



INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

NIPAH VIRUS

IT IS A ZOOONOTIC VIRUS, TRANSMITTED FROM ANIMALS TO HUMANS, AND ITS HIGH MORTALITY RATE HAS PROMPTED URGENT GOVERNMENT ACTION AND PREVENTIVE MEASURES.



30 SEP - 5 OCT 2024

WEEKLY CURRENT AFFAIRS

WWW.INSIGHTSONINDIA.COM

INSIDE

GENERAL STUDIES – 2

Topics: Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure; Comparison of the Indian constitutional scheme with that of other countries.

1. Ladakh and Sixth Schedule 4

Topics: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

2. 10 Years of SBM 5

Topics: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.

3. Child Sexual Exploitation and Abuse Material 7

4. Manual Scavenging Survey 8

Topics: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

5. National Health Account Estimates 9

Topics: Important aspects of governance, transparency and accountability, e-governance applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.

6. Pandemic Preparedness and Emergency Response Framework 11

7. Middle East Tension 12

GENERAL STUDIES – 3

Topics: Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.

1. PLFS Report, 2023-24 13

2. SEBI rules to curb F&O 15

3. India's Employment Growth 16

Topics: Major crops cropping patterns in various parts of the country, different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

4. Non - Basmati Rice 17

Topics: Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.

5. Diamond Industry 18

Topics: Awareness in the fields of IT, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

6. Fluorescent Nanodiamonds 19

Topics: Conservation related issues, environmental pollution and degradation, environmental impact assessment.

7. Eco-Sensitive Areas 20

Topics: Disaster and management.

8. Bihar Flood 22

Topics: Linkages between development and spread of extremism.

9. Naxalism 23

GENERAL STUDIES – 4

1. Case of Atul 25

CONTENT FOR MAINS ENRICHMENT

1. Internet shutdown in Bhadrak 26

2. SBM Urban 2.0 26

3. J&K Militancy 26

4. Ministry of Textile programs 27

5. Annual Survey of Industries 27

6. Gender Performativity 27

7. State Chapter of the Women Entrepreneurship Platform 27

8. Judge's Asset Disclosure 28

9. Railway accident data (2019-2024)	28	16. World Green Economy Forum, 2024	38
10. Case of South Korea Deepfake	28	<u>Agriculture</u>	
11. e-ABkari portal	29	17. Pusa-2090	38
12. Farm to Fork: Share of Pie	29	18. National Mission on Edible Oils - Oilseeds	38
13. Case of Kritarth	29	<u>Science & Technology</u>	
14. A tribe out of time	30	19. Neutrino Fog	39
15. Weed and Agriculture	30	20. Nipah Virus	40
FACTS FOR PRELIMS		21. Marburg Virus Disease	40
GS-1		22. Venus Orbiter Mission	40
<u>Art & Culture</u>		23. Bharat-Gen	41
1. Mehrauli Archaeological Park	31	24. Polymer nanocomposite	41
2. New Inclusion to Classical Language Status	31	<u>Environment & Ecology</u>	
<u>History</u>		25. Swallowtail butterflies	42
3. Pillbox	32	26. Elephant Census Method	42
<u>Geography</u>		27. Modified Eco-mark Scheme	43
4. Isostatic Rebound	32	<u>Defence</u>	
GS-2		28. Thermobaric weapons	43
<u>Governance</u>		29. PM E-DRIVE	44
5. Operation Amrith	33	30. Odisha Leopard Population	44
6. RajyaMata-Gomata	33	MAPPING	
7. Dharti Aaba Janjatiya Gram Utkarsh Abhiyan	33	<u>INTERNATIONAL</u>	
8. Prime Minister's Internship Scheme	34	1. Yemen Attack	45
9. Co-District	34	2. Canary Island	46
<u>International Relations</u>		3. Mount Erebus	47
10. Operation Northern Arrows	35	4. Vuhledar	48
11. United States Commission on International Religious Freedom	35	5. Little Prespa Lake	48
12. India-USA MoU	35	6. Chagos Archipelago	49
GS-3		7. My Quynh Safari Park	49
<u>Indian Economy</u>		<u>INDIAN</u>	
13. Eight - Core Sector	36	8. Bagmati River	50
14. Cruise Bharat Mission	36		
15. Insolvency and Bankruptcy Board of India	37		

GENERAL STUDIES – 2

Topics: Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure; Comparison of the Indian constitutional scheme with that of other countries.

1. LADAKH AND SIXTH SCHEDULE

Context:

Climate activist Sonam Wangchuk was detained on the Delhi border on Monday night as he led a group of protesters to petition the Central government for the inclusion of Ladakh in the Sixth Schedule of the Constitution among other demands for autonomy to the region.

Asymmetrical Federalism

- **Definition:** Asymmetrical federalism refers to a system where different states or regions within a federation have varying degrees of autonomy and powers.
- **India's case:** In India, certain states and areas enjoy more autonomy under constitutional provisions, particularly through the Fifth and Sixth Schedules. This differs from symmetrical federations like the U.S., where all states enjoy equal powers.

Fifth and Sixth Schedule Origin & Current Application:

- **Historical background:** The Fifth and Sixth Schedules derive from the provisions of the Government of India Act, 1935, which classified areas into 'excluded' and 'partially excluded' regions. These were meant to protect tribal populations from external interventions.
- **Fifth Schedule (Article 244):** It applies to 'Scheduled Areas' declared by the President, focusing on tribal welfare, land rights, and advisory councils. States covered include Andhra Pradesh, Odisha, Gujarat, Maharashtra, Rajasthan, Himachal Pradesh, and others.
- **Sixth Schedule (Article 244A):** It covers 'Tribal Areas' in Assam, Meghalaya, Mizoram, and Tripura. Autonomous District Councils (ADCs) manage legislative and administrative tasks in these regions, providing more autonomy than the Fifth Schedule.

Why Ladakh Needs the Sixth Schedule?

- **Cultural and ethnic protection:** Ladakh's indigenous population, including the Buddhist and Shia Muslim communities, seeks cultural preservation and governance autonomy.
- **Demands for autonomy:** Activists, including Sonam Wangchuk, argue that inclusion under the Sixth Schedule will provide constitutional safeguards, ensuring economic and social development while protecting their cultural heritage.
- **Tribal representation:** Ladakh has a significant tribal population, and the Sixth Schedule would empower Autonomous District Councils to govern with greater local autonomy, much like northeastern tribal areas.

Positives of being under the Sixth Schedule:

1. **Increased autonomy:** States and regions under the Sixth Schedule enjoy legislative, executive, and judicial autonomy, helping preserve tribal culture.
E.g. The Autonomous District Councils in Meghalaya regulate land and forests, ensuring local control over resources.
2. **Self-governance:** Tribal communities can manage their affairs, including laws on land inheritance, social customs, and marriage.
E.g. Mizoram's ADCs regulate shifting cultivation, a traditional tribal practice.
3. **Development & representation:** The Sixth Schedule provides for tailored developmental programs, creating more opportunities for regional growth.
E.g. Meghalaya's ADCs have autonomy over primary education and local roads.
4. **Economic upliftment:** The Sixth Schedule areas benefit from government schemes that focus on education, infrastructure, and healthcare, improving the overall socio-economic status.

Limitations of the Sixth Schedule:

1. **Limited fiscal powers:** ADCs often lack sufficient financial autonomy, relying heavily on state and central funding.

- E.g.** Some ADCs struggle to collect taxes and generate their own revenue.
- Political interference:** Although ADCs have autonomy, the laws they create must receive the Governor's approval, reducing actual independence.
E.g. ADC decisions in Assam sometimes face delays due to state interventions.
 - Bureaucratic delays:** Approval from central or state authorities can delay the implementation of laws or policies.
E.g. Central regulations can overshadow local rules in Tripura's tribal areas.
 - Exclusion of non-tribal population:** The Sixth Schedule's protections can sometimes lead to conflicts between tribal and non-tribal communities over resource allocation.

Conclusion & Way Forward

To safeguard Ladakh's unique culture and foster balanced development, inclusion under the Sixth Schedule could be a strategic step. By enhancing local governance and integrating tribal interests, Ladakh can better manage its social, cultural, and economic needs.



Insta Links:

Sixth schedule

PYQ:

1. Why are the tribals in India referred to as 'the Scheduled Tribes'? Indicate the major provisions enshrined in the Constitution of India for their upliftment. (UPSC - 2016)

[Topics: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.](#)

2. 10 YEARS OF SBM

Context:

The Swachh Bharat Mission was launched with great fanfare exactly a decade ago. A little earlier, on August 15, 2014, the Prime Minister had lent his voice to this neglected cause from the ramparts of the Red Fort.

Swachh Bharat Mission (SBM)

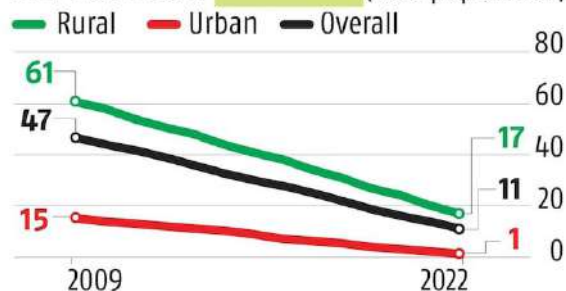
The **Swachh Bharat Mission (SBM)** was launched on **October 2, 2014** by Prime Minister Narendra Modi, aiming to eliminate open defecation and improve overall sanitation. The campaign is handled by two ministries:

- Ministry of Drinking Water and Sanitation:** Responsible for **SBM-Gramin** (rural areas).
- Ministry of Housing and Urban Affairs:** Handles **SBM-Urban** (urban areas).

Components of SBM:

- Open defecation free (ODF) India:** Focus on eliminating open defecation.
- Toilet construction:** Building household, community, and public toilets.
- Solid and liquid waste management:** Managing both organic/inorganic waste and wastewater.
- Behavioral change campaigns:** Educating citizens on the importance of cleanliness and sanitation.
- ODF+ and ODF++:** Focus on sustaining ODF status with proper liquid waste management (ODF+) and sludge management (ODF++).

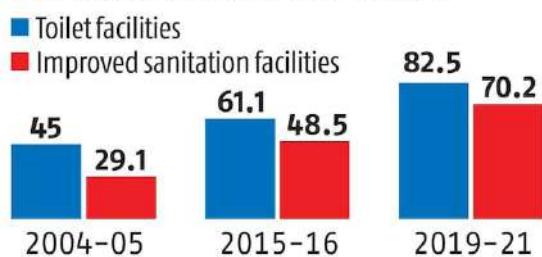
PEOPLE PRACTISING OPEN DEFECTION (% of population)



Source: World Bank

IMPROVEMENT IN FACILITIES

Percentage of households having...



Note: Improved sanitation facility refers to access to toilets that is not shared with other households

Source: NFHS reports

10-Year Analysis:

Positive outcomes:

- Open defecation decline:** As of 2019, India was declared ODF with over **10 crore toilets** built. [Source: WHO, 2019 Report]
- Improvement in health:** The **World Health Organization (WHO)** estimated that **3 lakh deaths** due to diarrheal diseases were prevented from 2014-19 due to improved sanitation. [Source: WHO Report]
- Infant mortality impact:** A **Nature** study found **60,000 to 70,000** fewer infant deaths annually from 2015-2020 due to SBM's impact. [Source: Nature, 2023 Study]
- Waste management:** About **78%** of solid waste is now processed, with **97%** of urban municipal wards having door-to-door waste collection. [Source: SBM-U Dashboard]
- Toilet access:** The percentage of households with access to toilets rose from **45% in 2004** to **82.5% in 2019-21**. [Source: NFHS 5]

Challenges:

- Persistent open defecation:** Despite being declared ODF, **11%** of the population still practices open defecation, mostly in rural areas. [Source: World Bank, 2022 Data]
- Rural-urban disparity:** Urban areas have **95.6%** toilet access, while rural regions lag at **76%**. [Source: NFHS-5]
- Landfill clearance issues:** Only **30%** of the target to clear legacy landfills has been achieved, with **41%** of the waste remediation completed.

[Source: SBM-U Dashboard]

- Behavioral challenges:** Deep-rooted behavioral changes are still a challenge, as **toilet usage** in certain rural areas remains inconsistent.
- Waste processing targets:** The goal for processing all waste by 2025-2026 has yet to be fully met, with only partial progress.

Way ahead:

- Strengthen behavior change:** Intensive campaigns to sustain toilet usage, particularly in rural areas, are essential.
- Complete waste processing:** Fast-track efforts to clear legacy landfills and improve waste processing systems.
- Focus on rural areas:** Further investment in rural sanitation infrastructure and behavior change interventions is critical.
- Sustained health impact:** Continue to link sanitation improvements to health outcomes like reduced infant mortality and general disease reduction.
- Community engagement:** Encouraging community involvement for better maintenance and sustainability of sanitation initiatives.

Conclusion:

The Swachh Bharat Mission has significantly improved sanitation across India, reducing open defecation and improving health outcomes. A continued focus on **behavior change, infrastructure improvements, and health linkages** will be key to achieving a cleaner and healthier India.

Insta Links:

SBM



PYQ:

- As per the Solid Waste Management Rules, 2016 in India, which one of the following statements is correct? (UPSC - 2019)
 - Waste generator has to segregate waste into five categories.
 - The Rules are applicable to notified urban local bodies, notified towns and all industrial townships only
 - The Rules provide for exact and elaborate criteria for the identification of sites for landfills and waste processing facilities.
 - It is mandatory on the part of the waste generator that the waste generated in one district cannot be moved to another district.

Answer: c)

2. "To ensure effective implementation of policies addressing the water, sanitation and hygiene needs the identification of the beneficiary segments is to be synchronized with anticipated outcomes." Examine the statement in the context of the WASH scheme. (UPSC - 2017)
3. How could social influence and persuasion contribute to the success of Swachh Bharat Abhiyan? (UPSC - 2016)

Topics: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.

3. CHILD SEXUAL EXPLOITATION AND ABUSE MATERIAL

Context:

The article explore Supreme Court recently delivered landmark judgment clarifying the penal consequences for the possession, storage, and consumption of Child Sexual Exploitation and Abuse Material (CSEAM), overturning a controversial Madras High Court ruling.

Judgment overview:

1. The Supreme Court clarified that storing, watching, or possessing Child Sexual Exploitation and Abuse Material (CSEAM) is a crime under the POCSO Act, overturning a prior Madras High Court decision that had quashed charges against a man for merely possessing such material.
2. The Court emphasized that "child pornography" is a misnomer and coined the term "Child Sexual Exploitative and Abuse Material" (CSEAM) to reflect the seriousness of the crime.
3. It held that possession, storage, and even viewing of CSEAM falls under criminal liability, whether for personal use or commercial purposes.
4. The Court explained that "constructive possession," where individuals have control over CSEAM without physically possessing it, is punishable under the law.

Constitutional Provisions Related to Child Protection in India:

1. **Article 15(3):** Provides the State with the authority to make special provisions for the

protection and welfare of children.

2. **Article 21:** Right to life and personal liberty, which includes the protection of children from exploitation and abuse.
3. **Article 39(e) and (f):** Mandates the State to ensure that children are not abused and are provided with opportunities and facilities to develop in a healthy manner, protecting their dignity and freedom.
4. **Article 47:** Focuses on improving public health, which includes preventing child exploitation and ensuring their welfare.

Key Legal Provisions Under the POCSO Act, 2012:

1. **Section 13:** Defines child pornography (now CSEAM) and punishes its production, distribution, and possession.
2. **Section 14:** Imposes penalties for using a child for pornographic purposes, with increasing severity for repeated offenses.
3. **Section 15:** Penalizes the storage of child sexual abuse material for commercial purposes, ensuring strict consequences for possession or storage.

Section 19: Mandates the reporting of offenses under the POCSO Act, making it obligatory for citizens, including tech companies, to report any suspected CSEAM-related activities.

Significance of the judgment:

1. **Broadened interpretation of CSEAM Laws:** Criminalizes mere possession, closing legal loopholes previously exploited in court rulings.
2. **Strengthens child protection laws:** Reinforces the POCSO Act as a tool to combat online child exploitation, ensuring stricter penalties.
3. **Victim-centric approach:** Emphasizes victim protection, aiming for quicker content takedowns and advocating for the psychological well-being of child victims.
4. **Tech companies' role:** The ruling calls for tech platforms to report CSEAM cases, enhancing collaboration between law enforcement and online service providers.

Limitations of the judgment:

1. **Neglects adolescent behavior:** The judgment does not distinguish between consensual adolescent exchanges and exploitative content, risking criminalization of teenage behavior.
2. **Overburdening law enforcement:** Calls for tech platforms to report cases without assessing whether local police are equipped to handle increased caseloads.
3. **Ignores content takedown prioritization:** The judgment fails to focus on the timely removal of

harmful content, which is often the immediate need of victims.

- 4. Fails to address root issues:** Despite its tough stance, the judgment overlooks nuanced challenges in the rehabilitation and education of offenders, especially minors.

Key recommendations:

- 1. Terminology change:** The Court recommended replacing “child pornography” with “Child Sexual Exploitative and Abuse Material” (CSEAM) in all judicial orders and legislations.
- 2. Sex education:** The Court stressed the importance of positive, age-appropriate sex education to prevent harmful sexual behavior and foster an understanding of consent, helping to deter the consumption and distribution of CSEAM.
- 3. Obligation of tech platforms:** Social media intermediaries must not only remove CSEAM but also report such content to the local authorities under the POCSO Act. Compliance with the IT Act alone does not absolve their liability.
- 4. Public awareness:** The Court suggested raising awareness about CSEAM through public campaigns to destigmatize reporting and increase community vigilance.
- 5. Support services:** It emphasized the need for psychological counseling and rehabilitation services for both victims and offenders, including Cognitive Behavioral Therapy (CBT) for those involved in CSEAM.

Conclusion:

This judgment aims to strengthen the legal framework against CSEAM, ensuring a victim-centric approach while addressing the need for preventive measures through education and public awareness.

Insta Links:

1. CSEAM
2. POCSO



PYQ:

1. Which of the following are envisaged by the Right against Exploitation in the Constitution of India? (UPSC-2017)
 1. Prohibition of traffic in human beings and forced labour
 2. Abolition of untouchability
 3. Protection of the interests of minorities
 4. Prohibition of employment of children in factories and mines

Select the correct answer using the code given below:

- a) 1, 2 and 4 only
- b) 2, 3 and 4 only

- c) 1 and 4 only
- d) 1, 2, 3 and 4

Answer: c)

2. Examine the main provisions of the National Child Policy and throw light on the status of its implementation. (UPSC-2016)

4. MANUAL SCAVENGING SURVEY

Context:

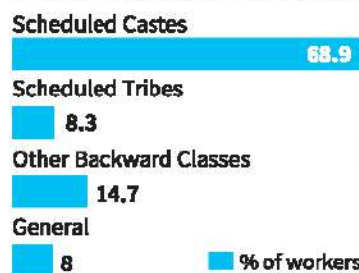
The Government of India, through its NAMASTE programme, is conducting the first-ever comprehensive survey to profile workers involved in the hazardous cleaning of sewers and septic tanks.

Summary of survey:

- 1. Demographics of Sewer and Septic Tank Workers (SSWs):**
 - 91.9% of the 38,000 SSWs profiled across 29 States and Union Territories belong to Scheduled Castes (SC), Scheduled Tribes (ST), or Other Backward Classes (OBC).
 - Breakdown: 68.9% SC, 14.7% OBC, 8.3% ST, and 8% from the general category.
- 2. Incidence of Deaths:**
 - Between 2019 and 2023, 377 deaths occurred due to hazardous cleaning of sewers and septic tanks.

Skewed shares

The caste-wise share (in %) of the workers engaged in cleaning of sewers and septic tanks across the country



Source: Government data tabled in Parliament

- 3. NAMASTE Programme:**
 - **Launch Year:** 2023-24
 - **Ministry:** Ministry of Social Justice and Empowerment
 - **Aim:**
 - To mechanise the cleaning of sewers and septic tanks.
 - To eliminate deaths due to hazardous cleaning.
 - To empower workers involved in this sector by transforming them into “sanipreneurs” (sanitation)

entrepreneurs).

- To ensure the safety and dignity of sewer and septic tank workers through proper training and equipment.

○ **Targets:**

- Profile all Sewer and Septic Tank Workers (SSWs) across India.
- Provide safety training, protective gear, and mechanised equipment to eliminate manual hazardous cleaning.
- Offer financial support and capital subsidies to turn SSWs into self-employed “sanipreneurs.”
- Create a centralised database of SSWs for policy implementation and tracking.

4. **Progress:**

- Around 38,000 SSWs have been profiled so far, with 12 States/UTs completing the process.
- As of 2023-24, 31,999 SSWs have been validated.
- 191 beneficiaries received ₹2.26 crore in capital subsidies for self-employment projects.
- 413 workers and dependents received ₹10.6 crore in subsidies for sanitation-related projects.

5. **Challenges and Gaps:**

- Several States, including Chhattisgarh, Meghalaya, and West Bengal, have yet to begin profiling SSWs.
- Tamil Nadu and Odisha are running their own programmes, not reporting data to the Centre.

6. **Social Composition of Manual Scavengers (2018 Data):**

- Of the 58,098 manual scavengers identified until 2018, 97.2% belonged to SC communities.
- All identified manual scavengers received ₹40,000 as a one-time cash transfer, with 18,880 opting for skills training.

Best Practices:

Eco-Sanitation Solutions: South Africa employs “dry toilets” and ecological sanitation systems (EcoSan) in areas with poor sewage infrastructure. These systems do not require manual cleaning, thus reducing the need for manual scavengers.

This survey marks a significant step towards ending the hazardous practice of sewer cleaning and ensuring better opportunities and safety for sanitation workers across India.

Insta Links:

1. Manual Scavenging

PYQ:

1. ‘Rashtriya Garima Abhiyaan’ is a national campaign to (UPSC - 2016)
 - a) rehabilitate the homeless and destitute persons and provide them with suitable sources of livelihood
 - b) release the sex workers from their practice and provide them with alternative sources of livelihood
 - c) eradicate the practice of manual scavenging and rehabilitate the manual scavengers
 - d) release the bonded labourers from their bondage and rehabilitate them

Answer: c)



Topics: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

5. NATIONAL HEALTH ACCOUNT ESTIMATES

Context:

The Union Ministry of Health and Family Welfare recently released the National Health Account (NHA) estimates for the fiscal years 2020-21 and 2021-22. These reports are the eighth and ninth editions of the NHA series, which provides a comprehensive view of the country’s health-care expenditure.

Summary of Key Findings of National Health Account (NHA) Estimates for 2020-21 and 2021-22:

1. **Rising government health expenditure (GHE):**
 - GHE as a percentage of GDP increased from **1.13% (2014-15)** to **1.84% (2021-22)**.
 - GHE as a share of General Government Expenditure (GGE) rose from **3.94% (2014-15)** to **6.12% (2021-22)**.
 - Per capita GHE increased from **₹1,108** to **₹3,169** during the same period.
2. **Decline in out-of-pocket expenditure (OOPE):**
 - OOPE reduced from **62.6% (2014-15)** to **39.4% (2021-22)** of Total Health Expenditure (THE).
3. **Government’s share in total health expenditure:**

- GHE increased from 29% (2014-15) to 48% (2021-22) of THE.
- 4. **Social security expenditure (SSE) growth:**
 - SSE on health increased from 5.7% (2014-15) to 8.7% (2021-22) of THE, aiding in reducing OOPE.
- 5. **Total health expenditure (THE):**
 - In 2020-21, THE was ₹7,39,327 crores (3.73% of GDP); by 2021-22, it rose to ₹9,04,461 crores (3.83% of GDP).
 - Per capita health expenditure rose from ₹5,436 (2020-21) to ₹6,602 (2021-22).
- 6. **Implications of increased government spending:**
 - Reduction in financial hardships due to lower OOPE.
 - Strengthened public healthcare services and progress toward Universal Health Coverage (UHC).
- 7. **COVID-19 Response:**
 - Significant increases in health expenditure reflect government efforts to tackle the COVID-19 pandemic through expanded healthcare infrastructure and vaccination programs.
- 8. **NHA Framework:**
 - The NHA framework aligns with System of Health Accounts (SHA) 2011, facilitating international comparisons and improving healthcare financial transparency.

Government Health Expenditure (GHE) as % of GDP



Government Health Expenditure (GHE) and Out-Of-Pocket Expenditure (OOPE) as % of Total Health Expenditure (THE)



This rise in health expenditure, improved public health access, and reduction in OOPE reflect India’s proactive approach toward achieving UHC and ensuring financial protection for its citizens.

Note: You don’t need to remember all the data but try to remember certain specific data which can be used as value addition in exam.

Insta Links:

1. Public health challenges
2. Health infrastructure

PYQ:

1. “Besides being a moral imperative of a Welfare State, primary health structure is a necessary precondition for sustainable development.” Analyse. (2021)



Topics: Important aspects of governance, transparency and accountability, e-governance applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.

6. PANDEMIC PREPAREDNESS AND EMERGENCY RESPONSE FRAMEWORK

Context:

Four years after the outbreak of Covid, an expert group constituted by NITI Aayog has recommended setting up a comprehensive framework to effectively manage future public health emergencies or pandemics.

Summary of report:

Challenges and Learnings from COVID-19 Pandemic:

- Governance:** Lack of clear risk communication systems and rapid response SOPs for delegation of power.
- Legislation:** NDMA and EDA were insufficient for modern pandemic management; need for a specific Public Health Act.
- Surveillance and data management:** Challenges in data integration, forecasting, and early warning systems; lacked comprehensive pandemic surveillance integration.
- Research and development:** Public-private collaborations were effective, but structured mechanisms linking research institutions with industries are required.
- Regulatory reforms:** Delays in emergency authorization due to unclear and unharmonized global regulatory norms.

Future Pandemic Threats and Preparedness:

- Global preparedness:** Align country preparedness with global core capacities to prevent cross-border spread.
- Cross-sectoral collaboration:** Enhance coordination between public health authorities and disaster management agencies for effective pandemic management.
- Risk assessment and community engagement:** Focus on accurate information dissemination and proactive engagement with communities to counter misinformation.
- Resource availability:** Ensure availability of necessary funds and resources to support pandemic response efforts.
- One Health Approach:** Develop coordinated surveillance and response systems for zoonotic and emerging infectious diseases.

NITI Aayog's Pandemic Preparedness and Emergency Response Framework:

- PHEMA (Public Health Emergency Manage-**

ment Act):

- Recommended to replace the outdated Epidemic Diseases Act (1897) and National Disaster Management Act (2005) for better management of health emergencies.
 - The new law would empower governments to respond to pandemics, non-communicable diseases, disasters, and bioterrorism.
 - Establishes public health cadres for national and state levels.
- Empowered group of secretaries (EGoS):**
 - Proposed panel headed by the Cabinet Secretary for pandemic preparation and response.
 - EGoS will develop SOPs for pandemics and guide governance, finance, R&D, and surveillance during health crises.
 - Strengthening surveillance:**
 - Focus on monitoring human-bat interfaces, considering viruses linked to bats (e.g., Covid-19).
 - Creation of a national biosecurity and biosafety network for disease surveillance.
 - Establishment of an emergency vaccine bank for rapid response.
 - Early warning and forecasting:**
 - Build an epidemiology forecasting network for predicting transmission and monitoring countermeasures.
 - Establish Centres of Excellence (CoE) to develop diagnostics, vaccines, and therapeutics for priority pathogens as identified by WHO.

Insta Links:

- Pandemic treaty
- Disease X

PYQ:

- What are the research and developmental achievements in applied biotechnology? How will these achievements help to uplift the poorer sections of society? (UPSC -2021)



Topics: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

7. MIDDLE EAST TENSION

Context:

Recent tensions in the Middle East have heightened concerns for global stability, with Iran and Israel on the verge of a major conflict. This ongoing strife threatens to expand regionally, with potential repercussions on India's strategic interests, including energy security and regional partnerships.

Rising Tensions in the Middle East:

- In 2024, **Iran and Israel** have exchanged missile attacks, reminiscent of previous confrontations.
- This escalation poses the risk of **regional instability**, affecting not only the two countries but also surrounding nations like Lebanon, Syria, and Iraq.
- For Israel, maintaining control over Iran's influence through **Hezbollah and other proxy groups remains crucial**. For Iran, retaliation is part of its broader geopolitical ambitions in the region.

Importance of the Middle East for India:

1. **Energy Security:** India sources 80% of its crude oil from the region. Any disruption due to conflict could lead to price hikes and jeopardize India's energy supplies.
2. **Diaspora Concerns:** Over 9 million Indians live and work in the Middle East, contributing significantly to remittances. Their safety is crucial.
3. **Strategic Investments:** Projects like the India-Middle East-Europe Economic Corridor (IMEEC) and Chabahar port underline India's economic and strategic interests in the region.
4. **Terrorism:** Collaborative efforts between India and Middle Eastern nations in counter-terrorism and intelligence sharing are essential for regional stability.



Other stakeholders in the region:

1. **Qatar:** A key mediator, engaged with both Iran and Israel, with influence due to hosting Hamas leaders.
2. **Saudi Arabia & UAE:** Keen to advance peace and stability, driven by long-term economic visions. They seek to de-escalate tensions.
3. **Turkey:** A mediator in back-channel diplomacy, maintaining communication with both sides while positioning itself as a regional power.
4. **United States:** The U.S. maintains its role as Israel's key ally but faces challenges in preventing escalation.

Challenges:

1. **Energy supply disruptions:** Any conflict could destabilize the global oil market, affecting India's economy.
2. **Regional volatility:** The spread of conflict could draw in other actors like Hezbollah, Syria, or Iraq.
3. **Balancing diplomatic relations:** India must manage its ties with both Israel and Iran, avoiding entanglement in regional politics.
4. **Impact on investments:** Initiatives like the IMEEC may face setbacks if regional instability grows.

Way ahead for India:

1. **Diplomatic engagement:** India should continue using its established relations to advocate for peace, leveraging its ties with both Israel and Iran.
2. **Strengthening energy ties:** Diversifying energy sources to mitigate risks in times of conflict is essential.
3. **Diaspora safety:** India should prioritize evacuation plans and safety measures for its citizens in the region.
4. **Maintaining balance:** India's non-alignment policy should be maintained to ensure it can mediate where necessary without alienating key stakeholders.



Insta Links:

3. Israel Iran conflict

PYQ:

1. Mediterranean Sea is a border of which of the following countries? (UPSC - 2017)
 1. Jordan
 2. Iraq
 3. Lebanon
 4. Syria

Select the correct answer using the code given below:

- a) 1, 2 and 3 only

- b) 2 and 3 only
- c) 3 and 4 only
- d) 1, 3 and 4 only

Answer: c)

2. "India's relations with Israel have, of late, acquired a depth and diversity, which cannot be rolled back." Discuss. (UPSC - 2018)

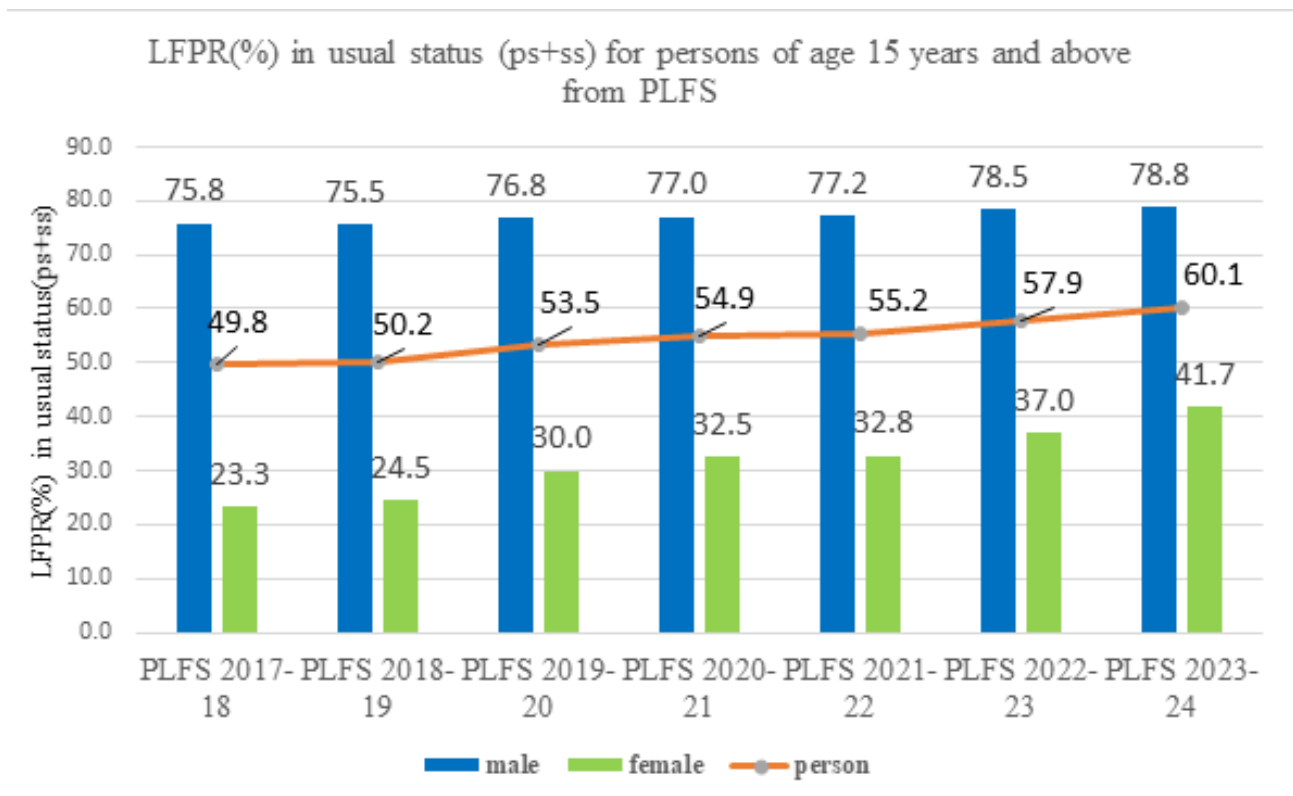
GENERAL STUDIES - 3

Topics: Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.

1. PLFS REPORT, 2023-24

Context:

The National Statistical Office (NSO) recently released the Periodic Labour Force Survey (PLFS) report for 2023-24. It highlights key employment trends in India, including stagnating unemployment rates, increasing labor force participation, and the challenges of creating formal jobs despite significant economic growth.



Key Data Points:

- Unemployment rate:** 3.2% in 2023-24, unchanged from 2022-23, the first time no year-on-year decline has been observed since the survey began in 2017-18.
- Labour force participation Rate (LFPR):** Increased to 60.1% in 2023-24 (from 57.9% in 2022-23). Rural LFPR rose to 63.7%, and urban LFPR increased to 52%.
- Worker population ratio (WPR):** WPR stood at 58.2%, with 76.3% for males and 40.3% for females.
- Unemployment by gender:** Female unemployment increased to 3.2% (from 2.9%), while male unemployment

ment slightly declined to 3.2% (from 3.3%).

5. **Urban-rural divergence:** Rural unemployment increased slightly to 2.5% from 2.4%, while urban unemployment improved, falling to 5.1% from 5.4%.
6. **Increase in self-employment:** The share of self-employed individuals rose to 58.4%, from 57.3% in 2022-23.

Positives and Negatives:

Positives	Negatives
Increase in Labour Force Participation Rate (LFPR)	Stagnant unemployment rate at 3.2%, raising concerns about job creation
Marginal improvement in job quality with salaried workers rising to 21.7%	High youth unemployment rate (10.2%), especially for females (11%)
Worker Population Ratio (WPR) increased to 58.2%	Increase in self-employment, much of it informal or unpaid work
Urban unemployment rate fell to 5.1%	Gender disparity: Female unemployment rose to 3.2% from 2.9%
Rising participation in the workforce post-pandemic	Challenges in creating formal jobs, pushing people into informal roles

Way ahead:

1. **Sectoral diversification:** Investment in manufacturing, renewable energy, and tech innovation to generate productive and higher-wage jobs.
2. **Strengthening MSMEs:** Provide targeted financial support and regulatory ease to help MSMEs recover and boost employment.
3. **Human-centric tech adaptation:** Focus on labor-intensive sectors like healthcare and sustainable manufacturing, which are less prone to automation.
4. **Industry-aligned skilling:** Align skilling programs with emerging sectors like AI, green jobs, cybersecurity, and data analytics.
5. **Encouraging high-potential services:** Focus on sectors like e-commerce, logistics, and online education to create employment opportunities across skill levels.

Conclusion:

The PLFS 2023-24 report presents a mixed picture, with positive indicators like rising labor participation and declining urban unemployment. A focused, sector-specific approach and industry-aligned skilling are crucial to ensuring sustainable job creation and economic growth in the future.



Insta Links:

1. PLFS- 2022-23
2. India Employment Report, 2024

PYQ:

1. Most of the unemployment in India is structural in nature. Examine the methodology adopted to compute unemployment in the country and suggest improvements. (UPSC-2023)
2. "Success of 'Make in India' program depends on the success of 'Skill India' programme and radical labour reforms." Discuss with logical arguments. (UPSC-2015)

2. SEBI RULES TO CURB F&O

Context:

The Securities and Exchange Board of India (SEBI) recently introduced significant reforms in the equity index derivatives (futures and options, F&O) framework to curb speculative trading, protect retail investors, and improve market stability.

Recent SEBI Reforms and Their Implications:

1. Recalibration of Contract Size for Index Derivatives:

- **Reform:** The minimum contract size for index derivatives has been increased to ₹15 lakh (from the earlier ₹5-10 lakh), effective November 20, 2024.
- **Implication:** This raises the entry barrier, ensuring that participants have sufficient risk tolerance, reducing speculative trading by small retail investors.
- **Impact:** It will discourage small traders from taking excessive risks, encouraging more responsible trading.

2. Upfront Collection of Options Premium:

- **Reform:** From February 1, 2025, trading members must collect the options premium upfront from buyers.
- **Implication:** It reduces the misuse of leverage in options trading, enforcing financial discipline and reducing the risk of defaults.
- **Impact:** This measure protects investors from over-leveraged positions, preventing potential market volatility.

3. Rationalization of Weekly Expiring Derivatives Products:

- **Reform:** Only one benchmark index per exchange will offer weekly expiring derivatives, starting November 20, 2024.
- **Implication:** Limits frequent speculative trades that create short-term volatility, especially on expiry days.
- **Impact:** Reduces speculative pressure, promoting market stability.

4. Intra-Day Monitoring of Position Limits:

- **Reform:** From April 1, 2025, SEBI will monitor position limits intra-day, not just end-of-day.
- **Implication:** Prevents excessive speculative positions from being built up during the day.
- **Impact:** Real-time compliance ensures smoother and more stable market functioning.

5. Removal of 'Calendar Spread' Treatment on Expiry Day:

- **Reform:** Effective February 1, 2025, calendar spread benefits will not be available on the day of contract expiry.
- **Implication:** Forces traders to execute rollovers earlier, reducing speculation on the day of expiry.
- **Impact:** Eases volatility and stabilizes derivative prices during expiration.

6. Increase in 'Tail Risk' Coverage on Expiry Day:

- **Reform:** An additional 'Extreme Loss Margin' of 2% will be levied on short options contracts on expiry day.
- **Implication:** Provides greater protection against extreme market movements.
- **Impact:** Reduces the risk of significant losses due to rare market events, improving market resilience.

• How these reforms impact India:

- **Curbing speculation:** Larger contract sizes and upfront premium collection reduce excessive speculation, particularly by small traders.
- **Market stability:** Limiting speculative positions and lowering intra-day volatility enhances market stability, attracting long-term investors.
- **Protecting retail investors:** The reforms safeguard retail investors from significant losses due to aggressive short-term trading.
- **Promoting capital growth:** A focus on disciplined investment strategies supports capital formation and sustainable economic growth.



Insta Links:

1. SEBI

PYQ:

1. Which of the following is issued by registered foreign portfolio investors to overseas investors who want to be part of the Indian stock market without registering themselves directly? (2019)
 - (a) Certificate of Deposit
 - (b) Commercial Paper
 - (c) Promissory Note
 - (d) Participatory Note

Answer: d)

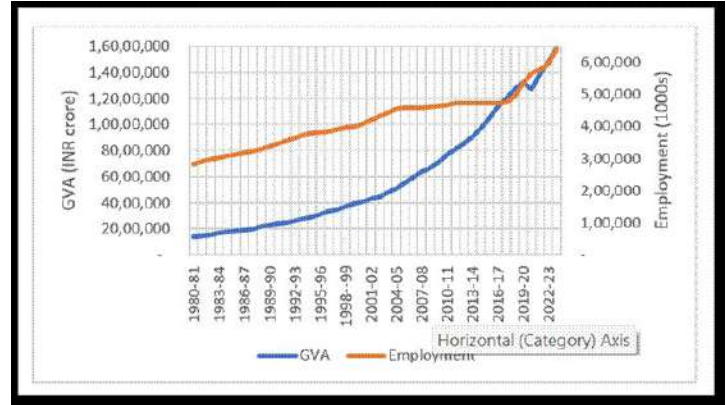
3. INDIA'S EMPLOYMENT GROWTH

Context:

India has witnessed significant employment growth over the years. With the employment increased by nearly 36%, adding around 17 million jobs during 2016-17 and 2022-23, India's economic trajectory demonstrates sustained job creation across key sectors.

Summary of India's Employment Growth (2016-2023):

- **Employment growth:** India's employment grew by 36%, adding 17 million jobs between 2016-17 and 2022-23. This challenges the concept of "job-less growth" and shows a positive correlation between GDP growth and job creation.
- **Worker population ratio (WPR):** WPR increased by 9 percentage points, reflecting a 26% rise in employment from 2017 to 2023, based on PLFS data.
- **Consumption-driven growth:** India's growth is driven by domestic consumption, which suggests that more people are securing employment and boosting economic demand.
- **Employment elasticity:** Between 2017-23, a 1% GDP increase led to a 1.11% rise in employment, indicating strong job creation relative to economic growth.
- **Sectoral job creation:** The services sector showed high labor intensity with a labor-capital ratio of 1.17, highlighting robust job generation in the services industry.



Sector-Specific Insights:

- **Improved labor market:** Unemployment fell to 3.2% in 2022-23, showing significant labor market improvement.
- **Sectoral shift:** While agriculture still employs 45% of the workforce, there's a growing shift toward manufacturing and services.
- **Youth employment:** Youth unemployment (ages 15-29) declined from 17.8% in 2017-18 to 10% in 2022-23.
- **Female participation:** Female labor participation has steadily increased due to policy support.
- **Wage growth:** Rural wages grew at 6.9% CAGR (FY15-FY22), while urban wages grew at 6.1%, reflecting higher labor demand.

WPR	Rural			Urban			Rural + Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
2023-24	56.3	34.8	45.6	56.4	20.7	38.9	56.4	30.7	43.7
2022-23	54	30	42.3	55.6	18.7	37.7	54.4	27	41.1
2021-22	54.7	26.6	40.8	55	17.3	36.6	54.8	24	39.6
2020-21	54.9	27.1	41.3	54.9	17	36.3	54.9	24.2	39.8
2019-20	53.8	24	39.2	54.1	16.8	35.9	53.9	21.8	38.2
2018-19	52.1	19	35.8	52.7	14.5	34.1	52.3	17.6	35.3
2017-18	51.7	17.5	35	53	14.2	33.9	52.1	16.5	34.7

Economic Growth

- Real GDP grew by 8.2% in FY23-24, while the manufacturing sector grew 9.9% after a previous decline of -2.2% in FY22-23.

Conclusion

India's job market has strengthened, supported by economic growth, government policies, and skilling initiatives. Further investments in education and health-care will sustain this positive trend.

Note: You don't need to remember all the data but try to remember certain specific data which can be used as value addition in exam.

Insta Links:

1. ILO India-employment-report-2024
2. Unemployment

**PYQ:**

1. Disguised unemployment generally means (UPSC - 2013)
 - a) large number of people remain unemployed
 - b) alternative employment is not available
 - c) marginal productivity of labour is zero
 - d) productivity of workers is low

Answer: c)

2. Most of the unemployment in India is structural in nature. Examine the methodology adopted to compute unemployment in the country and suggest improvements. (UPSC - 2023)

Topics: Major crops cropping patterns in various parts of the country, different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

4. NON - BASMATI RICE

Context:

The Government of India lifted the export ban on Non-Basmati White Rice on September 28, 2024.

Recent decision points:

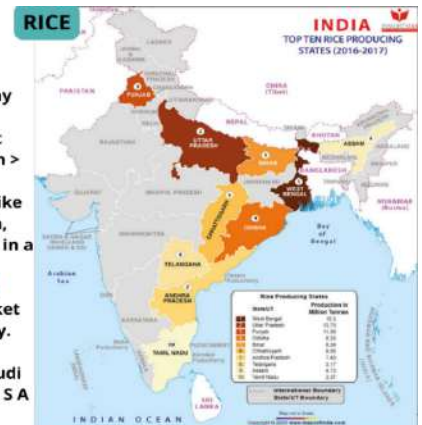
1. **Minimum export price (MEP):** A minimum export price (MEP) of \$490 per tonne has been imposed on Non-Basmati White Rice.
2. **Reduction in export duty:** The government also removed the 20% export duty on Non-Basmati White Rice and reduced export duty from 20% to 10% on husked rice, parboiled rice, and paddy.

India's status in global rice exports:

1. **Global leader:** India is the second-largest producer and the biggest exporter of rice globally, accounting for 33% of the world's total rice exports in 2023 (17 million tonnes).
2. **Competitors:** India's major competitors in the rice export market are Thailand and Vietnam, which together export almost as much rice as India. Other competitors include Pakistan, Cambodia, and the United States.

3. **Export breakup:** India's rice exports are divided into Basmati and Non-Basmati categories. In 2023-24, Basmati rice accounted for one-third of total rice exports (52.42 lakh tonnes), while Non-Basmati rice saw major exports of varieties like parboiled rice and Non-Basmati White Rice.

- **Temperature:** 22-32°C (high humidity)
- **Rainfall:** Around 150-300 cm.
- **Soil Type:** Deep clayey and loamy soil.
- **Top Rice Producing States:** West Bengal > Punjab > Uttar Pradesh > Andhra Pradesh > Bihar.
- **Aus, Aman and Boro:** In states like Assam, West Bengal and Odisha, three crops of paddy are grown in a year.
- **India is the leading exporter of Basmati Rice to the global market and accounts for 2/3rd of supply.**
- **Major Export Destinations for Basmati Rice (2021-22):** Iran, Saudi Arab, Iraq, United Arab EMTs, U S A and Yemen Republic.

**TOP 10 RICE PRODUCING COUNTRIES IN THE WORLD****Impacts of lifting the ban:**

- **Domestic level:**
 1. **Increase in retail prices:** The lifting of the ban could lead to further price hikes in domestic retail prices, which have already been elevated due to inflationary trends.
 2. **Benefit to farmers:** Farmers who grow premium Non-Basmati rice varieties, like Sona Masoori, are likely to benefit from improved export opportunities.
 3. **Support for state welfare schemes:** State governments have been allowed to purchase rice for welfare schemes, providing a safety net for lower-income communities.
- **International level:**
 1. **Boost to exporters:** The lifting of the ban will revive sentiment among traders, particularly in countries like Kenya, Vietnam, and Malaysia, which are major importers of India's Non-Basmati White Rice.
 2. **Global market stabilization:** India's re-entry into the global rice market will help stabilize prices internationally, especially after the earlier ban disrupted global supplies.
 3. **Strengthening international relations:** India's rice exports play a role in food security for many countries, especially in regions like Southeast Asia and Africa. The lifting of the ban could reinforce trade ties with these countries.

Way ahead:

- Balanced export-import policies:** The government should monitor both domestic supply and global demand to ensure a balance that prevents further domestic inflation while maintaining export growth.
- Focus on production:** Increasing investment in rice farming infrastructure, including irrigation and yield-improving technologies, will be critical in ensuring sustained high production levels.
- Promote diversification:** Encouraging diversification of rice varieties and exports can ensure stable income for farmers while promoting India's competitiveness in the global market.

Conclusion:

The decision to lift the ban on Non-Basmati White Rice exports and impose a minimum export price is aimed at balancing domestic availability with global demand. This may benefit both farmers and exporters, while also addressing India's global role as a key rice supplier.

Insta Links:

- Rice export ban
- Economics of curbs on Rice



PYQ:

- Among the following, which one is the largest exporter of rice in the world in the last five years? (2019)
 - China
 - India
 - Myanmar
 - Vietnam

Answer: b)

- According to India's National Policy on Biofuels, which of the following can be used as raw materials for the production of biofuels? (2020)
 - Cassava
 - Damaged wheat grains
 - Groundnut seeds
 - Horse gram
 - Rotten potatoes
 - Sugar beet

Select the correct answer using the code given below:

- 1, 2, 5 and 6 only
- 1, 3, 4 and 6 only
- 2, 3, 4 and 5 only
- 1, 2, 3, 4, 5 and 6

Answer: a)

Topics: Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.

5. DIAMOND INDUSTRY

Context:

The Indian diamond industry, particularly in Surat, is facing a significant downturn due to global geopolitical tensions, especially the Russia-Ukraine war and the Gaza conflict. This has severely affected raw diamond supply and global demand, leading to widespread job losses and economic challenges in India's diamond sector.

About Indian diamond industry:

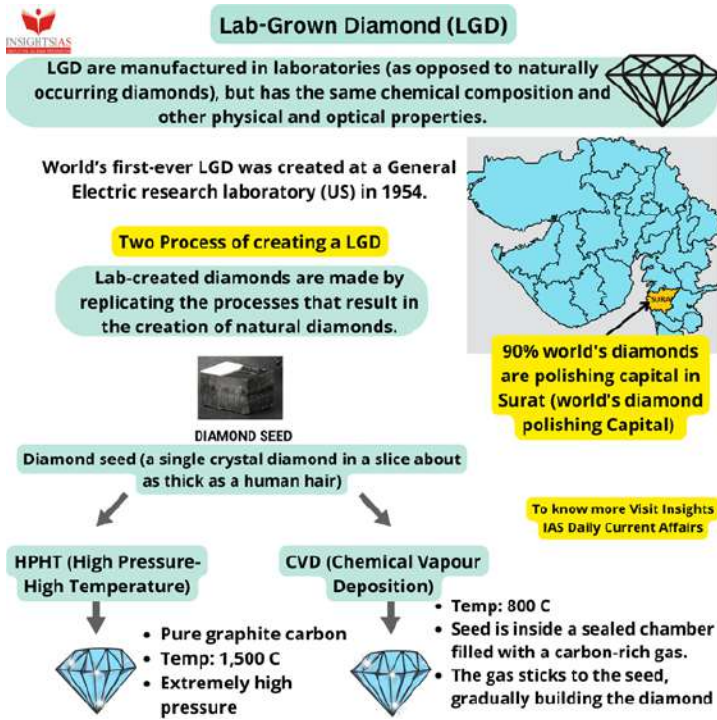
- Global leader:** India processes over 90% of the world's diamonds.
- Employment:** Provides jobs to around 5 million people.
- Exports:** In 2022, diamond exports were valued at \$23 billion, dropping to \$16 billion in 2023, with further decline expected.
- Global share:** India contributes 19% of total global diamond exports.

Issues faced by the diamond industry:

- Supply chain disruptions:** Sanctions on Russia, a major diamond supplier, have limited raw material availability.
- Global demand slump:** Key markets like the U.S., Europe, and China have reduced demand.
- Suicides and job losses:** Over 50,000 job losses in Surat, with more than 70 suicides in a year due to economic hardship.
- Oversupply and price drop:** Despite limited demand, production continued, causing a 5-27% decline in polished diamond prices.
- Rise of lab-grown diamonds:** Cheaper alternatives are gaining market share, impacting the natural diamond industry.

Way ahead

- Diversify export markets:** Focus on emerging markets to reduce dependency on traditional buyers.
- Support for workers:** Implement government relief measures for displaced workers, including financial aid and retraining programs.
- Boost lab-grown diamond industry:** Leverage India's expertise in diamond cutting to expand in the growing lab-grown sector.
- Global cooperation:** Collaborate with international players to find alternate sources of rough diamonds.
- Technological upgradation:** Invest in innovation and technology to improve productivity and maintain global competitiveness.



More about Lab grown diamond:

- **Chemical properties:** Lab-grown diamonds have the same chemical, physical, and optical properties as natural diamonds.
- **Origin:** Created using technology that replicates natural geological processes.
- **Production methods:**
 - **HPHT method:** Mimics natural diamond formation using extreme pressure and temperatures.
 - **CVD method:** Uses carbon gas to form diamonds under controlled temperature and pressure.
- **Applications:** Widely used in industries for cutting tools, electronics, and lasers due to their hardness and thermal conductivity.

Conclusion:

The diamond industry's recovery will hinge on proactive government intervention and the sector's ability to adapt to changing global dynamics. While challenges remain, a collaborative approach involving workers, policymakers, and industry leaders can ensure resilience and sustained growth.

Insta Links:

1. Surat Diamond Bourse
2. Rough Diamond

PYQ:

1. Which one of the following foreign travellers elaborately discussed about diamonds and diamond mines of India? (UPSC-2018)
 - a) Francois Bernier
 - b) Jean-Baptiste Tavernier
 - c) Jean de Thevenot
 - d) Abbe Barthelemy Carre

Answer: b)

Topics: [Awareness in the fields of IT, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.](#)

6. FLUORESCENT NANODIAMONDS

Context:

Fluorescent Nanodiamonds (FNDs) are becoming increasingly important across various industries due to their unique chemical and physical properties. A recent study demonstrated **spinning FNDs at ultra-high speeds to test their limits in physics**, highlighting potential applications in both theoretical and practical fields.

About FNDs (Chemical and Physical properties):

- **Composition:** FNDs are nanometre-sized diamonds composed of carbon nanoparticles.
- **Stability:** They are stable under light, non-toxic, and capable of maintaining fluorescence for long periods.
- **Fluorescence:** FNDs emit light of a lower frequency when irradiated with higher-frequency light. Unlike other fluorescent materials, FNDs have a longer fluorescence lifespan, making them superior for certain applications.
- **Non-blinking:** FNDs do not exhibit the blinking effect, unlike many other nanoscale fluorescent materials.

Technology process in formation:

- **Production:** FNDs are created under high-temperature and high-pressure conditions.
- **Doping:** They can be doped with nitrogen atoms to form nitrogen vacancy (NV) centres, which host electron spin qubits.
- **Vacuum levitation:** In a recent experiment, researchers levitated FNDs in a high vacuum and

spun them at ultra-high speeds (up to 20 million times per second), marking an advancement in understanding their quantum properties.

Limitations:

- **Technical challenges:** In earlier experiments, researchers faced difficulty preventing the loss of nanodiamonds in a vacuum and controlling the spin qubits effectively.
- **Complexity:** The technology to manipulate spin qubits inside levitated FNDs requires intricate setups, including the use of electric and magnetic fields.

Applications:

- **High-resolution imaging:** FNDs are used in biological imaging to track cells over time due to their stability.
- **Temperature sensing:** They are employed in microscale temperature sensing due to their sensitivity.
- **Sensors:** Their ability to detect acceleration and electric fields makes them valuable in strategic industries.
- **Quantum physics:** FNDs doped with NV-centres can aid in exploring quantum superposition and other quantum mechanical properties.
- **Gyroscopes:** The Berry phase generated by rotating FNDs could lead to their use in rotation-sensing gyroscopes.

Conclusion:

FNDs, with their stable fluorescence, quantum properties, and potential industrial applications, offer promising avenues in both theoretical research and applied fields like imaging, sensing, and quantum computing. Their recent advancements in vacuum levitation showcase their growing relevance in cutting-edge technology.

- (b) 3 only
- (c) 1 and 2 only
- (d) 2 and 3 only

Answer: d)

1. What do you understand by nanotechnology and how is it helping in the health sector? (UPSC - 2020)

Topics: Conservation related issues, environmental pollution and degradation, environmental impact assessment.

7. ECO-SENSITIVE AREAS

Context:

The Karnataka government has asked the Union Ministry of Environment, Forest and Climate Change (MoEF&CC) to withdraw the sixth draft notification issued by it for the declaration of Eco-Sensitive Areas (ESAs) of the Western Ghats.

About Eco-Sensitive Area:

Eco-Sensitive Areas (ESAs) are regions surrounding protected areas like national parks and wildlife sanctuaries, designated to act as buffer zones to reduce the impact of human activities on biodiversity.

- Governed under the **Environmental (Protection) Act, 1986**, and outlined in the **National Wildlife Action Plan (2002-2016)** by the **Ministry of Environment, Forest and Climate Change (MoEFCC)**.

Origin:

- ESAs were introduced to provide buffer zones for protected areas.
- The **Western Ghats Ecology Expert Panel** (Gadgil Committee) and **Kasturirangan Committee** recommended their designation for biodiversity conservation, especially in fragile ecosystems like the Western Ghats.

Insta Links:

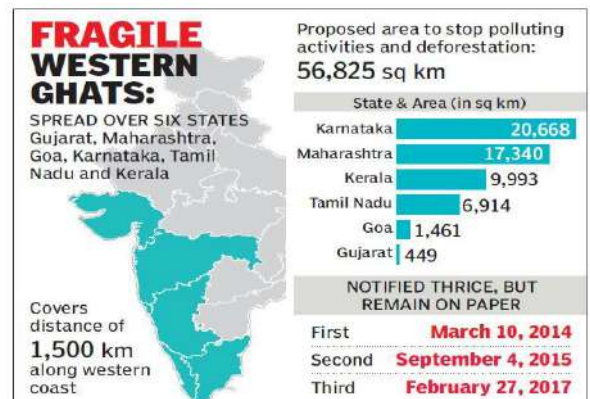
2. Nano Technology

PYQ:

1. Consider the following statements: (UPSC - 2022)
 1. Other than those made by humans, nanoparticles do not exist in nature.
 2. Nanoparticles of some metallic oxides are used in the manufacture of some cosmetics.
 3. Nanoparticles of some commercial products which enter the environment are unsafe for humans.

Which of the statements given above is/are correct?

- (a) 1 only



Activities in ESAs:

- **Prohibited:** Commercial mining, industries causing pollution, large hydroelectric projects, sawmills, and use of wood for commercial purposes.
- **Regulated:** Felling trees, constructing hotels/resorts, commercial use of water, electrical cables, changing agricultural systems.
- **Permitted:** Organic farming, rainwater harvesting, use of renewable energy, ongoing agricultural practices.

Comparison between Madhav Gadgil's report and Kasturirangan's report:

Aspect	Madhav Gadgil Report	Kasturirangan Report
Approach	Emphasized a more inclusive, bottom-up approach involving local communities in conservation.	More top-down with emphasis on balance between development and conservation.
ESA Coverage	Proposed 100% of the Western Ghats as ESA.	Proposed only 37% of the Western Ghats as ESA.
Local Involvement	Recommended strong participation from local communities and Gram Sabhas.	Involved minimal local participation, focusing on bureaucracy.
Development	Highly restrictive on developmental activities, especially in high-priority areas (ESZ-1).	Allowed controlled developmental activities in less sensitive areas.
Mining and Quarrying	Recommended a complete ban on mining in ESA areas.	Phasing out mining over time, depending on existing leases.
Power Projects	Opposed large hydropower projects in sensitive zones.	Allowed hydropower projects with extensive studies.

Significance of ESAs

- **Biodiversity conservation:** Regulates human activities and prevents environmental degradation.
- **In-situ conservation:** Helps conserve endangered species in their natural habitat.
- **Man-animal conflict reduction:** Maintains forest corridors.
- **Buffer zones:** Balances development and conservation in ecologically fragile areas.
- **Climate resilience:** Preserves natural landscapes for ecosystem adaptation.

- Promote sustainable development through eco-friendly alternatives.
- Standardize ESA policies to prevent loopholes.
- Conduct thorough environmental impact assessments before projects.
- Provide financial support and training for sustainable income sources.

Conclusion:

ESAs play a vital role in balancing conservation with sustainable development. Going forward, a balanced, inclusive, and sustainable approach is essential to preserve these fragile ecosystems while ensuring that development benefits local communities.

Challenges

- Balancing Economic Growth and Environmental Protection
- Challenges include balancing economic growth with environmental protection.
- Restrictions can negatively impact communities dependent on natural resources.
- Inconsistent policies across states cause confusion and enforcement issues.
- Encroachment threats include illegal mining, deforestation, and human encroachments.
- Insufficient local participation weakens compliance.

Way ahead

- Community Involvement in ESA Management
- Strengthen local participation through Gram Sabhas and bodies.

Insta Links:

3. Eco-Sensitive Area
4. Kasturirangan Committee

PYQ:

1. In which one among the following categories of protected areas in India are local people not allowed to collect and use biomass? (UPSC - 2012)
 - a) Biosphere Reserves
 - b) National Parks
 - c) Wetlands declared under the Ramsar Convention



d) Wildlife Sanctuaries

Answer: b)

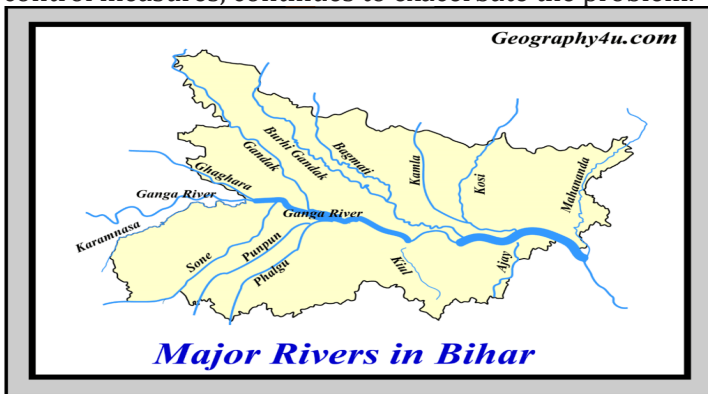
- “Policy contradictions among various competing sectors and stakeholders have resulted in inadequate ‘protection and prevention of degradation’ to the environment.” Comment with relevant illustrations. (UPSC - 2018)

Topics: Disaster and management.

8. BIHAR FLOOD

Context:

Bihar, India, is severely affected by annual floods, with millions displaced and livelihoods disrupted. The region’s geographic vulnerability, coupled with ineffective flood control measures, continues to exacerbate the problem.



Geographic Conditions Contributing to Flooding in Bihar:

- Proximity to the Himalayas:** North Bihar is located downstream from Nepal, with rivers originating from the Himalayas flowing into Bihar.
 - These rivers, including **Kosi, Gandak, and Bagmati**, carry large amounts of sediment, making the state flood-prone.
- River sedimentation:** The young Himalayan rivers are sediment-heavy due to loose soil, causing them to overflow when rainwater increases the volume.
- Flat terrain:** Bihar’s flat plains make it difficult for floodwaters to drain quickly, leading to prolonged waterlogging, especially during the monsoon.
- Permanent waterlogged areas:** Low-lying areas, known as Chauras, further complicate drainage, causing long-term waterlogging in certain regions.
- Impact of embankments:** Embankments built along rivers like the Kosi have narrowed their

channels, leading to sediment buildup and shallower riverbeds, increasing the risk of overflow.

Causes of Flooding in Bihar:

- Heavy rainfall in Nepal:** Flash floods are often triggered by heavy rainfall in the Himalayan regions of Nepal, which drains into Bihar’s rivers.
- Overflowing rivers:** During monsoons, snow-fed and rain-fed rivers breach their banks, flooding large areas.
- Embankment failures:** Structural issues with embankments have led to breaches, worsening flood damage.
- Waterlogging from small rivers:** Encroachment on drainage channels and silted rivers cause further water stagnation.
- Release of water from barrages:** The release of water from Nepal’s barrages, such as the Kosi barrage, contributes to increased water levels.

Way ahead to handle floods:

- Integrated Flood Management:** Building additional barrages, dams, and improving embankments must be accompanied by policies for early warnings and quick responses.
- Collaboration with Nepal:** The long-pending proposal to build a dam on the Kosi requires diplomatic collaboration with Nepal to address upstream water management.
- Strengthening embankments:** Regular maintenance and modernization of embankments, along with widening river channels to manage sediment, can mitigate flood impacts.
- Non-structural solutions:** Improved flood forecasting, risk reduction policies, disaster management training, and community awareness programs are essential for flood preparedness.
- Rehabilitation of affected populations:** Providing sustainable resettlement options for communities trapped within flood-prone embankments can prevent annual displacement.

Best Practice:

- Chennai: Stormwater Drainage System**
- Chennai has enhanced its stormwater drainage system post-2015 floods by redesigning and expanding it. The city increased the number of stormwater drains and connected them to natural water bodies for efficient water flow and drainage during heavy rainfall.
- Surat: Flood Early Warning System (FEWS)**
- Surat, a flood-prone city, uses a Flood Early Warning System (FEWS) to predict and monitor floods, especially in the Tapi River basin. This system allows for timely evacuations and preparation, minimizing flood damage.

**Insta Links:**

5. Flood-Management-in-India
6. Climate change and Flood

PYQ:

1. The interlinking of rivers can provide viable solutions to the multi-dimensional inter-related problems of droughts, floods, and interrupted navigation. Critically examine. (UPSC - 2020)
2. Account for the huge flooding of million cities in India including the smart ones like Hyderabad and Pune. Suggest lasting remedial measures. (UPSC - 2020)

Topics: [Linkages between development and spread of extremism.](#)

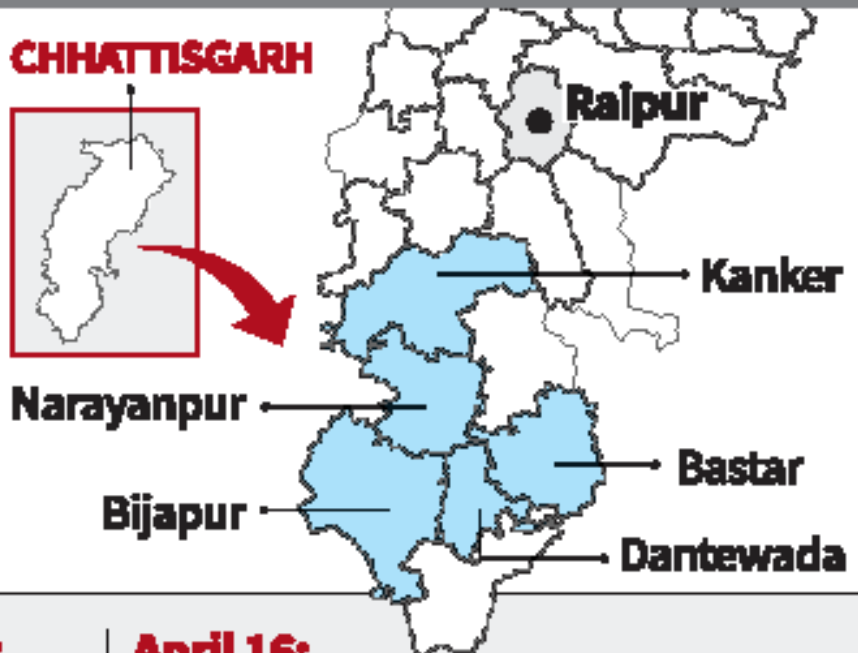
9. NAXALISM

Context:

Recently security forces in Chhattisgarh's Bastar region engaged in a significant gunfight with Naxalites, resulting in the death of 28 insurgents. This marks one of the highest casualty tolls in recent anti-Naxal operations.

Red alert

Encounters between security forces and Maoists have become frequent this year. A look at the encounters since April this year



Oct. 4, 2024:
28 Maoists killed in Bastar area, the second highest in terms of casualties

Sept. 3:
Nine Maoists killed in Dantewada

April 16:
29 Maoists killed at Kanker-Narayanpur border, recording the biggest ever toll

April 10:
12 Maoists gunned down

April 2, 2024:
13 Maoists killed in Bijapur

About Naxalism:

- **Origins in Naxalbari:** The Naxalite movement began in 1967 in Naxalbari village, West Bengal, when peasants led an uprising against local landlords over land disputes.
- **Maoist Ideology:** The movement was inspired by Maoist political ideology, advocating armed rebellion to overthrow the state and redistribute land and resources to oppressed communities.

- **Spread to Tribal Regions:** Naxalism gradually spread to underdeveloped and tribal areas, particularly in states like **Chhattisgarh, Odisha, Jharkhand**, and parts of **Andhra Pradesh**.
- **Objective:** The Naxalites aimed to challenge the Indian state through armed insurgency, focusing on the redistribution of land, wealth, and resources to marginalized and tribal communities.
- **Red Corridor Zones**
 - The Red Corridor refers to areas significantly affected by Naxalite-Maoist insurgency. It includes regions in Chhattisgarh, Odisha, Andhra Pradesh, Maharashtra, West Bengal, Jharkhand, Bihar, and Telangana.

Reasons for Naxalism's growth:

- **Tribal displacement:** Massive displacement due to development projects and mining activities has fueled discontent among tribal populations, making them vulnerable to Maoist influence.
- **Socio-economic gaps:** Poverty, lack of education, and absence of government welfare programs in tribal and rural areas have deepened grievances.
- **State negligence:** Lack of infrastructural development, poor connectivity, and weak governance in the Red Corridor have created vacuums that Maoists exploit.
- **Forest rights:** The **Forest (Conservation) Act, 1980** restricts access to forest produce, further alienating forest-dependent communities.
- **Government focus on security:** The government's emphasis on security measures rather than addressing underlying socio-economic issues has left many grievances unresolved.

Steps taken by the government:

Legal measures:

1. **Unlawful Activities (Prevention) Act (UAPA):** Declares Naxalite groups as terrorist organizations and enables swift action against them.
2. **Relief and Rehabilitation Policy:** Encourages Naxalites to surrender and join the mainstream by offering rehabilitation packages.
3. **Forest Rights Act, 2006:** Aims to restore land rights to tribal communities, addressing one of the root causes of insurgency.

Military measures:

1. **Operation Green Hunt:** Launched in 2010, this large-scale counter-insurgency operation has significantly reduced Naxal activities.
2. **Greyhounds force:** Special forces unit in Andhra Pradesh trained for guerrilla warfare against Naxalites.
3. **Coordination with state forces:** Increased cooperation between central paramilitary forces and state police, improving intelligence and response.

Developmental measures:

1. **Aspirational Districts Programme:** Targets underdeveloped regions, including those affected by Naxalism, to enhance healthcare, education, and infrastructure.
2. **Skill development programs:** Initiatives to train the tribal youth in vocational skills and reduce their dependency on Naxalite ideologies.
3. **Infrastructure development:** Road and telecom connectivity projects have been launched in remote areas, enhancing access to basic services and governance.

Way ahead

1. **Addressing socio-economic grievances:** Focus on addressing root causes such as land disputes, tribal rights, and poverty through inclusive policies.
2. **Enhanced intelligence:** Improve real-time intelligence gathering and collaboration between state and central forces.
3. **Sustained development:** Ensure the long-term implementation of development schemes and socio-economic programs.

Conclusion:

To comprehensively address Naxalism, India must balance military actions with efforts to improve tribal livelihoods and ensure access to "**Jal, Jangal, Zameen**", the fundamental demands of tribal populations.

**Insta Links:**

1. Urban Naxalism

PYQ:

1. The persisting drives of the government for development of large industries in backward areas have resulted in isolating the tribal population and the farmers who face multiple displacements. With Malkangiri and Naxalbari foci, discuss the corrective strategies needed to win the Left-Wing Extremism (LWE) doctrine that affected citizens back into the mainstream of social and economic growth. (UPSC - 2015)
2. What are the determinants of left-wing extremism in the Eastern part of India? What strategy should the Government of India, civil administration and security forces adopt to counter the threat in the affected areas? (UPSC - 2020)

GENERAL STUDIES – 4

1. CASE OF ATUL

Context:

The case of a young Dalit student, Atul, who missed paying his admission fee by mere minutes due to a technical glitch, reflects the deep social and systemic challenges faced by marginalized communities in India. Despite having the talent to crack JEE Advanced, one of the toughest exams, Atul's opportunity seemed lost until the Supreme Court, under Chief Justice DY Chandrachud, intervened. The Court recognized that talent should not be hindered by minor procedural lapses, especially when it comes from marginalized sections. The judiciary's empathetic and just response underscores the ethical responsibility of institutions to ensure fairness and equal opportunities for all.

Note: You can use this as an anecdote in the essay as well.

Usage in UPSC Syllabus:

This case serves as a powerful example of the balance between rules and equity and can be used in an essay or ethics paper to discuss **social justice, inclusivity, and compassionate governance**. It also highlights **the role of the judiciary** in safeguarding the rights of underprivileged individuals against systemic barriers, a principle central to good governance and ethical public administration.

CONTENT FOR MAINS ENRICHMENT

Topic in News	Usage in Answers
<h3>1. INTERNET SHUTDOWN IN BHADRAK</h3>	<p>Odisha government imposed 48-hour internet shutdown in Bhadrak district amid communal unrest, resulting in stone-pelting, police injuries, and property damage, following a similar incident in 2017.</p> <ul style="list-style-type: none"> • GS1 (Social Issues): Example of how communal tensions fueled by social media can disturb social harmony and public order. • GS2 (Governance): Example of government intervention through internet shutdowns to prevent the spread of communal violence and maintain law and order. • GS4 (Ethics, Integrity, and Aptitude): Illustrates ethical governance in crisis management, balancing freedom of expression and public safety.
<h3>2. SBM URBAN 2.0</h3>	<p>SBM Urban 2.0's Legacy Landfill Remediation Goals</p> <ul style="list-style-type: none"> • Launched in 2021, aims to clear all legacy landfills by 2025-2026. • Ahmedabad: Cleared 4.3 acres of land from 2.30 lakh tonnes of waste at Bopal Ghuma site, redeveloped into an ecological park. • Nagpur: Remediated 35 acres of landfill containing 10 lakh metric tonnes of waste, planned for integrated waste management project. • Pune: Cleared 75 acres of land at Vanaz landfill, remediating 37 lakh tonnes of waste, now part of Pune Metro Rail project. <ol style="list-style-type: none"> 1. GS2 (Governance & Urban Development): <ul style="list-style-type: none"> • Example of Urban Governance & Policy Implementation: Demonstrates effective urban waste management and governance under Swachh Bharat Mission-Urban 2.0. • Public Policy & Schemes: Highlights successful execution of national schemes, showcasing inter-departmental coordination for land reclamation and urban development. 2. GS3 (Environment & Sustainable Development): <ul style="list-style-type: none"> • Solid Waste Management: Example of bioremediation and sustainable urban practices in waste management. • Conservation and Environmental Impact: Case of ecological parks and integrated waste management projects improving urban ecosystems.
<h3>3. J&K MILITANCY</h3>	<p>The Jammu & Kashmir assembly elections, marking the first since 2019's Article 370 abrogation, are amidst improved security and a significant decrease in terror-related incidents.</p> <p><u>Security Improvements:</u></p> <ul style="list-style-type: none"> • Decline in terror-related incidents from 222 in 2014 to 23 in 2024. • Fall in security forces fatalities from 47 in 2014 to 25 in 2024. • Decline in civilian killings from 28 in 2014 to 16. <p>Terror Activity Decrease</p> <ul style="list-style-type: none"> • 45 terrorists killed in 2024, down from 110 in 2014. • Zero grenade attacks, IED strikes, or hartal calls in 2024. • Better voter turnout in four districts, reflecting improved security. <p>Use in GS2 (Governance, Constitution, and Polity):</p> <ul style="list-style-type: none"> • Election processes: Example of improved voter turnout and reduced violence in J&K post-Article 370 abrogation. • Federalism and security: Impact of Union Territory status on internal security and governance in J&K. <p>Use in GS3 (Internal Security):</p> <ul style="list-style-type: none"> • Internal security challenges: Decline in terror incidents and disruptions during J&K elections, reflecting effective counter-insurgency strategies. • Terrorism and society: Reduction in terror activities showing the success of counterterrorism measures in restoring normalcy.

<p>4. MINISTRY OF TEXTILE PROGRAMS</p>	<p>Ministry of Textiles Organizations' Activities:</p> <ul style="list-style-type: none"> • 'Cleaning of Office Premises': Maintains hygiene and organization in workplaces. • 'Cyber Hygiene Activities': Promotes digital security and safe online practices. • 'Safai Mitra Suraksha Shivirs': Camps for sanitation workers' safety and welfare, involving health check-ups and safety gear distribution. <p>Usage in UPSC Syllabus:</p> <ul style="list-style-type: none"> • Use in UPSC GS2: Connected to Social Justice, especially in safeguarding the rights and dignity of sanitation workers and labor welfare • Use in UPSC GS2: Linked to e-Governance and Digital Governance, emphasizing the role of digital literacy and safety measures in effective administration.
<p>5. ANNUAL SURVEY OF INDUSTRIES</p>	<p>India's Industrial Sector Growth Overview:</p> <ul style="list-style-type: none"> • Significant growth in India's industrial sector during 2022-23, as per the Annual Survey of Industries by the Ministry of Statistics and Programme Implementation. • The sector added 22 lakh jobs, surpassing pre-pandemic levels. • Gross Value Added (GVA) grew by 7.3% in 2022-23 compared to the previous year. • Key growth drivers include basic metal, coke, refined petroleum products, food products, chemicals, and motor vehicles. • Top states in terms of GVA are Maharashtra, Gujarat, Tamil Nadu, Karnataka, and Uttar Pradesh. • Average wages in the sector increased by 6.3% in 2022-23.
<p>6. GENDER PERFORMATIVITY</p>	<p>Gender Performativity Concept and Gender Essentialism</p> <ul style="list-style-type: none"> • Introduced by Judith Butler in 1990, it challenges traditional gender understanding. • Gender is socially constructed through repeated actions and behaviors. <p>Essentialism vs. Social Constructivism</p> <ul style="list-style-type: none"> • Gender Essentialism: Gender is biologically determined. • Social Constructivism: Gender is created through societal norms and discourse. <p>Butler's View on Sex and Gender</p> <ul style="list-style-type: none"> • Critiques the distinction between biological sex and socially constructed gender. • Performativity: Unconscious repetition of gender norms, illusion of naturalness. <p>Critiques and Impact on Feminism and Queer Theory</p> <ul style="list-style-type: none"> • Influenced third-wave feminism and queer theory. • Proposes gender is a continuous performance shaped by societal expectations.
<p>7. STATE CHAPTER OF THE WOMEN ENTREPRENEURSHIP PLATFORM</p>	<p>Context: NITI Aayog has launched its first State Chapter of the Women Entrepreneurship Platform (WEP) in Telangana, in collaboration with WE Hub and the state government.</p> <p>Key Points:</p> <ul style="list-style-type: none"> • Launch of Telangana chapter: The maiden chapter of WEP aims to promote women entrepreneurs by addressing challenges like lack of access to financing and mentorship. • Focus areas: The platform will offer digital skills, financial services, and market linkages. It has over 30,000 women entrepreneurs registered and 400 mentors across various sectors. • Role of WE hub: WE Hub will act as the nodal agency for all WEP-related activities in the state. <p>Usage in UPSC exams:</p> <ul style="list-style-type: none"> • GS Paper 2 (Governance): Role of NITI Aayog and state collaboration for inclusive development, government initiatives for women empowerment. • GS Paper 3 (Economy): Encouraging entrepreneurship, challenges faced by women entrepreneurs, promoting MSMEs. • Essay and Ethics Papers: Topics on gender equality, the role of women in economic growth, and empowerment initiatives.

<p>8. JUDGE'S ASSET DISCLOSURE</p>	<p>Kerala High Court's Asset Disclosure</p> <ul style="list-style-type: none"> • Kerala High Court has the most asset declarations of 37 out of 39 judges. • Only 13% of High Court judges' assets are publicly available. • Kerala, Punjab, Haryana, and Delhi High Courts contribute over 80% of total asset declarations. • Bombay, Gujarat, and Telangana have not disclosed asset declarations due to personal privacy and confidentiality concerns. • Parliament's Committee on Personnel, Public Grievances, and Law and Justice recommended mandatory asset disclosure in August 2023. • Supreme Court adopted a resolution for voluntary asset disclosure in 1997, followed by several High Courts in 2009. <p>Relevance in UPSC GS2:</p> <ul style="list-style-type: none"> • This can be used in the Judicial Accountability section of GS2, highlighting issues of transparency and accountability in the Indian judiciary. • It serves as an example when discussing RTI Act limitations, and the balance between personal privacy and public interest.
<p>9. RAILWAY ACCIDENT DATA (2019-2024)</p>	<p>Context: Over the past five years, 351 persons were killed and 970 injured in 200 consequential railway accidents, data shared by the Indian Railways from 17 railway zones reveal.</p> <p>Key data points: [Source: Indian Railways]</p> <ol style="list-style-type: none"> 1. 351 persons killed and 970 injured in 200 consequential railway accidents. 2. Compensation of ₹32 crore distributed (₹26.83 crore to next of kin and ₹7 crore to injured). 3. Accidents reduced from 171 per year (10 years ago) to 40 per year now. 4. Worst affected zones: South Eastern Railway (297 deaths, 637 injuries) and East Coast Railway (20 deaths, 79 injuries). 5. Safest zones (no casualties): North Eastern Railway, Konkan Railway, South Western Railway, Southern Railway. <p>Relevance to UPSC Syllabus:</p> <ul style="list-style-type: none"> • General Studies Paper 3: Relevant to Infrastructure and Disaster Management sections, examining railway safety can help with case studies on transportation systems and emergency response protocols.
<p>10. CASE OF SOUTH KOREA DEEPFAKE</p>	<p>Context: South Korea is facing a surge in non-consensual deepfake pornography, particularly targeting women, with teenage boys as the primary perpetrators. The issue reflects broader societal problems including misogyny and weak digital regulations.</p> <ul style="list-style-type: none"> • Legal response: <ul style="list-style-type: none"> ○ Recent laws now criminalize viewing or possessing explicit deepfake content, but enforcement challenges persist. • Cultural drivers: <ul style="list-style-type: none"> ○ Misogynistic attitudes, a lack of education on digital ethics, and insufficient regulation of minors on social media are key contributing factors. • Psychological impact: <ul style="list-style-type: none"> ○ Victims experience severe trauma, and trust between genders, especially in schools, has eroded. <p>Use in UPSC:</p> <ul style="list-style-type: none"> • Ethics (GS-IV): As an example of technology misuse, privacy violations, and the ethical responsibilities of governments in protecting citizens. • Cybersecurity (GS-III): In discussions on the regulation of digital platforms and protection from cybercrimes. • Gender Studies (GS-I): Illustrates the intersection of technology, gender-based violence, and the need for social reform. • Essay Writing: Can be cited in essays addressing the challenges of digital age privacy and ethical governance.

<h2 style="text-align: center; color: red;">11. E-ABKARI PORTAL</h2>	<p>Context: The Delhi Excise Department has introduced the e-ABkari portal to digitize and regulate the alcohol business in Delhi after the scrapping of the previous liquor policy. Developed by NIC, the portal aims to streamline the entire alcohol trade process.</p> <p>Use in UPSC Syllabus:</p> <ul style="list-style-type: none"> • E-Governance (GS II): Example of digital governance enhancing transparency and efficiency. • Public Administration (GS II): Case study for reforms in sectoral regulation through technology. • Economy (GS III): Link to excise policies and their impact on state revenue. • Ethics (GS IV): Technology-driven solutions to promote transparency and accountability in public administration. 																																
<h2 style="text-align: center; color: red;">12. FARM TO FORK: SHARE OF PIE</h2>	<p>Context: A series of working papers from the Reserve Bank of India (RBI) reveals that farmers receive a significantly lower share of the consumer rupee in the fruits and vegetables market, with middlemen and retailers profiting substantially.</p> <table border="1" data-bbox="464 651 1501 1234"> <thead> <tr> <th>Category</th> <th>Product</th> <th>Farmers' Share of Consumer Price</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Fruits</td> <td>Bananas</td> <td>31%</td> </tr> <tr> <td>Grapes</td> <td>35%</td> </tr> <tr> <td>Mangoes</td> <td>43%</td> </tr> <tr> <td rowspan="3">Vegetables</td> <td>Tomatoes</td> <td>33%</td> </tr> <tr> <td>Onions</td> <td>36%</td> </tr> <tr> <td>Potatoes</td> <td>37%</td> </tr> <tr> <td rowspan="3">Dairy & Poultry</td> <td>Milk</td> <td>70%</td> </tr> <tr> <td>Eggs</td> <td>75%</td> </tr> <tr> <td>Poultry Meat</td> <td>56% (Farmers + Aggregators)</td> </tr> <tr> <td rowspan="2">Pulses</td> <td>Gram (Chana)</td> <td>75%</td> </tr> <tr> <td>Moong</td> <td>70%</td> </tr> <tr> <td></td> <td>Tur</td> <td>65%</td> </tr> </tbody> </table> <p>Source: RBI Working Papers on Fruits, Vegetables, Livestock, Poultry, and Pulses.</p> <p>Note: You don't need to remember all the data but try to remember certain specific data which can be used as value addition in exam.</p> <p>Relevance to UPSC GS3 Syllabus:</p> <ul style="list-style-type: none"> • Agricultural pricing & marketing: Highlights inefficiencies in the value chain and role of middlemen in lowering farmers' earnings. • Food inflation: Case studies for understanding food price dynamics. • Agricultural reforms: Discusses reforms to enhance farmers' income and reduce dependency on middlemen. 	Category	Product	Farmers' Share of Consumer Price	Fruits	Bananas	31%	Grapes	35%	Mangoes	43%	Vegetables	Tomatoes	33%	Onions	36%	Potatoes	37%	Dairy & Poultry	Milk	70%	Eggs	75%	Poultry Meat	56% (Farmers + Aggregators)	Pulses	Gram (Chana)	75%	Moong	70%		Tur	65%
Category	Product	Farmers' Share of Consumer Price																															
Fruits	Bananas	31%																															
	Grapes	35%																															
	Mangoes	43%																															
Vegetables	Tomatoes	33%																															
	Onions	36%																															
	Potatoes	37%																															
Dairy & Poultry	Milk	70%																															
	Eggs	75%																															
	Poultry Meat	56% (Farmers + Aggregators)																															
Pulses	Gram (Chana)	75%																															
	Moong	70%																															
	Tur	65%																															
<h2 style="text-align: center; color: red;">13. CASE OF KRITARTH</h2>	<p>A 10-year-old boy, Kritarth, was killed in a sacrificial ritual at a school in Uttar Pradesh. Police are investigating occult practices, but Kritarth's father remains skeptical. The story highlights ethical dilemmas, moral failures of institutions, and the influence of superstition on extreme actions, emphasizing the need for strong moral accountability.</p> <p>Use in UPSC ethics syllabus:</p> <ul style="list-style-type: none"> ○ Ethical dilemmas in institutions: Highlights moral failures in education settings, emphasizing the need for ethical leadership. ○ Probity in governance: Demonstrates the collapse of trust in positions of responsibility, showing the importance of institutional accountability. ○ Superstition and rationality: Shows the harmful impact of superstitions when used as a justification for unethical actions. <p>Use in UPSC essay:</p> <ul style="list-style-type: none"> ○ Moral failures in society: Provides an example of societal ethical breakdown when superstition and financial distress intersect. ○ Institutional trust and accountability: Demonstrates how the lack of accountability in institutions leads to disastrous consequences. 																																

14. A TRIBE OUT OF TIME

Context:

The Chenchu tribe of Panukumadugu, nestled deep within Andhra Pradesh’s Nallamala forest, faces a difficult challenge in balancing their traditional lifestyle with the pressures of a rapidly modernizing world. As one of the Particularly Vulnerable Tribal Groups (PVTGs), they have historically relied on subsistence farming and gathering, but with declining access to modern tools like bank accounts and mobile phones, they are increasingly marginalized. The transition to Aadhaar-linked payments for welfare schemes like MGNREGA has left many Chenchus out of vital employment opportunities, further deepening their poverty. Despite government efforts, such as the MGNREGS Chenchu Special Project, the community is struggling to adapt to a system that seems increasingly distant from their traditional way of life. The Chenchus’ story is one of a community caught between the past and the future, grappling with issues of identity, survival, and access to development in an evolving world.

Usage in UPSC:

1. GS2 (Governance, Social Justice):

- Can be used to highlight challenges in tribal welfare, the limitations of Aadhaar-linked welfare schemes, and the need for tailored governance approaches for vulnerable groups.

2. GS4 (Ethics and Integrity):

- The Chenchus’ struggle illustrates ethical governance challenges, particularly in ensuring equitable access and addressing marginalization in a diverse society.

3. Essay:

- Provides an example for topics on inclusive growth, social justice, and tribal welfare, showing how modernization can create unintended disparities if not managed inclusively.

15. WEED AND AGRICULTURE

Context: A recent study commissioned by the Federation of Seed Industry of India (FSII) revealed significant crop productivity losses caused by weeds, amounting to ₹92,000 crore (\$11 billion) annually. The study focused on understanding weed-related crop damage and recommending strategies for better weed management.

Key findings:

- 1. Impact on crop yield:** Weeds are responsible for 25-26% yield losses in *kharif* crops and 18-25% in *rabi* crops across India.
- 2. Affected crops:** The study covered seven major crops, including rice, wheat, maize, cotton, sugarcane, soybean, and mustard, from 30 districts in 11 States.
- 3. Farmer and dealer input:** Over 3,200 farmers and 300 dealers were consulted, along with experts from Krishi Vigyan Kendras and the Agriculture department.
- 4. Economic Costs:** Farmers spend ₹3,700 to ₹7,900 per acre on weed control, with weeds being a leading factor in crop losses among biotic stresses.
- 5. Weed management recommendations:**
 - **Herbicides** and mechanization.
 - **Crop rotation** and **cover cropping**.
 - **Biological control measures.**
- 6. Cost reduction:** Implementing these strategies could reduce costs by 40-60% compared to traditional methods.

Source: Indian Council of Agricultural Research (ICAR) & FSII, “Weed Management – Emerging Challenges & Management Strategies” report.

UPSC GS3 syllabus:

1. Agriculture:

- Impact of weeds on crop productivity (₹92,000 crore loss annually) directly ties to challenges in Indian agriculture.
- Weed control methods (herbicides, mechanization, crop rotation) connect with agricultural practices and inputs.

2. Science and technology in agriculture: Adoption of technology-driven weed management can be linked to technology indigenization and advancements in agriculture.

3. Economic development: Financial losses due to weeds impacting farmers’ incomes can be tied to inclusive growth and farmer welfare issues.

FACTS FOR PRELIMS

GS-1

Art & Culture

1. MEHRAULI ARCHAEOLOGICAL PARK

Context:

Mehrauli Archaeological Park is one of Delhi's most historically rich and significant areas, showcasing over 1,000 years of continuous occupation. It is adjacent to the famous Qutub Minar and includes over 100 historically significant monuments, reflecting various dynasties' architectural and cultural legacies.

Mehrauli archaeological park overview:

1. **Year of establishment:** The area has been inhabited for over 1,000 years, with structures dating back to the 11th century.
2. **Constructed by:** The site contains contributions from various rulers, including the Tomar Rajputs, Khaljis, Tughlaqs, Lodis, Mughals, and even the British.
3. **Location:** Situated in the Mehrauli area of South Delhi, adjacent to the Qutub Minar and Qutb complex, a UNESCO World Heritage Site.

Features of architecture:

1. **Lodhi and Mughal Influence:** Monuments like the Jamali Kamali Mosque and Tomb showcase a blend of Lodi and Mughal architectural styles, with a focus on refinement and the use of better materials.
2. **Significant monuments:**
 - **Tomb of Balban (1287 CE):** Contains India's first true arch and dome.
 - **Jamali Kamali Mosque and Tomb (1526-1535 CE):** An important 16th-century monument showcasing the transition from Lodi to Mughal architectural elements.
 - **Rajon Ki Baoli:** A stepwell, reflecting the importance of water management systems in historical Delhi.
3. **Gandhak ki Baoli and Quli Khan's Tomb:** Further examples of the ingenuity and design employed during various reigns, particularly during the late Mughal period.
4. **British-era structures:** The park also contains remnants of the British colonial era, showcasing a wide timeline of Delhi's history.

Insta Links:

1. Zafar Mahal

2. NEW INCLUSION TO CLASSICAL LANGUAGE STATUS

Context:

Prime Minister Narendra Modi praised the Union Cabinet's decision to grant Classical Language status to **Marathi, Pali, Prakrit, Assamese, and Bengali**, highlighting their rich literary and cultural heritage.

About Classical Language Status Criteria:

The government's criteria for declaring a language as classical include the following:

1. **Historical antiquity:** The language should have a documented history of at least 1,500-2,000 years.
2. **Cultural heritage:** It should have a body of ancient literature that is regarded as a cultural heritage.
3. **Literary tradition:** The language should have an original literary tradition, not borrowed from another community.
4. **Distinctness:** There should be a clear distinction between the classical language and its later forms, indicating a discontinuity.

Presently recognised language under Classical language:

Language	Year of Recognition
Tamil	2004
Sanskrit	2005
Telugu	2008
Kannada	2008
Malayalam	2013
Odia	2014

Benefits of Classical Language Status:

1. **International awards:** Two major international awards are conferred annually for scholars of eminence in the classical language.
2. **Center of excellence:** The government establishes a dedicated Centre of Excellence for studies related to the classical language.
3. **Promotion and research:** Grants and funding are provided to promote the study, research, and dissemination of the classical language and its literature.
4. **Educational support:** Programs are established in universities and institutes to support academic activities around classical languages.

Insta links:

1. Centres-demand-autonomy-for-classical-language-promotion

History

3. PILLBOX

Context:

The monsoon season in Visakhapatnam has caused beach erosion, revealing historical World War II pillboxes that had long been buried under sand. These structures offer a glimpse into the city's strategic maritime defense legacy during the war.


What is a Pillbox?

- **Definition:** Pillboxes are small, concrete defense structures used during World War II, equipped with loopholes for firing weapons.
- **Design:** Named after early 20th-century medicine containers ("pillboxes") due to their compact, circular design.

Formation:

- **Built during WWII:** Constructed by the British in Visakhapatnam to protect the city's naval base and deep harbor.
- **Strategic placement:** Positioned along the coastline to defend against potential invasions by Axis forces, especially threats from Japanese submarines and aircraft.

Uses:

1. **Defense:** Enabled soldiers to fire weapons while being protected from enemy attacks.
2. **Coastal Protection:** Served as part of a larger defense network guarding Visakhapatnam's shores and port.
3. **Legacy:** These pillboxes are relics of Visakhapatnam's role as a crucial naval base during WWII.

Insta links:

WW-2

Geography

4. ISOSTATIC REBOUND

Context:

A recent study suggests that Mount Everest has grown 15-50 meters taller than expected over 89,000 years due to

the erosion caused by the Arun River, which helps push the peak upwards by up to 2mm annually.

More about study:

- **Isostatic Rebound:** The reduction of landmass in the Arun River basin leads to isostatic rebound, where the Earth's crust rises due to diminished surface weight, akin to a floating object adjusting when weight is removed.
- **Impact on Neighboring Peaks:** The isostatic rebound affects other Himalayan peaks like Lhotse and Makalu, contributing to their elevation increase.
- **Himalayan Uplift:** Everest has been rising due to the collision of the Indian and Eurasian plates for 50 million years. The Arun River's erosion adds an extra boost to this process.

About Isostatic rebound:
Isostatic Rebound:

Isostatic rebound, also called post-glacial rebound or glacial isostasy, is the gradual rise of Earth's crust after the removal of heavy weight, such as ice sheets or eroded landmasses.

- This phenomenon occurs due to the **Earth's lithosphere** (crust and upper mantle) behaving elastically over time.
- When heavy loads, like glaciers, depress the Earth's surface, their melting or erosion leads to the land rebounding or rising as the weight is removed.
- This process takes thousands of years and continues even after the glaciers have disappeared.

Process and Importance:

1. **Force:** The Earth's crust behaves much like a floating object in a fluid. When a heavy load like an ice sheet or eroded rock is removed, the crust "rebounds" upward in response to the decrease in pressure.
2. **Geography:** Isostatic rebound is particularly significant in areas once covered by massive ice sheets, like Scandinavia and Canada. The process can also occur due to erosion in mountainous regions, as in the case of Mount Everest.
3. **Importance:** It helps maintain the height of mountains and other elevated landforms, compensating for erosion by lifting the land. It also influences sea levels and can impact tectonic activity in certain regions.

Arun River:

1. **Origin:** The Arun River originates from the Tibet Autonomous Region of China.
2. **Flow:** It flows through Tibet and Nepal before joining the Saptakoshi River in Nepal, which later merges with the Ganges in India.
3. **Tributaries:** The Barun River and the Sankhuwa River in Nepal.
4. **India:** Although the Arun River does not direct-

ly flow through India, it indirectly influences the flow of rivers that contribute to the Ganges Basin in northern India



Insta Links:

Isostacy

GS-2

Governance

5. OPERATION AMRITH

Context:

Kerala has taken a significant step in combating antimicrobial resistance (AMR) by launching Operation Amrith, enforcing the 2011 H1 rule to prohibit the over-the-counter (OTC) sale of antibiotics.

About Operation Amrith:

- **Aim:** To curb the irrational use of antibiotics by banning their sale without a prescription, reducing the rise of antimicrobial resistance (AMR).
- **Launched by:** Kerala government in 2023.
- **Features:**
 - Strict enforcement of the 2011 H1 rule, which bans the OTC sale of all classes of antibiotics (first, second, and third-line) without a doctor's prescription.
 - Targeting pharmacies, hospitals, and other medical stores to ensure compliance.
 - Kerala remained committed to the 2011 rule, unlike other states which followed a modified 2013 rule allowing OTC sales of first-line antibiotics.
 - Focuses on antibiotic stewardship to prevent the misuse of antibiotics, thus mitigating the threat of AMR.
- **Targets:**
 - To completely stop the OTC sale of antibiotics without prescriptions by the end of 2024.
 - Achieve a sustained reduction in antibiotic misuse, which has already resulted in a ₹1,000 crore decline in sales.

Insta links:

1. AMRITH
2. AMR

6. RAJYAMATA-GOMATA

Context:

The Maharashtra government has designated the State's indigenous cow breeds as 'RajyaMata-Gomata' due to concerns over declining numbers.

- Designates indigenous cow breeds as 'RajyaMata-Gomata' due to declining numbers.
- Introduces ₹50 subsidy per cow per day to support goshalas.
- Indigenous cows hold cultural, scientific, and economic significance.
- Scheme implemented online, monitored by district verification committees.
- Opposition criticizes decision as politically motivated for upcoming Assembly elections.
- **The primary breeds found in the Maharashtra include:**

- **Deoni** - Primarily found in the Marathwada region.
- **Lal Kandhari** - Also native to the Marathwada area.
- **Khillar** - Predominantly raised in Western Maharashtra.
- **Dangi** - A breed from the northern part of Maharashtra.
- **Gaolao** - Commonly found in the Vidarbha region.

These breeds are known for their adaptability to local climates and are valued for their contributions to organic farming, milk production, and Ayurvedic practices

Insta links:

1. Gir cow breed
2. Rastriya Gokul Mission

7. DHARTI AABA JANJATIYA GRAM UTKARSH ABHIYAN

Context:

Prime Minister Shri Narendra Modi launched the Dharti Aaba Janjatiya Gram Utkarsh Abhiyan (DAJGUA) on Mahatma Gandhi's birth anniversary, from Hazaribagh, Jharkhand.

Dharti Aaba Janjatiya Gram Utkarsh Abhiyan (DAJGUA):

1. **Ministry:** The Ministry of Tribal Affairs.

2. **Funds allocated:** The total outlay for the scheme is Rs. 79,156 crores, with Rs. 56,333 crores as the Central share and Rs. 22,823 crores as the State share.
3. **Aim:** The Abhiyan aims to cover 63,843 villages in tribal areas, focusing on saturating gaps in social infrastructure, health, education, and livelihood through 25 interventions.

Features of the scheme:

1. **Comprehensive coverage:** Encompasses 549 districts and 2,911 blocks across 30 States/UTs, targeting tribal-majority villages.
2. **Multi-ministerial convergence:** 17-line ministries will collaborate to implement 25 interventions.
3. **Holistic approach:** The scheme builds upon the success of PM-JANMAN and focuses on critical gaps in tribal development.
4. **Saturation of services:** Ensures saturation of education, healthcare, and livelihood services in tribal communities.
5. **Infrastructure development:** Inauguration of 40 Eklavya schools and laying of foundations for 25 more, with a target to make 728 schools functional by March 2026, serving 3.5 lakh tribal students.

Insta links:

Pradhan Mantri Janjatiya Unnat Gram Abhiyan

8. PRIME MINISTER'S INTERNSHIP SCHEME

Context:

The government launched the pilot phase of the ambitious Prime Minister's Internship Scheme, which aims to provide 1.25 lakh internship opportunities during the fiscal year 2024-25.

About PM Internship Scheme:

- **Origin:**
 - Announced in **Budget 2024-25** as part of the Prime Minister's Package for Employment and Skilling.
- **Aim:**
 - To provide **1 crore youth** with hands-on work experience in top 500 companies over five years, enhancing employability and skill development.
- **Budget:**
 - ₹2 lakh crore overall, with **₹2,000 crore allocated** for the fiscal year 2024-25.
- **Criteria:**
 - Youth aged **21-24** who are not in full-time employment or education.
 - Must hold qualifications like high school diplomas, ITI certificates, or graduate de-

grees (e.g., B.A., B.Sc., B.Com).

- Excludes candidates from IITs, IIMs, and those holding advanced degrees (e.g., MBA, CA).
- **Features:**
 - 12-month internships with a **stipend of ₹5,000** (₹4,500 from the government, ₹500 from companies).
 - Interns are insured under government schemes like PM Jeevan Jyoti Bima Yojana.
 - A **one-time ₹6,000 grant** for incidentals.
 - Multilingual helpline and grievance redressal system.
- **Significance:**
 - Enhances practical experience for youth, improving employability.
 - Focuses on skill development in real-world job environments across sectors like pharma, auto, and agriculture.
 - Supports the government's vision of self-reliance (Atmanirbhar Bharat) by developing skilled manpower.

Insta links:

1. PMRPY

9. CO-DISTRICT

Context:

Assam has become the first state in India to implement a new administrative structure known as Co-Districts, aimed at improving governance and accessibility of public services. The inaugural phase will take place on October 4 and 5, 2024, when 39 Co-Districts will be officially launched.

About Co-Districts:

- **What It Is:** Co-districts are smaller administrative units under Assam's district administration, established to decentralize governance.
- **Objective:** Aimed at making administrative services more accessible to citizens by bringing governance closer to their homes.
- **Functions:** Co-districts handle administrative tasks such as issuing ration cards, caste certificates, managing land revenue matters, excise, development, welfare work, and disaster management. They also have magisterial powers.
- **Difference from Districts:**
 - **Leadership:** Co-districts are led by an Assistant District Commissioner, while districts are led by a Deputy Commissioner.
 - **Size:** Co-districts cover smaller geographical areas compared to districts.
 - **Autonomy:** While districts have full administrative control over various departments, co-districts serve as a localized

extension, reducing the administrative burden on district-level offices.

- **Launch:** The first phase started in 2024 with the creation of 21 co-districts, and 18 more are expected to follow, with the goal of covering all 126 assembly constituencies.

Insta links:

District administration

International Relations

10. OPERATION NORTHERN ARROWS

Context:

The Israel Defense Forces (IDF) initiated a ground invasion into southern Lebanon, targeting Hezbollah's military infrastructure in villages near the Israel-Lebanon border.

About Operation Northern Arrows:

- **Launch:** The Israel Defense Forces (IDF) initiated Operation Northern Arrows, a ground invasion targeting Hezbollah's military infrastructure in southern Lebanon.
- **Objective:** The operation aims to neutralize Hezbollah targets near the Israel-Lebanon border that pose an immediate threat to northern Israel's communities.
- **Military Strategy:**
 - Limited, localized raids conducted by IDF commandos, supported by air cover and artillery.
 - Targets are based on precise intelligence.
- **Parallel operations:** Operation Northern Arrows is being conducted simultaneously with Israel's military operations in Gaza and other conflict areas.

Insta Links:

1. Defense Systems Israel
2. Israel- Iran conflict

11. UNITED STATES COMMISSION ON INTERNATIONAL RELIGIOUS FREEDOM

Context:

The United States Commission on International Religious Freedom (USCIRF) recently released a report flagging concerns over "**collapsing religious freedom**" conditions in India.

- It particularly highlighted events around India's 2024 national elections, legal changes such as an-

ti-conversion laws, the Citizenship (Amendment) Act (CAA), and the Uniform Civil Code (UCC).

- The report also raised issues around expropriation of places of worship and misuse of anti-cow slaughter laws.

About USCIRF:

- **Established:** Under the **1998 International Religious Freedom Act (IRFA)**.
- **Type:** Independent, bipartisan U.S. federal government commission.
- **Functions:**
 - Reviews religious freedom violations globally.
 - Provides policy recommendations to the U.S. President, Secretary of State, and Congress.
 - Publishes annual reports with recommendations for U.S. policy on religious freedom.
- **Composition:** Nine commissioners appointed by the U.S. President or Congressional leaders, supported by non-partisan staff.
- **Objective:** To monitor and recommend actions concerning religious freedom violations based on international human rights standards.

Insta links:

1. USCIRF Annual Report

12. INDIA-USA MOU

Context:

With an eye on reducing dependence on China, India and the US signed a memorandum of understanding (MOU) to expand and diversify the critical minerals supply chain at a bilateral commercial dialogue.

Origin and Nations involved:

- **Countries involved:** India and the United States signed a Memorandum of Understanding (MOU) aimed at expanding and diversifying critical mineral supply chains.
 - This agreement is part of a broader effort to reduce dependence on China for critical minerals, which are essential for modern technology and clean energy transitions.
- **Objective:** The MOU aims to strengthen cooperation in areas like mineral exploration, extraction, processing, recycling, and recovery between India and the US.

Key Features:

- The agreement focuses on improving the **resilience of the critical minerals sector** by identifying equipment, policies, and best practices that

both countries can adopt.

- It also **emphasizes joint projects** in third countries and cooperation in newer areas like semi-conductors and clean energy.
- Both countries are working to create a sustainable supply chain for critical minerals like **Rare Earth Elements (REEs), lithium**, and others, given China's dominance in the sector.

Initiatives taken by India:

- **Planning Commission (now NITI Aayog):** Highlighted the need for critical minerals for industrial growth, identifying 12 strategic minerals, including lithium, cobalt, and tungsten.
- **Ministry of Mines:** Set up a steering committee to review rare-earth elements and energy-critical elements. Studies on India's mineral reserves were conducted to formulate a strategy.
- **Geological Survey of India (GSI):** Developed plans to enhance rare earth exploration, crucial for securing India's mineral resources.
- **Council on Energy, Environment, and Water (CEEW):** Conducted studies identifying 13 minerals critical for India by 2030, essential for manufacturing and clean energy.

Dr. Veena Kumari Dermal committee:

- **Objective:** To assess the importance and supply risks of critical minerals using a three-stage process: international study, inter-ministerial consultation, and statistical analysis.
- **Outcome:** 30 minerals were identified as critical, based on factors like availability, substitutability, and supply risks, with two minerals categorized as crucial for fertilizers.

Insta links:

Critical-minerals-resilient-supply-chains

GS-3

Indian Economy

13. EIGHT - CORE SECTOR

Context:

Output levels in India's core sectors slipped to a nine-month low in August, even as year-on-year growth slipped 1.8%, marking the first contraction in three and a half years.

Trends in India's Core Sector Output (August 2024):

1. **Overall Contraction:** Core sector output declined by **1.8%** in August 2024, compared to the **6.1%** growth recorded in July.
2. **Negative Growth in Key Industries:**

- **Coal:** Down by **8.1%**, marking the steepest decline.
 - **Electricity:** Decreased by **5%**, the first contraction in 13 months.
 - **Cement:** Registered a **3% decline**, its worst performance in nine months.
 - **Refinery Products:** Dropped by **1%**, marking the second fall in three months.
 - **Natural Gas:** Fell by **3.6%**, its second successive month of contraction.
 - **Crude Oil:** Declined by **3.4%**, continuing its third straight month of negative growth.
3. **Modest Growth in Fertilizers and Steel:**
 - **Fertilizers:** Grew by **3.2%**.
 - **Steel:** Registered a **4.5%** increase, though this was its slowest growth in 26 months.

Reasons for the decline:

- **Base effect:** August contraction due to 13.4% growth from previous year.
- **Monsoon impact:** Late withdrawal disrupts coal production and electricity generation.
- **Global economic uncertainty:** Impacts demand, especially for energy-intensive industries.
- **Supply chain disruptions:** Logistical bottlenecks and international market fluctuations affect refinery products and crude oil output.
- **Seasonal factors:** Reduced construction activity during monsoon months lowers output in cement and steel sectors.

Background:

1. **Index released by:** The Index of Eight Core Industries (ICI) is released by the Office of the Economic Adviser under the Department for Promotion of Industry and Internal Trade (DPIIT) in the Ministry of Commerce & Industry.
2. **Base year:** The base year for the ICI is 2011-12.
3. **Frequency:** The ICI is published every month.
4. **Significance:** It serves as a critical barometer of India's industrial performance, covering 40% of the weight in the Index of Industrial Production (IIP).

Insta links:

8 - core sectors

14. CRUISE BHARAT MISSION

Context:

The central government has launched the five-year Cruise Bharat Mission, aiming to boost cruise tourism in India to 1 million passengers and create 400,000 jobs by 2029.

About Cruise Bharat Mission

- **Aim:** The mission aims to boost cruise tourism by doubling cruise passenger traffic by 2029. It also

seeks to create an ecosystem that fosters employment, strengthens maritime trade, and enhances India's standing as a global cruise destination.

- **Target:**
 - Increase cruise passenger traffic to 1 million.
 - Create 400,000 jobs by 2029.
 - Grow river cruise passengers from 0.5 million to 1.5 million.
 - Expand the number of international cruise terminals from 2 to 10 and river cruise terminals from 50 to 100 by Phase-3.
- **Nodal ministry:** Ministry of Ports, Shipping, and Waterways.
- **Features of the Cruise Bharat Mission:**
 - **Phased implementation:**
 - **Phase 1 (2024-2025):** Conduct market studies, form cruise alliances, and modernize cruise terminals.
 - **Phase 2 (2025-2027):** Develop new cruise terminals and activate high-potential locations.
 - **Phase 3 (2027-2029):** Integrate cruise circuits across the Indian Subcontinent.
 - **Sustainable infrastructure development:**
 - Develop terminals, marinas, water aerodromes, and heliports.
 - Emphasize digitalization (e.g., facial recognition) and decarbonization (e.g., shore power).
 - Create a National Cruise Infrastructure Masterplan 2047.
 - **Operational efficiency:**
 - Streamline operations with digital solutions like e-clearance systems and e-visa facilities.
 - **Cruise promotion & circuit integration:**
 - Promote international marketing and investment.
 - Host the "Cruise India Summit" and form alliances with neighboring countries like UAE, Maldives, and Singapore.
 - **Regulatory and financial policies:**
 - Establish fiscal incentives and tailored cruise regulations.
 - Launch a National Cruise Tourism Policy.
 - **Capacity building & employment:**
 - Create a Centre of Excellence for cruise-related research.
 - Develop cruise-specific National Occupational Standards to promote youth employment.

Insta Links:

1. Maritime India Vision-2030

15. INSOLVENCY AND BANKRUPTCY BOARD OF INDIA

Context:

The Insolvency and Bankruptcy Board of India (IBBI) celebrated its Eighth Annual Day on 1st October, 2024.

About Insolvency and Bankruptcy Board of India (IBBI):

- **Established:** 1st October 2016, under the Insolvency and Bankruptcy Code (IBC), 2016.
- **Aim:** The IBBI is tasked with the efficient implementation of the IBC, focusing on the resolution of insolvency cases for individuals, partnership firms, and corporate entities in a time-bound manner.
- **Functions:**
 1. **Regulation of professionals:** It regulates insolvency professionals, insolvency professional agencies, entities, and information utilities.
 2. **Oversight of processes:** It oversees corporate and individual insolvency resolution, liquidation, and bankruptcy processes under the IBC.
 3. **Eligibility and examination:** IBBI sets the minimum eligibility criteria for insolvency professionals and regulates their qualifying exams.
 4. **Information management:** It collects, maintains, and disseminates information on insolvency and bankruptcy cases.
- **Powers:**
 1. IBBI can enforce rules related to corporate and individual insolvency resolutions, ensuring compliance with time-bound processes.
 2. It can establish regulatory frameworks for insolvency professionals and related entities, setting standards for efficient operations.
- **Composition:**
 1. **Chairperson:** Appointed by the Central Government.
 2. **Government representatives:** Three members from the Ministry of Finance, Ministry of Corporate Affairs, and Ministry of Law (ex-officio).
 3. **RBI Representative:** One member nominated by the Reserve Bank of India (ex-officio).
 4. **Additional members:** Five other members appointed by the Central Government, of which at least three must be full-time members.
- **Tenure:**
 1. Chairperson and non-ex-officio members serve for **five years** or until they reach

the age of **65 years**, whichever is earlier, and are eligible for re-appointment.

Insta links:
IBC Code

16. WORLD GREEN ECONOMY FORUM, 2024

Context:

The **World Green Economy Forum 2024**, held in Dubai, brings together global leaders to address pressing environmental issues under the theme “**Empowering Global Action: Unlocking Opportunities and Advancing Progress**”.

Key Points:

- **Summit held in:** Dubai, UAE, on October 2nd and 3rd, 2024.
- **Theme:** “Empowering Global Action: Unlocking Opportunities and Advancing Progress”
- **Aim:** To promote global cooperation, innovation, and sustainable practices across energy, decarbonization, climate finance, and more. The forum’s goal is to drive positive transformation towards a net-zero future.
- **Features:**
 - Sessions on **decarbonization in heavy industries**, use of AI for sustainability, and the role of youth in climate action.
 - A focus on the future of **Sustainable Aviation Fuel (SAF)**, aiming for 300 million tonnes production by 2050.
 - Emphasis on **public-private partnerships** and philanthropy to drive climate solutions.
 - Panels on renewable energy, power grid challenges, and carbon footprint management.

This forum aligns with global climate goals, such as the **Paris Agreement**, and encourages collaboration between governments, industries, and civil society for sustainable development

Insta links:

2. Green economy

Agriculture

17. PUSA-2090

Context:

Pusa-44, a high-yield rice variety from the IARI, has been widely grown in Punjab and Haryana for decades. However, its long maturation period has contributed to stubble

burning, causing severe air pollution in northern India. To mitigate this, IARI introduced Pusa-2090, a new variety with similar yields but a shorter maturation time, aiming to reduce environmental and logistical issues linked to Pusa-44.

Pusa Variety 2090:

- **Developed by:** Indian Agricultural Research Institute (IARI), New Delhi
- **Genetic Features:** A crossbreed between Pusa-44 and CB-501, an early-maturing Japonica rice line. It combines the high yields of Pusa-44 with CB-501’s shorter duration.

Comparison of Pusa-2090 and Pusa-44:

Feature	Pusa-2090	Pusa-44
Maturity Time	120-125 days	155-160 days
Yield	34-35 quintals per acre	35-36 quintals per acre
Stubble Burning	Less likely due to shorter growing period	Common due to late harvesting and time pressure for wheat sowing
Water Requirement	Requires 5-6 fewer irrigations	Requires 29-30 irrigations
Suitability for Crop Rotation	Highly suitable due to early harvesting	Limited suitability, as late harvesting delays subsequent crops

Significance of Pusa-2090:

1. **Environmental impact:** Reduces the need for stubble burning, which is a major contributor to air pollution in northern India.
2. **Efficient water use:** Requires fewer irrigations, making it a more water-efficient crop in water-scarce regions like Punjab and Haryana.
3. **Higher productivity:** Farmers can clear fields earlier for timely wheat sowing or other crops, thus maintaining the agricultural cycle efficiently.
4. **Sustainability:** Pusa-2090 promotes environmentally friendly farming practices by addressing key issues related to pollution, water use, and crop rotation.

Insta Links:

1. Pusa - 2090
2. Pusa - 44

18. NATIONAL MISSION ON EDIBLE OILS - OILSEEDS

Context:

The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, has approved the National Mission on Edible Oils – Oilseeds (NMEO-Oilseeds), a landmark initiative aimed at boosting domestic oilseed production and achieving self-reliance in edible oils.

About National Mission on Edible Oils - Oilseeds (NMEO-Oilseeds)

- **Origin:** Announced in 2024 as part of India's broader self-reliance (Atmanirbhar Bharat) agenda.
 - To promote self-reliance, the National Mission on Edible Oils – Oil Palm (NMEO-OP) was launched in 2021 with an outlay of Rs 11,040 crore.
- **Ministry:** Ministry of Agriculture and Farmers' Welfare.
- **Funds:** Total outlay of Rs 10,103 crore (Central Share: Rs 7,150 crore; State Share: Rs 2,953 crore).
- **Aims:**
 - Increase domestic oilseed production from **39 million tonnes (2022-23) to 69.7 million tonnes by 2030-31**.
 - Reduce dependence on edible oil imports, **targeting 25.45 million tonnes** of domestic production by 2030-31.
 - Boost production of **key oilseeds like rapeseed, groundnut, soybean**, sunflower, and sesame.
 - Promote cultivation of oilseeds on fallow lands and enhance intercropping practices.
 - Utilize modern technologies like **genome editing** to boost seed quality and production.
- **Key features:**
 - Introduction of Aadhaar-authenticated **e-vouchers for EV buyers** to ease the demand incentive process.
 - Allocation of **Rs 500 crore** for promoting e-ambulances.
 - Creation of **65 seed hubs and 50 storage units** to improve seed infrastructure.
 - Formation of over **600 Value Chain Clusters across 347 districts**, covering over 10 lakh hectares annually.
 - Expansion of oilseed cultivation in **rice and potato fallow lands** by 40 lakh hectares.
 - Enhancement of **post-harvest infrastructure** to extract more oil from sources like cottonseed and rice bran.
 - Mission will introduce **SATHI Portal** enabling States to coordinate with stakeholders for timely availability of quality seeds
- **Current status:**
 - India relies on imports for 57% of its edi-

ble oil demand.

- Minimum Support Price (MSP) for oilseeds has been significantly increased to ensure better prices for farmers.
- The Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA) supports farmers through price support and deficiency payment schemes.
- A 20% import duty on edible oils has been imposed to protect domestic producers and promote local cultivation.

Insta links:

Edible oil sector

Science & Technology**19. NEUTRINO FOG****Context:**

The LUX-ZEPLIN (LZ) experiment, one of the many dark matter detection efforts globally, recently reported its findings, which placed the tightest restrictions yet on the possible identity of dark matter particles.

About Neutrino Fog:

- “Neutrino fog” refers to the interference caused by neutrinos—ghostly particles produced by the Sun and cosmic events—in detecting dark matter. Since neutrinos rarely interact with matter, they pass through almost everything, including dark matter detectors.

Why it matters:

- Dark matter detection experiments, like LUX-ZEPLIN, are becoming increasingly sensitive, but they also detect neutrinos. This creates “fog,” or background noise, making it harder to distinguish between neutrinos and dark matter signals.

Significance:

1. **Challenge in detection:** Neutrinos mimic the weak signals expected from dark matter, confusing results.
2. **Limits on sensitivity:** Neutrino fog sets a boundary on how sensitive future dark matter experiments can be.
3. **Scientific implication:** Developing methods to differentiate neutrino signals from dark matter is a key challenge for advancing research.

Insta links:

Dark Matter

20. NIPAH VIRUS

Context:

Nipah virus (NiV) has become a significant public health concern in India, particularly in Kerala, where recurrent outbreaks have resulted in fatalities. It is a zoonotic virus, transmitted from animals to humans, and its high mortality rate has prompted urgent government action and preventive measures.

Nipah virus overview:

- **Origin:** Nipah virus first appeared in Malaysia in 1999 among pig farmers. It was detected in Bangladesh in 2001 and in India around the same time.
- **Transmission:** NiV is transmitted from fruit bats (flying foxes) to humans through contaminated food or direct contact with infected animals or people. Human-to-human transmission is also possible.
- **Symptoms:**
 - Early signs include fever, headache, muscle pain, nausea, and sore throat.
 - Severe cases progress to dizziness, drowsiness, and neurological issues such as acute encephalitis, potentially leading to a coma and death.

Cases in India:

- **Siliguri, West Bengal (2001):** The first Indian outbreak, involving human-to-human transmission.
- **Kerala Outbreaks:**
 - **2018:** 17 fatalities from the virus, concentrated in Kozhikode.
 - **2023:** Kerala reported six confirmed cases, including two deaths.
 - **2024:** Kerala reported 2 death recently.

Treatment:

- There is **no specific treatment** or vaccine for Nipah virus.
- **Supportive care:** Management focuses on intensive supportive care, treating symptoms, and preventing complications.
- **Experimental treatments:** The antiviral Ribavirin has shown limited success in reducing mortality rates.

Insta Links:

Nipah Virus

21. MARBURG VIRUS DISEASE

Context:

Rwanda says eight people have died so far from the Ebola-like Marburg virus, just days after it declared an outbreak of the deadly hemorrhagic fever that has no authorised vaccine or treatment.

About Marburg Virus Disease (MVD):

- **Origin:** Discovered in 1967 in Marburg, Germany, after lab workers were exposed to infected green monkeys from Uganda.
- **Cause:**
 - Caused by the Marburg virus, a zoonotic RNA virus from the **Filoviridae family**, like Ebola.
 - The natural reservoir is the **African fruit bat (Rousettus aegyptiacus)**.
- **Transmission:**
 - Spread through contact with infected bats or animals, and human-to-human transmission via blood or bodily fluids.
- **Symptoms:**
 - **Early symptoms:** Fever, chills, headache, muscle aches, rash, nausea, and diarrhea.
 - **Severe symptoms:** Liver failure, shock, hemorrhaging, and multi-organ failure.
- **Fatality Rate:**
 - Case fatality rate varies between 24% to 88%, depending on the outbreak.
- **Treatment:**
 - No specific treatment or vaccine. Supportive care includes fluids, oxygen, and blood transfusions to improve survival.

Insta links:

MVD

22. VENUS ORBITER MISSION

Context:

India's maiden mission to Venus, which is scheduled for launch in March 2028, will embark on a 112-day journey to reach the planet.

About Venus Orbiter Mission (VOM):

- **Launch year:** Scheduled for March 2028.
- **Aim:** The mission aims to study Venus' atmosphere, surface, and solar interactions. Key objectives include mapping Venus' topography, analyzing atmospheric composition, studying solar X-rays, and examining subsurface characteristics.
- **Sanctioned budget:** ₹1,236-crore
- **Launch vehicle:** Launch Vehicle Mark-3 (LVM-3)
- **Targeted window:** Earth departure date is scheduled on March 29, 2028, and the arrival date on Venus is July 19, 2028
- **Features:**
 - 19 payloads (16 Indian, 2 Indian-international, 1 international).
 - Aerobraking technique to achieve a low-altitude science orbit (200x600 km).

- Five-year scientific exploration period post-orbit insertion.

Other Missions Related to Venus

- **Past missions:**
 - **Venera Series (1961-1984):** Soviet Union's series of successful Venus missions including flybys, orbiters, landers, and balloons.
 - **Pioneer Venus (1978):** NASA mission studying Venus' atmosphere, cloud structure, and surface using radar.
 - **Magellan (1989):** NASA mission mapping Venus' surface using radar imaging.
 - **Akatsuki (2010):** JAXA mission studying Venus' atmospheric circulation.
- **Future missions:**
 - **VERITAS (2026):** NASA radar mission to map Venus' geology.
 - **DAVINCI (2026):** NASA mission to study Venus' atmosphere.
 - **EnVision (2030s):** ESA radar mission mapping Venus' surface.

Insta links:

Mission to Venus

23. BHARAT-GEN

Context:

India has launched "Bharat-Gen," a generative AI initiative designed to enhance public service delivery, with a strong focus on promoting inclusivity in Indian languages.

Bharat-Gen Overview:

- **Developed by:** Led by IIT Bombay under National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS).
- **Aim:** To create generative AI models supporting India's linguistic diversity and cultural context.
 - This initiative marks the **world's first government-funded** Multimodal Large Language Model project.

Features of Bharat-Gen:

- **Multilingual & Multimodal:** Bharat-Gen models cater to both text and speech, covering a wide range of Indian languages.
- **India-Centric Data:** Uses curated datasets focused on India's linguistic diversity and cultural contexts.
- **Open-Source Platform:** Democratizes AI access, enabling startups, researchers, and innovators to build on foundational AI models.
- **Data-Efficient Learning:** Effective in training AI for languages with limited digital presence, making it suitable for low-resource languages.

Significance:

- **Cultural Preservation:** Ensures representation of India's diverse languages and cultural heritage in AI systems.
- **Digital Sovereignty:** Reduces reliance on foreign technologies by developing indigenous AI solutions.
- **Inclusive Development:** Aims to make AI accessible to all citizens, particularly in underserved regions.
- **Strengthening AI Ecosystem:** Encourages innovation in India's AI research community, fostering global collaborations and boosting AI startups.

Insta links:

Multimodal Artificial Intelligence

24. POLYMER NANOCOMPOSITE

Context:

Researchers from Centre for Nano and Soft matter Sciences (CeNS), Bengaluru have developed a polymer nanocomposite for pressure sensing and energy harvesting applications and used it to invent a prototype of a road safety sensor.

About Polymer Nanocomposite:

- **Chemical and Physical Properties:**
 - The polymer nanocomposite is primarily composed of **vanadium disulfide (VS₂)** nanoparticles integrated into **polyvinylidene difluoride (PVDF)**, a piezoelectric polymer.
 - VS₂ has **high surface charge properties**, which enhance the piezoelectric effect of PVDF.
 - The nanocomposite exhibits high **flexibility, durability, and energy-harvesting capabilities**, which are crucial for pressure sensing applications.
 - It can generate electricity via the **piezoelectric effect**, converting mechanical pressure into electrical energy.
- **Departments Involved:**
 - This project is part of ongoing research by **Centre for Nano and Soft Matter Sciences (CeNS)**, Bengaluru.
 - Funded under the INSPIRE faculty fellowship program by the **Department of Science and Technology (DST)**, India.
- **Features:**
 - **Self-powered sensor:** The nanocomposite generates energy through pressure and does not need an external power source.
 - **Energy harvesting:** The sensor can store energy produced through the piezoelectric effect.

tric effect, which can be utilized to power electronic devices.

- **Smart application:** It can be used for road safety sensors to alert vehicles approaching dangerous turns or high-risk zones.
- **Significance:**
 - The polymer nanocomposite demonstrates potential for **sustainable and flexible energy generation**.
 - The application of this technology in **road safety** can significantly reduce accident rates by providing real-time alerts at critical turning points.
 - The **use of smart sensors** can pave the way for advanced wearable technology and other self-powered devices, contributing to artificial intelligence and automation sectors.

Insta links:

Polymer nanocomposite - Defence

[Environment & Ecology](#)

25. SWALLOWTAIL BUTTERFLIES

Context:

A new study has revealed that the overexploitation of 25 medicinally valuable host plant species is endangering the swallowtail butterflies in the forest habitats of a region in Assam, commonly known as the “citrus belt of the world.”

About Swallowtail butterflies:

- **Scientific name:** Family *Papilionidae* (e.g., *Papilio*

machaon, Papilio slateri).

- **Types:** Includes species like the Blue-striped mima (*Papilio slateri*), Bhutan glory (*Bhutanitis lidderdalii*), and Kaiser-i-Hind (*Teinopalpus imperialis*).
- **Distribution:** Found globally, with 69 species in India’s Northeast.
- **IUCN Status:** Some species are globally endangered.
- **Features:** Large, colorful butterflies with forked hindwings resembling a swallow’s tail.
- **Threats**
 - Overexploitation of host plants including citrus plant (medicinal use).
 - Illegal tree felling and deforestation.
 - Illegal cattle farming in protected areas.
 - Tea cultivation and pesticide use near habitats.
 - Habitat destruction due to shrinking forest cover.
- **Swallowtail Conservation Action Plan**
 - The IUCN has designated India’s Northeast as a “Swallowtail-rich zone,” focusing on conservation efforts in this region to protect 69 species through habitat preservation and sustainable plant use.
- **Citrus Plant**
 - **Scientific Name:** *Rutaceae* family.
 - **Distribution:** Found in Assam’s “citrus belt” with 52 varieties.
 - **Reason for decline:** Overharvesting for medicinal purposes and loss of natural habitats.

Insta links:

Why butterfly matters?

26. ELEPHANT CENSUS METHOD

Context:

The Environment Ministry has shelved its elephant census report, ‘Status of Elephant in India 2022-23’, citing a delay in the census in the Northeast.

Aspect	Old Method (Pre-2002)	New Method (Post-2022)
Direct Count	Simple headcount of elephants based on sightings	Refined direct count through sample block method, where 5 sq km blocks are surveyed
Dung Count	Introduced in 2002: Indirect method based on dung decay rate and defecation rate of elephants to estimate population.	Still used in conjunction with more advanced genetic methods in selected landscapes

Genetic Mark-Recapture	Not used	DNA analysis of elephant dung samples, identifying individual elephants through microsatellite markers
Extrapolation	Elephant numbers extrapolated based on limited observations in certain regions	Extrapolated data combined with genetic data, increasing accuracy for unsurveyed regions
Combined Estimation	Old methods lacked integration with other wildlife data	Now synchronized with tiger census data for better landscape-level management and policy recommendations

Protection status of Elephant:

- **IUCN Status:** Classified as Endangered on the IUCN Red List.
- **Wildlife (Protection) Act, 1972:** Listed in Schedule I for highest protection.
- **CITES:** Included in Appendix I, prohibiting international trade except in rare circumstances.

The new methods of counting elephants, using **genetic mark-recapture models**, offer a more accurate picture of elephant populations. However, habitat loss, conflict, and threats like mining and low-hanging power lines continue to threaten the species.

Insta links:

30 years of Project Elephant

27. MODIFIED ECO-MARK SCHEME

Context:

The Ecomark Scheme was introduced to promote eco-friendly products in alignment with the **'LiFE' (Life-style for Environment) mission** initiated in 2021.

- The **revised scheme, notified in 2024, replaces the earlier 1991 version**, and focuses on reducing environmental impacts, promoting resource efficiency, and encouraging sustainable production and consumption.

Key features of the scheme include:

- Accreditation of products based on **specific environmental criteria**, ensuring minimal environmental harm.
- **Reduction in energy consumption** and promoting a circular economy by utilizing recycled materials and eco-friendly production methods.
- The scheme mandates **accurate labelling** to avoid misleading claims about product sustainability.
- Implementation is overseen by the **Central Pollution Control Board (CPCB) and Bureau of Indian Standards (BIS)**.

The scheme is a step towards achieving sustainability goals, supporting **both consumer awareness and motivating manufacturers** to adopt eco-friendly practices.

Insta Links:

3. Eco-mark scheme

Defence

28. THERMOBARIC WEAPONS

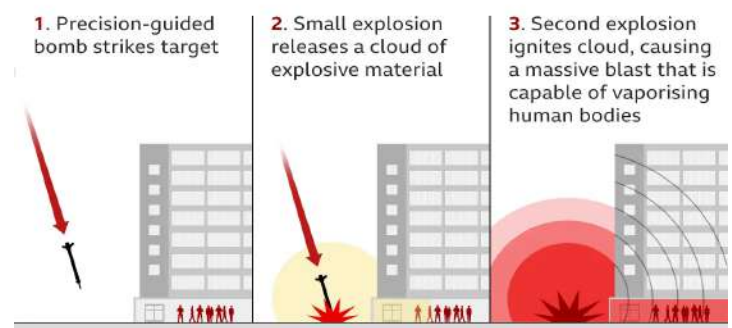
Context:

Russia's use of **ODAB-1500 thermobaric weapons** in Ukraine has garnered attention due to their extremely destructive effects.

About Thermobaric weapons:

1. **Thermobaric weapons** use the atmosphere's **oxygen** to fuel an explosion.
2. Release a **fuel cloud** that ignites, causing a high-temperature explosion.
3. Results in an immense **blast wave** and a vacuum effect by consuming nearby oxygen.

How thermobaric weapons work



Features

1. **Two-stage explosion:** First disperses fuel, then ignites it.
2. **Effective in enclosed spaces:** Highly destructive in buildings, bunkers, or tunnels.
3. **Human impact:** Can rupture organs and cause severe injuries due to pressure changes.

4. **Not specifically banned:** No explicit ban, but targeting civilians could violate the **Hague Conventions**.

History and Origin

1. Developed by the **U.S.** and **Soviet Union** during the Cold War.
2. Used by the **U.S.** in 2001 against **al-Qaeda** in Afghanistan.
3. **Russia** has deployed these in Chechnya and Ukraine.

Insta Links:

Cluster bombs & Thermobaric weapons

29. PM E-DRIVE

Context:

The government yesterday launched the PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) scheme that has a financial outlay of Rs 10,900 crore over a period of two years.

About PM E-DRIVE SCHEME:

- **Ministry:** Ministry of Heavy Industries (MHI).
- **Scheme replaces:**
 - It replaces the Faster Adoption and Manufacturing of Electric Vehicles in India Phase II (**FAME India Phase II**).
- **Aim:**
 - The scheme aims to accelerate the transition to electric vehicles by offering incentives and building a robust EV charging ecosystem.
- **Financial Outlay:** Rs. 10,900 crores for a period of two years.
- **Subsidies and Incentives:**
 - Subsidies will promote electric two-wheelers (e-2Ws), three-wheelers (e-3Ws), e-ambulances, e-trucks, and other emerging EVs.
- **Features:**
 - **E-buses:** Rs. 4,391 crores allocated for the procurement of 14,028 e-buses by state transport units.
 - **E-vouchers:** Aadhaar-authenticated e-vouchers for EV buyers will be introduced, signed by both the buyer and dealer, and uploaded on the PM E-DRIVE portal for facilitating demand incentives.
 - **E-ambulances:** Rs. 500 crores allocated for e-ambulances, with safety standards set in consultation with the Ministry of Health and Family Welfare (MoHFW).
 - **Demand aggregation:** Managed by Convergence Energy Services Limited (CESL) in cities with populations exceeding 40

lakhs (e.g., Delhi, Mumbai, and Kolkata).

Insta Links:

E-Vehicle Policy

30. ODISHA LEOPARD POPULATION

Context:

Odisha's leopard population has **increased by 22%**, rising from 568 to 696 in two years between 2022 and 2024, despite ongoing concerns about poaching and the illegal trade of leopard skins in the State.

Key Findings from the Odisha Leopard Estimation 2024:

- **Leopard Population Increase:** The number of leopards increased by 22%, rising from 568 to 696 between 2022 and 2024.
- **Geographical Spread:** Leopards are found both within and outside protected areas, with 45% residing outside designated protected zones.
- **Key Habitats:**
 - **Similipal Tiger Reserve:** The largest leopard population, serving as a source population for surrounding areas like Hadagarh and Kuldiha wildlife sanctuaries.
 - **Satkosia and Hirkud wildlife divisions:** Identified as other key habitats with substantial leopard populations.
- **Challenges:** The population still lags behind the 2018 census estimate of 760, and poaching remains a significant threat with 116 leopards killed between 2018 and 2024.



National Leopard Census (India 2022):

- **National Population:** The leopard population in India stands at 13,874, reflecting an 8% increase from 12,852 in 2018.
- **Top States for Leopards:** Madhya Pradesh has the highest number of leopards (3,907), followed by Maharashtra (1,985), Karnataka (1,879), and

Tamil Nadu (1,070).

- **Methodology:** Surveys were conducted using foot patrols and camera traps, yielding over 85,000 images of leopards across 18 states.

Leopard census methodology:


- **Camera traps:** Identification of leopards based on unique rosette patterns.
- **Foot surveys:** Monitoring of pug marks, scrapes, and scats to estimate leopard presence.

Insta Links:

Snow leopard

MAPPING

INTERNATIONAL

Place	Why in News?
<p>1. YEMEN ATTACK</p>	<p>Context: Israel’s military says it has launched a series of air raids on Houthi targets in Yemen, further heightening fears of a wider regional conflict in the wake of intensified Israeli attacks on Gaza and Lebanon.</p>  <p>Places in news:</p> <ul style="list-style-type: none"> • Ras Isa: Strategic port on Red Sea coast, key for oil exports and maritime trade. • Hodeidah: Key port city, vital for goods import and humanitarian aid. • Sanaa: Capital and largest city, under Houthi control since 2014. It has seen significant conflict during the ongoing civil war. <p>Insta links: Houthi Rebels</p>

2. CANARY ISLAND

Context:

Rescue crews renewed the search for about 48 migrants missing since their boat capsized near the Spanish island of El Hierro in what threatens to be the deadliest such incident in 30 years of crossings from Africa to the Canary Islands



About Canary Islands:

- The archipelago located in Atlantic Ocean, 1,300 km south of Spain and 115 km west of Morocco.
- Part of Spain.
- Originated from millions of years ago volcanic eruptions.

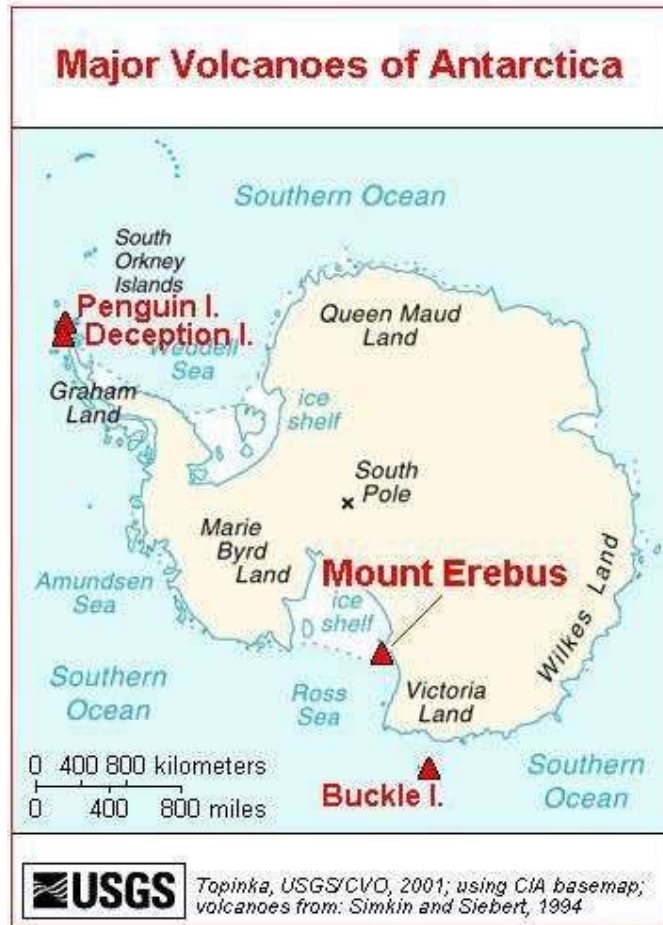
- Subtropical climate with warm temperatures and minimal seasonal variation.
- Rich volcanic soil supports diverse vegetation with plant species varying based on elevation.

El Hierro Island:

- **Location:** El Hierro is the southernmost and westernmost of the Canary Islands, located off the coast of Africa.
- **Features:** Known as the “**Meridian Island**”, El Hierro is the second-smallest of the main Canary Islands, covering an area of 268.51 square kilometers.
 - The island is characterized by volcanic landscapes, rugged terrain, and a subtropical climate.
- **Capital city:** **Valverde** and the island has a population of about 11,659 (2023).

3. MOUNT EREBUS

Context: Mount Erebus in Antarctica, the southernmost active volcano, stands out by not only being active in the extreme cold but also emitting micro-crystals of gold.



About Mount Erebus:

- **Location:** Ross Island, Antarctica; southernmost active volcano on Earth.
- **Volcano type:** Stratovolcano, characterized by a conical shape formed from layers of lava and ash.
- **Discovery:** Discovered in 1841 by British explorer Sir James Clark Ross, named after his ship HMS Erebus.
- **Elevation:** Stands at 3,792 meters (12,441 feet), the second-highest volcano in Antarctica.
- **Lava lake:** Known for its persistent lava lake, active since at least 1972, one of the few long-lived lava lakes globally.
- **Eruptions:** Features Strombolian eruptions, with occasional ejection of molten lava bombs.
- **Proximity to research stations:** Monitored closely due to its proximity (40 km) to McMurdo Station (U.S.) and Scott Base (New Zealand).

Insta Links:
[Mount Erebus](#)

4. VUHLEDAR

Context: In Ukraine, Russian troops have taken complete control of the eastern city of Vuhledar.



1. Vuhledar Overview

- Located in Volnovakha Raion, Donetsk Oblast, eastern Ukraine.
- Positioned on an elevated plain, offering strategic importance.
- Russia aims to advance north to reach regional transportation hubs.
- Developed in the 1960s, intended to become a major economic center linked to Donbas region's coal industry.
- Located in a historically coal-rich area, Vuhledar's economy is linked to coal mining.

5. LITTLE PRESPA LAKE

Little Prespa Lake's Decline and Impact



- Located on the Albanian-Greek border, mostly in Greek territory, with a small part in Albania.
- Part of a transboundary ecosystem rich in biodiversity, home to species like the Dalmatian pelican.
- Crucial for local biodiversity, supporting various species of birds, fish, and plants.
- Environmental threats include climate change, human interference, and the diversion of the Devoll River for irrigation.
- Current condition: 430 hectares of the lake in Albania have dried up or turned **into swamps**.
- Cultural & economic impact: Fishing was a primary livelihood, now relying on cattle grazing due to lake deterioration.

6. CHAGOS ARCHIPELAGO

Context: The U.K. and Mauritius have reached an agreement on the return of the Chagos Archipelago to Mauritian sovereignty, resolving a long-standing dispute. This development, involving the strategic Diego Garcia base, is seen as a completion of Mauritius' decolonisation process.



Chagos Archipelago History

- Claimed by Britain and Mauritius in 1814.
- Separated by U.K. in 1965 to form British Indian Ocean Territory (BIOT).
- Diego Garcia leased to U.S. in 1966 for military base, displacing native Chagossian population.
- Legal disputes persist, with Mauritius claiming sovereignty since 1968.
- International Court of Justice ruled in 2019 to return Chagos Islands to Mauritius.

Geographical location of Chagos Archipelago:

- Location: Central Indian Ocean, 1,600 km south of India's southern tip.
- Key Islands: Diego Garcia, Peros Banhos, Danger Island.
- Climate: Tropical marine, moderated by trade winds.
- Disputed Nations: U.K., Mauritius, U.S. due to Diego Garcia military base.

7. MY QUYNH SAFARI PARK

Context: An outbreak of the H5N1 bird flu virus has caused the deaths of several large carnivores in zoos in southern Vietnam. This highlights the risks posed by zoonotic diseases not just to wildlife but also to human health, as the virus has the potential to infect mammals and, in rare cases, humans.

Cause:

- The animals, including **47 tigers, 3 lions, and a panther, died due to the H5N1 bird flu** virus, confirmed by the National Center for Animal Health Diagnosis. The virus, typically associated with avian species, caused fatalities among these large mammals in August and September 2024.



Zoo locations:

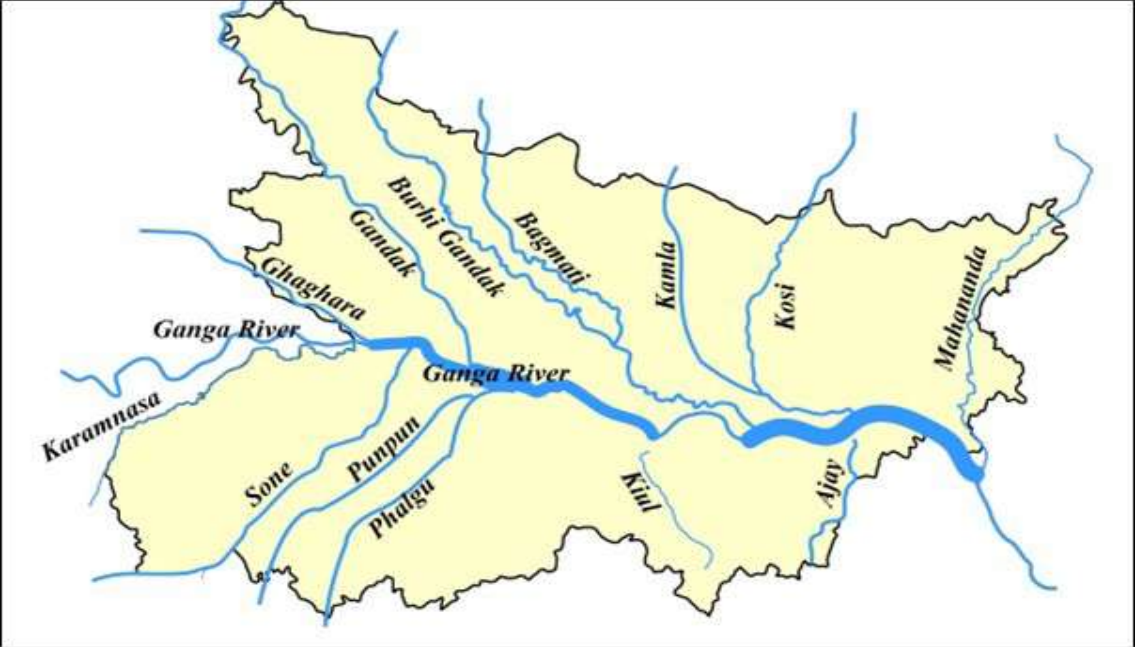
1. My Quynh Safari Park:

- **Location:** Long An Province, southern Vietnam.
- **Distance:** South of Ho Chi Minh City.
- **Proximity:** It is a private safari park known for housing various wildlife, including large carnivores.

2. Vuon Xoai Zoo:

- **Location:** Dong Nai Province, near Ho Chi Minh City.
- **Distance:** Approximately 40 km northeast of Ho Chi Minh City.
- **Proximity:** Close to urban centers, making it a popular tourist attraction with a variety of animals.

Note: For exam purpose just try to remember the parks and zoo name, which country it is located in and why it was in news.

Place	Why in News?
<p>8. BAGMATI RIVER</p>	<p>Context: The death toll due to persistent downpours triggered flooding and landslides across Nepal rose to 112, according to the Nepal Police database.</p>  <p>About Bagmati River:</p> <ol style="list-style-type: none"> Origin: Bagdwar in the Shivapuri Hills, located northwest of the Kathmandu Valley, Nepal, at an elevation of around 2,690 meters (8,825 feet). Course: <ul style="list-style-type: none"> It flows through the Kathmandu Valley, passing through Chovar Gorge. The river then flows southward through the Shivalik Range and into the Terai region of Nepal. It enters the Indian state of Bihar and flows southeastward, eventually joining the Burhi Gandak River. Countries: Flows through Nepal and India. Tributaries: Manohara and Bishnumati Rivers. End: The river empties into the Burhi Gandak River after a course of 360 km (225 miles). Cities: Kathmandu, Lalitpur, and Birgunj in Nepal, and it passes through rural regions in Bihar, India. Cultural Significance: <ul style="list-style-type: none"> The river is considered sacred by Hindus and Buddhists. <p>It is home to the famous Pashupatinath Temple (UNESCO World Heritage Site) in Kathmandu and the Gokarneswor Temple.</p>