

# Factly Monthly

**Compilation**

2024

**For UPSC CSE Prelims  
Exam**

**November 2024**

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## UPSC Syllabus: Environment

### Asiatic Lion

**News:** A study reveals Asiatic Lions in Gujarat coexist with humans through mutual adaptation, legal protection, economic incentives among others.

#### About Asiatic Lion

1. The Asiatic Lion, also called the Persian Lion or Indian Lion, is a *subspecies of Panthera leo leo* found only in India.

2. **Habitat**– They are confined to the *Gir National Park* and wildlife sanctuary and its surrounding environments in Gujarat's Saurashtra district.

#### 3. Characteristics:

- Asiatic lions are *slightly smaller than African lions*
- In contrast to African Lion, *Asiatic Lion has a longitudinal fold of skin running along its belly.*
- The fur *color ranges from rudy tawny with black speckles to sandy or buff-grey*, sometimes with a silvery sheen in certain lights.
- Males have only moderate mane growth at the top of the head, so that their ears are always visible.

#### 4. Conservation Status

- **IUCN Red List:** Vulnerable
  - **CITES:** Appendix I
  - **Wildlife (Protection) Act 1972:** Schedule I
- #### About Gir National Park
- Gir National Park and Wildlife Sanctuary, located in the *Junagadh district* of Gujarat.
  - The Gir Forests is the *only natural habitat of Asiatic lions.*
  - It was designated as a sanctuary in 1965 and a national park in 1975.
  - The Gir Forest is the largest contiguous stretch of *dry deciduous forests* in western India's semi-arid region.
  - Gir is closely associated with the "*Maldharis*," a traditional pastoral community that has lived in harmony with the lions for generations. Their *settlements are called "nesses"*.

### Global Soil Conference 2024

#### Why in news?

Recently, the Global Soil Conference 2024 was organised by the Indian Society of Soil Science, New Delhi.

#### About the conference

1. **Organised by:** Indian Society of Soil Science, New Delhi under the aegis of the International Union of Soil Sciences, Italy.

2. It has been organised in collaboration with the Indian Council of Agricultural Research, National Academy of Agricultural Sciences, New Delhi

**3. Theme:** “Caring Soils Beyond Food Security: Climate change mitigation & Ecosystem Services”

**4. Objective:** Its objective involves:

**i) Empowering Farmers:** Providing education, support, and modern scientific tools to enhance agricultural sustainability

**ii) Role of Youth and Women:** Encouraging youth and women researchers to lead innovations addressing soil challenges.

**iii) Global Partnerships:** Collaboration among scientists, policymakers, NGOs, and stakeholders to develop actionable solutions.

**5. Focus Areas**

**i) Soil as a Global Concern:** It recognized soil erosion and degradation as global challenges affecting sustainable development. It also emphasis on soil health as critical for human, animal, and plant well-being.

**ii) Sustainable Land Management:** It is to address the global need for sustainable agricultural practices to restore soil health and foster collaboration among nations to share innovations and implement scalable solutions.

**iii) SDGs and Soil Health:** It highlighted about soil conservation aligned with the United Nations Sustainable Development Goals (SDGs). Also stresses on achieving food security through resilient ecosystems.

**6. Vision for the Future:** India is supporting initiatives for sustainable and profitable agriculture. India is also advocating integrated nutrient and water management practices.

## Guru Ghasidas-Tamor Pingla Tiger Reserve

**Why in news?**

Recently, Guru Ghasidas-Tamor Pingla Tiger Reserve has been notified as the 56th Tiger Reserve of the country.

**About Guru Ghasidas-Tamor Pingla Tiger Reserve**

**1. Location:** It is located in Chhattisgarh. It is nested in the Chota Nagpur plateau and partly in Baghelkhand plateau.

The reserve spreads across four districts in Chhattisgarh: Manendragarh-Chirmiri-Bharatpur, Korea, Surajpur, and Balrampur.

**2. Area:** The Tiger Reserve spans a total area of 2,829.38 square kilometers, including a core or critical tiger habitat of 2,049.2 square kilometers that encompasses the Guru Ghasidas National Park and Tamor Pingla Wildlife Sanctuary.

3. It also has a buffer zone of 780.15 square kilometers, making it the third-largest tiger reserve in India.

**4. Adjacent preserved areas:** It also links with the Bandhavgarh Tiger Reserve (Madhya Pradesh) in the west and the Palamau Tiger Reserve (Jharkhand) in the east.

**5. Significance:** It forms a contiguous landscape with the Sanjay Dubri Tiger Reserve in Madhya Pradesh, creating a complex of nearly 4,500 sq. km.

**6. Flora:** It comprises of blend of sub-tropical and deciduous forests. The reserve boasts abundant flora, including sal, saja, dhavda, and kusum, representing a variety of vegetation types.

**7. Fauna:** The reserve is home to 753 documented species, including 365 invertebrates and 388 vertebrates. It shelters 230 bird species and 55 mammal species including several threatened species.

Its insect diversity, mainly from the class Insecta, contributes to a healthy ecosystem balance.

It hosts a diverse array of wildlife species, excluding tigers, such as elephants, sloth bears, vultures, peacocks, wolves, leopards, otters, chitals, jackals, nilgai, bison, hyenas, langurs, and cobras, among others.

### Implications of the New Reserve

**Ecological Impact:** The expansive area of the Guru Ghasidas-Tamor Pingla Tiger Reserve will bolster tiger population growth while also safeguarding other fauna and flora. Its connectivity with adjacent reserves enhances gene flow and strengthens regional biodiversity.

**Economic and Social Benefit:** Tiger reserves significantly contribute to ecotourism, benefiting local communities through sustainable livelihoods. Conservation programs often involve local participation, ensuring harmonious coexistence between humans and wildlife.

**Strengthening Global Commitments:** This milestone reinforces India's dedication to international conservation goals, such as the Global Tiger Initiative and the Global Tiger Recovery Program which aim to double tiger numbers worldwide.

## African Elephant

### Why in news?

A recent study reveals drastic declines in African elephant populations, with data spanning surveys from 475 sites across 37 African countries between 1964 and 2016.

Savanna elephant populations have declined by approximately 70% on average, and forest elephants by about 90% at the surveyed sites.

### About African Elephant

Aspects	Description
About	<ol style="list-style-type: none"><li>1. The African elephant (<i>Loxodonta africana</i>) is the largest land animal on Earth.</li><li>2. It is renowned for its impressive size, intelligence, and social structure.</li></ol>
Location	<ol style="list-style-type: none"><li>1. African elephants are primarily found across sub-Saharan Africa, living in varied habitats, from savannas and deserts to forests and marshes.</li><li>2. There are two subspecies of African elephants: the African bush elephant and the smaller African forest elephant, each adapted to different ecosystems.</li></ol>
Physical Characteristics	<ol style="list-style-type: none"><li>1. African elephants are massive, with males reaching heights of up to 4 meters (13 feet) at the shoulder and weighing up to 12,000 pounds.</li><li>2. Females are generally smaller but are still formidable in size.</li><li>3. One of their most distinctive features is their large, fan-shaped ears, which help regulate body temperature by dissipating heat.</li><li>4. Unlike Asian elephants, African elephants have two "fingers" on the tips of their trunks, which allow them to grasp small objects with great dexterity.</li><li>5. Both males and females have tusks, although males tend to have larger, more prominent ones.</li></ol>
Diet	<p>As herbivores, African elephants spend a significant part of their day feeding, consuming up to 300 pounds of vegetation daily.</p> <p>Their diet includes grasses, fruits, leaves, and bark, which they can strip from trees using their trunks and tusks.</p>

Ecological Role	1. Elephants play a crucial role in shaping their environment, often referred to as a “keystone species.” 2. By breaking trees, digging water holes, and dispersing seeds through their dung, elephants help maintain biodiversity in their ecosystems.
Conservation Status	African elephants are classified as vulnerable to endangered due to threats from habitat loss, human-wildlife conflict, and poaching for their ivory tusks.
Conservation efforts	Conservation efforts include anti-poaching initiatives, habitat restoration, and community engagement programs aimed at fostering coexistence between humans and elephants.

**Key differences between African and Asian elephants:**

1. African elephants have larger, fan-shaped ears that resemble the African continent, while Asian elephants have smaller, rounded ears.
2. **Body Size:** African elephants are generally larger and heavier, with males standing up to 13 feet at the shoulder, while Asian elephants are slightly smaller.
3. **Head Shape:** African elephants have a fuller, more rounded head, while Asian elephants have a twin-domed head with an indent in the middle.
4. **Trunk:** African elephants have two finger-like projections at the tip of their trunk, while Asian elephants have only one.
5. **Back Shape:** African elephants have a concave or saddle-shaped back, while Asian elephants have a more convex or humped back.
6. **Location:** African elephants are found in various parts of Africa (savannas, forests, and deserts), while Asian elephants are native to Southeast Asia, including India, Sri Lanka, and parts of Indonesia.

**Black-footed ferret**

**Why in news?**

Recently, Smithsonian National Zoo and Conservation Biology Institute (NZCBI) researchers successfully witnessed the birth of two black-footed ferret kits by a cloned mother. This birth is significant for conservation efforts, as black-footed ferrets are one of the most endangered mammals in North America, with an estimated 370 left in the wild.

**About black-footed ferret**

Aspects	Description
About	1. The black-footed ferret ( <i>Mustela nigripes</i> ) is a rare and only native ferret species to North America’s prairies. 2. This slender, weasel-like animal is the only ferret species native to North America and is known for its distinct black face mask, black-tipped tail, and black feet, which give it its name. 3. These ferrets are solitary by nature, coming together only for breeding or when females are raising their young.

Physical Description	<ol style="list-style-type: none"><li>1. Their fur is mostly yellow-buff with lighter areas on the belly, forehead, muzzle, and throat, while distinctive black markings cover their face, feet, and the tip of their tail.</li><li>2. Their legs are short but strong, with large front paws and claws that are well-adapted for digging.</li><li>3. They are equipped with large ears and eyes.</li><li>4. Ferrets likely have acute hearing and sight; however, their sense of smell is considered their primary tool for locating prey underground in the dark.</li></ol>
Diet	<ol style="list-style-type: none"><li>1. About 90% of their diet consists of prairie dogs, and one ferret may consume over 100 prairie dogs each year.</li><li>2. They also eat small mammals like mice, rats, ground squirrels, rabbits, and occasionally birds, reptiles, and insects.</li></ol>
Communication	Highly vocal animals, black-footed ferrets use distinct sounds to communicate. A loud chatter serves as an alarm, while a hiss indicates fear or agitation. Female ferrets often whimper to encourage their young to follow.
Conservation Status	IUCN: Endangered

## UPSC Syllabus: Agriculture

### Key Findings on the Nutritional Impact of Debranning Millets

#### Why in news?

A recent study highlights that debranning (removing the bran) from millets decreases their protein, dietary fiber, fat, mineral, and phytate content. This process also increases the carbohydrate and amylose content, potentially diminishing the health benefits of consuming millets.

#### Key Findings on the Nutritional Impact of Debranning Millets

**1. Advantages of Whole-Grain Millets:** Researchers emphasize consuming millets as whole grains to maximize nutritional benefits. Debranned millets, although easier to cook, are nutritionally inferior and can raise the glycemic load of Indian diets.

**2. High Mineral Content and Health Benefits:** Compared to other cereals like rice, wheat, and maize, millets are rich in minerals such as calcium, iron, phosphorus, and potassium. They also provide essential phytochemicals, including phenolic compounds, which offer health benefits like anti-aging, anti-carcinogenic, anti-atherosclerogenic, antibacterial, and antioxidant effects.

**3. Increased Focus on Millets in 2023:** The Food and Agriculture Organization designated 2023 as the International Year of Millets, with strong promotional support from the Indian government.

**4. Market Trends and Concerns:** A 2018 market survey revealed millets, polished like white rice, are commonly available in stores, making it difficult to distinguish between polished and whole-grain millets in packaged products.

**5. Reasons for Polishing Millets:** Polishing extends shelf life, as millet bran is high in fats that can become rancid. Debranning also reduces cooking time and makes the grain softer and less chewy.

**6. Health Implications for Diabetics:** According to experts, while millets provide phytonutrients and proteins beneficial to health, polished millets lead to a high glycemic index, which can be detrimental for diabetics. Efforts are needed to make unpolished, whole-grain millets more accessible for those managing diabetes.



## Turtle Wildlife Sanctuary

### Why in news?

National Green Tribunal (NGT) has castigated the UP officials for granting mining permissions in turtle sanctuary.

### About Turtle Wildlife Sanctuary

Aspects	Description
Location	<ol style="list-style-type: none"> <li>1. The sanctuary is located in Varanasi District, Uttar Pradesh. It was declared on 21 December 1989.</li> <li>2. It was created to ensure the survival of turtles released into the Ganga River.</li> <li>3. Turtle (Kachhua) Wildlife Sanctuary is the first turtle sanctuary in India. It is also the world's only protected area dedicated to fresh water turtles.</li> </ol>
Flora	<ol style="list-style-type: none"> <li><b>1. Riparian Vegetation:</b> This zone near water features trees, shrubs, grasses, and plants adapted to moist conditions.</li> <li><b>2. Riverine Trees:</b> Along the Ganga's banks, trees like peepal, banyan, neem, sheesham, and willows provide shade, stabilize banks, and enhance biodiversity.</li> <li><b>3. Aquatic Plants:</b> Water hyacinth, lotus, water lilies, and submerged plants thrive in the sanctuary supporting water quality, offering habitat, and serving as food for turtles and other wildlife.</li> </ol>
Fauna	In the Kachhua (tortoise) Sanctuary mainly Aspiderites Gangetic (self shell turtles), Geoclamis, Hamiltonai, Chitra Indica and Lasimous which are carnivorous species and hard shelled herbivorous tortoise- Pechra Kachhua, Sundri Kachhua, Kachhua Tentoria, Kachhua Tongoka are in abundance. Rohu, Bhakur, Tengra, Prawn, Nain, Bam etc. fish are also found in the Sanctuary. Gangetic dolphin can also be seen especially during rainy season here.

## Bandhavgarh Tiger Reserve

### Why in news?

The Ministry of Environment, Forest, and Climate Change's Wildlife Crime Control Bureau (WCCB) has set up a team to investigate the death of ten elephants in the Bandhavgarh Tiger Reserve, Madhya Pradesh.

### About Bandhavgarh Tiger Reserve

Aspects	Description
About	<ol style="list-style-type: none"> <li>i) It is situated in the Umaria district of Madhya Pradesh, India. The reserve is part of the Vindhya Hills and spans an area of 1,536 sq km.</li> <li>ii) It was originally declared a national park in 1968 and later became a tiger reserve in 1993 under Project Tiger.</li> <li>iii) Bandhavgarh Fort which is an ancient fort, said to be over 2,000 years old. It is situated on a hill inside the reserve.</li> <li>iv) The park consists of three distinct areas i.e. 'Bandhavgarh National Park', 'Panpatha Wildlife Sanctuary' which make up the "Core Area" and the adjoining notified "Buffer Area" spread across the districts of Umaria, Shahdol and Katni.</li> </ol>

Adjacent protected areas	Bandhavgarh Tiger Reserve lies between two other major protected Areas of Madhya Pradesh: Kanha Tiger Reserve on the southern side and Sanjay National Park on the north-eastern side.
Terrain	It is characterized by rugged cliffs, dense forests, and open meadows, creating a diverse habitat for wildlife.
Fauna	It features a mix of Sal forests, mixed deciduous forests, grasslands, and bamboo stretches.
Fauna	The Prominent mammal species of Bandhavgarh are spotted deer or Chital, Sambar, barking deer or Muntja, Chousingha or Four-horned antelope, Nilgai or Blue bull, Indian Gazelle or Chinkara, Gaur, Tiger, Leopard, Wild dog or Dhole, Hyaena, Indian Wolf, Jackal, Wild boar, Sloth bear, Common langur and Rhesus monkey.
Cultural and Ecotourism Importance	<b>Ecotourism Initiatives:</b> Focus on sustainable tourism helps fund conservation efforts and supports local livelihoods. <b>Cultural Heritage:</b> The reserve is dotted with ancient caves and temples that add cultural depth to the wildlife experience.
Conservation Efforts	i) Bandhavgarh is a critical part of the Project Tiger initiative aimed at protecting Bengal tigers and their habitats. ii) <b>Anti-Poaching Measures:</b> Continuous patrolling and surveillance systems are in place to prevent poaching and protect wildlife. iii) <b>Community Involvement:</b> The reserve collaborates with local communities to promote eco-tourism and spread awareness about wildlife conservation.

## UPSC Syllabus: Science and technology

### Proba-3

#### Why in news?

The Indian Space Research Organisation (ISRO) will launch the European Space Agency's Proba-3 mission aboard its PSLV rocket on December 4 from Sriharikota.

#### About Proba-3

**1. About:** Proba-3 is an advanced solar mission developed by the European Space Agency (ESA).

**2. Aim:** The mission aims to study the solar corona, the Sun's outermost and hottest atmospheric layer.

It is scheduled to launch on December 4, 2024, using the Indian Space Research Organisation's (ISRO) Polar Satellite Launch Vehicle (PSLV).

3. The mission will be placed in a highly elliptical orbit measuring 600 km x 60,530 km with an orbital period of 19.7 hours.

4. Proba-3 will attempt the world's first "precision formation flying," where two satellites will fly in tandem and maintain a fixed configuration in space.

#### Instruments Onboard Proba-3

**1. ASPIICS (Association of Spacecraft for Polarimetric and Imaging Investigation of the Corona of the Sun):** This coronagraph focuses on the Sun's inner and outer corona. It features a 1.4-meter diameter occulting disk to block sunlight, allowing detailed observation of the corona.

**2. DARA (Digital Absolute Radiometer):** This instrument measures the Sun's total energy output, known as total solar irradiance, which is vital for understanding solar activity.

**3. 3DEES (3D Energetic Electron Spectrometer):** This spectrometer measures electron fluxes as the satellites pass through Earth's radiation belts, providing valuable data for space weather studies.

### Features of Proba-3

**1. Two-Satellite System:** Proba-3 comprises two satellites:

**i) Occulter Spacecraft (200 kg):** This satellite casts a shadow to create an artificial eclipse.

**ii) Coronagraph Spacecraft (340 kg):** Positioned in the shadow, this satellite observes and photographs the Sun's corona.

**2. Artificial Eclipse for Extended Observation:** Unlike natural solar eclipses, which last only about 10 minutes and occur approximately 1.5 times a year, Proba-3 will provide up to six hours of continuous eclipse-like conditions daily. This extended observation time is equivalent to 50 solar eclipses annually.

**3. Autonomous Precision Formation:** The satellites will autonomously maintain their precise alignment, with one satellite positioned 150 meters away from the other. This alignment allows continuous observation of the Sun's corona without interference from its bright light.

### Benefits for India

**1. Showcasing ISRO's Expertise:** The Proba-3 mission reinforces India's reputation for reliable, cost-effective space launches, strengthening ISRO's standing in global space exploration.

**2. Exclusive Data Access:** Indian scientists gain privileged access to mission data, with collaborative input in defining scientific goals, ensuring direct research benefits.

**3. Synergy with Aditya L1:** Collaboration between Proba-3 and India's Aditya L1 mission can enhance solar physics research and improve space weather predictions.

Read more: [Proba-3 Mission](#)

## Nafithromycin Antibiotic

### Why in news?

India's first indigenous antibiotic, Nafithromycin, was launched to address drug resistance challenges.

### About the antibiotic

**1. Developed By:** Created with support from Biotechnology Industry Research Assistance Council (BIRAC), a unit of the Department of Biotechnology.

**2. Market Name:** Introduced as "Miqnaf" by Wockhardt Pharmaceuticals.

**3. Target Condition:** Designed to combat Community-Acquired Bacterial Pneumonia (CABP), caused by drug-resistant bacteria.

### Features of Nafithromycin

1. The first new antibiotic in its class developed worldwide in over three decades.

**2. Enhanced Efficacy:** It is 10 times more effective than azithromycin. It achieves comparable results with a **three-day treatment regimen**.

**3. Wide Pathogen Coverage:** It is effective against both typical and atypical bacteria and can overcome existing drug resistance mechanisms.

**4. Safety and Tolerability:** It has minimal gastrointestinal side effects, no significant drug interactions and is unaffected by food, enhancing patient convenience.

### Significance of Nafithromycin

**1. Tackling Antimicrobial Resistance (AMR):** It offers a solution to combat multi-drug-resistant pathogens. It also addresses a critical global health challenge responsible for prolonged illnesses and increased healthcare costs.

**2. Global Impact:** Pneumonia causes over two million deaths annually, with India bearing 23% of the global burden. Nafithromycin provides hope for reducing mortality and healthcare strain.

## One Day One Genome' Initiative

### Why in news?

Recently, the Department of Biotechnology (DBT) and the Biotechnology Research and Innovation Council (BRIC) have launched the 'One Day One Genome' initiative.

### About the initiative

**1. Launched by:** The Department of Biotechnology (DBT) and the Biotechnology Research and Innovation Council (BRIC)

**2. Purpose:** To highlight India's unique microbial diversity and its role in environmental, agricultural, and human health.

**3. Lead Organizations:** Biotechnology Research and Innovation Council-National Institute of Biomedical Genomics (BRIC-NIBMG) under DBT.

### 4. Key Objectives

**1. Highlight India's Microbial Diversity:** It showcases unique bacterial species found in India. It emphasizes their role in maintaining ecological balance, agriculture, and human health.

**2. Promote Genome Sequencing:** It enables visualization of microbial potential through genome sequencing. It also unlocks capacities for critical enzymes, antimicrobial resistance, and bioactive compounds.

**3. Enhance Accessibility and Innovation:** It provides publicly available annotated microbial genome data. It facilitates innovation and research in microbiology and its applications.

### Significance of Microorganisms

**1. Environmental Contributions:** It drives biogeochemical cycles, soil formation, and organic waste degradation and aid in mineral purification and methane production, ensuring planetary homeostasis.

**2. Agricultural Benefits:** It facilitates nutrient cycling, nitrogen fixation, and soil fertility, control pests, weeds, and stress responses in crops and support plant growth through nutrient and water uptake.

**3. Human Health Impact:** It outnumbers human cells in the body, contributing to digestion, immunity, and mental health and serve as the foundation for combating infectious diseases through symbiotic relationships.

### Benefits of Genome Sequencing

**1. Unlocking Microbial Potential:** It deciphers hidden genetic capabilities for enzymes, antimicrobial, and bioactive compounds. It also advances research for environmental protection, agricultural development, and health improvement.

**2. Public Data Accessibility:** It is fully annotated microbial genomes will be freely accessible and provide graphical summaries, infographics, and genome assembly/annotation details.

**3. Stimulating Innovation:** It enhances public understanding of microbial applications and encourages research discussions and innovations benefiting society and ecosystems.

### About Microbes

**1. Definition:** Microbes are microscopic organisms, which include bacteria, viruses, fungi, archaea, and protists. They are too small to be seen with the naked eye.

**2. Structure:** Microbes can be single-celled organisms like bacteria and archaea or multicellular like some fungi. They are classified into prokaryotes (organisms without a nucleus, such as bacteria and archaea) and eukaryotes (organisms with a nucleus, such as fungi and protists).

**3. Functions:** Microbes play a critical role in ecosystems as decomposers, breaking down organic matter. They also participate in nitrogen fixation, which supports plant growth, and some act as pathogens causing diseases in humans, animals, and plants.

## Poorvi Prahar Exercise

### Why in news?

Recently, the Poorvi Prahar exercise was conducted in Arunachal Pradesh.

### About Poorvi Prahar

Aspects	Description
About	<ol style="list-style-type: none"><li>Poorvi Prahar is a tri-service military drill held in the forward areas of Arunachal Pradesh.</li><li>The exercise spanned from November 10 to November 18, 2024.</li></ol>
Objective	The primary objective is to enhance combat effectiveness, inter-service coordination, and operational readiness in the challenging mountainous terrain of the region.
Key focus	<ol style="list-style-type: none"><li><b>Integrated Joint Operations:</b> The exercise emphasized synchronized operations between the Army, Navy, and Air Force. It tested the capability of the armed forces to operate cohesively in a multi-domain, joint command environment.</li><li><b>Technological Advancement:</b> Advanced military platforms and next-generation technologies were employed to simulate modern warfare scenarios. The focus was on leveraging cutting-edge tools to strengthen operational capabilities.</li><li><b>Operational Readiness:</b> Forces were trained to handle real-world combat scenarios, particularly in the difficult topography of Arunachal Pradesh. The exercise sought to bolster India's defensive posture along its eastern frontier.</li></ol>
Technology Integration	<p><b>Advanced Systems and Communication:</b> The exercise featured the use of AI-driven analytics for better battlefield decision-making and satellite communication for seamless real-time information sharing.</p> <p>A Common Operating Picture (COP) was developed to ensure effective coordination.</p> <p><b>Innovative Tools:</b> The deployment of swarm and FPV drones enhanced situational awareness and operational flexibility.</p>

	<p>Loitering munitions were used to demonstrate their precision and adaptability in combat scenarios.</p> <p><b>Joint Command Structures:</b> Integrated command structures facilitated seamless cooperation between ground, air, and naval forces.</p> <p>Real-time data exchange allowed for agile and coordinated responses to dynamic challenges.</p>
Strategic Significance	<p><b>Adaptable Defence Posture:</b> Exercise Poorvi Prahar reinforced India's readiness to counter regional security challenges. It highlighted India's commitment to maintaining a robust defence along its eastern frontier.</p> <p><b>Military Excellence:</b> The exercise showcased exceptional collaboration across the three services. It also reflected the Indian Armed Forces' focus on adopting advanced technologies to remain at the forefront of modern warfare.</p> <p><b>Strategic Deterrence:</b> The capabilities demonstrated during the exercise underscored India's preparedness to execute multi-domain operations. The display of technological prowess and operational agility served to strengthen deterrence measures aimed at safeguarding national interests.</p>

### Thai Sacbrood Virus in Bees

#### Why in the News?

Research has shown that **pathogen spillover** and **spillback** from managed honey bees to wild pollinators is a significant threat. They also unknowingly spread the **Thai Sacbrood Virus** to native bee colonies.

#### Additional Facts

**Pathogen Spillover** occurs when a pathogen transfers from a domestic or non-native species to a wild species, like the spread of disease from managed honey bees to wild pollinators.

**Pathogen Spillback** is the reverse, where a pathogen moves back to domesticated species from wild populations, causing further ecological impact, such as wildlife diseases being transmitted back to farm animals.

#### About Thai Sacbrood Virus

**1. Impact on Bees:** Thai Sacbrood Virus (TSBV) **targets honeybee larvae**, killing them and hindering colony growth and reproduction. While it is **less harmful to western honeybees**, it poses a serious threat to Asiatic honeybees (*Apis cerana indica*).

**2. Transmission:** The movement of bee colonies for **commercial pollination** and honey production has contributed to the spread of the virus.

**3. Geographical Spread:** In 1991-1992, an outbreak **destroyed around 90% of Asiatic honey bee colonies in South India**, and the virus resurfaced in Telangana in 2021. It has also been reported in other countries, including China and Vietnam.

#### About Indian Bees

**1.** India is **home to over 700 bee species**, including **four native honey bee species**: the Asiatic honey bee (*Apis cerana indica*), giant rock bee (*Apis dorsata*), dwarf honey bee (*Apis florea*), and stingless bee (*sp. Trigona*).

**2.** Western honey bees were introduced to India in 1983 to boost the country's honey yield.

## Exercise 'Sea Vigil-24'

### Why in news?

Recently, the Indian Navy is to Conduct the Fourth Edition of the Coastal Defence Exercise 'Sea Vigil-24'.

### About Exercise 'Sea Vigil-24'

Aspects	Description
About	<ol style="list-style-type: none"> <li>1. It is a Pan-India Coastal Defence Exercise from 20–21 November 2024.</li> <li>2. It is the fourth edition following the initial exercise held in 2018.</li> <li>3. It is the largest edition yet, covering India's entire 11,098 km coastline and a vast EEZ of 2.4 million sq km. It has involvement of six Ministries and 21 different organisations and agencies.</li> <li>4. Participation from fishing communities, coastal populations, NCC cadets, and Bharat Scouts and Guides which aims to raise awareness about maritime security and engage local stakeholders.</li> </ol>
Objective	To validate and strengthen India's coastal defence and security mechanisms
Focus areas	<ol style="list-style-type: none"> <li>1. Security of critical coastal assets like ports, oil rigs, Single Point Moorings, and Cable Landing Points.</li> <li>2. Enhanced awareness about maritime security among coastal communities, including fishing populations and students.</li> </ol>
Feature	It emphasizes on securing strategic locations, including ports, oil rigs, Single Point Moorings, Cable Landing Points, and other vital infrastructure. It focuses on coastal population security alongside critical infrastructure
Significance	<ol style="list-style-type: none"> <li>1. It provides a holistic assessment of India's maritime defence capabilities.</li> <li>2. It helps identify strengths and weaknesses in the current preparedness of maritime security agencies.</li> <li>3. It serves as a precursor to the Indian Navy's biennial Theatre Level Readiness Operational Exercise (TROPEX).</li> </ol>

## UPSC Syllabus: Exercise in news

### Long Range Land Attack Cruise Missile (LRLACM)

#### Why in news?

Recently, the Defence Research and Development Organisation (DRDO) has successfully conducted the maiden flight test of the Long Range Land Attack Cruise Missile (LRLACM) from a test range off Odisha's coast.

#### About the test

- 1. Location:** The missile was launched from the Integrated Test Range at Chandipur, Odisha. The launch was executed using a mobile articulated launcher.
- 2. Developed by:** LRLACM was developed by the Aeronautical Development Establishment in Bengaluru, with significant contributions from other DRDO laboratories and Indian industry partners.

#### Features of the Missile

1. The missile followed its planned path with waypoint navigation, demonstrating the capability to perform multiple maneuvers at varying altitudes and speeds.
2. It features cutting-edge avionics and software to ensure high performance and reliability during operations.
3. LRLACM is configured for launch from ground-based mobile articulated launchers and frontline naval ships using a universal vertical launch module.

## Dicliptera polymorpha

### Why in news?

Recently, a new plant species *Dicliptera polymorpha* was discovered in the grasslands of Talegaon-Dabhade in the Northern Western Ghats, India. This region was one of India's four biodiversity hotspots which is known for its unexplored and unique flora and fauna.

### About *Dicliptera polymorpha*

1. *Dicliptera polymorpha* is highly fire-resilient, showing a unique pyrophytic habit.
2. Unlike other species, it blooms twice a year. The first bloom follows the monsoon, while the second bloom is triggered by grassland fires in summer.
3. The species features a spicate (spike-like) inflorescence, unique among Indian \**Dicliptera*\* species, with similar structures observed only in African relatives.
4. It thrives in open grasslands prone to extreme weather, including summer droughts and human-induced fires.

### 5. Life Cycle:

- i) Primary Blooming Phase occurs from November to April, shortly after the monsoon season.
- ii) Secondary Blooming Phase is triggered by summer fires, leading to a shorter but more abundant bloom from May to June.

**6. Adaptation:** It develops dwarf flowering shoots from woody rootstocks during fire-triggered blooming, an adaptation to its challenging habitat.

**7. Conservation Implications:** *Dicliptera polymorpha*'s limited habitat and fire-dependent lifecycle call for balanced fire management practices.

Conservation efforts are essential to protect the Western Ghats' grassland ecosystems from overuse and degradation due to frequent fires.

Proper management will help support this species' survival while preserving the broader biodiversity of the region.

**Significance of the Discovery:** It highlights the need to preserve the biodiversity of the Western Ghats, which may contain many undiscovered species with unique survival mechanisms. It reinforces the importance of grassland ecosystem conservation in India's biodiversity hotspots.

## PyPIM Platform

### Why in news?

Recently, Israeli researchers from the Israel Institute of Technology have created software enabling computers to process data directly within memory, bypassing the need for a central processing unit (CPU).

### About PyPIM Platform



**1. About:** PyPIM Platform is a platform combining Python programming with digital processing-in-memory (PIM) technology, to facilitate in-memory computing.

**2. Functionality and Compatibility:** PyPIM includes new instructions that allow certain computations to be executed directly in memory, enabling developers to use familiar programming languages, such as Python, for PIM-based computing systems.

3. It tackles the “memory wall” issue, where CPU and memory speeds surpass the data transfer rates, creating energy and time bottlenecks in modern computing.

**4. Performance Simulation:** A simulation tool is also provided within the platform to help developers assess potential performance gains from using in-memory processing.

5. By performing computations directly in memory, the technology minimizes the energy-intensive and time-consuming data transfers between the memory and CPU, achieving significant time and energy savings.

**Demonstrated Benefits:** Studies showed that tasks performed using PyPIM achieved faster processing with minimal changes in code, demonstrating the platform’s ease of use and performance advantage in mathematical and algorithmic applications.

## India’s Pinaka Rocket System

### Why in news?

The French Army is evaluating India’s indigenous Pinaka multi-barrel rocket launcher (MBRL) system for potential use, underscoring India’s growing prominence in defense manufacturing. The evaluation aligns with the ongoing strategic and defense partnership between India and France.

### About Pinaka rocket system

1. The Pinaka rocket system is a multi-barrel rocket launcher system developed by India. It was designed by the Defence Research and Development Organisation (DRDO) and produced primarily by Indian defense manufacturers.

2. It is named after the bow of Lord Shiva. Pinaka is a versatile, high-precision system known for its mobility, quick response time, and ability to deliver a concentrated volume of firepower on enemy targets.

### Key features

1. Pinaka is designed as an Multiple Launch Rocket System (MLRS), capable of launching a salvo of 12 rockets in 44 seconds. The system is usually mounted on a 8×8 or 6×6 truck for high mobility.

### 2. Range and Firepower:

i) Pinaka Mk-I has a range of around 40 km.

ii) Pinaka Mk-II and Pinaka Enhanced versions extend the range to 60-75 km.

3. The Pinaka Guided variant, with guidance improvements, can reach around 90 km, providing better accuracy and extended reach.

**4. Guidance and Precision:** The guided version incorporates satellite guidance to enhance accuracy. This variant ensures more effective targeting with reduced collateral damage.

**5. Payload Options:** Pinaka rockets can carry a variety of warheads, including high explosives, incendiary, anti-personnel, and anti-tank bomblets, allowing it to engage various types of targets.

**6. Quick Deployment and Reloading:** The system can be rapidly deployed and reloaded within a short time frame, making it suitable for intense battlefield conditions and quick counter-strikes.

**7. Modular and Expandable:** The modular structure allows for compatibility with other advanced technologies and systems, which can potentially make Pinaka more effective in network-centric warfare scenarios.

**8. Operational Use:** Pinaka has been used by the Indian Army in operations, particularly in mountainous and rugged terrains, providing a significant boost to India's artillery capabilities.

## UPSC Syllabus: Science and technology, International relations

### WIPO 2024 Report

#### Why in news?

The **World Intellectual Property Organization** (WIPO) highlights India's advances in the 2024 World Intellectual Property Indicators (WIPI) report.

India has entered the top 10 globally for patents, trademarks, and industrial designs, reflecting its growing influence in intellectual property (IP).

#### Highlights of the report

1. India led the top 20 origins in 2023 with a 15.7% growth in patent applications, marking five consecutive years of double-digit increases.

2. India ranks sixth worldwide with 64,480 patent applications, over half of which (55.2%) were resident filings—a first for the nation.

3. Patent grants surged by 149.4% compared to 2022, showcasing rapid evolution in India's IP ecosystem.

4. Industrial design applications increased by 36.4%, highlighting growth in manufacturing, product design, and creative industries. Textiles and Accessories, Tools and Machines, and Health and Cosmetics sectors contributed to nearly half of these filings.

**5. Long-Term Growth in IP Filings:** From 2018 to 2023, India's patent and industrial design applications more than doubled, and trademark filings grew by 60%. India's patent-to-GDP ratio increased from 144 to 381 over the last decade, illustrating IP growth alongside economic expansion.

**6. Top Rankings in Trademarks:** India ranked fourth globally in trademark filings, achieving a 6.1% increase in 2023, with nearly 90% from resident applicants.

**Key sectors:** Health (21.9%), Agriculture (15.3%), and Clothing (12.8%).

7. India's trademark office holds the second-largest number of active registrations globally, with over 3.2 million trademarks in force.

**6. Global IP Trends:** Worldwide, 3.55 million patent applications were filed in 2023, marking a 2.7% increase from 2022, with strong contributions from Asia. China, the U.S., Japan, South Korea, and India were major contributors, with a notable rise in resident filings, indicating a focus on local innovation.

## UPSC Syllabus: Report and index

### World Solar Report

#### Why in the News?

Recently, during the 7th Assembly of the International Solar Alliance (ISA), four key reports were released, focusing on the rapid advancements in solar energy and sustainable practices worldwide.

The four reports include the World Solar Market Report, World Investment Report, World Technology Report, and \*Green Hydrogen Readiness Assessment for African Countries.

## Key Highlights of Each Report:

### 1. World Solar Market Report: Unprecedented Growth in Solar Capacity:

**i) Global Solar Capacity Surge:** Since 2000, global solar capacity has expanded from 1.22 GW to an impressive 1,418.97 GW in 2023, marking a 40% annual growth rate. In 2023 alone, 345.83 GW was added, making up 75% of new renewable energy capacity worldwide.

**ii) Manufacturing Exceeds Demand:** By the end of 2024, solar manufacturing capacity is expected to surpass 1,100 GW, doubling anticipated PV panel demand. Prices for solar cells and advanced modules have dropped significantly, promoting affordability.

**iii) Employment Growth:** Solar industry jobs have reached 7.1 million, with solar contributing a substantial 44% increase from 2022 figures.

Solar capacity could reach between 5,457 and 7,203 GW by 2030, driven by international climate commitments.

### 2. World Investment Report: Shifts in Global Energy Investments

**i) Rising Energy Investments:** Total global energy investments have grown from \$2.4 trillion in 2018 to an expected \$3.1 trillion by 2024. Clean energy investments now outpace fossil fuel investments, reaching \$2 trillion.

**ii) Dominance of Solar Investments:** Solar energy leads in renewable investments, accounting for 59% of total renewable energy investments in 2023, mainly due to reduced panel costs.

**Regional Leadership:** The APAC region leads global solar investment with \$223 billion, followed by EMEA (\$91 billion) and AMER (\$78 billion).

### 3. World Technology Report: Advancements in Solar Technology

**Record Efficiency in PV Modules:** Monocrystalline solar PV modules have reached a new efficiency high of 24.9%. Multijunction perovskite cells promise higher efficiency and lower production costs, challenging traditional silicon panels.

**Material Innovation:** Solar manufacturing now uses 88% less silicon per watt than in 2004, highlighting strides in efficiency and environmental benefits.

**Cost Reduction in Utility-Scale PV:** The levelized cost of electricity (LCOE) for utility-scale solar has dropped by 90%, from \$0.46/kWh in 2010 to \$0.044/kWh in 2023.

### 4. Green Hydrogen Readiness in African Countries

**Potential for Decarbonization:** Green hydrogen, produced through renewable-powered electrolysis, offers an alternative to fossil fuels for industries like steel and fertilizer production, especially in Africa.

**Country Assessments:** Countries like Egypt, Morocco, and Namibia are evaluated for their green hydrogen potential, focusing on economic feasibility, financing, and risk management.

## Nayi Chetna 3.0

### Why in news?

Recently, the third edition of the national campaign against gender-based violence, *Nayi Chetna 3.0 – Pahal Badlaav Ki* was launched.

### About the Campaign Overview

**1. Organized by:** The Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) under the Ministry of Rural Development

**2. Duration:** It is a month-long campaign which will run from 25th November to 23rd December 2024 across all Indian States and Union Territories.

**3. Led by:** DAY-NRLM's extensive Self-Help Group (SHG) network

**4. Aim:** The campaign aims to amplify awareness and encourage grassroots-level action to combat gender-based violence.

5. The initiative embodies the spirit of *Jan Andolan* or people's movement. This year's campaign operates under the slogan, "*Ek Saath, Ek Awaaz, Hinsa Ke Khilaa*" (United Voice Against Violence).

6. Nayi Chetna 3.0 adopts a whole-of-government approach. It will involve collaboration among nine key Ministries and Departments including Ministry of Women and Child Development, Ministry of Health and Family Welfare, Department of School Education and Literacy, etc

**7. Key Objectives:** Its objectives include:

- i) Raising awareness about all forms of gender-based violence.
- ii) Mobilizing communities to speak out and demand accountability.
- iii) Facilitating access to support systems for timely intervention and assistance.
- iv) Empowering local institutions to take decisive action against violence.

**8. Goals for Nayi Chetna 3.0:** The third edition aims to build on past successes by mobilizing communities and institutions to:

- i) Generate widespread awareness about gender-based violence.
- ii) Foster collective action at the grassroots level.
- iii) Drive convergence among government ministries and community stakeholders.
- iv) Create a sustainable and informed movement for gender equality and women's empowerment.

### Achievements from Previous Campaigns

Since its inception, the Nayi Chetna campaign has made remarkable progress in mobilizing communities:

**First Edition:** Reached 3.5 crore people nationwide with active support from multiple line ministries.

**Second Edition:** Engaged 5.5 crore participants across 31 States and Union Territories, conducting over 9 lakh awareness activities on gender-based violence.

## UPSC Syllabus: Schemes and programmes

### PAN 2.0 Project

#### Why in news?

The Cabinet Committee on Economic Affairs (CCEA), chaired by Prime Minister Shri Narendra Modi, has granted approval for the PAN 2.0 Project proposed by the Income Tax Department.

#### About PAN 2.0 Project

1. PAN 2.0 will modernize and consolidate the existing PAN/TAN 1.0 eco-system by integrating core and non-core PAN/TAN activities, along with PAN validation services.

**2. Aim:** The project aims to transform taxpayer registration services using advanced technology, ensuring a seamless and enhanced digital experience for taxpayers.

#### Key Features of PAN 2.0

**1. Common Business Identifier:** The project consolidates PAN, TAN (Tax Deduction and Collection Account Number), and TIN (Taxpayer Identification Number) into a unified system. This addresses industry demands for a single identification number to simplify compliance.

**2. QR-Code Integration:** All new and existing PAN cards will feature an enhanced QR code. The QR code, first introduced in 2017, integrates financial transactions more effectively with the tax department.

**3. Unified Portal:** A new online, paperless portal will replace the nearly 15-20-year-old software currently in use. The portal will focus on improving ease of access, service delivery, and grievance redressal mechanisms.

**4. Mandatory PAN Data Vault System:** Entities such as banks and insurance companies that handle PAN information must securely store this data using a mandatory PAN data vault system. This feature aims to enhance data protection and cybersecurity.

**5. Technology-Driven Transformation:** The PAN 2.0 project will revamp taxpayer registration services to improve efficiency and accessibility. It will consolidate core and non-core PAN/TAN activities along with PAN validation services.

### Benefits for Individuals and Businesses

**Individuals:** Existing PAN cardholders can upgrade to QR code-enabled PAN cards free of cost. The upgraded cards will enhance integration of financial transactions with the tax department. Applications for PAN cards under PAN 2.0 will be fully online and paperless.

**Businesses:** PAN will serve as a seamless, common system for filing tax challans and returns. This integration simplifies the filing of tax-related documentation and compliance procedures.

### Current Identification Numbers and Their Roles

**1. Permanent Account Number (PAN):** A 10-digit alphanumeric identifier used by the Income Tax Department to track financial transactions, including tax payments and returns. PAN remains unchanged once allotted and is mandatory for filing income tax returns.

**2. Tax Deduction and Collection Account Number (TAN):** A 10-digit alphanumeric identifier required for deducting or collecting tax at source. It is mandatory to quote TAN in TDS/TCS returns, payment challans, and certificates.

## UPSC Syllabus: Governance

### Haj Suvidha App 2.0

#### Why in news?

The Conference of Chairpersons of State and UT Haj Committees took place on 23rd November 2024.

#### Launch of Haj Suvidha App 2.0

1. Shri Kiren Rijiju launched the Haj Suvidha App 2.0 during the event.
2. It is for better convenience and safety of Indian pilgrims.
2. New features include the selection process for pilgrims, air travel details with boarding passes, a navigation system featuring Mina maps, and access to medical history and health advisories.

#### Focus Areas for Haj 2025

- 1. Infrastructure Upgrades:** It was announced that modern buildings equipped with lifts will be secured in Aziziya and other areas near the Haram.
- 2. Improved Transportation:** Latest model buses will be introduced for travel between Makkah, Madinah, and the Mashaer region.
- 3. Enhanced Medical Support:** A robust medical support system will be established to assist pilgrims.

**4. Personalized Assistance:** The ratio of Khadim-ul-Hujjaj has been improved from one Khadim for every 200 pilgrims to one for every 150 pilgrims, allowing for quicker resolution of issues and better assistance. State Haj Inspectors will also play a key role in providing prompt support.

## UPSC Syllabus: Polity and nation

### SC statement on Socialism and secularism in India and the Preamble Amendment

#### Why in news?

Recently, the Supreme Court recently gave statement on a challenge to the inclusion of the terms “socialist” and “secular” in the Constitution’s Preamble, added by the 42nd Amendment during the Emergency era. However, the final judgement is still awaited.

#### About the court’s observation

Chief Justice of India (CJI) Sanjiv Khanna emphasized that:

- i) Socialism in India signifies a welfare state ensuring equality of opportunity and is not akin to dictatorial ideologies.
- ii) It accommodates both individualism and private sector growth alongside public sector contributions, as reflected in various constitutional Articles.
- iii) Secularism is a fundamental aspect of the Constitution’s Basic Structure, alongside socialism and cannot be detached. The Preamble, amendable under Article 368 is an integral part of the Constitution and evolves to align with national welfare goals.
- iv) The judgment reaffirmed that secularism which is rooted in principles like equality and fraternity and is intrinsic to the Constitution’s ethos and cannot be compromised.
- v) In the previous judgements also, the court emphasized secularism is intrinsic to the Constitution’s Basic Structure with terms like ‘equality’ and ‘fraternity’ reflecting its essence.

#### Concept of socialism and secularism in Preamble

1. The concepts of **socialism** and **secularism** are explicitly mentioned in the **Preamble of the Indian Constitution**. Both principles emphasize the democratic and inclusive framework of the Constitution. These terms were added through the 42nd Amendment Act, 1976.
2. **Socialism** signifies the commitment to social and economic justice, aiming to reduce inequality in wealth, status, and opportunities.
3. **Secularism** ensures that the state treats all religions equally without favoring or discriminating against any faith.

#### Socialism and secularism in Indian Constitution

1. **Fundamental rights:** The Indian Constitution reflects its commitment to socialism and secularism through various provisions. Socialism is upheld via Fundamental Rights like Article 14 (equality before law), Article 21 (right to life and socio-economic rights), and Article 23 (prohibition of forced labor).
2. **Directive Principles of State Policy (DPSP):** It is also mentioned as Directive Principles of State Policy (DPSP) such as Article 38(1) (justice-based social order), Article 39 (equitable wealth distribution), Article 41 (right to work and education), and Article 46 (upliftment of weaker sections). Public sector undertakings and welfare schemes under Articles 39(b) and 39(c) further embody socialism.
3. **Fundamental rights:** Secularism is supported by Fundamental Rights like Article 15 (no religious discrimination), Article 25 (freedom of religion), Article 27 (no taxes for religious promotion), and Article 28 (restrictions on religious instruction in state institutions).

**4. Directive Principles of State Policy (DPSP):** Article 44 in the DPSP advocates a Uniform Civil Code, and Article 51A(e) emphasizes harmony beyond religious divides.

Read more: [Supreme Court Declares Secularism as a Core Part of the Constitution](#)

## Bhu-Neer" Portal

### Why in news?

The "Bhu-Neer" portal was officially launched during the concluding ceremony of India Water Week 2024.

### About the Portal

- 1. About:** The "Bhu-Neer" portal is an initiative to regulate and manage groundwater resources effectively.
- 2. Developed by:** The Central Ground Water Authority (CGWA) under the Ministry of Jal Shakti, in collaboration with the National Informatics Centre (NIC).
- 3. Goal:** The primary goal of the portal is to enhance groundwater management and regulation across the country.
4. The "Bhu-Neer" portal is now live and available for public access. Project proponents can visit the portal for groundwater-related applications, clarifications, tracking the status of their requests, and making necessary statutory payments.

### Key Features of the "Bhu-Neer" Portal

- 1. Comprehensive Groundwater Resource Management:** The portal offers a centralized database that provides access to the legal frameworks governing groundwater extraction. It also includes detailed information on regulations at both state and national levels. This feature promotes transparency and sustainability in groundwater resource management.
- 2. User-Friendly Design:** The portal has been designed with a simplified and informative interface to ensure a smooth user experience. It offers an efficient and streamlined process for obtaining groundwater withdrawal permits.
- 3. Innovative Functionalities:** The "Bhu-Neer" portal incorporates several advanced features, such as a PAN-based single ID system that simplifies user identification. Additionally, the portal generates No Objection Certificates (NOCs) with integrated QR codes, enhancing convenience and traceability.
- 4. Enhanced Accessibility:** Users of the portal can track the status of their applications, make statutory payments, and seek clarifications or assistance regarding groundwater withdrawal.
5. The "Bhu-Neer" portal represents a significant improvement over the previous NOCAP system. It has been designed to make groundwater regulation a more efficient, transparent, and user-friendly process. This aligns with the government's broader goal of promoting the ease of doing business.

### Significance of the Portal

The launch of "Bhu-Neer" is an important step toward realizing the Hon'ble Prime Minister's vision of "Ease of Doing Business." The portal makes groundwater regulation a seamless and faceless process. It also emphasizes sustainable practices, ensuring responsible groundwater usage across industries and individuals.

## UPSC Syllabus: Government initiative and schemes, Environment

### Ayushman Vay Vandana Card

#### Why in the News?

The Ayushman Vay Vandana Card under the [Ayushman Bharat Pradhan Mantri Jan Arogya Yojana \(AB PM-JAY\)](#) has enrolled over 10 lakh senior citizens aged 70+ within just three weeks of its launch.

#### About Ayushman Vay Vandana Card

Aspect	Key details
Genesis	It was announced during the <b>Union Budget 2024-25</b> .
Nodal Ministry	Ministry of Health and Family Welfare
Aim	To provide <b>free, universal healthcare access</b> to senior citizens, aged 70 years and above.
Eligibility	All <b>Indian citizens aged 70 and above</b> are eligible, <b>regardless of their income or financial status</b> .
Features	<b>1. Coverage</b> - It provides <b>₹5 lakh annual health coverage per family</b> , shared <b>if multiple elderly individuals live in one household</b> . <b>2. Registration Process</b> -Beneficiaries must register on the <b>PM-JAY portal or Ayushman app</b> and complete eKYC to activate the new card, even if they already have an Ayushman card. <b>3. Aligned with other schemes:</b> <b>a.</b> Beneficiaries of government health programs like <b>Central Government Health Scheme (CGHS)</b> and Ex-Servicemen Contributory Health Scheme (ECHS) can choose to keep their current coverage or switch to Ayushman Bharat benefits. <b>b.</b> Also, available to individuals covered by the <b>Employees State Insurance Corporation (ESIC)</b> and <b>those with private health insurance</b> .

## UPSC Syllabus- Schemes & Programmes

### Jeevan Pramaan: Digital Life Certificates (DLCs) for Pensioners

#### Why in news?

The third annual Jeevan Pramaan campaign began on November 1, 2024, and will continue until November 30. The Department of Pension and Pensioners' Welfare (DoPPW) has organized 1,900 camps across the country to assist pensioners in generating their DLCs.

#### About Jeevan Pramaan Initiative

- The government launched Jeevan Pramaan in 2014 to simplify the life certificate submission process for pensioners.
- This initiative allows pensioners to generate Digital Life Certificates (DLCs) online, eliminating the need for them to visit pension-disbursing authorities such as banks and post offices in person.
- The certificates are made available directly to the relevant authorities, ensuring a smooth and hassle-free process.



4. Every November, pensioners across various sectors, including government services, Defence, Railways, PSUs, and educational institutions, are required to submit a "life certificate" to continue receiving their pensions.
5. Pensioners can either generate DLCs through Jeevan Pramaan or physically submit their life certificates at banks or post offices, depending on their preference.

### **DLC Generation Process**

1. To generate a DLC, pensioners must have an Aadhaar number and a mobile number linked to it. They must also register their Aadhaar with their pension-disbursing authority.
2. Pensioners can choose to generate the DLC themselves using the Jeevan Pramaan app or website, provided they have access to a biometric device, or they can visit a designated camp for assistance.
3. Biometric authentication, using either fingerprint or face recognition, is required for the process.

### **Benefits of the initiative**

1. The Jeevan Pramaan initiative represents a significant step forward in digitally empowering pensioners.
2. By providing the option to generate life certificates online, the government has reduced the burden on pensioners, sparing them the inconvenience of visiting pension offices every November.
3. The addition of face authentication and the extensive outreach of the campaign have further simplified the process, making it accessible to more pensioners.

## **Armed Forces (Special Powers) Act (AFSPA)**

### **Why in news?**

The Armed Forces (Special Powers) Act (AFSPA), which grants armed forces sweeping powers to maintain public order in "disturbed areas," has been reimposed by the Union Ministry of Home Affairs (MHA) in six police station jurisdictions across five districts of Manipur.

### **About Armed Forces (Special Powers) Act (AFSPA)**

1. The Armed Forces (Special Powers) Act (AFSPA) is a law in India that grants special powers to the armed forces in regions declared as "disturbed areas."
2. It was enacted in 1958, initially to address insurgencies in the northeastern states, but has since been applied in other regions, including Jammu and Kashmir.
3. The Act has been a subject of significant debate, with proponents arguing for its necessity to maintain security and critics condemning it for alleged human rights violations.

### **Key Features of AFSPA**

- 1. Declaration of Disturbed Area:** AFSPA can only be implemented in areas declared "disturbed" by the central or state government. Factors like insurgency, terrorist activities, or communal disharmony influence such declarations.
- 2. Special Powers Granted:** Security forces can use force, arrest individuals without a warrant, and even shoot to kill if they deem it necessary for maintaining public order. Forces can search premises without a warrant and seize property suspected to be used unlawfully.

The Act provides legal immunity to armed forces personnel from prosecution, unless the central government grants sanction.

- 3. Duration of Validity:** Once an area is declared "disturbed," the application of AFSPA remains until the declaration is revoked, which is reviewed periodically.

**4. Regions Under AFSPA:** It was originally enacted to address insurgency in states like Nagaland, Manipur, Assam, and others. Over time, some states like Tripura and Meghalaya have revoked AFSPA. AFSPA was extended to Jammu and Kashmir in 1990 due to the rise in militancy.

### Judicial and Legislative Oversight

In the 1998 judgment *Naga People's Movement of Human Rights v. Union of India*, the Supreme Court upheld the constitutionality of AFSPA and made the following observations:

1. The Central government can make a suo-motu declaration, but it is preferable to consult the state government beforehand.
2. Any declaration under AFSPA should be time-limited and reviewed periodically, especially after six months.
3. Officials exercising powers under AFSPA must use only the minimum force necessary for effective action.

Committees such as the Jeevan Reddy Committee (2005) recommended repealing AFSPA, suggesting its provisions be included in other laws. However, no concrete steps have been taken in this direction.

### 'Know Your Medicine' (KYM) App

#### Why in news?

Recently, the Union Minister for Youth Affairs & Sports introduced the KYM app under the aegis of the National Anti-Doping Agency (NADA) India.

#### About 'Know Your Medicine' (KYM) App

1. **Launched by:** Minister for Youth Affairs & Sports
2. **Aim:** The app aims to empower athletes with vital knowledge to prevent inadvertent doping and promote fair competition.
3. **Purpose of the KYM App:** It is designed to strengthen the fight against doping in sports. It provides athletes with an easy way to check if a medicine or its ingredients are prohibited under the World Anti-Doping Agency (WADA) regulations.
4. **Features of the KYM App:**
  - i) **Quick Verification:** It helps athletes confirm whether substances are permissible under anti-doping rules.
  - ii) **Sport-Specific Search:** It allows users to select their sport and access tailored information.
  - iii) **Advanced Search Options:** It includes image and audio search functionalities for convenience.
5. **Promoting a Clean Sporting Culture:** It is part of NADA India's larger mission to raise anti-doping awareness and education. It supports the vision of fostering fair, transparent, and ethical sportsmanship across all levels of competition.

### Supreme Court judgement on "Bulldozer Justice"

#### Why in news?

The Supreme Court of India delivered a landmark judgment condemning the use of bulldozers by state authorities to demolish the homes of individuals accused of criminal offenses.

The court criticized the practice as an illegal and arbitrary display of power, issuing detailed directives to ensure accountability and protect due process.

#### Supreme Court's Directives for Demolition Procedures

## Factly Compilation November 2024

The Supreme Court invoked Article 142 of the Constitution to establish binding guidelines for state authorities to address concerns over arbitrary demolitions.

**i) Notice Requirements:** Authorities must provide at least 15 days' notice before demolishing a property.

**ii) Detailed Notice:** The notice must specify the nature of the unauthorized construction, particular violations, and grounds for demolition.

**iii) Opportunity to Respond:** Owners or occupants should have a fair chance to contest the demolition before a designated authority.

**iv) Reasoned Order:** Final demolition orders must include reasoned conclusions. The demolition process must be recorded.

**v) Consequences of Non-compliance:** Violations of these guidelines could lead to contempt charges, prosecution, and restitution liabilities for responsible officials.

The court clarified that these directives would not apply to encroachments on public property or demolitions ordered by a court.

### SC observations on "Collective Punishment"

Justice B.R. Gavai noted that demolishing homes as a form of "collective punishment" violated the rule of law:

**i) Innocent Parties Affected:** Family members, such as spouses and children, should not be penalized through demolitions without any involvement in criminal activities.

**ii) Violation of Basic Rights:** Destroying homes infringes on the constitutional right to life, which includes the right to shelter and dignity.

**iii) Presumption of Innocence:** The court emphasized that an accused person is presumed innocent until proven guilty in a court of law.

### Emphasis on "Rule of Law" and "Separation of Powers"

**1. Role of Judiciary:** The judiciary, not the State, is empowered to determine guilt or innocence. The State cannot unilaterally impose excessive punishment, even on convicted individuals.

**2. Institutional Accountability:** Arbitrary exercise of power by public officials, including punitive demolitions, should be subject to judicial review.

**3. Standard for Selective Demolitions:** If a single property is targeted for demolition while similar nearby structures remain untouched, this could indicate malicious intent.

4. The judgment underscored the value of home ownership, stating that for many, a home is a result of years of hard work. A house represents stability, security, and future aspirations. Authorities should only consider demolition if no other alternatives exist.

## 'EV as a Service' Program

### Why in news?

Recently, Union Minister of Power and Housing & Urban Affairs unveiled the "EV as a Service" initiative by Convergence Energy Services Limited (CESL) at the Major Dhyan Chand National Stadium, Delhi. This program is a strategic step towards promoting electric mobility in government offices across India.

### About the Programme

**1. Initiative by:** Convergence Energy Services Limited (CESL), a subsidiary of Energy Efficiency Services Limited (EESL).

2. This program is a major step in promoting electric vehicle (EV) adoption across government sectors, including central and state government ministries, Central Public Sector Enterprises (CPSEs), and institutions.

**3. Objective:** To facilitate the adoption of electric vehicles (EVs) in Central and State Government ministries, departments, Central Public Sector Enterprises (CPSEs), and government institutions.

**4. Goal:** Aiming to deploy 5,000 electric cars in government sectors within the next two years.

5. It is designed to meet the increasing demand for EVs in the government sector, the 'EV as a Service' program aims to deploy 5,000 electric cars over the next two years.

6. The program's flexible procurement model enables government offices to select various makes and models of EVs that best suit their operational needs, aligning with India's long-term goal of net zero emissions by 2070.

7. This initiative supports environmental sustainability and also helps reduce reliance on fossil fuels, enhances India's energy security, and reduces carbon emissions.

### Supreme Court Overrules 1967 Verdict on AMU's Minority Status

#### Why in news?

In a 4:3 majority decision, the Supreme Court recently declared that an institution founded by a minority community retains its minority status even if it is later recognized by statute.

#### Background of the Case

1. The 1967 judgment in *S. Azeez Basha vs. Union of India* had denied minority status to AMU, considering it a central university, thus ineligible for Article 30(1) protections.

2. Article 30(1) allows religious and linguistic minorities the right to establish and manage their own educational institutions.

3. The AMU (Amendment) Act of 1981 restored the university's minority status, but the Allahabad High Court struck down the relevant provision in 2006, leading to the present review by the Supreme Court.

#### About the Judgement

**1. Interpretation of Article 30:** Article 30(1) as both anti-discriminatory and a special rights provision for minorities. The right ensures autonomy for minority institutions and protects them from discriminatory legislation or actions that could restrict the establishment or management of these institutions.

**2. Requirement for Minority Status:** The onus is on the community to demonstrate that the institution was established to serve and preserve its cultural identity. This intent can be evidenced through founding documents, speeches, and other primary sources related to the institution's formation.

**3. Scope of Minority Institutions' Rights:** The court clarified that Article 30(1) applies not only to institutions offering religious education but also to those imparting secular education. The Chief Justice emphasized that institutions don't lose their minority status if their administration includes members from outside the community, especially in fields requiring specific expertise like law or medicine.

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## PM-Vidyalaxmi Scheme

### Why in news?

The Union Cabinet has approved the PM Vidyalaxmi scheme.

### About the PM-Vidyalaxmi Scheme

1. It is a central initiative aimed at supporting meritorious students financially, ensuring that economic constraints do not hinder access to higher education.
  - 2. Objective:** This scheme is rooted in the National Education Policy (NEP) 2020, underscores the policy's emphasis on making financial aid available to deserving students in both public and private higher education institutions (HEIs).
  3. Under PM Vidyalaxmi, any student admitted to a recognized Quality Higher Education Institution (QHEI) will be eligible for a collateral-free, guarantor-free loan from banks and financial institutions to cover full tuition fees and related course expenses.
  4. The scheme applies to institutions ranked within the top 100 in the National Institutional Ranking Framework (NIRF) across various categories, including state government HEIs in the 101-200 range and all central government institutions, covering an initial 860 QHEIs with potential to benefit over 22 lakh students.
- Digital Payment Solutions:** Interest subvention will be disbursed via E-vouchers and Central Bank Digital Currency (CBDC) wallets, ensuring secure, digital payments.
5. PM Vidyalaxmi complements existing schemes like the Central Sector Interest Subsidy (CSIS) and Credit Guarantee Fund Scheme for Education Loans (CGFSEL) under PM-USP, offering a holistic support system for deserving students in quality institutions.
  - 6. Credit Guarantee:** Loans up to ₹ 7.5 lakhs will have a 75% credit guarantee from the Government of India to support banks in offering coverage to more students.
  - 7. Interest Subvention Benefits:** For Students with Annual Family Income up to ₹ 8 Lakhs:
    - i) 3% interest subvention on loans up to ₹ 10 lakhs during the moratorium period.

ii) Priority for students from government institutions, especially those in technical/professional courses. It covers 1 lakh students annually.

**8. For Students with Annual Family Income up to ₹ 4.5 Lakhs:** Full interest subvention during the moratorium period on loans up to ₹ 10 lakhs under PM-USP.

**9. Implementation Mechanism:** A mission-mode mechanism will facilitate the scheme's rollout, ensuring easy access and high coverage. Students can apply through a unified portal where applications and interest subvention can be processed.

### Supreme Court Ruling on LMV Licence Holders Driving Transport Vehicles

#### Why in news?

Recently, a Constitution Bench of the Supreme Court ruled that holders of a Light Motor Vehicle (LMV) licence can also drive transport vehicles weighing under 7,500 kg without needing additional authorization.

#### Key Details of the Judgment

1. A valid LMV licence entitles drivers to operate transport vehicles with an unladen weight not exceeding 7,500 kg. The Court dismissed the Insurance company's argument that allowing LMV licence holders to drive transport vehicles increases road accident risks.
2. This decision benefits numerous commercial drivers, overturning insurance companies' denial of accident claims on the grounds of "unauthorized" driving.
3. **Legal Basis:** The judgment references Section 10(2)(e) of the Motor Vehicle (MV) Act, stating that drivers with LMV licence do not require additional endorsement for the "transport vehicle" category if the vehicle's weight falls within the specified limit.
4. Justice Roy emphasizing that core driving skills are universally required across both transport and non-transport vehicle categories.

### Supreme Court Ruling on Private Property and State Acquisition

#### Why in news?

Recently, SC gave judgment on Private Property and State Acquisition.

#### About the judgement

- 1) A nine-judge Constitution Bench of the Supreme Court ruled that not all private properties can be regarded as "material resources of the community" for use by the State to promote the "common good."
- 2) The majority opinion emphasized that allowing the State blanket authority to acquire private assets aligns with outdated economic ideologies, not current economic practices.

The decision highlights India's shift from socialism towards liberalization and market-based reforms.

**3) Economic Evolution and Constitutional Principles:** The court's decision reflects India's economic evolution, with the Constitution framing economic democracy and electoral choices allowing diverse economic policies.

Chief Justice Chandrachud observed that India's rapid economic growth and resilience are tied to this flexible economic vision, which allows varying approaches rather than strict state control.

**4) Article 39(b) and Defining "Material Resources":** Article 39(b) of the Constitution directs the State to ensure that material resources are distributed to serve the community's welfare.

The court clarified that "resources" under Article 39(b) should be context-dependent.

The term encompasses various resources, but acquisition for community use should be evaluated on factors like resource scarcity, the necessity for public welfare and the effects of concentrated ownership in private hands

**5) Significance of the Ruling:** This ruling reinforces the need for proper procedures and justifications before the State can acquire private property, safeguarding private ownership within India's evolving economic landscape.

## Supreme Court Ruling on Uttar Pradesh Madrasa Education Board Act

### Why in news?

Recently, the Supreme Court partially upheld the Act, maintaining that the State can regulate madrasas to ensure educational standards but found certain provisions unconstitutional.

In March, the Allahabad High Court declared the Uttar Pradesh Madrasa Education Board Act, 2004, unconstitutional, stating it conflicted with secular principles.

### Key Findings by the Supreme Court

**1. Support for Religious Education:** The Court acknowledged that religious education is part of India's historical and cultural fabric, as recognized by Article 23 of the Constitution.

**2. State Regulation:** The Act was upheld as a measure to maintain minimum educational standards, ensuring madrasa students are adequately equipped to participate in society and secure employment.

**3. Higher Education Provisions:** Provisions related to Fazil (undergraduate) and Kamil (postgraduate) levels were struck down as unconstitutional, as they conflicted with the University Grants Commission Act, which governs higher education standards under Union jurisdiction.

### 4. Balance of Interests

**i) Right of Minorities:** Minorities are entitled to establish and manage educational institutions (Article 30), but this right is not absolute and is subject to certain conditions to maintain educational standards.

**ii) State's Interest in Education:** The State can regulate educational standards in minority institutions, especially those seeking recognition or financial aid, balancing minority rights with educational quality.

### 5. Clarifications on Secularism

**i)** The Supreme Court disagreed with the Allahabad High Court's view that the Act breached secularism principles in the Basic Structure.

**ii) Requirements for a Secularism Challenge:** Court held that a law must explicitly violate a secularism-related constitutional provision to be considered unconstitutional, not merely contradict secularism principles broadly.

**6. Student Rights and Religious Instruction:** Considering Article 28(3) students in State-recognized or aided institutions cannot be forced to participate in religious instruction or worship, ensuring freedom of choice in religious education settings.

## Sixth Schedule of the Indian Constitution

**News:** Kuki leaders in Assam's Karbi Anglong have agreed to surveys in their villages to check for people from Manipur. Karbi Anglong is governed under the Sixth Schedule of the Indian Constitution.

### About Sixth Schedule

- **Article 244(2)** of the Indian Constitution provides for the Sixth Schedule that applies to the administration of tribal areas in the states of *Assam, Meghalaya, Tripura, and Mizoram*.

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- The Sixth Schedule provides for the establishment of **autonomous district councils (ADCs)** or **regional autonomous councils (RCs)** to govern these areas.

### Key features of Sixth Schedule

#### Autonomous Districts and Autonomous Regions:

- The Governor is empowered to organize and reorganize the autonomous districts.
- He can also increase, decrease the boundaries or alter the name of any autonomous district.
- If an autonomous district is inhabited by different Scheduled Tribes, the Governor can divide the district into separate Autonomous Regions.

#### Autonomous District Councils (ADCs) and Autonomous Regional Councils (ARCs):

- **Composition of ADCs**– ADCs consists of **not more than thirty members**, with **four nominated by the Governor** and the rest elected. The Bodoland Territorial Council is an exception, allowing up to forty-six members.
- **ARC's**– A separate Regional Council shall be established for each area designated as an autonomous region.
- **Powers**-Autonomous District Councils (ADCs) and Autonomous Regional Councils (ARCs) oversee land use, inheritance laws, and social customs. They **possess legislative, executive, and financial powers**, including the authority to collect taxes and manage local resources.

**Exemptions and Modifications**- Acts of Parliament or state legislatures **may not apply directly** or **may apply with modifications**.

## Ustad Bismillah Khan Yuva Puraskar

**Source:** This post on **Ustad Bismillah Khan Yuva Puraskar** has been created based on the article **[“82 Young Artists to be Conferred Ustad Bismillah Khan Yuva Puruskar for the Years 2022 and 2023, Tomorrow”](#)** published in PIB on 23rd November 2024.

### Why in news?

The Union Minister of Culture and Tourism conferred the prestigious Ustad Bismillah Khan Yuva Puraskar for the years 2022 and 2023 to 82 young artists at a special ceremony.

### About Ustad Bismillah Khan Yuva Puraskar

1. **Initiated by:** Sangeet Natak Akademi in 2006.
2. **Objective:** To honor and support young artists under 40 in music, dance, drama, folk/tribal arts, puppetry, and allied performing arts.
3. **Eligibility:** Artists below 40 years of age.
4. **Fields Recognized:** Music, Dance, Theatre, Traditional/Folk/Tribal Arts, Puppetry, and Scholarship in Performing Arts.
5. **Recognition:** Cash prize of ₹25,000, a plaque, and an angavastram.
6. **Significance:** Encourages young talents, preserving and promoting India's diverse cultural heritage.

### About Ustad Bismillah Khan

1. He was a classical musician to popularize shehnai in Indian classical music.
2. He was born on March 21, 1916, in Dumraon, Bihar, into a family of court musicians.



3. He is known for his devotion to Indian classical music and his ability to blend Hindustani classical ragas with the unique tonal quality of the shehnai.
4. His music was characterized by its purity, spiritual depth, and emotional intensity, often evoking a sense of devotion and tranquility.
5. He represented the Ganga-Jamuni tehzeeb (the syncretic culture of Hindu-Muslim unity) through his music and persona.
6. He played at the All India Music Conference in Kolkata in 1937, earning wide recognition. He also played shehnai at the Red Fort on August 15, 1947, marking India's Independence and establishing a tradition. He performed there on every Independence Day until his death.

### Achievements and Honors

1. He was awarded the Bharat Ratna in 2001, becoming the third classical musician to receive India's highest civilian honor.
2. Other major awards: He was also awarded with Padma Shri (1961), Padma Bhushan (1968) and Padma Vibhushan (1980).

## UPSC Syllabus: Art and culture

### 'Hamara Samvidhan – Hamara Samman' Campaign

#### Why in news?

Recently, the third regional event of the 'Hamara Samvidhan Hamara Samman' campaign was held at IIT Guwahati. This regional event was organized as part of the Designing Innovative Solutions for Holistic Access to Justice (DISHA) scheme, implemented by the Department of Justice under the Ministry of Law and Justice, Government of India.

#### About the 'Hamara Samvidhan – Hamara Samman' Campaign

1. **About:** The 'Hamara Samvidhan – Hamara Samman' campaign commemorates the 75th anniversary of the adoption of the Indian Constitution and India's establishment as a Republic.
2. **Launched on:** It was officially launched on January 24, 2024 by the Hon'ble Vice President of India at the Dr. B.R. Ambedkar International Centre, New Delhi.
3. **Aim:** The campaign aims to promote awareness and understanding of the Indian Constitution and encourage citizens to recognize and exercise their legal rights.
4. The initiative seeks to highlight the Constitution's significance as the supreme legal authority that defines India's governance framework and safeguards citizens' rights.

#### Highlights of the event

1. A symbolic gesture of planting saplings was conducted as a tribute to the 15 women members of the Constituent Assembly under the '**Ek Ped Maa Ke Nam**' campaign. This act symbolized the roots of the Constitution and the values of justice, equality, and freedom.
2. The **Samvidhan Katta Magazine** featuring 75 real-life stories about the impact of the Constitution in daily life, was launched during the event.
3. A Comic Book highlighting the stories of 10 beneficiaries of the **Tele Law and Nyaya Bandhu programs** was also unveiled, aiming to make constitutional rights more relatable and accessible.
4. Eight podcasts were released, providing insights into how citizens can use the Constitution to safeguard their rights through Tele Law and Nyaya Bandhu initiatives.

5. Tribute was paid to the contributions of women in the Constituent Assembly, including Late Smt. Leela Roy. Homage was also given to Syed Muhammad Saadulla, Assam's sole member in the Drafting Committee, and Dr. B.R. Ambedkar for his pivotal role in crafting the Constitution.

## Birsa Munda

### Why in news?

Recently, Prime Minister Narendra Modi honored Bhagwan Birsa Munda on his birth anniversary, celebrated as Janjatiya Gaurav Divas.

### About Birsa Munda

1. Birsa Munda (1875–1900) was a prominent tribal leader, freedom fighter, and folk hero from India.
2. He was born on November 15, 1875, in Ulihatu village, Ranch, Jharkhand.
3. He belonged to the Munda tribe, a prominent tribal community in the Chotanagpur plateau.
4. He attended missionary schools; learned about Western education and Christianity but later rejected colonial influences.

### Struggles Against British Colonial Rule

**Opposition to Exploitation:** He fought against the oppressive British policies and the exploitation of tribal lands by landlords (dikus) and the colonial government.

**Land Rights Movement:** He advocated for tribal autonomy and protection of land through the "Ulgulan" (The Great Rebellion).

### Religious and Social Reforms

**Spiritual Leadership:** He declared himself a prophet and began preaching the message of monotheism, unity, and social reform.

**Cultural Revival:** He encouraged tribal people to return to their indigenous culture and reject superstitions, alcohol consumption, and missionary conversions.

**Religious Movement:** He founded a new faith combining tribal beliefs with elements of his revolutionary ideology.

### About the Ulgulan Movement

1. He led the Ulgulan (Revolt) in the late 1890s to reclaim tribal lands from British control.
2. It was aimed to establish a self-governing tribal system and abolish feudal landlordism.
3. He organized the Mundas and other tribal communities to resist through guerrilla warfare.
4. He was arrested by British authorities in 1900 and imprisoned in Ranchi Jail, where he died on June 9, 1900 under mysterious circumstances.

### Legacy

1. He played a pivotal role in inspiring the tribal identity and movements that led to the formation of Jharkhand state in 2000.
2. He was honored as "Bhagwan" n(God) by his followers and remembered as a symbol of tribal pride and resistance.
3. **Tributes:** His birth anniversary, November 15 is celebrated as Jharkhand Foundation Day and Birsa Munda Jayanti.

Read more: [124th Death Anniversary of Birsa Munda](#)

## Shree Swaminarayan Mandir

### Why in news?

Prime Minister Narendra Modi recently celebrates 200th Anniversary of Shree Swaminarayan Mandir, Vadtal.

### About Shree Swaminarayan Mandir

1. Shree Swaminarayan Mandir is located in Vadtal, Gujarat. It was established on November 3, 1824 under the guidance of Bhagwan Swaminarayan.
2. The temple serves as the headquarters for the Laxmi Narayan Dev Gadi.
3. **Design:** The temple features a lotus-shaped plinth and nine domes, showcasing intricate stone carvings on its pillars.
4. **Shrines:** The central shrine houses idols of Lakshmi Narayan and Ranchhod Raiji. The right shrine contains images of Radha Krishna alongside Swaminarayan in the form of Hari Krishna, while the left shrine features Vasudev, Dharma, and Bhakti.
5. **Historical Significance:** The temple's construction was supervised by Sadguru Shree Brahmanand Swami and completed in just fifteen months. It stands as a testament to the devotion and architectural prowess of the era.
6. **Significance of the Swaminarayan Movement:** Lord Swaminarayan restored spiritual and national pride. He emphasized the importance of the Shiksha Patri and Vachanamrit texts and encouraged people to carry forward their teachings.
7. **Vadtal Dham's Contributions:** Vadtal Dham actively supports social services, providing education, food, and shelter, especially in remote tribal areas. The organization also promotes initiatives like female education, environmental campaigns, and cultural preservation, embodying a blend of modernity and spirituality.

## Chittaranjan Das

### Why in news?

Recently, Lok Sabha Speaker Shri Om Birla paid floral tributes to Deshbandhu Chittaranjan Das at his portrait in the Central Hall of Samvidhan Sadan on his Birth Anniversary.

### About Chittaranjan Das

1. Chittaranjan Das (5 November 1870 – 16 June 1925) was affectionately known as 'Deshbandhu' (Friend of the Nation). He was a prominent Indian freedom fighter, political leader, and lawyer from Bengal.
2. He played a significant role in India's struggle for independence and was a mentor to leaders like Netaji Subhas Chandra Bose.
3. **Early Life and Education:**
  - i) He was born into a respected Bengali Baidya family in Calcutta (now Kolkata).
  - ii) He pursued his education at the London Missionary Society's Institution in Bhawanipur and later graduated from Presidency College, Calcutta, in 1890.
  - iii) Subsequently, he traveled to England to study law at the Middle Temple and was called to the Bar in 1894.
4. **Legal Career:** Das gained prominence as a lawyer when he successfully defended Aurobindo Ghosh in the Alipore Bomb Case of 1909, showcasing his legal acumen and commitment to the nationalist cause.
5. **Political Involvement**

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i) A staunch advocate for India's independence, Das was actively involved in the Indian National Congress (INC).

ii) He supported the Non-Cooperation Movement initiated by Mahatma Gandhi and was elected President of the INC during its Gaya session in 1922.

iii) However, due to differences over council entry strategies, he resigned from the presidency and, along with Motilal Nehru, founded the Swaraj Party in 1923 to advocate for greater self-governance.

**6. Contributions to Communal Harmony:** Das initiated the Bengal Pact in 1923 understanding the economic disparities between Hindu and Muslim communities in Bengal.

This agreement aimed to address communal tensions by ensuring proportional representation in legislative bodies and government jobs, promoting unity and cooperation among different communities.

**7. Literary Pursuits:** Beyond his political and legal endeavors, Das was also a distinguished Bengali poet. He authored several works, including "Malancha," "Mala," and "Sagar Sangeet," reflecting his literary talent and deep appreciation for Bengali culture.

## Asian Buddhist Summit 2024

### Why in news?

The First Asian Buddhist Summit (ABS) takes place on November 5-6, 2024, in New Delhi, India.

### About the First Asian Buddhist Summit (ABS)

**1. Organizers:** Hosted by India's Ministry of Culture in collaboration with the International Buddhist Confederation (IBC).

**2. Theme:** "Role of Buddha Dhamma in Strengthening Asia" – exploring Buddhism's impact across Asia. Chief Guest: The President of India, underscoring the significance of the event.

### Summit Focus Areas

**1. Buddhist Art, Architecture, and Heritage:** It reflects the spiritual and cultural ties within Buddhism. Indian landmarks like Sanchi stupas and Ajanta caves that convey Buddha's teachings and artistic heritage.

**2. Buddha Cārikā (Wanderings) and Dissemination of Teachings:** Buddha's travels in India to spread his teachings to people from diverse backgrounds.

**3. Role of Buddhist Relics in Society:** Relics symbolize Buddha's teachings, promote community gatherings, support local economies, and inspire peace and compassion.

**4. Buddha Dhamma in Scientific Research and Well-being:** It emphasizes on mindfulness, compassion, and interconnectedness offers holistic approaches to health and wellness.

**5. Buddhist Literature and Philosophy in the 21st Century:** Ancient texts and philosophies continue to offer wisdom on human nature, reality, and enlightenment.

### India's Initiatives to Preserve Buddhist Heritage

**1. Buddhist Tourism Circuit:** A government initiative to develop a tourism circuit encompassing key Buddhist sites in India, including Kapilvastu.

**2. Global Buddhist Summit 2023:** It focused on values and peace, emphasizing Buddha Dhamma's role in global challenges.

**3. SCO Conference on Shared Buddhist Heritage (2022-2023):** Discussed Buddhist art and archaeological connections among member states.

**3. Symposium on Vipassana Meditation (2024):** An event in Bangkok discussing meditation's role in well-being and peace.

**4. Recognition of Pali Language as Classical:** Pali, used in Buddha's sermons, achieved classical status in October 2024, affirming its cultural importance.

**5. International Abhidhamma Diwas:** It was held on October 17, 2024, in New Delhi, celebrating Abhidhamma's teachings and Pali's role in preserving Buddha Dhamma.

### About Buddhism

**1. Origins of Buddha Dhamma:** Buddha Dhamma originated in the 6th century BCE when Siddhartha Gautama achieved enlightenment, sharing profound teachings on the nature of existence and the path to liberation.

**2. Post-Mahaparinirvana:** After the Buddha's passing, his followers preserved and spread his teachings, which eventually evolved into three main Buddhist traditions: Theravada, Mahayana, and Vajrayana.

**3. Emperor Ashoka's Contribution:** Mauryan Emperor Ashoka (268-232 BCE) played a transformative role in promoting Buddha Dhamma, applying its principles to governance, which fostered societal peace, happiness, and harmony. His rock and pillar edicts remain as lasting testaments to Buddhism's spread across Asia.

**4. Early Divisions and Development:** By the first century CE, Buddhism saw a significant split, leading to Mahayana and Nikaya Buddhism, with Theravada as the only remaining Nikaya school. This division marked the formation of distinctive interpretations within Buddhism.

**5. Expansion and Adaptation:** As Buddhism expanded beyond India, it adapted to local cultures. It spread northward through Central Asia into East Asia, forming the Northern branch, and eastward into Southeast Asia, developing the Southern branch.

## UAE Launches Global Energy Efficiency Alliance at COP29

### Why in news?

Recently, During COP29 in Azerbaijan, the UAE launched an ambitious initiative to create the 'Global Energy Efficiency Alliance.'

### About Global Energy Efficiency Alliance at COP29

1. The UAE announced the **Global Energy Efficiency Alliance** during COP29, hosted in Azerbaijan.

**2. Aim:** It aims to **double global energy efficiency rates by 2030** and achieve substantial reductions in carbon emissions.

3. The alliance builds upon the 'UAE Consensus' introduced at COP28 which united nations, organizations, and corporations in their commitment to reducing carbon emissions and promoting sustainable resource management.

### 4. Objectives of the Alliance

i) The alliance aims to enhance global energy efficiency by doubling efficiency rates by 2030 and addressing energy-related challenges worldwide.

ii) It seeks to reduce carbon emissions significantly, aligning with international climate goals.

5. The initiative is designed to promote the sustainable use of natural resources, ensuring a balance between consumption and conservation.

### Strategic Goals of the Alliance

1. The alliance will promote strategic partnerships between public entities and private organizations to accelerate energy efficiency solutions.

2. It aims to encourage investments by mobilizing funding for energy efficiency projects across various regions.

3. It will work towards developing global standards for energy efficiency practices and sharing best practices to inspire collective action.

4. Knowledge transfer is a key focus, with efforts to share successful case studies and practical solutions for energy efficiency implementation.

### Special Focus on Africa

The alliance places a strong emphasis on **supporting African nations**, recognizing the continent's unique challenges in achieving energy sustainability.

It plans to **develop innovative financing mechanisms** to help African countries overcome financial barriers to energy efficiency. The UAE will support Africa in accessing **technological solutions** critical to advancing sustainable energy practices.

### Key Outcomes Anticipated

1. The initiative aims to foster **global collaboration** to address energy inefficiency and promote sustainability.

2. It seeks to contribute to **global sustainable development goals**, reinforcing efforts to create a balanced energy landscape.

3. By implementing the alliance's strategies, the world can expect to achieve **substantial reductions in carbon emissions**, meeting critical climate objectives.

## UPSC Syllabus: International Organisations

### Global Alliance Against Hunger and Poverty

#### Why in news?

#### About Global Alliance Against Hunger and Poverty

1. The Global Alliance Against Hunger and Poverty was officially launched on November 18, 2024, during the G20 Leaders' Summit in Rio de Janeiro, Brazil.

**2. Aim:** This initiative aims to accelerate global efforts to eradicate hunger and poverty, aligning with the United Nations' Sustainable Development Goals (SDGs).

#### 3. Objective:

i) It provides a platform where countries can share and adopt evidence-based public policies targeting hunger and poverty eradication.

ii) It connects countries in need with technical and financial support from willing partners.

**4. Participants:** 81 countries, including India are member of the alliance. 26 international organizations, 9 financial institutions, 31 philanthropic foundations, and NGOs.

**5. Funding:** Annual operational costs of \$2-3 million, supported by member countries and institutions like FAO, UNICEF, and the World Bank.

**6. Headquarters:** It is likely based in Brasília, Brazil, or another Global South country, with an office at FAO headquarters in Rome.

**7. Main pillars:** The initiative is structured around three main pillars:

**1. National Pillar:** Engages national governments to implement and scale up effective policies and programs.

**2. Financial Pillar:** Involves international organizations, multilateral development banks, and philanthropies to mobilize financial resources.

**3. Knowledge Pillar:** Connects knowledge centers and institutions to share best practices and research.

## Department of Government Efficiency (DOGE)

### Why in news?

Recently, US President-elect Donald Trump has introduced a new initiative called the Department of Government Efficiency (DOGE), led by Elon Musk and Indian-origin entrepreneur Vivek Ramaswamy. This unconventional team is set to overhaul government operations and streamline expenses.

The acronym "DOGE" appears to be a nod to Dogecoin, a cryptocurrency often promoted by Musk.

### Purpose of DOGE

The primary goal of DOGE is to create a leaner, more efficient government by:

- 1. Reducing Bureaucracy:** The department aims to eliminate unnecessary layers of bureaucracy, making processes quicker and more transparent.
- 2. Cutting Regulations:** DOGE will identify and eliminate what it views as excessive regulations that hinder efficiency.
- 3. Minimizing Wasteful Spending:** The initiative seeks to reduce government spending, directing funds to essential services and minimizing waste.
- 4. Restructuring Federal Agencies:** DOGE will evaluate and restructure various government departments to maximize efficiency and reduce costs.

### How DOGE Will Operate

- 1. Advisory Role:** DOGE will not be a formal government department; instead, it will act as an advisory body, partnering with the White House and the Office of Management & Budget.
- 2. Transparency and Public Involvement:** DOGE's activities will be posted publicly online, allowing citizens to provide feedback on areas for potential cuts or concerns.
- 3. Leaderboard for Wasteful Spending:** DOGE plans to highlight the most frivolous government expenses to entertain and inform the public.

## UPSC Syllabus: International relations

### Adaptive Defence

#### Why in news?

The government is adopting an "adaptive defence" approach to address new and evolving global threats, emphasizing that it is essential in today's fast-paced world.

#### About Adaptive Defence

- 1. Adaptive defence** is a strategic approach where a nation's military and defence systems evolve continuously to counter emerging and unpredictable threats.
- 2. Proactive Preparedness:** Unlike traditional reactive measures, it focuses on foreseeing potential challenges and preparing for them in advance.
- 3. Innovation-Driven:** This strategy emphasizes innovation and flexibility, enabling forces to adapt swiftly to new types of threats.

#### Key Features of Adaptive Defence

**1. Continuous Evolution:** Defence mechanisms and military strategies are consistently updated to keep up with rapid global changes and new forms of warfare.

**2. Transnational Solutions:** Recognizes that threats today are often not limited to national boundaries; solutions, therefore, need international collaboration.

**3. Mindset Shift:** Encourages a proactive approach to defence that goes beyond immediate threats, fostering a culture of anticipation and preparedness.

### Why is it Important

**1. Unpredictable Global Threats:** With the nature of threats evolving—be it cyber threats, transnational terrorism, or biosecurity, it is crucial for keeping pace.

**2. Technological Advancements:** Technological developments enable adversaries to utilize unconventional methods; adaptive defence ensures preparedness against these advancements.

**3. Strategic Necessity:** Given the fast-changing global landscape, adaptive defence is not just strategic but essential for national security.

### Goals of Adaptive Defence

**1. Enhance Resilience:** Strengthen defence capabilities to remain resilient even in volatile and uncertain conditions.

**2. Promote Innovation in Defence:** Continuously incorporate cutting-edge technologies and strategies to ensure security systems are up-to-date.

**3. Ensure Agility:** Maintain a defence system that can quickly adjust to emerging threats and shifting geopolitical landscapes.

### Implementation of Adaptive Defence in India

**Strategic Collaboration:** Collaboration with international allies to share intelligence and strategies.

**Upgrading Technology:** Investment in modern defence technologies, including AI, cyber defence, and space capabilities.

**Enhanced Training:** Military personnel are trained to be flexible, anticipating various scenarios and equipping them with adaptive thinking skills.

## Discovery of a Black Hole Triple System

### Why in news?

Scientists recently discovered a unique black hole triple system, the first of its kind, located approximately 8,000 light years away from Earth.

### Key Features of the Triple System

**1. Triple Components:** The system comprises a black hole (V404 Cygni) with two stars: one star in close orbit, which the black hole is actively consuming, and a distant star with a much wider orbit.

**2. Orbits:** The inner star orbits the black hole every 6.5 days, while the outer star's orbit takes around 70,000 years.

**3. Location and Size:** V404 Cygni is situated in the Cygnus constellation and has a mass about nine times that of our Sun.

### Implications for Black Hole Formation

**1. Challenging Traditional Theories:** Most black holes are thought to form from supernova explosions, where the remnants of massive stars collapse, expelling outer material. However, the presence of an additional distant star suggests a less explosive origin.



**2. Failed Supernova:** Researchers suggest that V404 Cygni may have formed through a “failed supernova,” also called “direct collapse.” In this process, a star collapses directly into a black hole without an explosion, allowing nearby stars to remain in orbit.

**Potential for Future System Changes:** The black hole is actively consuming its closer stellar companion, which means that, over time, this triple system may become a binary system. This hints that other observed binary systems may have once had a third member.

