

Factly Weekly

Compilation

2024

**For UPSC CSE Prelims
Exam**

**2nd Week
May 2024**

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Syllabus: Polity and nation

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Supreme Court Ruling on PMLA Arrest Norms

Why in the News?

The recent Supreme Court decision has specified the obligations to notify an accused of the reasons for their arrest under the [Prevention of Money Laundering Act \(PMLA\)](#).

About Supreme Court Ruling on PMLA Arrest Norms

Easing conditions

The major takeaways from the Supreme Court verdict on the Prevention of Money Laundering Act are:



- An accused is presumed to be not in custody if he appears in court on summons
- The court can direct the accused to furnish bonds in terms of Section 88 of the Code of Criminal Procedure
- The ED has to apply to a special court for custody, giving specific reasons

Figure 1 Source: The Hindu

1. Enhancement of Personal Liberty: The Supreme Court emphasized the **right to personal liberty** by stating that individuals summoned by a designated special court under the Prevention of Money Laundering Act (PMLA) are not considered to be in custody and are not required to apply for bail under the strict conditions of the PMLA.

2. Conditions for Custody:

The Court also ruled that if an accused responds to a

summons and appears before the special court, it does not mean they are in custody. Therefore, applying for bail is unnecessary.

3. Limitation on ED's Powers: The judgment restricts the Directorate of Enforcement's (ED) **ability to arrest individuals** after a special court has acknowledged a case. The ED must apply separately for custody and demonstrate specific reasons for needing custodial interrogation.

4. Provision for Furnishing Bonds: The Court mentioned that the special court might require the accused to provide bonds as per **Section 88 of the Code of Criminal Procedure**. It clarified that providing a bond is merely an undertaking and does not equate to bail being granted. Thus, the stringent twin conditions of **Section 45 of the PMLA** do not apply when a bond is provided.

5. Bail Conditions Under PMLA: The Supreme Court highlighted the stringent conditions for bail under **Section 45 of the PMLA**. Under this, the accused must prove their prima facie innocence and assure the court they will not commit any further offences while on bail, placing a significant burden of proof on the accused.

Supreme Court Judgment on Private Property Acquisition

Why in the News?

Recently, the Supreme Court made a pivotal decision to safeguard private property against arbitrary state acquisition for "public purpose". The court ruled that compulsory acquisition without adhering to mandatory procedures, even if followed by compensation, is unconstitutional.

About Supreme Court Judgment on Private Property Acquisition

Law of the land

The SC says there are seven procedural rights of citizens which constitute the 'real content of the right to property under Article 300A'



1. The right to notice or the duty of the state to inform a person that it intends to acquire his or her property
2. The right of the citizen to be heard or the duty of the state to hear the objections to the acquisition
3. The right of the citizen to a reasoned decision or the duty of the state to inform the person of its decision to acquire a property
4. The duty of the state to demonstrate that the acquisition is exclusively for public purpose
5. The right of the citizen to fair compensation
6. The duty of the state to conduct the process of acquisition efficiently and within prescribed timelines
7. The right of conclusion of the proceedings

Source: The Hindu

1. Constitutional Protection of Property: The Supreme Court, in a judgment by **Justices P.S. Narasimha and Aravind Kumar**, emphasized that the right to private property is protected under the Constitution and is also considered a human right.

2. Mandatory Procedures for Acquisition: The court declared that for a valid acquisition of property, it is not sufficient to just have the power of eminent domain and provide compensation. **Proper legal procedures must be established and followed.**

3. Article 300A: Despite the omission of the right to property as a fundamental right by the **44th Constitutional Amendment**, Article 300A was added. It stated that no person shall be deprived of their property except by the authority of law. This involves adhering to due process.

4. Procedural Rights: These are the laws which act as the '**machinery**' for enforcing rights and duties. The Supreme Court outlined **seven procedural rights** that need to be respected during property acquisition:

i) Right to notice - the duty of the state to inform the person about the intended acquisition.

ii) Right to be heard - the state must listen to objections from the property owner.

iii) Right to a reasoned decision - the state must explain its decision regarding the acquisition.

iv) Demonstration of public purpose - the acquisition must exclusively serve a public purpose.

v) Right to fair compensation - the property owner is entitled to reasonable compensation

vi) Efficient process - the acquisition process should be conducted efficiently and within set timelines.

vii) Conclusion of proceedings - acquisition isn't complete without the actual physical possession of the property being taken.

Syllabus: Species In news

Why Oleander flowers Banned by Kerala temple boards?

Why in the News?

Two temple boards in Kerala have **prohibited the use of oleander flowers** in offerings. This decision follows the tragic death of a 24-year-old woman who accidentally consumed oleander leaves.

About oleander flowers



Figure 2. Source: The spruce.com

1. About oleander

flowers: Nerium oleander is commonly known as **oleander** or **rosebay**. It is a globally cultivated plant found in **tropical, subtropical,** and **temperate regions**.

2. Use: It is renowned for its ability to **withstand drought conditions**. It is frequently used for **ornamental and landscaping purposes**. It is also used for **medicinal purposes**.

3. Varieties and Names in Kerala:

In Kerala, locally known as **arali and kanaveeram**. It is grown along highways and beaches, serving as natural green fencing. Different varieties of oleander exist, each with flowers of varying colours.

4. Traditional Medicinal Use: It is used in treatment of **vrana (infected wounds), kustha (skin diseases including leprosy), krimi (microbes and parasites), kandu (itching)**.

5. Why Oleander flowers Banned by Kerala temple boards?

Despite medicinal use, oleander is toxic.

i) This is due to the properties of **cardiac glycosides** (a type of chemical) including **oleandrin, folinerin, and digitoxigenin**, which are present in all parts of the plant.

ii) Cardiac glycosides have **therapeutic value in heart conditions** but have a narrow therapeutic window, leading to frequent overdose and toxicity.

iii) **Toxic effects** include nausea, diarrhoea, vomiting, confusion, irregular heartbeat, and, in severe cases, death. Ingestion or inhalation of smoke from burning oleander can also be intoxicating.

iv) Symptoms typically last for 1 to 3 days and may necessitate hospitalization. Fatalities are uncommon.

Peregrine Falcon

Why in the News?

The Madras Naturalist's Society's Project Raptor Watch (PRW) has been actively monitoring peregrine falcons in Chennai for two years. Their objective is to document, study, and monitor various raptor species across select districts of Tamil Nadu.

About Peregrine falcon



Source: The hindu

Aspects	Description
About	1. It (<i>Falco peregrinus</i>) holds the distinction of being the most extensively distributed bird of prey globally. 2. It is not only recognized as the fastest bird on the planet but also holds the title of the fastest animal in the world .
Distribution	They are found across all continents except Antarctica, as well as on numerous oceanic islands.
Habitat	1. They typically inhabit open landscapes like grasslands, tundra, and meadows . 2. They are most commonly sighted in tundra and coastal regions , but are rare in subtropical and tropical environments.

	3. They build nests on cliff faces and within crevices.
Nature	1. Peregrine Falcons are diurnal creatures , meaning they are active during the day. 2. Outside the breeding season, they tend to lead solitary lives , establishing and defending their territories.
Ecological Role	As apex predators , Peregrine Falcons play a vital role in maintaining the balance of prey populations, particularly pigeons and doves.
Conservation Status	Classified as Least Concern on the IUCN Red List, indicating their population is relatively stable.

UPSC Syllabus: Science and technology

Why in the News?

Russian President Vladimir Putin has strengthened Russia's military capabilities by directing the inclusion of a new nuclear-capable missile, the Bulava, into the Russian military's arsenal.

About the RSM-56 Bulava Missile



Figure 3. Source: mwstats.info

1. About: The RSM-56 Bulava is a Russian submarine-launched intercontinental ballistic missile (ICBM). It is also known to **NATO as SS-N-32**.

2. Design and Development: It was designed by the **Moscow Institute of**

Thermal Technology and its

development started in the late 1990s. The missile is intended for deployment on **Russia's Borei-class submarines**.

3. Key Features:

a) Structure: The Bulava is a **three-stage missile** that uses solid propellant.

b) Specifications: It has a launch mass of **approximately 36.8 tonnes and a throw weight of 1,150 kg**. The missile measures 12.1 meters in length within its launch container and has a diameter of 2 meters.

c) Range and Payload: Bulava can travel up to 8,300 km (5,160 miles) and carries up to 10 multiple independently **targetable re-entry vehicles (MIRVs)** which are designed to deliver nuclear warheads to various targets.

d) Capabilities: The missile's re-entry vehicles (RVs) are capable of in-flight maneuverability and re-targeting, **allowing them to potentially evade enemy defenses.**

e) Accuracy: The RVs have an expected **accuracy of about 250 to 300 meters.**

4. Strategic Importance: Bulava represents a crucial element of Russia's future strategic nuclear force **enhancing the country's nuclear deterrent capabilities.**

PS4 engine

Why in the News?

ISRO successfully tested the **PS4 engine** of the PSLV stage for an extended duration.

About PS4 engine



Source: MINT

1. About: The PS4 engine is a vital component of the Polar Satellite Launch Vehicle (PSLV), utilized by the **Indian Space Research Organisation (ISRO)** for satellite launches.

2. Purpose and Functionality: It serves as the uppermost stage of the PSLV. It comprises of two **Earth-storable liquid engines.** These engines are crucial for propelling the rocket's upper stage during its mission.

3. Propellant Combination: It employs a bipropellant combination, utilizing **nitrogen tetroxide as the oxidizer** and **monomethyl hydrazine** as the fuel. This combination **ensures efficient and reliable performance.**

4. Thrust and Operation: Each PS4 engine is capable of producing a thrust of 7.3 kiloNewtons (kN) in vacuum conditions. It facilitates **propulsion and manoeuvring of the upper stage.**

5. Transition to 3D Printing: Traditionally manufactured using machining and welding methods, the PS4 engine has now shifted to 3D printing. This transition allows for intricate designs and optimal material utilization.

6. Utilization in Reaction Control System (RCS): It also serves in the Reaction Control System (RCS) of the initial stage (PS1) of the PSLV rocket. The RCS ensures precise control during ascent, trajectory adjustments, payload deployment, and docking manoeuvres.

Sea Anemone

Why in the News?

Researchers at the ICAR-National Bureau of Fish Genetic Resources (NBFGR) who were studying sea anemones in the Lakshadweep archipelago have observed widespread bleaching of anemones near Agatti Island.

About Sea Anemones

1. About Sea anemones: They are soft-bodied, invertebrate aquatic animals known for their ability to sting.

2. Taxonomic Classification: It belongs to the phylum Cnidaria. Sea anemones are ocean-dwelling creatures with unique adaptations for survival in marine environments.

3. Habitat: They typically reside in oceans and are closely associated with corals and live rocks.

3. Characteristics: It has the following characteristics features:

i) Sea anemones display a range of colours and can have numerous tentacles. It varies from a dozen to a few hundred.

ii) Their vibrant hues and graceful tentacles adorn tide pools and reefs.

iii) These organisms possess a sticky foot or disc that enables them to anchor themselves to rocks on the sea bottom or coral reefs, ensuring stability in their habitat.

iv) It is equipped with stinging cells containing organelles called nematocysts. Sea anemones can deliver potent stings to prey or threats. These nematocysts contain small threads that are ejected when triggered mechanically or chemically.

4. Symbiotic Relationships: Sea anemones often form symbiotic associations with various animals, with the most famous partnership being with clownfish.

i) The clownfish seeks refuge within the anemone's tentacles, protected from predators, while providing leftover meals to the anemone.

ii) Certain species of sea anemones also engage in symbiosis with Hermit crabs.

iii) The anemone attaches itself to the crab's shell, benefiting from transportation and access to food, while the crab gains protection from predators through the anemone's presence.

Auroras

Why in the News?

A powerful solar storm recently caused a dazzling array of colors to light up the skies in several locations worldwide.

About Auroras



Source: The Indian Express

1. About Auroras: They are natural phenomena characterized by **bright, swirling curtains of light that illuminate the night sky.**

- i) These dazzling displays manifest in **various colours**, including blue, red, yellow, green, and orange.
- ii) It is termed **aurora borealis in the north** and **aurora Australis in the south**. They primarily occur near the poles but can occasionally **extend to lower latitudes**.

2. Causes of Auroras: Auroras stem from solar activity, particularly from the surface of the Sun.

- i) The Sun emits a continuous stream of charged particles, predominantly electrons and protons, known as the **solar wind**.
- ii) As this **solar wind interacts with the Earth's magnetic field**, it creates a protective shield.
- iii) However, **some charged particles become trapped in the Earth's magnetic field** and travel along magnetic field lines to the poles.
- iv) Upon reaching the upper atmosphere, these **particles collide with gases, resulting in luminous flashes that illuminate the sky**. Oxygen collisions produce green light, while nitrogen collisions generate shades of blue and purple.

3. Expansion to Midlatitudes: Auroras extend to midlatitudes during periods of intense solar activity.

- i) **Solar flares and coronal mass ejections (CMEs)** increase solar wind intensity, leading to geomagnetic storms.

ii) These storms are characterized by temporary disturbances in the Earth's magnetic field. It allows **auroras to be visible in mid-latitudes**.

4. Recent Events and Impact: A recent geomagnetic storm triggered by a CME led to widespread auroral displays.

i) It is classified as **"extreme"** by the National Oceanic and Atmospheric Administration (NOAA).

ii) This storm may **affect various space-dependent operations**, including GPS, radio communications, flight operations, power grids, and space exploration programs.

Zero-Day Vulnerabilities (ZDVs)

Why in the News?

Another zero-day vulnerability has struck Google Chrome, prompting concern among users and cybersecurity professionals alike.

About Zero-Day Vulnerabilities (ZDVs)

1. About Zero-Day Vulnerability (ZDV): It denotes a **system or software flaw that remains unknown to its vendor**, lacking any available patch or mitigation at its discovery.

2. About Zero-Day Attack: Zero-Day Attack refers to the **immediate exploitation of a ZDV, with no time-lapse** between the vulnerability's discovery and the commencement of the attack. **A Zero-Day Attack** transpires when threat actors swiftly develop and deploy malware specifically designed to target the ZDV.

3. About Zero-Day Exploit: Zero-Day Exploit refers to the method employed by hackers to capitalize on a ZDV, often through the deployment of malware, facilitating the execution of the attack.

Risks Associated with Zero-Day Vulnerabilities

1. Heightened Risk Factors: ZDVs pose a substantially **elevated risk to users due to their discovery preceding awareness** among security researchers and software developers.

2. Cybercriminal Exploitation: Cybercriminals actively exploit ZDVs to **exploit vulnerabilities and profit from their malicious activities**, creating urgency to address the issue.

3. Extended Exposure: Systems vulnerable to ZDVs remain exposed until the respective vendor releases a patch to address the identified flaw, leaving users susceptible to potential attacks.

Xenotransplantation

Why in the News?

Recently, the first person to receive a transplant of a genetically modified pig kidney through Xenotransplantation passed away approximately two months after the procedure.

About Xenotransplantation

1. About Xenotransplantation: It involves using **live animal cells, tissues, or organs** to treat human medical conditions.

2. History and Need for Xenotransplantation: The first attempts to use animal hearts in human transplants happened in the 1980s. There was a **big shortage of human organs** which were needed for transplant. This led doctors to look at animal organs as an alternative.

3. Xenotransplantation Process:

1. Animal organs, like pig kidneys, are **genetically altered** to prevent the human body from rejecting them. This involves removing certain animal genes and adding human ones to make the organ more compatible.
2. After the transplant, **continuous monitoring** is required to see how the body reacts to the new organ.

4. Risks and Complications:

- 1. Infection Risks:** There is a **risk of transmitting infections from the animal to the human recipient**. This can affect not only the individual but potentially spread to others.
- 2. Long-term Health Risks:** There is also a **concern about retroviruses**. These are viruses that could remain dormant and cause diseases years after the transplant.

Why are pigs commonly used in xenotransplantation

- 1. Similar Body Structure as Humans:** Pigs are often chosen because their **body structure and functions are similar to humans**. Pigs are easy and cost-effective to breed.
- 2. Enhanced possibility of Organ Size Matching:** **Different pig breeds offer a variety of organ sizes**. This makes it easier to find a match for human recipients.

GPT-4 Omni

Why in the News?

Recently, OpenAI launched GPT-4omni. This is CHAT GPT's newest and most advanced large language model yet. This model is designed to enhance the performance and user-friendliness of ChatGPT, making it the fastest and most powerful AI from OpenAI to date.

About GPT-4o

1. About GPT-4o: GPT-4o, or GPT-4 Omni, is an **advanced AI model** developed by OpenAI. It is designed to interact with users through **text, images, and audio**. This is a **multimodal model**, which means it can understand and generate content in different formats.

2. Key Features of GPT-4o

- i) Multimodal Interaction:** It can **process and respond to text, images, and audio inputs** all in one place.
- ii) Improved User Interaction:** It **acts like a digital personal assistant**, handling tasks like real-time translations and spoken conversations.
- iii) Enhanced AI Capabilities:** It has the **ability to interpret emotions**, background noises, and visual cues from images and videos.
- iv) Availability:** The text and image functionalities are already available, with audio and video capabilities to be released gradually to ensure safety and quality.
- iv) Fast Response Time:** It **responds to queries** almost as quickly as a human, within about 232 to 320 milliseconds.
- v) Multilingual Support:** It is better at understanding and responding in **multiple languages**.

3. Why GPT-4o Matters

i) **Competition in AI Technology:** It positions OpenAI and its partner Microsoft to compete more strongly in the AI market against companies like Google and Meta.

ii) **Integration into Services:** It can be integrated into existing services and devices, improving their functionality with AI features.

4. Limitations and Safety Concerns

i) **Early Development Stage:** Some features, especially in audio, are still in early development and are available in a limited capacity.

ii) **Safety Measures:** It includes filtered training data and refined behaviours to address potential risks like cybersecurity threats, misinformation, and bias.

iii) **Continuous Improvement:** OpenAI is actively working to enhance the model's safety and capabilities.

Armoured Sailfin Catfish

Why in the News?

Scientists at the **CSIR-Centre for Cellular and Molecular Biology (CCMB)** have discovered that the armoured **sailfin catfish** now occupies 60% of the water bodies in the Eastern Ghats, causing damage to fishing nets and the ecosystem.

About the Armoured Sailfin Catfish (Pterygoplichthys)



Figure 4 Source: Fishacademia

1. General Characteristics:

It is known as **Rakashi or devil fish**. It belongs to the **genus Pterygoplichthys**. It exhibits a remarkable ability to thrive on a varied diet and survive

in low-oxygen environments. It is capable of navigating on land using its powerful fins.

2. **Reason for Introduction:** This species was initially introduced due to its **unique appearance and utility** in cleaning algal growth in tanks and aquariums.

3. **Invasive Status:** It is classified as an **invasive species**, with a rapidly expanding population confirmed by advanced genetic testing methods such as 'eDNA-based quantitative PCR assay'.

4. Impact on the Environment:

a) **Threat to Biodiversity:** It is known for consuming large quantities of native fish, thus threatening the balance of aquatic ecosystems.

b) Physical Characteristics and Threats: It lacks commercial value and is equipped with sharp spines and a robust body, which have damaged fishing nets and caused injuries to fishermen.

Significance in the Ornamental Fish Trade:

a) Regulation by National Biodiversity Authority (NBA): Listed as one of the 14 invasive species by the NBA, specifically highlighting its prominence in the ornamental fish industry.

b) Predominance in Invasive Listings: Four out of the six species introduced for ornamental purposes and listed as invasive belong to the *Pterygoplichthys* genus, marking it as a particularly problematic invasive group.

Nancy Grace Roman telescope

Why in the News?

NASA's forthcoming Nancy Grace Roman Space Telescope is set to embark on a pioneering mission to search for primordial black holes that originated billions of years ago, close to the time of the Big Bang.

About Nancy Grace Roman telescope



Source: WION

1. About the Nancy Grace Roman Space Telescope: It is formerly the **Wide Field InfraRed Survey Telescope (WFIRST)**. It is a **NASA observatory** designed to settle essential questions in the **areas of dark energy, exoplanets and infrared astrophysics**. The telescope will provide one of the most in-depth views into the **center of our Milky Way galaxy**.

3. Objectives of the Mission: It will continuously observe hundreds of millions of stars **to detect subtle changes in brightness** that indicate the presence of planets, distant stars, icy objects on the fringes of our solar system, and isolated black holes.

4. Telescope Instruments:

i) Wide Field Instrument (WFI): WFI will allow scientists **to explore the cosmos** all the way from the outskirts of our solar system to the edge of the observable universe.

ii) **Expansive Field of View:** It possesses a field of view 100 times larger than Hubble's infrared instrument, allowing for broader sky coverage in less time.

iv) **Galactic Survey:** It aimed at measuring light from a billion galaxies throughout the mission.

v) **Exoplanet Search:** It will conduct a microlensing survey of the inner Milky Way to discover approximately 2,600 exoplanets.

vi) **Coronagraph Instrument:**

a) **Advanced Imaging:** It serves as a technology demonstrator for high-contrast imaging and spectroscopy of nearby exoplanets.

b) **Focused Galactic Survey:** The Galactic Bulge Time-Domain Survey will use infrared vision to penetrate dust clouds obscuring the dense central region of the Milky Way.

5. Observational Strategy:

a) **Frequent Imaging:** It will take images every 15 minutes continuously around the clock for about two months.

b) **Extended Mission Timeline:** This imaging cycle will be repeated six times throughout the five-year primary mission, amounting to over a year of total observation time.

Igla-S VSHORAD

Why in the News?

The Indian Army will receive more Russian Igla-S very short range air defense systems (VSHORAD). This will address a long-standing gap in its air defense capabilities that has experienced several delays.

About Acquisition of Igla-S VSHORAD



Figure 5. Source: The hindu

1. Acquisition of Igla-S VSHORAD: The Indian Army will receive a new batch of Russian Igla-S very short-range air defence systems (VSHORAD) by the end of May or early June. This initiative is aimed at filling a critical gap in India's air defence capabilities.

2. System Components: The Igla-S system includes the 9M342 missile, the 9P522 launching mechanism, the 9V866-2 mobile test station, and the 9F719-2 test set. Together, these components provide a robust defence against low-flying aircraft, cruise missiles, and drones.

3. Capabilities:

i) It is a hand-held defence system that can be operated by an individual or crew.

ii) It is designed to bring down low-flying aircraft and can also identify and neutralise air targets such as cruise missiles and drones.

3. Deployment and Strategic Importance: The systems are specifically intended for new air defence units in the high mountainous terrain along India's northern border. One regiment has already been equipped with these systems.

4. Future Developments and Indigenous Efforts: Post deployment of Igl-S, the Army plans to transition to advanced laser-beam riding and infrared VSHORADS.

The Defence Research and Development Organisation (DRDO) has already conducted successful flight tests of indigenous VSHORADS missiles, marking progress toward self-reliance in air defence technology.

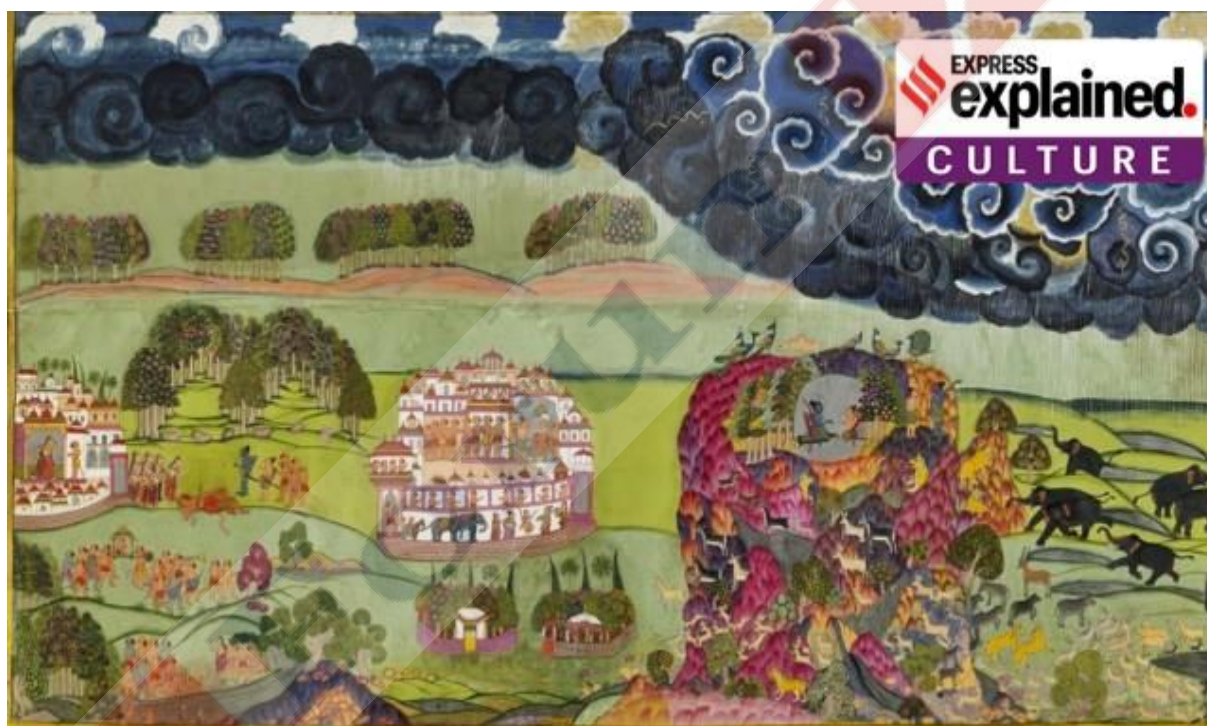
Syllabus: Art and culture

UNESCO's Memory of the World Recognition for Indian Texts

Why in the News?

During the tenth session of the Memory of the World Committee for Asia and the Pacific (MOWCAP) in Ulaanbaatar, Mongolia, three Indian literary works—Ramcharitmanas, Panchatantra, and Sahrdayaloka-Locana were included in UNESCO's Memory of the World Asia-Pacific Regional Register.

About UNESCO's Memory of the World Recognition for Indian Texts



Source: The Indian express

1. Three significant Indian literary works were added to UNESCO's Memory of the World Asia-Pacific Regional Register: **Ramcharitmanas, Panchatantra and Sahrdayaloka-Locana.**

2. **Significance of the Recognized Works:** These works were chosen for their **global appeal and profound influence** on both Indian and international audiences.

3. Specific Works and Attributes:

i) **Ramcharitmanas:** The Ramayana and Ramcharitmanas are widely read in Southeast Asian countries like **Cambodia, Thailand, Sri Lanka, and Indonesia.** **Two versions of the Ramcharitmanas** were submitted to UNESCO, one by **Goswami Tulsidas** and another translated into Arabic in the **18th century**, demonstrating the text's broad appeal in West Asia and beyond.

ii) **Panchatantra:** It was selected for **its universal moral lessons.**

iii) **Sahrdyaloka-Locana:** It is recognized for its aesthetic significance, authored by renowned Kashmiri scholars **Acharya Anandvardhan and Abhinavagupta**.

About the Memory of the World (MOW) Program

1. The UNESCO Memory of the World (MOW) program is a **global initiative aimed at preserving, protecting, and enhancing access to documentary heritage**, particularly those collections that are rare and at risk.

2. **Program Launch:** It was **initiated in 1992**. The program's goal is **to prevent "collective amnesia"** by safeguarding invaluable archives and library collections worldwide and promoting their widespread dissemination.

3. Program Significance:

i) **Recognition and Registration:** The program identifies documentary heritage of international, regional, and national importance maintains registers for these collections, and assigns a distinct logo to recognized collections.

ii) **Access and Preservation:** It ensures equitable access and preservation of documents.

iii) **Awareness and Advocacy:** The program actively campaigns to inform governments, the public, and the private sector about the need to preserve documentary heritage and encourages fundraising efforts for this cause.

iv) **Inscription Benefits:** Registering documents confirms their significance, enhances their visibility, and improves access, supporting research, education, entertainment, and ongoing preservation.

Syllabus: International relations

NHRC Accreditation Deferred by GANHRI

Why in the News?

India's human rights record suffered a setback as the **Geneva-based Global Alliance of National Human Rights Institutions (GANHRI)**, affiliated with the United Nations, deferred the accreditation of the National Human Rights Commission-India (NHRC) for the second consecutive year.

Reasons for NHRC Accreditation Deferral by GANHRI:

1. **Lack of Transparency in Member Appointments:** GANHRI cited **concerns over transparency in the process of appointing members** to the NHRC. Transparency is crucial for ensuring credibility and impartiality in human rights investigations and interventions.

2. **Appointment of Police Officers for Human Rights Investigations:** GANHRI raised objections regarding the **appointment of police officers** to oversee human rights investigations. This practice might compromise the independence and integrity of investigations, raising doubts about the impartiality of the NHRC.

3. **Gender and Minority Representation:** The NHRC's member panel was **criticized for lacking adequate representation of gender and minority groups**. Inclusivity is essential for ensuring that diverse perspectives are considered in addressing human rights issues effectively.

Challenges in Implementing Recommendations:

i) Some of the demands made by the international peer review report were difficult to undertake during the election process in India.

ii) Structural changes and suggestions provided by GANHRI were not feasible to implement at the time due to the ongoing general elections.

Review Process and Future Outlook

i) The NHRC's accreditation deferral is expected to be reviewed later this year, potentially during meetings in September, or again in May next year.

ii) **Suspension of 'A' status for two consecutive years (2023 and 2024)** marks a significant setback for India's human rights record and its international standing.

Read More: [Accreditation by the GANHRI](#)

UPSC Syllabus: International organisation

Chabahar Port Operation Pact

Why in the News?

India and Iran recently signed a 10-year contract to operate the Chabahar port.

About India-Iran Chabahar Port Agreement



Figure 6. Source: Bharat Shakti

1. India and Iran have signed a **10-year contract** for the operation of the Chabahar port. This agreement comes eight years after the initial establishment of the general cooperation framework.

2. **Signing Parties:** The contract was signed between **Indian Ports Global Ltd. (IPGL)** and **Iran's Port and Maritime Organisation (PMO)**.

3. **Investment and Credit Line:** IPGL plans to invest approximately **\$120 million in equipping the port and its infrastructure**. Additionally, India has offered a credit window worth \$250 million for Chabahar-related infrastructure projects.

4. **Historical Context:** A **memorandum of understanding for Chabahar port** development was **signed in May 2015**, with the contract executed in May 2016 during Prime Minister Narendra Modi's visit to Iran.

5. **Significance:** The agreement has been termed as a historic milestone for the maritime sector.

i) It is **expected to foster trade, marine cooperation, and transshipment**, while boosting trilateral trade between India, Iran, and Afghanistan.

ii) **Regional Connectivity:** Chabahar port serves as a **vital trade artery** connecting India with Afghanistan and Central Asian countries. Its development is seen as crucial for enhancing regional connectivity and promoting economic development in the region.

iii) **Strategic Importance:** It is located in **Iran's Sistan-Baluchistan province**. Chabahar is a **deep-water port** with significant strategic value. It offers India an alternative route **to access Afghanistan and Central Asia**, bypassing Pakistan.

iv) The agreement signifies India's commitment to further invest in Chabahar port, enhancing its efficiency and capacity. India aims to utilize the port for humanitarian aid shipments, demonstrating its commitment to regional development beyond commercial interests.

Read more: [Chabahar port](#)

ASEAN-India Trade in Goods Agreement Joint Committee

Why in the News?

The 4th Joint Committee meeting to review the ASEAN-India Trade in Goods Agreement (AITIGA) took place in Putrajaya, Malaysia, from May 7th to May 9th, 2024.

About ASEAN-India Trade in Goods Agreement

1. The ASEAN-India Trade in Goods Agreement represents a trade accord between India and the ten member states of ASEAN.
2. It was signed during the 7th ASEAN Economic Ministers-India Consultations held in Bangkok, Thailand, in 2009. This agreement has been pivotal in fostering economic cooperation.

Key Features of the Agreement

1. The ASEAN-India Free Trade Agreement officially came into effect in 2010.
2. It primarily focuses on facilitating trade in physical goods and products between the participating nations.

3. Components of AIFTA:

- i) **Trade in Goods Agreement:** It entered into force on January 1, 2010. It aims to progressively reduce and eliminate duties on 76.4% of goods traded between ASEAN member states and India.
- ii) **Trade in Services Agreement:** It was signed in November 2014. It covers provisions related to transparency, domestic regulations, recognition, market access, national treatment, and dispute settlement.
- iii) **Investment Agreement:** It was also signed in November 2014. It ensures fair and equitable treatment for investors, non-discriminatory treatment in expropriation or nationalization, and fair compensation.

UPSC Syllabus: Environment

United Nations Forum on Forests

Why in the News?

During the 19th Session of the United Nations Forum on Forests (UNFF19), delegates have been engaging in informal negotiations, concerning the draft texts of the High-Level Declaration.

About United Nations Forum on Forests



United Nations FORUM ON FORESTS

Source: NDTV

Aspects	Description
About	The UNFF was formed in 2000 under the UN Economic and Social Council (ECOSOC).
Aim	It aims to support the sustainable management, conservation, and development of forests worldwide.
Key Objectives	<ol style="list-style-type: none">1. The 19th session declaration emphasizes the importance of a high-level political commitment to forest protection.2. It outlines specific actions for effectively implementing the UN Strategic Plan for Forests (UNSPF) by UNFF and its stakeholders.
Membership	<ol style="list-style-type: none">1. UNFF has universal membership, including all United Nations member states and specialized agencies.2. India is one of the founding members of UNFF.
Annual Meetings	<ol style="list-style-type: none">1. The Forum convenes annually at the UN Headquarters in New York.2. It brings together representatives from all member states and forest-related agencies.3. In odd years, discussions focus on technical matters, while policy issues are addressed in even years.

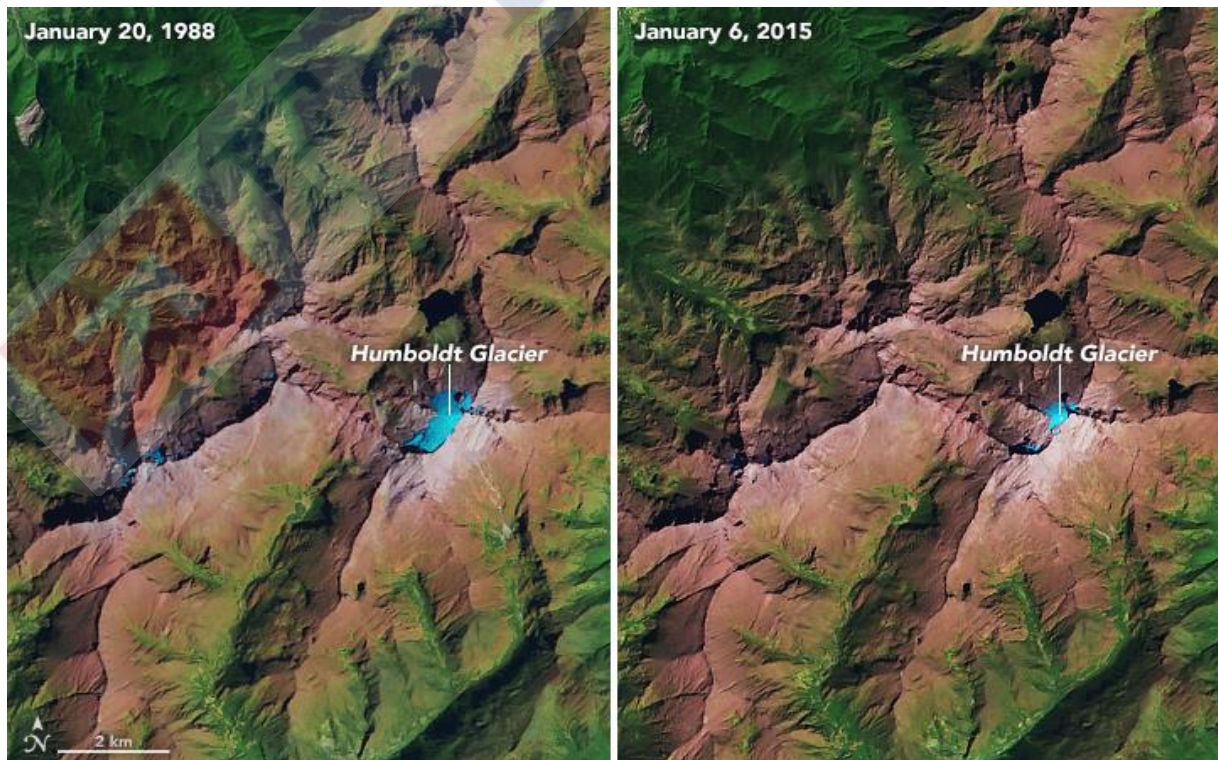
Aspects	Description
Purpose	The plan offers a comprehensive global framework for actions aimed at sustainably managing all types of forests and trees outside forests.
Scope	Its primary goal is to halt deforestation and forest degradation .
Alignment with Global Agendas	Aligned with key global initiatives , the UNSPF supports the implementation of the 2030 Agenda for Sustainable Development, the Paris Agreement under the UN Framework Convention on Climate Change, the Convention on Biological Diversity, and the UN Convention to Combat Desertification.
Framework for Collaboration	<ol style="list-style-type: none"> 1. It provides a structured framework for coordinating forest-related efforts across the UN system and fostering collaboration and synergy among UN bodies and partners. 2. By serving as a reference point, it enhances coherence in forest-related work at all levels.

Humboldt Glacier

Why in the News?

The International Cryosphere Climate Initiative (ICCI) reported that Venezuela's last glacier Humboldt or La Corona in the Andes is now too small to qualify as a glacier.

About Humboldt Glacier



Source: science.nasa.gov

- 1. About Humboldt Glacier:** It is also known as **Sermersuaq Glacier** which is one of the major glaciers in northern Greenland. It borders the Kane Basin in **North West Greenland**.
2. It holds the **distinction** of being the **widest tidewater glacier** in the Northern Hemisphere.
3. The **standard size** for an area to be considered a glacier is **approximately 10 hectares**.
4. The **Humboldt glacier in Venezuela** has **diminished to less than 2 hectares in size**, prompting a downgrade in its classification from a glacier to an ice field.

Current State of the glacier

Venezuela has once hosted 6 glaciers in the Sierra Nevada de Mérida, now it has none. The last Humboldt glacier melted faster than expected and has been reclassified as an ice field due to its reduced size.

Causes of Melting

a) Climate Impact: Experts attribute the **accelerated melting to rising temperatures** driven by climate change and the recent El Niño phenomenon, which exacerbates the warmth.

b) Lack of Monitoring: Political turmoil in Venezuela has hindered consistent scientific monitoring of the glacier.

The Venezuelan government attempted to slow the melting by **installing a thermal blanket over the glacier**, but experts consider this measure ineffective.

About Global Context and Future Outlook

1. The **International Cryosphere Climate Initiative (ICCI)** noted that **Venezuela is likely the first modern nation to lose all its glaciers**. Other countries at risk of becoming glacier-free include Indonesia, Mexico, and Slovenia.
2. The **high-mountain region of Asia** has also seen significant glacier loss due to record high temperatures and dry conditions.
3. Experts warn that **glacier melting may be irreversible**, stressing the importance of protective measures to preserve remaining glaciers.

About International Cryosphere Climate Initiative

- 1. Formation:** It was **established in 2009** following the COP-15 summit in Copenhagen. ICCI is a pivotal network aimed at **cryosphere preservation**.
- 2. Mission:** The initiative involves a **collaboration of senior policy experts and researchers** who work closely with governments and various organizations.
- 3. Goal:** The goal is **to develop and implement strategies** that help preserve as much of Earth's cryosphere as possible.

4. Focus Areas: ICCI's efforts concentrate on the unique climate dynamics affecting three key cryosphere regions: **the Arctic, the Antarctic, and high mountain areas.**

5. The organization plays a **critical role in adding urgency** to global climate change efforts, particularly concerning CO2 and other greenhouse gases. It emphasizes the swift and profound global implications of cryosphere warming.

Soil nailing

Why in the News?

The State Highways Department of Tamil Nadu is carrying out Soil Nailing exercise. This project called 'slope stabilization using soil nailing and Hydroseeding method' is being conducted along major roads in the Nilgiris area of Tamil Nadu.

About Soil Nailing



Figure 7. Source: CivilDigital

1. About Soil nailing: It is a **geotechnical engineering technique** that involves the insertion of reinforcing elements into the soil in a specified area to strengthen it.

2. Material: It involves **drilling steel tendons into the soil** and grouting them in place to form a composite structure akin to a gravity wall.

3. Applications: It is commonly used for **stabilizing slopes and landslides, supporting excavations, and repairing**

existing retaining walls.

4. Methods of application:

Soil Nailing Method	Description	Common Uses
Drilled and Grouted	Nails are inserted into pre-drilled holes and then filled with grouting material to bond with the soil, forming a composite mass similar to a gravity wall.	Stabilizing slopes, supporting excavations
Driven Soil Nailing	Nails are driven into the soil for temporary stabilization. It is a faster method but lacks corrosion protection for the steel.	Temporary slope stabilization
Drilling Soil Nailing	Utilizes hollow bars that are drilled into the	Supporting excavations, stabilizing

	soil; grout is injected through these bars, making this method faster than driven nails.	slopes
Jet Grouted Soil Nailing	Steel bars are installed in holes created by jet grouting, then filled with concrete grout, particularly used in eroding soils.	Repairing existing retaining walls, stabilizing eroded slopes
Launched Soil Nailing	Steel bars are launched into the soil using an air compression mechanism in a single shot, rapidly placing nails into position.	Rapid stabilization in urgent situations

UPSC Syllabus: Environment & Ecology

Sariska Tiger Reserve

Why in the News?

Recently, a sailing yacht was sunk by an unspecified number of orcas after they rammed it in the waters of Morocco, near the Strait of Gibraltar.

About Sariska Tiger Reserve



Source: Times of India

Specifications	Details
Location	1. It is situated in the Alwar district of Rajasthan, within the Aravali Hills. 2. It is renowned for being the first reserve globally to have successfully relocated tigers.

Factly Compilation May (Second Week) 2024

History	It was originally a royal hunting preserve for the Maharaja of Alwar . It was designated a wildlife sanctuary in 1955 and upgraded to a national park in 1979 .
River	The Ruparel River flows through the Sariska Tiger Reserve in Rajasthan, India.
Terrain	It is characterized by rocky landscapes, arid scrub thorn forests, grasslands, cliffs, and semi-deciduous forests.
Flora	It is dominated by dhok trees , covering 90% of the area. Other species present include salar, kadaya, gol, ber, banyan, gugal, bamboo, kair, adusta, etc.
Fauna	It supports a diverse array of animals such as tigers, leopards, sambhar, chital, nilgai, four-horned antelope, wild boar, rhesus macaque, langur, hyena, and jungle cats.

Leopard Cat

Why in the News?

A leopard cat was sighted in Maharashtra's **Pench Tiger Reserve** for the first time.

About Leopard Cat



Aspects	Description
About	Leopard Cat (<i>Prionailurus bengalensis</i>) is a member of the Felidae family. It is a forest-dwelling cat.
Features	1. It is noted for its leopard-like coloration .

	2. It exhibits varied coloration ranging from pale tawny to yellow, red, or grey, with distinctive black stripes.
Distribution	It is widely distributed across Asia, from the Amur region in the Russian Far East to the Sunda Islands of Indonesia.
Habitat	1. Leopard cats inhabit agriculturally utilized areas but show a preference for forested environments. 2. They thrive in various habitats, including tropical evergreen rainforests and low-lying plantations, as well as subtropical deciduous and coniferous forests situated in the foothills of the Himalayas, particularly at altitudes exceeding 1000 meters.
Behavior	They are solitary and nocturnal carnivores .
Conservation Status	They are classified as Least Concern on the IUCN Red List.

Source: Wiki Point

Syllabus: Indian Economy

India Volatility Index (VIX)

Why in the News?

Recent, surge in the India VIX reflects the anticipated near-term volatility in the market.

About Volatility Index (VIX)

- About Volatility Index (VIX):** The Volatility Index, commonly known as VIX or the **Fear Index**, measures how much volatility market players expect in the near future.
- Role of Volatility in Finance:** Volatility refers to the **rate and extent of price changes** in the market, which is often associated with financial risk.
- Behavior of the VIX:** During periods when the market is highly volatile, the VIX tends to increase. Conversely, when market volatility decreases, the VIX tends to fall.
- Calculation of the VIX:** The VIX is calculated based on the **expected annualized volatility**, expressed in percentage terms, derived from the order book of options on a specific underlying index.

About India VIX

- About India VIX:** The India VIX is an index that shows **the expected level of volatility in the stock market over the next 30 days**. Higher numbers mean more expected volatility.
- How It Works:** It uses the **prices of options on the NIFTY Index** to calculate expected future volatility. This is expressed as a percentage.
- Why Is India VIX Important?**
 - Indicator of Fear:** It is sometimes called the **"Fear Index"** because it indicates how worried traders are about the market.

ii) **Decision-Making:** Investors look at the VIX to take decisions regarding investments. When the VIX is high, the market is considered riskier.

Syllabus: Defence exercise

Exercise SHAKTI

Why in the News?

Recently India and France commenced the 7th edition of India- France Joint Military Exercise SHAKTI commenced at Umroi, Meghalaya.

About Exercise SHAKTI



Source: PIB

Aspects	Description
About	<ol style="list-style-type: none">1. It is a biennial training event conducted alternatively in India and France. The last edition was conducted in France in November 2021.2. The 7th edition of India- France Joint Military Exercise SHAKTI commenced at Meghalaya.
Participating Nations	India and France
Objectives	Objectives of Joint Training: <ol style="list-style-type: none">i) Achieve a high degree of physical fitness.ii) Rehearse and refine tactical level operations.iii) Exchange best practices between forces.
Focus	The joint exercise will focus on operations in the semi-urban and mountainous

	terrain.
What will happen during the exercise	<ol style="list-style-type: none">1. The tactical drills will cover a range of operations including responding to terrorist actions that involve seizing a specific territory, setting up a Joint Command Post.2. It also includes establishing an Intelligence & Surveillance Centre, securing helipads or landing sites, conducting Small Team Insertion & Extraction.
Benefits	<ol style="list-style-type: none">1. It will enable the two sides to share their best practices in Tactics, Techniques and Procedures of conducting joint operations.2. The joint exercise will facilitate developing inter-operability, bonhomie and camaraderie between armed forces personnel of the two countries.3. This will also enhance the level of defence cooperation and foster bilateral relations between the two friendly nations.

UPSC Syllabus: Governance

Internet Shutdowns in India in 2023

Why in the News?

As per the recent study, India had the highest number of Internet shutdowns globally for the sixth consecutive year.

About Internet Shutdowns in India in 2023

1. India recorded the **highest number of Internet shutdowns** worldwide for the sixth consecutive year, with 116 incidents in 2023.

The frequency of prolonged shutdowns (lasting over five days) increased dramatically, from 15% of all shutdowns in 2022 to over 41% in 2023.

2. Reasons for Shutdowns: The government often imposed these shutdowns **due to reasons such as communal tensions, violence, and exams**. Notably, these measures have been criticized both domestically and internationally.

3. Severe Case in Manipur: The longest Internet shutdown occurred in Manipur, amid severe human rights violations. This state experienced 47 of the shutdown orders.

4. Regional vs. Local Shutdowns: Increasingly, shutdowns are being implemented on a regional basis. In 2023, 64 orders affected multiple districts within the same state, including a statewide shutdown in Punjab during a manhunt for Amritpal Singh.

5. Impact on Marginalized Communities: The report emphasized the profound **impact on marginalized groups, particularly women in Manipur**. The lack of Internet access hindered efforts to document and report atrocities like **murder, rape, and arson**.

6. Publication of Orders: There was inconsistent compliance with the Supreme Court's guidelines for publishing Internet shutdown orders, adding to the challenges of accountability.

7. Internet Freedom Over the Decade: Over the past ten years, India has seen over 500 Internet shutdowns, reflecting a frequent use of this contentious measure, especially during protests, exams, elections, and episodes of communal violence.

8. Global Comparison: Myanmar recorded the second-highest number of shutdowns (37), following its 2021 military coup. Iran, Palestine, and Ukraine also featured prominently in the report with numerous shutdowns.