traditional internal combustion engine (ICE) vehicles for equivalent sized vehicles. Specifically, hybrids produce 133 g/km of CO_2, and EVs emit 158 g/km. This anal-

ysis takes into account overall emissions, which include car emissions (tank-to-wheel) as well as emissions from crude mining, refining, and electricity generation.

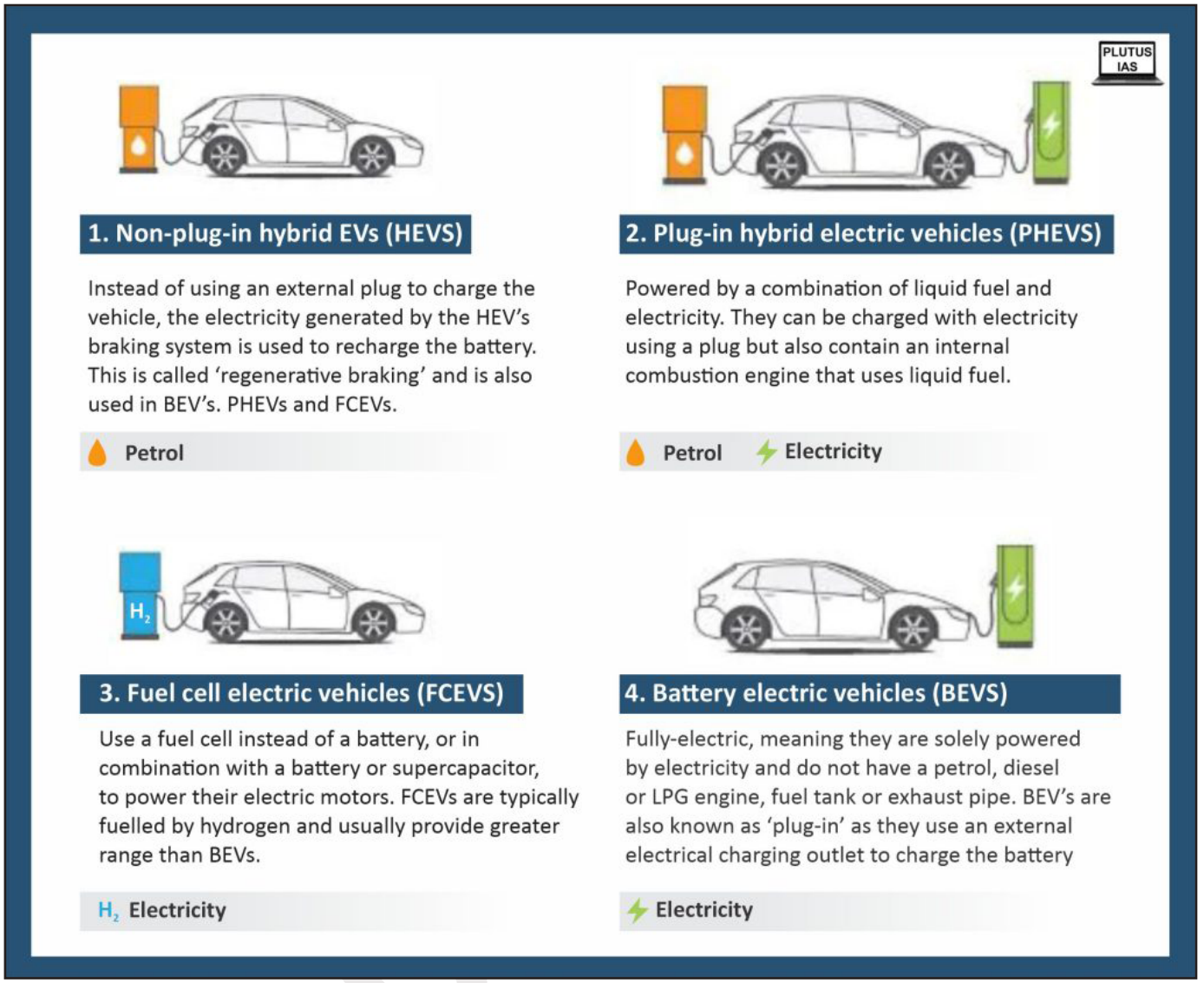
- **Hybrids enjoy a decade-long advantage: It shows that emissions from EVs and hybrids may take up to a decade to converge. During this time, hybrids are expected to be at least 16% less polluting than EVs.**
- **Hybrids are a practical medium-term solution: HSBC believes that hybrid and compressed natural gas (CNG) vehicles are viable medium-term solutions for India in the next 5-10 years as the country transitions to full electrification. The practicality is due to both the cost of ownership and India's** decarbonisation ambitions.
- **Convergence of emissions: According to the study, emissions from EVs and hybrids could converge in 7 to 10 years. This convergence is predicted to occur if India's non-fossil power generation share rises to 44%. Even at 40% by 2030, hybrids are expected to release 8% less CO2 than EVs.**
- Challenges in Electric Vehicle Adoption: It identifies barriers to widespread EV adoption, such as the necessity for upfront subsidies, the relevance of charging infrastructure, the source of electricity (mostly coal-fired in India), and reliance on the global lithium value chain for battery production.

About Battery Electric Vehicles (BEVS)?

- BEVs are electric vehicles powered by high-capacity batteries. They do not have an Internal Combustion Engine (ICE) and emit no exhaust pollutants. BEVs use electric motors to power the wheels, resulting in rapid torque and smooth acceleration.
- BEVs use modern battery technology, specifically Lithium-ion batteries. Li-ion batteries provide higher energy density, longer range, and better performance.
- **Charging Infrastructure: BEVs need a network of charging stations to recharge their batteries. Charging infrastructure consists of several types of chargers:**
  - Level 1 (Household outlets).
  - Level 2 (Dedicated Charging Stations)
  - Level 3 (dc fast chargers).
- Public charging stations, workplaces, and residential structures all contribute significantly to the expansion of the charging infrastructure.

Challenges in Adoption of Battery Electric Vehicles

- **Upfront Cost and Subsidies:** The success of EV adoption in countries like Norway and the US is attributed to state subsidies. In India, tax breaks and subsidies tend to benefit the middle or upper middle classes, posing a challenge in ensuring equitable distribution and reaching a broader demographic.
- **Charging Infrastructure:** Unlike leading EV adopters such as China and Norway, India faces a significant shortage of operational charging stations for its growing EV market. The dominance of two- and three-wheelers with diverse charging requirements further complicates the situation. The article suggests that investing in charging infrastructure is more effective than providing upfront purchase subsidies.
- **Supply Chain Issues:** Concerns are raised about the global concentration of the supply chain for crucial components like lithium-ion batteries. With more than 90% of lithium production concentrated in a few countries and other key inputs sourced from specific regions, India's dependence on imports raises stability concerns for the supply chain.
- **Consumer Awareness and Education:** Lack of consumer awareness about the benefits of battery electric vehicles (BEVs) and misconceptions regarding capabilities, charging infrastructure, and overall cost-effectiveness hinder adoption. Consumer preferences for internal combustion engine (ICE) vehicles based on brand loyalty, resale value, and comfort, coupled with limited knowledge about EV benefits, further contribute to the challenge.



About Hybrid Vehicles

Hybrid vehicles revolutionize transportation by seamlessly **combining internal combustion engines with electric motors. The integration of these power sources enhances fuel efficiency, reduces emissions, and elevates overall performance. Some of its key features are:**

- **Dual Power Systems:** Integration of internal combustion engine and electric motor. Enables independent or combined power, ensuring versatility in diverse driving conditions.
- **Regenerative Braking:** Electric motor acts as a generator during deceleration or braking. Converts kinetic energy into electricity, stored for future use, enhancing energy efficiency.
- **Fuel Efficiency:** Electric motor assists the internal combustion engine during acceleration. Reduces engine workload, leading to better mileage and decreased reliance on traditional fuels.

- **Reduced Emissions:** Contributes to environmental sustainability by lowering emissions. Electric motor use during low-speed or idling reduces greenhouse gases and pollutants.
- **Different Hybrid Types:** Various configurations like parallel, series, and plug-in hybrids. Offers simultaneous, electric-generated, or externally charged driving options.

- **Battery Technology:** Incorporates advanced batteries (NiMH or lithium-ion) for energy storage. Lightweight, durable, and powerful, ensuring efficient electric motor performance.
- **Transition to Full Electric Mode: Some hybrids operate in full electric mode for short distances at lower speeds. Particularly beneficial in urban settings, emphasizing emissions and noise reduction.**

Steps Taken to Encourage Electric Vehicles

- The **National Electric Mobility Mission Plan (NEMMP) 2020 aspires to ensure national fuel security by encouraging hybrid and electric vehicles across the country. The ambitious goal is to sell 6-7 million hybrid and electric automobiles each year beginning in 2020.**
- The **GST-Goods and Services Tax on electric vehicles and chargers/charging stations has been decreased from 12% to 5% and 18% to 5%, respectively.**
- The **Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME**) plan, launched in 2015, intends to encourage electric mobility by providing financial incentives for improving electric transportation infrastructure.
- **FAME 2 – It was launched in 2019 with a budget of 10,000** crores to stimulate demand for Electric Vehicles (EVs) by offering upfront subsidies and developing EV charging infrastructure.

INSAT 3DR

Why in the News?

The India Meteorological Department (IMD) has warned that there is a good chance of "very dense fog" in Delhi, Chandigarh, and Haryana. Additionally, maps from the INSAT 3D and occasionally the INSAT 3DR satellites have been included with IMD notifications.

About INSAT 3DR

- The IMD forecasts and monitors the weather using INSAT-3D and INSAT-3DR satellite data.
- Like INSAT-3D, INSAT-3DR is a sophisticated meteorological satellite from India that is outfitted with an atmospheric sounder and an image system.
- An atmospheric sounder records the changes in an air column's physical characteristics with height.
- It has one visible band and multiple infrared channels ranging from longwave to shortwave wavelengths.
- The noteworthy enhancements integrated into INSAT-3DR are:
    - Middle Infrared imaging to provide images of low clouds and fog at night.
    - Two thermal infrared bands can be imaged to improve the accuracy of sea surface temperature (SST) estimation.

Payloads in INSAT 3DR

- **Multi-Spectral Imager**: It would take pictures of the planet every 26 minutes to give data on a range of factors, such as winds, cloud motion, and sea surface temperature.
- **Sounder**: It will provide you data on humidity and temperature.
- **Data-Relay Transponder**: It is intended to receive data related to oceanography, hydrology, and meteorology.
- **Satellite-assisted search and rescue transponder**: It will be utilised to receive and transmit alarm signals from aviation and maritime distress beacons, among other sources.

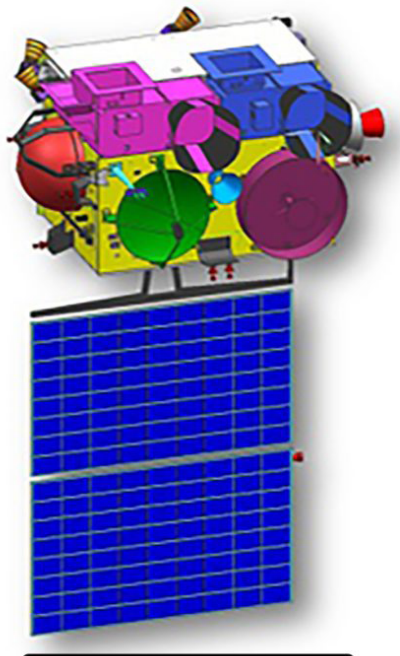
Imaging Process:

- **Light capture**: Sunlight and infrared radiation emitted from Earth are captured by the mirror and focused by the telescope.
- **Spectral separation**: Dichroic filters separate the incoming light into different wavelength bands (visible, infrared) and direct them to specific detectors.
- **Detection**: Each detector converts the incoming

radiation into electrical signals according to its sensitivity.

- **Signal processing**: The electrical signals are amplified, digitized, and processed onboard the satellite.
- **Data transmission**: The processed data is transmitted to Earth receiving stations for further analysis and interpretation

INSAT-3DR



INSAT-3DR with Solar Panel

It will provide meteorological services to India using a 6-channel imager and a 19-channel sounder, as well as search and rescue information and message relay for terrestrial data collection platforms.

Key Features:

- **Multispectral imaging**: INSAT-3DR captures images in six wavelength bands, providing information on various atmospheric and surface features.
- **High resolution**: The imager offers spatial resolutions ranging from 1 km (visible band) to 4 km (infrared bands), capturing detailed information.
- **Rapid scanning**: The scanning mechanism allows for frequent observations of the Earth, with an image of the entire disk generated every 26 minutes.
- **Advanced capabilities**: The imager includes features like:
- **Middle Infrared band**: Provides night-time images of low clouds and fog.
- **Dual Thermal Infrared bands**: Enhances accuracy in estimating sea surface temperature (SST).
- **Rapid scan mode**: Offers even faster observations over specific regions for tracking severe weather events.

Applications:

The data gathered by INSAT-3DR's imaging system has numerous applications, including:

- **Weather forecasting**: Predicting weather patterns, cyclones, and other severe events.
- **Climate monitoring**: Tracking changes in global temperatures, cloud cover, and other climate indicators.
- **Ocean monitoring**: Monitoring sea surface temperature, currents, and potential fishing zones.
- **Disaster management**: Providing crucial information for disaster preparedness and response efforts.

About India Meteorological Department

Established in 1875, the India Meteorological Department (IMD) serves as the nation's primary weather authority. Its responsibilities are vast and crucial, encompassing:

- **Observing and Monitoring**: IMD operates a vast network of observatories, radars, and satellites, constantly gathering data on temperature, rainfall, wind, and other atmospheric conditions. This real-time monitoring helps understand weather patterns and predict future events.
- **Forecasting and Warnings**: From daily weather forecasts to issuing timely warnings about cyclones, heatwaves, and floods, IMD plays a crit-

ical role in safeguarding lives and livelihoods. Their accurate predictions enable proactive measures, minimizing weather-related damage.

- **Climate Services**: IMD provides long-term climate data that's vital for agriculture, water management, and disaster preparedness. Understanding past and present trends helps predict future climate scenarios and mitigate potential risks.
- **Research and Development**: IMD actively researches advancements in weather forecasting techniques, satellite technology, and climate modeling. This continuous innovation improves the accuracy and scope of their services.
- **International Collaboration**: IMD actively participates in global weather organizations, sharing data and expertise, contributing to global weather prediction models, and benefiting from international knowledge exchange.
- **Impact on daily Life**: From farmers planning their crops to airlines optimizing flight routes, IMD's services touch every aspect of life in India. Their work ensures informed decision-making, promotes economic activity, and protects lives in the face of nature's fury

PRELIMS QUESTIONS

Q1. Consider the following statements:

1. Big Data in AI supplies the large datasets used for training AI models
2. Machine learning is a subfield of AI focuses on creating systems that can independently make decisions without explicit programming
3. Natural language Processing(NLP) is the programming languages for AI

How many of the above statements are correct?

(a) One

(b) Two

(c) Three

(d) None

Q2. The concept of "singularity" in AI means which one of the following?

(a) A point in the future where AI surpasses human intelligence

(b) A programming language for AI

(c) The process of creating sentient machines

(d) A type of neural network architecture

Q3. Consider the following statements:

1. The inverter play in an electric vehicle Converts Direct Current to Alternating Current
2. Plug-in Hybrid Electric Vehicle is a type of electric vehicle that uses both an internal combustion engine and an electric motor
3. In a hybrid vehicle, the term "full electric mode" imply Operation without an internal combustion engine

How many of the above statements are correct?

(a) One

(b) Two

(c) Three

(d) None

Q4. Consider the following statements:

1. Ministry of Earth Sciences is responsible for the administration of IMD
2. INSAT satellites operate in Geostationary Orbit
3. C-band is commonly used by INSAT satellites for telecommunications services

How many statements given above are correct?

(a) One

(b) Two

(c) Three

(d) None

Q5. What is the purpose of the Doppler Weather Radar used by IMD?

(a) Air traffic control

(b) Earthquake prediction

(c) Cyclone tracking and precipitation estimation

(d) Solar radiation measurement

ANSWERS

S. No.	Answers
1.	B
2.	A
3.	C
4.	C
5.	C

MAINS QUESTIONS

Q1. How has artificial intelligence (AI) influenced and transformed the field of healthcare? Provide specific examples of AI applications and their impact on patient care, diagnosis, and medical research.

Q2. Discuss the ethical considerations and potential risks associated with the use of artificial intelligence in decision-making processes, particularly in areas such as criminal justice, finance, and hiring practices.

Q3. Discuss the environmental impact of widespread electric vehicle adoption. Consider factors such as reduced emissions, resource extraction for battery production, and the overall sustainability of electric transportation.

Q4. Explain the role of INSAT satellites in disaster management. How do they contribute to early warning systems and emergency response?

SECURITY

EXPANSION OF THE JURISDICTION OF BSF

Why in the News?

The upcoming hearing in the Supreme Court focuses on the contentious expansion of the Border Security Force (BSF) jurisdiction in Punjab, following a 2021 notification by the Ministry of Home Affairs. The Punjab government has met this move with resistance, sparking a legal battle.

Understanding the Role of BSF: Safeguarding India's Borders

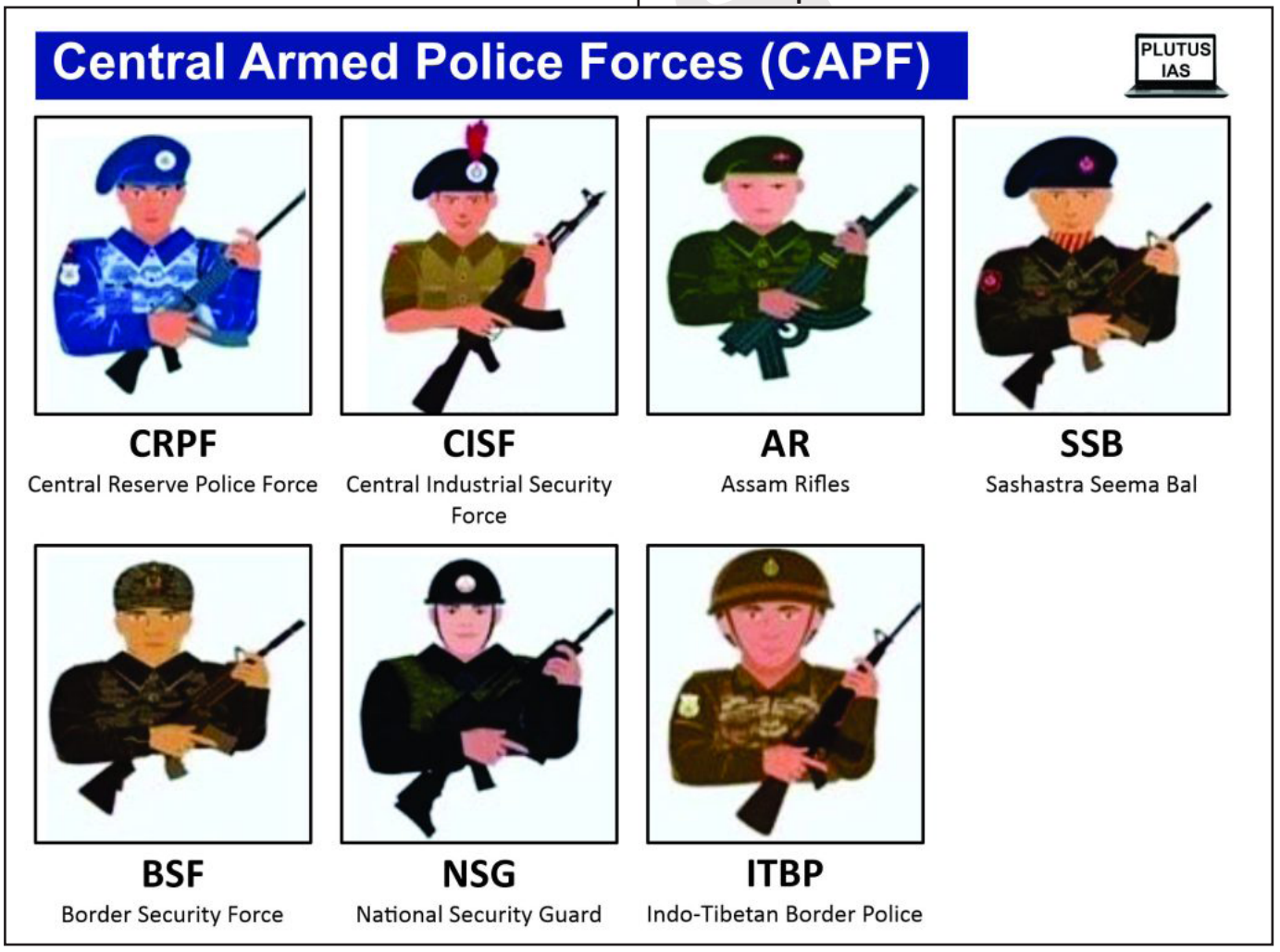
- Established after the India-Pakistan war in **1965**, the BSF is a pivotal component among the seven Central Armed Police Forces of India.

deployed along the borders with Pakistan and Bangladesh, involved in tasks ranging from guarding the Indo-Pakistan International Border to participating in Anti-Naxal Operations.

- **Notably, the BSF also plays a significant role in UN peacekeeping missions**.

Reasons Behind BSF Jurisdiction Extension

- The jurisdiction of the BSF, designed **to secure India's border**s, empowers it to make arrests, conduct searches, and seize assets under various laws.
- **Section 139(1) of the BSF Act grants the central government authority to designate areas near the borders for the BSF to prevent offenses under specified acts.**



October 2021 notification, expanded the BSF's reach **from 15 to 50 kilometers along the borders of Punjab, West Bengal, and Assam.**

- **This decision was prompted by the escalating use of drones and Unmanned Aerial Vehicles (UAVs) for activities such as spying and arms smuggling**.
- Furthermore, they cited reasons for addressing **cattle smuggling challenges and establishing a uniform 50-kilometer limit across states.**

Challenges Raised by States and Federalism Concerns

- The extension of BSF's jurisdiction has sparked concerns regarding the **encroachment on state powers related to police and public order.**
- States argue that this move interferes with their exclusive legislative authority, **violating constitutional provisions.**
- Some states perceive this as a **departure from the principles of Federalism**, challenging the distribution of powers between the central government and states.
- **Geographical differences further complicate matters, with densely populated regions like Punjab facing a different impact compared to sparsely populated areas like Gujarat and Rajasthan.**

Strategies for Effective Border Management

- To manage borders efficiently without compromising state jurisdiction, a **collaborative approach between central and state law enforcement agencies is essential.**
- Establishing frameworks for **information sharing, coordination, and creating joint task forces with personnel from both central and state police are crucial steps. Involving state police in border surveillance, akin to successful models employed by the Coast Guard and Indian Navy, ensures mutual vigilance and comprehensive coverage.**
- **Investment in advanced surveillance technologies**, including drones and sensors, is recommended for enhanced border monitoring. A clear legal framework outlining roles, responsibilities, and jurisdiction is imperative, along with protocols for addressing cross-border incidents through joint investigations when required.
- **Regular consultations between central and state authorities and continuous dialogue platforms are essential to adapt strategies based on evolving security dynamics.**
- **Diplomatic initiatives for international cooperation with neighboring countries on border security matters, including joint initiatives, information sharing, and coordinated patrols, contribute to addressing transnational security challenges.**

Constitutional Viewpoint on Deployment

The central government has the authority to deploy forces to protect states from external aggression and internal disturbance, even if the state is hesitant to accept central forces. If a state opposes the deployment of Union forces, the Centre should issue directives **under Article 355. If the state fails to adhere, the Centre may take further actions under Article 356 (President's Rule).**

PRELIMS QUESTION

Q1. Consider the following statements:

1. Ministry of Defense oversees the functioning of the BSF
2. Indian Coast Guard is not part of the Central Armed Police Forces
3. BSF is primarily responsible for guarding Coastal borders

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) 2 and 3

(d) 1 and 3

ANSWER

S. No.	Answers
1.	B

MAINS QUESTIONS

Q1. Examine the roles and responsibilities of the Border Security Force (BSF) in safeguarding India's borders. Highlight its contributions and challenges in maintaining border security.

Q2. Examine the challenges posed by transnational crimes, such as smuggling and human trafficking, to India's border security. Propose strategies and policies to address these challenges effectively.

SOCIAL ISSUE

SAPINDA MARRIAGE

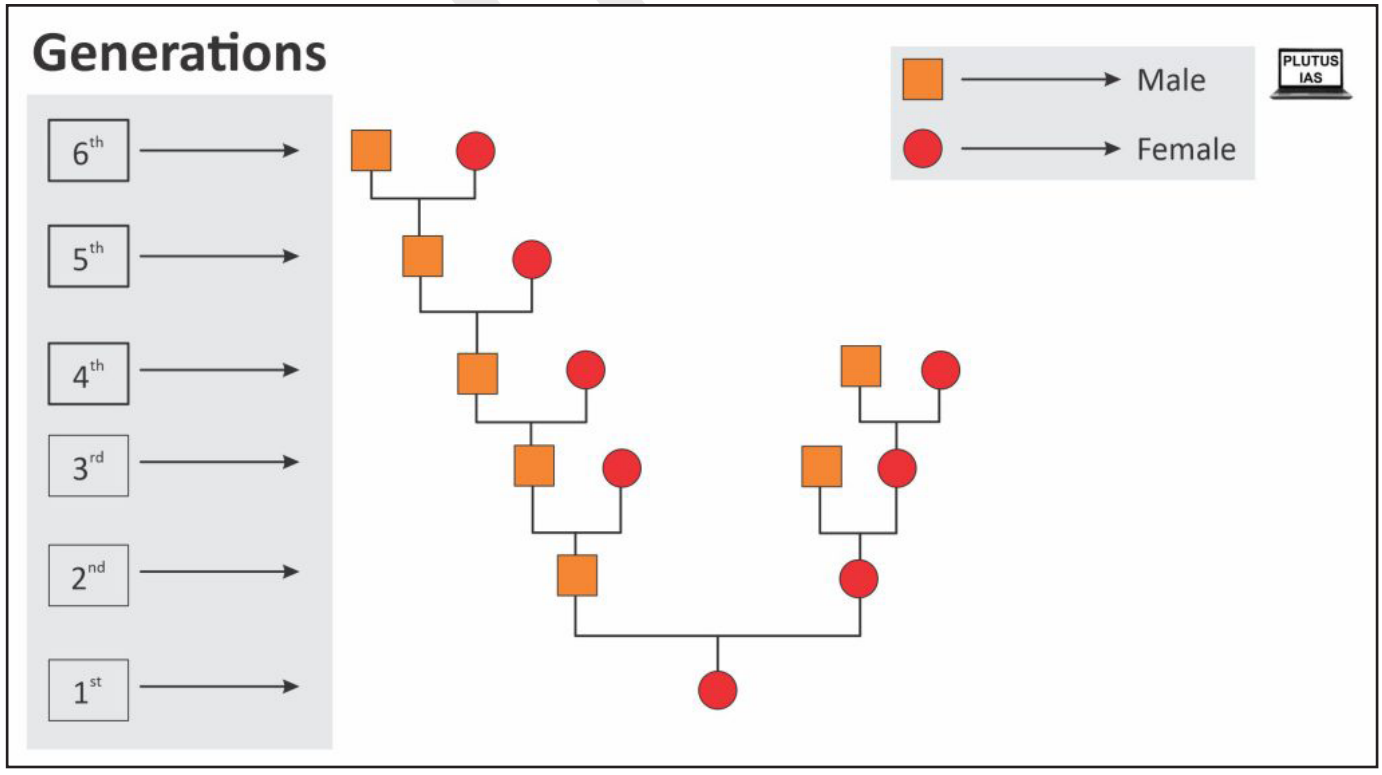
Why in the News?

In a recent legal development, the Delhi High Court, in the case of **Neetu Grover v. Union of India & Ors, 2024, deliberated on the constitutionality of Section 5(v) of the Hindu Marriage Act, 1955 (HMA), which prohibits marriages between Hindus if they are "Sapindas"** of each other. This article delves into the context of the legal challenge, the petitioner's arguments, the court's ruling, and a comprehensive understanding of Sapinda marriages, their regulations, and a comparative analysis of similar laws in other countries.

Context and Legal Challenge:

- **Petitioner's Arguments:**
  - In 2007, the court declared the petitioner's marriage void after her husband demonstrated that they had entered into a Sapinda marriage, and the woman did not belong to a community where such marriages were considered a custom.
  - **The petitioner challenged the constitutional validity of Section 5(v), contending that** Sapinda marriages are prevalent even without proof of custom.
  - She argued that the section, which requires an established custom for Sapinda marriages, **violates the right to equality under Article 14 of the Constitution. Additionally, the petitioner asserted that the consent of both families should validate the marriage.**
- **Delhi Court's Order:**

The Delhi High Court dismissed the argument, emphasizing the absence of "stringent proof" of an established custom presented by the petitioner. The court maintained that the regulation of partner choice in marriage is permissible and found no violation of the right to equality. The court stressed the need for "cogent legal grounds" to show that the prohibition against Sapinda marriages was un-



constitutional.

Understanding Sapinda Marriages:

- **Definition and Lineal Ascendants:** A Sapinda marriage involves individuals related within a specified degree of closeness. As defined under **Section 3 of the HMA**, two persons are considered Sapindas if one is a lineal ascendant of the other in the limits of Sapinda relationship or if they share a common lineal ascendant within those limits.
- **Lineal Ascendant Restrictions:** The HMA restricts marriage with close relatives within a specified number of generations. On the mother's side, the prohibition extends up to three generations, while on the father's side, it reaches up to five generations
- **Section 5(v) of HMA 1955: Declaration of Void Marriages:** Marriages violating **Section 5(v) as** Sapinda marriages, without an established custom, are declared void, rendering them invalid from the beginning.

Exceptions:

The exception, **outlined in Section 5(v**), allows marriages if the customs of the individuals permit Sapinda marriages. An established custom within the community, tribe, group, or family, continuously and uniformly observed for a long time, serves as a valid exception. The definition of "**custom**" in **Section 3(a) requires continuous, uniform observance and legitimacy among Hindus to have the** "force of law." Certain conditions must be met for a custom to be valid.

Comparative Analysis:

- **France and Belgium:** Abolished the crime of incest, allowing marriages between consenting adults. Incest is an act of sexual contact or marriage between a male and a female who are closely related by blood.
- **Republic of Ireland:** While recognizing same-sex marriages, the law on incest has not been updated to explicitly include individuals in same-sex relationships.
- **United States:** Generally bans incestuous marriages in all 50 states, with variations in laws related to incestuous relationships between consenting adults. Some states, like New Jersey and Rhode Island, allow such relationships under specific conditions.
- **Italy:** Incest is considered a crime only if it causes a "public scandal," implying a legal framework that considers circumstances.
- **Portugal:** Portuguese law does not criminalize incest, suggesting marriages between close relatives may not be prohibited.

PRELIMS QUESTIONS

Q1. Consider the following statements:

1. Hindu Family Law governs Hindu marriages in India
2. Sikh community follows the 'Anand Karaj' ceremony for marriage
3. Indian Penal Code prohibits bigamy in India

Which of the statements above are correct?

(a) 1 and 2

(b) 2 and 3

(c) 1 and 3

(d) 1,2 and 3

Q2. What is 'Kanyadaan' in the context of Hindu marriages?

(a) Bridal attire

(b) Marriage ritual

(c) Dowry exchange

(d) Giving away the bride

ANSWER

S. No.	Answers
1.	B

2.	D

MAINS QUESTIONS

Q1. Jaya Jaitly's recommendation proposes equalizing the legal marriage age at 21. Do you believe this will truly achieve gender parity, or are there deeper societal factors that need to be addressed alongside legal changes?

Q2. The Prohibition of Child Marriage Act 2006 raised the legal marriage age to 18 for women. What are the biggest challenges to enforcing this law effectively, and what strategies could be implemented to address them?