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**UPSC
Mentorship**
A Unit of Mentorship India

BI-WEEKLY EDITION

THE
MIB | MENTORSHIP
INDIA BI-WEEKLY

WOMEN'S SAFETY & SOCIAL RESPONSIBILITY



SOURCES



Dear Students

The Mentorship India Bi-weekly is our half-monthly publication for staying updated on the latest developments shaping India and the World. Crafted with precision by our mentors, it serves as a comprehensive resource for students preparing for competitive exams. Offering insightful analysis, in-depth coverage, and strategic insights aligned with the exam syllabus, it empowers aspirants to navigate through contemporary issues with confidence. From breaking news to nuanced perspectives, our magazine transforms complex topics into easily digestible notes, ensuring every reader gains a holistic understanding of current affairs. Join us on a journey of knowledge enrichment and exam preparation excellence with our Bi-weekly Current Affairs.

FEATURES

- **MIB THEME BI-WEEKLY**
 - A comprehensive coverage of the most important bi-weekly topic.
- **MAINS IN-DETAIL BI-WEEKLY**
 - The in-depth coverage of issue that carry most probability to be asked in the Exam.
- **PRELIMS IN-BRIEF BI-WEEKLY**
 - Subject-wise reading notes of most expectable themes from Prelims point-of-view.
- **SELF EVALUATION BI-WEEKLY**
 - An assignment containing 25 Prelims Questions and 5 Mains Questions for your self-evaluation
- **SOLVED ESSAY BI-WEEKLY**
 - A Previous Year Solved Philosophical Essay to give student an extra edge on others.

FROM THE EDITORS

Do you Overthink?

Juggling endless study materials, strategizing for the next test, and constantly evaluating your progress – the UPSC journey is a mental marathon. But amidst this whirlwind, are you a victim of overthinking?

Critical thinking is essential for success in the Civil Services exam. It helps you analyze information, form strong arguments, and craft compelling answers. However, overthinking turns this strength into a weakness. It breeds self-doubt, paralyzes action, and fuels anxiety. Imagine missing deadlines, getting overwhelmed during exams, or losing focus due to constant "what ifs." Not the ideal recipe for cracking UPSC, right?

So, how do you conquer this? Start with mindfulness. Take breaks, meditate, and let your mind relax. Set realistic goals, break your study material into manageable chunks, and tackle them one at a time. Trust in your preparation, and remember, perfection is a myth. Mistakes are just stepping stones to success.

Remember, we, your mentors, are here to guide you every step of the way. Don't let overthinking dim your determination. You have the potential to excel – now go out there and prove it!

Team

UPSC Mentorship

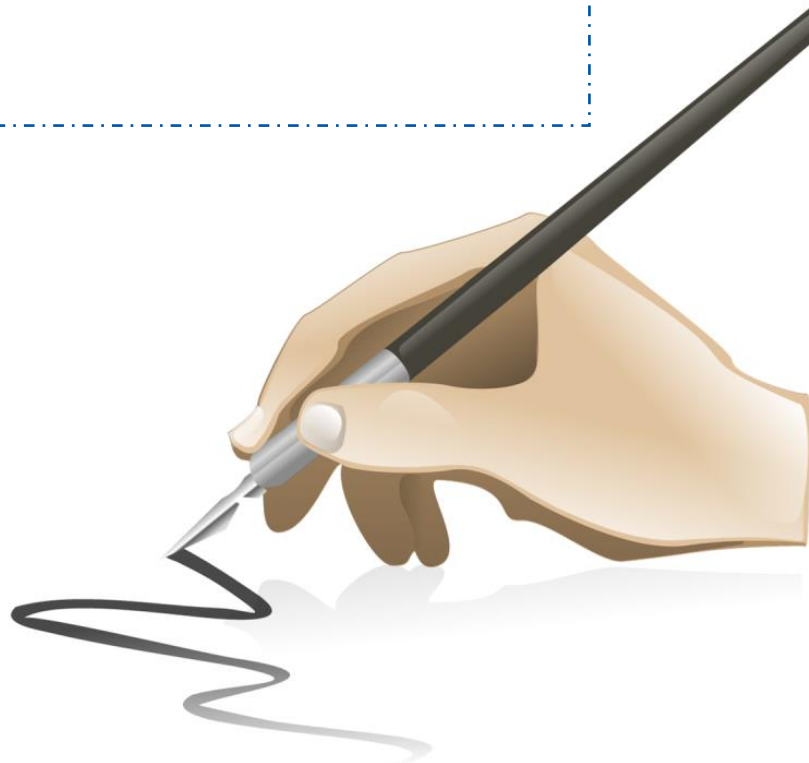


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THE MIB THEME BI-WEEKLY

NAVIGATING WOMEN'S SAFETY AND SOCIAL RESPONSIBILITY

The recent horrific rape and murder of a female doctor in Kolkata has sparked renewed national debate on women's safety in India. This tragic event has also brought to light the frequently overlooked psychological toll that violence against women can inflict.

INTRODUCTION



- Urban areas are becoming increasingly crowded and diverse, leading to a rise in gender-based violence in public spaces.
- The rapid urbanization process, marked by high population density and growing inequalities, contributes to a surge in urban crime, including violent crimes against women.
- Women are disproportionately affected by violent crime due to their gender and face unique risks related to urban design, public services, and social attitudes.
- This heightened sense of insecurity often restricts their freedom of movement and access to the city, undermining their "**Right to the City.**"
- Addressing women's safety involves not just tackling violent crime but also considering factors like fear of crime and ensuring women's overall safety in public and private spheres.

DEFINITION OF WOMEN'S SAFETY

Core Aspects of Women's Safety:

- **Safe Public Spaces:** Ensuring women can move freely without fear in urban environments.
- **Freedom from Poverty:** Access to essential services like water and sanitation.
- **Protection from Abuse:** Combating domestic violence and sexual harassment at workplaces.
- **Self-Worth and Financial Independence:** Promoting a sense of self-worth and economic security.

STRATEGIES TO ENHANCE

WOMEN'S SAFETY FOCUS ON:

- **Preventing Violence:** Improving knowledge and changing attitudes to prevent domestic or sexual violence.
- **Full Participation:** Encouraging women's participation in community life and decision-making processes.

CREATING SAFE PUBLIC PLACES

Prevalence and Impact of Sexual Violence:

- Sexual harassment and violence occur frequently in public spaces, affecting women globally in urban and rural settings.
- Unsafe public spaces include roads, public transport, markets, and waiting areas. Poor lighting, inadequate pavements, and societal discrimination contribute to this insecurity.

Consequences of Unsafe Public Spaces:

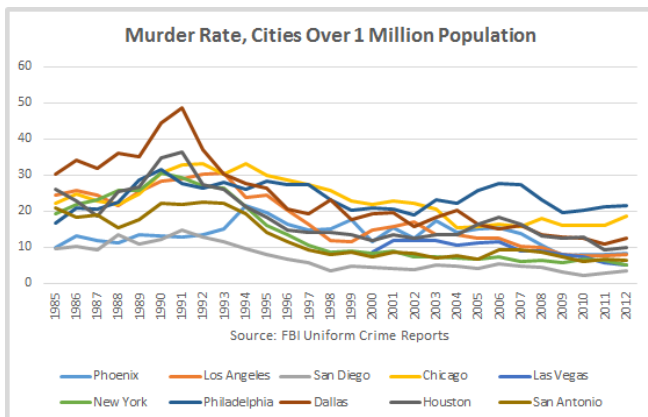
- **Restricted Freedom of Movement:** Limits access to work, school, and essential services.
- **Negative Health and Well-being:** Affects physical and mental health.
- **Neglected Issue:** Despite recognition of domestic violence as a human rights violation,

public sexual harassment remains insufficiently addressed.

ANALYSIS OF CRIME IN MAJOR CITIES

Crime Trends:

- Cities like Bengaluru, Ahmedabad, and Delhi have shown high rates of total crime. Bengaluru consistently reports the highest crime rates, though some cities have seen a decrease over time.
- Specific violent crimes such as murder, rape, and kidnapping are notably high in Delhi. Although there has been a decline in some violent crimes, the overall incidence of crimes against women has risen.



Recent Statistics:

- Between 2011 and 2013, the number of registered cases of atrocities against women increased significantly, reflecting a troubling trend.

GOVERNMENT INITIATIVES ON WOMEN'S SAFETY

Policies and Legislations:

- **International Conventions:** India ratified CEDAW and other international instruments to promote women's rights.
- **National Policy for the Empowerment of Women (2001):** Focuses on eliminating violence against women and creating supportive institutions.
- **Criminal Law Amendment Bill 2013:** Introduced stringent punishments for rape and other crimes.

- **Sexual Harassment of Women at Workplace Act (2013):** Provides protection against workplace harassment.
- **Protection of Women from Domestic Violence Act (2005):** Provides support and resources for domestic violence victims.
- **Indecent Representation of Women Act (1986):** Prohibits derogatory depictions of women in media.

Strategies and Measures:

- **Public Transport Safety:**
 - **Railway Initiatives:** Introduction of security helplines, CCTV cameras, and mobile apps like 'R-Mitra.'
 - **Safety for Tourists:** The Ministry of Tourism has implemented measures for the safety of foreign tourists, including help lines and safety codes.
- **Safety Measures for Women in Metro:** Dedicated coaches, reserved seats, and female staff for added security.
- **Emergency Responses:** The Universalisation of Women Helpline provides 24/7 emergency support. New mobile safety devices like Suraksha and apps like VithU offer real-time alerts and tracking.

RECENT DEVELOPMENTS

High-Profile Cases:

- Recent high-profile rape cases have highlighted ongoing issues with women's safety and the need for effective measures to address sexual violence and harassment in public spaces.

INTERNATIONAL EXPERIENCES IN PROMOTING WOMEN'S SAFETY IN URBAN AREAS

Urban safety and crime prevention are critical priorities for local governments globally. These issues are intricately linked with poverty, social fragmentation, exclusion from decision-making, and inequitable resource distribution. Urban safety is also influenced by urban design and infrastructure quality. Many cities worldwide have developed Urban Safety Strategies to address these challenges, involving both local authorities and other actors such as the police.

INTERNATIONAL PROGRAMS AND APPROACHES

1. UN-HABITAT Safer Cities Programme

- **Focus Areas:**
 - Integration of gender perspectives into safety strategies
 - Development of tools and methodologies to combat violence against women
 - Collection and analysis of gender-disaggregated data
 - Promotion of women's participation in planning and decision-making
- **Recommended Approach:**
 - Diagnose local insecurity issues
 - Form local coalitions of stakeholders
 - Develop local action plans through city consultations
 - Implement through a participatory process
 - Monitor and evaluate progress

2. International Centre for the Prevention of Crime (ICPC)

- **Five-Step Approach:**
 - Mobilize key partners led by local authorities
 - Conduct a rigorous security assessment
 - Develop action plans addressing root causes of crime
 - Implement and evaluate short- and long-term projects
 - Establish a central coordinating committee with all relevant stakeholders

3. Gender Inclusive Cities Initiative

- **Coordinated by:**
 - Women in Cities International
- **Objective:**
 - Enhance women's safety by promoting equal access to public spaces
- **Cities Involved:**
 - Dar es Salaam (Tanzania)
 - Delhi (India)
 - Rosario (Argentina)
 - Petrozavodsk (Russia)

NATIONAL AND LOCAL STRATEGIES

1. United Kingdom

- **Recent Strategy:**
 - "The Way Forward: Taking Action to End Violence Against Women and Girls" (2010)
- **Actions Taken:**
 - Increased Safer Transport Teams
 - Awareness campaigns on safe travel and legal minicabs
 - Enhanced Cab Enforcement Unit effectiveness

2. United States

- **New York City Initiatives:**
 - 63% experienced sexual harassment
 - 10% reported sexual assault
 - 96% of incidents were not reported to authorities
- **Right Rides Program:**
 - Provides free rides to women on weekends
 - Operates in select NYC neighbourhoods

3. Developing Countries

- **Latin America Initiatives:**
 - Designated women-only subway cars and police stations
- **UN-HABITAT Support:**
 - White Paper on "Safety and Coexistence for Bogota"

4. UN Women's Global Initiatives

- **Safe Cities Free of Violence against Women and Girls (2010):**
 - Implemented in Quito, Cairo, New Delhi, Port Moresby, and Kigali
 - Focus on developing and evaluating anti-violence tools and policies
- **Safe and Sustainable Cities for All (2011):**
 - Launched in Rio de Janeiro, San José, Tegucigalpa, Nairobi, Beirut, Marrakesh, Manila, and Dushanbe

RECENT CHALLENGES AND RESPONSES

1. Increasing Awareness of Public Violence

- The focus has shifted towards addressing violence in public spaces, including harassment, assault, and stalking. This

requires different strategies from those used for domestic violence.

2. Improving Public Transport Safety

- **Measures Include:**
 - Enhancing design and infrastructure
 - Training staff
 - Increasing monitoring
- **Civic Awareness:**
 - Campaigns to raise understanding of safety concerns

3. Law Enforcement Enhancements

- **Increased Police Presence:**
 - Greater visibility in public spaces
 - Recruitment of women police officers
 - Sensitization and training for police forces

PATH FORWARD

Broaden the Understanding of Violence

- It is crucial to expand the definition of violence to include psychological harm, such as the burden of constant vigilance. Recognizing this as a form of violence is essential for effectively addressing it.

Implement Effective Measures

- Safety measures must be designed to ensure women's freedom is not restricted under the

guise of protection. Improved urban planning, increased policing in high-risk areas, and public awareness campaigns are necessary.

Shift Societal Perspectives

- Society must acknowledge the psychological burden of vigilance as a significant issue. Efforts should focus on both preventing physical violence and alleviating the mental strain women experience.

Create Safer Environments

- Collective action is needed to foster environments where women feel safe. This includes community-based initiatives, educational reforms, and the active involvement of men in discussions about women's safety.

CONCLUSION

Addressing both the physical and psychological impacts of violence against women is crucial for creating a society where women can live freely and safely. Effective measures, societal changes, and government initiatives must work in concert to alleviate the burden of constant vigilance and promote overall societal progress.

MAINS IN-DETAIL BI-WEEKLY

A GROUND PLAN FOR SUSTAINABLE MASS EMPLOYMENT

The Indian government's new budget introduces five major employment schemes, investing ₹2 lakh crore over five years to create jobs and train 4.1 crore youths. Success will depend on effective policy implementation and addressing labour market challenges.

MAJOR CAUSES OF UNEMPLOYMENT IN INDIA AND POLICY INITIATIVES FOR SUSTAINABLE EMPLOYMENT



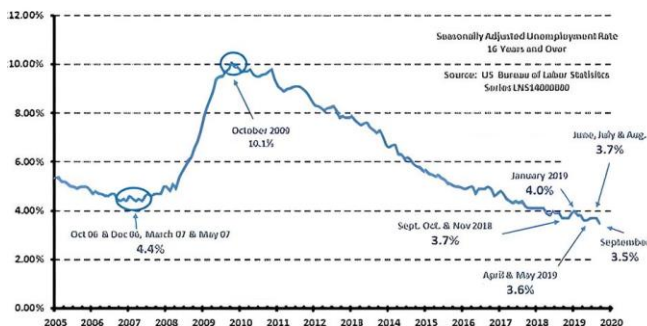
Causes of Unemployment

- **Shift from Agriculture:** The transition of workers from agriculture to other sectors has not been matched by corresponding increases in non-farm employment opportunities, particularly in manufacturing. This mismatch has resulted in high unemployment rates as the growth in the manufacturing sector has been insufficient to absorb the surplus labor from agriculture.
- **Traditional Factors:** Several traditional factors contribute to unemployment in India. Disguised unemployment in agriculture persists, where labor is employed in excess of what is needed. Economic disruptions, such as those caused by the COVID-19 pandemic, have further exacerbated this issue. Additionally, regressive social norms that deter women from participating in the workforce significantly impact overall employment rates.

- **Infrastructure and Manufacturing:** The inadequate growth of infrastructure and low investments in labor-intensive sectors like textiles and leather have limited job creation. The manufacturing sector's focus on capital-intensive processes rather than labor-intensive ones has hindered mass employment opportunities.
- **Lack of Skills and Education:** A significant gap exists in the skill levels of India's workforce. Only 16% of the labor force has received formal skill training, leading to low employability. The India Skills Report highlights that only 45% of graduates are deemed employable, underscoring the urgent need for enhanced vocational training and education.
- **Women's Participation:** Women's participation in the workforce is low due to several factors, including mechanization in agriculture and the nature of the manufacturing sector. Women are often paid less, work in lower productivity jobs, and are overrepresented in unpaid care work. The NITI Aayog's 2017-20 agenda indicates that women's economic participation remains limited compared to global standards.
- **Quality of Jobs:** Job creation has been strong in ICT-intensive services; however, many of these roles are in low-value-added services characterized by informality and vulnerability, such as gig work. This results in lower job security and poor working conditions for a significant portion of the workforce.
- **Shrinking Public Sector:** The public sector has seen a dramatic reduction in direct recruitment, with a 89% decline in central government hiring. This contraction has

reduced employment opportunities traditionally provided by the public sector.

**Seasonally Adjusted U-3
Unemployment Rate**
© 2019 www.UnemploymentData.com
Prepared By Timothy McMahon
Updated 10/4/2019



- **Unemployment Among Youth:** Youth unemployment remains a critical issue, with the unemployed youth accounting for 82.9% of the total unemployed population in 2022. Educated youth represent an increasing share of the unemployed, highlighting a mismatch between educational outcomes and job market needs.
- **Inadequate Skilling Infrastructure:** Many technical institutions like Industrial Training Institutes (ITIs) and Rural Self Employment Training Institutes (RSETIs) lack quality infrastructure and up-to-date curricula, which undermines the effectiveness of vocational training and skill development.

CHALLENGES IN EMPLOYMENT CREATION

- **Labour Force Participation Rate:** The Periodic Labour Force Survey (PLFS) indicates only a modest 4 percentage point increase in the labour force participation rate since 2019-20, suggesting limited progress in engaging the working-age population in meaningful employment.
- **Impact of Artificial Intelligence:** The rise of artificial intelligence (AI) presents a challenge as it threatens to disrupt industries like outsourcing, potentially leading to job losses in traditional back-office functions.
- **Job and Income Security:** There is a pressing need for investments and regulations in emerging sectors like digital and care economies. Workers in gig and platform economies often face job insecurity, irregular wages, and uncertain employment conditions.
- **Rising Informality in Employment:** Informal employment has surged, with nearly 82% of the workforce engaged in informal sector jobs. The prevalence of casual work contributes to poor job quality, characterized by irregular earnings and lack of job stability.
- **Low Female Labour Force Participation:** India's female labour force participation rate is notably low, at 24.8% in 2022, which is significantly below the global average of 47.3%. This disparity limits overall workforce participation and economic productivity.

POLICY INITIATIVES FOR SUSTAINABLE EMPLOYMENT

- **Decentralized Community Skilling:** Identifying local skilling needs through community action can enhance the relevance and effectiveness of training programs. Establishing a register of job seekers and aligning skill training with local employment opportunities can address regional unemployment issues.
- **Convergence of Developmental Initiatives:** Employment outcomes improve when education, health, skills, nutrition, and livelihoods initiatives are integrated at the local level. Collaborating with women's collectives can enhance community accountability and ensure comprehensive development.
- **Integration of Vocational Training in Higher Education:** Incorporating vocational courses alongside traditional undergraduate programs in colleges can significantly improve employability by equipping graduates with practical skills relevant to the job market.
- **Standardization of Healthcare Professional Courses:** Aligning nursing and allied healthcare professional courses with international benchmarks can address the demand for healthcare workers both domestically and internationally, ensuring high standards and better job prospects.
- **Creation of Community Caregiver Cadres:** Developing community cadres to run

universal crèches can enable more women to participate in the workforce by providing reliable childcare services. Training and compensating these caregivers through local governments or women's collectives can ensure quality and accessibility.

- **Investment in Industrial Training Institutes (ITIs):** Enhancing ITI infrastructure and aligning curricula with industry needs can create effective hubs for vocational training. These institutions should also serve as feeder schools for vocational education, particularly in regions with limited infrastructure.
- **Introduction of Enterprise Skills in Schools:** Introducing technology and entrepreneurship as subjects in high schools can foster innovation and business skills among students, preparing them for future employment opportunities.
- **Co-Sharing Model of Apprenticeships:** Implementing a co-sharing model for apprenticeships with industry can improve the quality of training and ensure that employers have a stake in the skilling process. This approach should focus on providing dignified wages and enhancing job placement rates.
- **Streamlining Capital Loans for Women-Led Enterprises:** Facilitating working capital loans for women-led and first-generation enterprises can help scale up businesses and promote economic growth. Technology and

comprehensive credit histories can support this process.

- **Universal Skill Accreditation Programme:** A universal accreditation program for skill providers, supported by state and industry sponsorship, can ensure high-quality training and increase workforce employability.
- **Focused Use of MGNREGA Funds:** Allocating a significant portion of MGNREGA funds to water-scarce and highly deprived blocks can enhance livelihood security and productivity for the poorest families.
- **Scaling Up Apprenticeships:** Expanding apprenticeship programs and linking government subsidies to providing dignified wages upon successful completion can improve skill acquisition and job absorption for youth.

CONCLUSION

Addressing unemployment in India requires a multi-faceted approach involving community-driven skilling initiatives, convergence of developmental efforts, and strategic investments in education and vocational training. By implementing these policy measures, India can create sustainable employment opportunities with dignity, enhancing the quality of life for its citizens and supporting broader economic development.

PM VISIT TO UKRAINE AND POLAND: A STRATEGIC MILESTONE FOR INDIA'S FOREIGN POLICY

PRIME MINISTER NARENDRA MODI'S RECENT TOUR OF POLAND AND UKRAINE MARKS A PIVOTAL MOMENT IN INDIA'S FOREIGN POLICY, UNDERSCORING ITS EXPANDING ENGAGEMENT WITH EUROPE.

KEY HIGHLIGHTS OF THE VISIT

- The visit reflects India's increasing interest in Central Europe, a region now at the heart of global geopolitical concerns due to the ongoing conflict in Ukraine.
- **Monument Visit:** The Prime Minister visited the monument for the Battle of Monte Cassino, which honors the Indian and Polish soldiers who played a crucial role in this significant World War II battle in Italy in 1944.
- **Jam Saheb of Nawanagar Memorial:** Another important memorial linking India and Poland was highlighted during the visit.
- **Economic Potential:** Poland holds promise as a gateway for India to Europe, with substantial opportunities to boost trade. However, there is a need for clearer understanding of the operational dynamics within India.

GEOPOLITICAL SIGNIFICANCE OF CENTRAL AND EASTERN EUROPE

Central and Eastern Europe

- **Ukraine (Ongoing conflict)**
 - Strategic Importance
 - Economic Reconstruction Potential
- **Poland (Rapid Growth)**
 - Largest Economy in Central Europe
 - EU Council Presidency

Heartland Theory

- **Dominance over Eastern Europe**
 - Control over the Heartland
 - Influence on World-Island and Global Power

INDIA'S STRATEGIC SHIFT

The Prime Minister's visit signifies a notable shift in India's approach from a passive to a more proactive stance in the region.

- **Historical Context:** This is the first visit by an Indian Prime Minister to Poland since 1979 and the first to Ukraine since its independence, showcasing India's growing recognition of the region's strategic importance.
- **Broader Strategy:** The visit emphasizes India's long-term strategy to forge deeper ties with Central European countries, acknowledging their role in shaping Europe's future, rather than focusing solely on peace initiatives between Russia and Ukraine.

EXPANDING EUROPEAN OUTREACH

Historically, India's European engagement focused mainly on major powers such as Russia, Germany, France, and Britain.

- **Broadened Focus:** In recent years, India has expanded its outreach to include smaller European nations and regions like the Nordics, Baltics, and Central Europe.
- **PM Modi's Engagement:** During his first two terms, PM Modi visited Europe 27 times and hosted 37 European heads of state and government, reflecting a comprehensive engagement with the continent.

POLAND AND UKRAINE: EMERGING PARTNERS IN CENTRAL EUROPE

Poland and Ukraine are increasingly significant partners for India within Central Europe.

- **Poland's Role:** As the largest economy in Central Europe with rapid economic growth and substantial military spending, Poland is a key player.
 - It is the sixth-largest economy in the European Union (EU), and bilateral trade between India and Poland stands around \$6 billion, making Poland India's largest partner in Central and Eastern Europe. Poland

will also assume the next presidency of the EU Council.

- **Ukraine’s Potential:** Despite its war-torn economy, Ukraine is valuable for its potential

in post-war reconstruction and its strategic role as a global granary.

| Country | Economic Significance | Strategic Importance | Bilateral Trade with India |
|---------|--|--|----------------------------|
| Poland | Largest economy in Central Europe; strategic location; military spending | Gateway to Europe; rapid economic growth; future EU Council presidency | ~\$6 billion |
| Ukraine | Potential for post-war reconstruction; agricultural powerhouse | Global granary; strategic location in Europe | USD 3.386 billion |

Central and Eastern Europe, traditionally battlegrounds for great power rivalry, now possess greater autonomy in shaping their destinies.

The Prime Minister’s visits to Warsaw and Kyiv reflect recognition of this shift and an effort to strengthen India’s political, economic, and security relationships with Central European states.

WHO DECLARES MONKEYPOX A GLOBAL EMERGENCY: UNDERSTANDING THE PUBLIC HEALTH RISK

In August 2024, the WHO declared monkey pox a Public Health Emergency of International Concern due to the swift global spread of a new sexually transmissible strain, affecting notably the Democratic Republic of the Congo and other African nations. Since 2022, there have been 99,176 cases and 208 deaths across 116 countries.

WHAT IS THE WORLD HEALTH ORGANIZATION?



World Health Organization

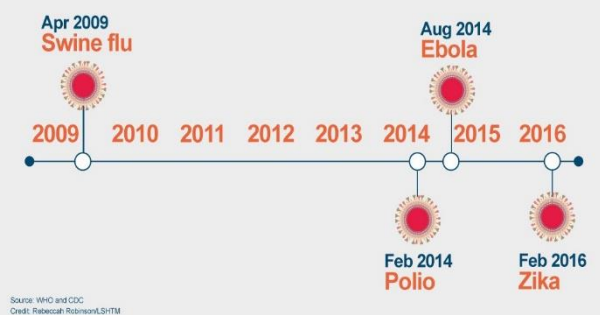
- **Founded:** 1948, as a specialized UN agency.
- **Headquarters:** Geneva, Switzerland.
- **Mission:** Promote health, ensure global safety, and support vulnerable populations.
- **Roles:** Coordinates international health responses, conducts vaccination campaigns, and supports primary care.
- **Membership:** 194 member states.
- **India's Role:** Longstanding association, significant contributions to WHO missions and global health policies.

PUBLIC HEALTH EMERGENCY OF INTERNATIONAL CONCERN (PHEIC) DECLARATION:

- **Definition:** A formal WHO declaration for extraordinary public health events.
- **Risk Indication:** Signals a risk to other countries due to international disease spread.

- **Purpose:** Triggers coordinated international response for sharing vaccines, treatments, and funding.
- **Global Collaboration:** Emphasizes urgent need for worldwide cooperation to prevent the spread of monkey pox, especially with new, more virulent strains.

Public health emergencies of international concern (PHEIC)



MONKEY POX

- **Disease:** monkey pox is a zoonotic viral disease caused by the Orthopoxvirus, related to the smallpox virus.
- **Discovery:** First identified in monkeys in 1958.
- **Primary Transmission:** From animals to humans through direct contact with infected bodily fluids or lesions.
- **Human Transmission:** Possible via respiratory droplets, direct contact with lesions, or contaminated objects.
- **Symptoms:** Fever, body aches, swollen lymph nodes, and a rash that progresses to blisters.
- **Severity:** Typically, self-limiting but can lead to severe complications in children and immunocompromised individuals.
- **Treatment:** No specific treatment exists; however, the Vaccinia vaccine (used against

smallpox) is 85% effective in preventing

monkey pox.

DIFFERENCE BETWEEN SMALL POX, CHICKEN POX, MPOX

| Feature | Small Pox | Chicken Pox | Monkey Pox |
|---------------------|---|---|---|
| Virus | Variola virus | Varicella-zoster virus (VZV) | Monkeypox virus |
| Severity | Highly severe, often fatal | Mild | Milder than smallpox, rarely fatal |
| Status | Eradicated in 1980 | Common childhood illness, less common due to vaccination | Endemic in Central and West Africa, cases emerging elsewhere |
| Transmission | Highly contagious through respiratory droplets and contact with infected lesions | Highly contagious through respiratory droplets and contact with lesions | Spread through contact with infected animals, lesions, or bodily fluids |
| Symptoms | Fever, headache, severe fatigue, vomiting, followed by a deep-seated, pus-filled rash | Fever, fatigue, loss of appetite, followed by an itchy, fluid-filled rash | Fever, headache, swollen lymph nodes, followed by a rash that progresses through stages |
| Vaccination | No longer needed | Routine vaccination for children and adults who haven't had chickenpox | Not routinely recommended, may be given to high-risk individuals |

CURRENT CONCERNS

- Spread of clade Ib of the monkeypox virus (MPXV), primarily transmitted through sexual contact.
- **Historical Transmission:** Traditionally spread through zoonotic events, but the new strain shows increased human-to-human transmission.
- **Affected Regions:** Over 100 cases of the new strain reported in DRC's neighbouring countries, including Burundi, Kenya, Rwanda,

and Uganda, where monkeypox was previously unreported.

- **Outbreak Statistics:** Over 15,600 cases and 537 deaths reported this year.
- **Urgency:** WHO Director-General Dr. Tedros Adhanom Ghebreyesus calls for a coordinated international response to control the outbreaks and prevent further global spread.

RISK FOR INDIA

- India is at risk due to its extensive international travel connections.

- **2022 Outbreak:** India reported 27 cases and one death, mostly linked to clade II of the virus.
- **Emerging Threat:** The more contagious clade Ib has emerged globally, raising concerns about potential new outbreaks in India.
- **Need for Action:** Vigilance and preparedness are essential in response to the global spread of this new strain.

RECOMMENDATIONS

- **Strengthen Surveillance and Reporting:** Enhance systems to quickly identify and report new cases for rapid outbreak containment.
- **Expand Vaccination Campaigns:** Increase access to the Vaccinia vaccine in high-risk areas and ensure equitable distribution through international cooperation.
- **Boost Public Health Education:** Raise awareness about symptoms, transmission,

and preventive measures, emphasizing the need to avoid close contact with infected individuals and animals.

- **Promote Global Collaboration:** Encourage international research, vaccine development, and data sharing to track virus mutations and spread, following the WHO's PHEIC declaration.
- **Enhance Pandemic Preparedness:** Support broader research strategies and preparedness plans to better respond to future public health threats.

CONCLUSION

The WHO's decision to call monkey pox a global emergency shows that the virus is a serious health threat. With new, more easily spread strains appearing, it's crucial for the world to act quickly to control the outbreak and stop it from spreading further.

DISABILITY RIGHT AND INCLUSION

The recent Hindi movie Srikanth has highlighted the ongoing struggles faced BY PERSONS with Disabilities (PwDs) in India. The film, based on the life of visually impaired industrialist Srikanth Bolla, brings attention to the pervasive social stigma, marginalization, and discrimination PwDs encounter, especially in education and employment.

INTRODUCTION

- Disability rights and inclusion have become increasingly important in the global discourse on human rights, equity, and sustainable development. In India, Persons with Disabilities (PwDs) make up approximately 2.21% of the population, according to the 2011 Census.
- Despite their substantial presence, PwDs continue to face systemic challenges that impede their participation in education, employment, public life, and governance. India's legislative framework, particularly the Rights of Persons with Disabilities (RPWD) Act, 2016, aims to address these challenges and promote the inclusion of PwDs in all aspects of life. However, the practical implementation of these laws remains a significant hurdle.

CHALLENGES FACED BY PERSONS WITH DISABILITIES (PwDs) IN INDIA

Social Stigma and Discrimination:

- PwDs in India are often perceived as less capable and more dependent than able-bodied individuals. This stigma manifests in various forms, including discrimination in education, employment, and even healthcare. Cultural beliefs, especially in rural areas, often lead to PwDs being viewed as burdens or objects of pity. This stigma is particularly severe for women with disabilities, as they face dual discrimination based on both gender and disability.
- According to a 2019 report by the National Centre for Promotion of Employment for Disabled People (NCPEDP), 70% of PwDs feel marginalized and excluded from mainstream social activities. This exclusion limits their

opportunities for personal growth and social participation.

Inaccessible Education:

- Education remains one of the biggest challenges for PwDs in India. According to the National Statistical Office (NSO) 2019 report, only 62% of PwDs aged 5-19 years have attended school, compared to 89% of their non-disabled peers.
- **The major barriers to education include:**
 - **Infrastructural Challenges:** The Unified District Information System for Education (UDISE) 2019-20 report highlights that only 40% of schools in India have ramps, and a mere 17% have disabled-friendly restrooms. This lack of basic infrastructure makes it physically challenging for PwDs to attend school.
 - **Lack of Inclusive Curriculum:** Most schools do not have an inclusive curriculum that caters to the needs of students with disabilities. The absence of trained teachers and assistive technologies further alienates PwDs from mainstream education.
 - **Higher Education:** The situation is no better in higher education, where PwDs face significant barriers. Despite the University Grants Commission (UGC) issuing guidelines for accessibility, most universities have failed to comply. The enrolment rate of PwDs in higher education remains below 1%, according to the All India Survey on Higher Education (AISHE) 2020-21.

Employment Disparities

- The employment scenario for PwDs in India is bleak. According to the Periodic Labour Force

Survey (PLFS) 2021-22, the workforce participation rate for PwDs is only 23.8%, compared to 53.5% for the general population. The RPWD Act, 2016, mandates a 4% reservation for PwDs in government jobs, but data from the Ministry of Social Justice and Empowerment (MSJE) shows that only 3.2% of these posts have been filled.

- The private sector's participation in hiring PwDs is even lower. According to a 2020 report by the Diversity and Equal Opportunity Centre (DEOC), only 5 of the Nifty 50 companies have more than 1% of their workforce consisting of PwDs. PwDs also face discrimination during recruitment, promotions, and performance evaluations. This lack of employment opportunities perpetuates their economic vulnerability.

Inaccessible Infrastructure

- India's public and private infrastructure is largely inaccessible to PwDs. The Accessible India Campaign (Sugamya Bharat Abhiyan), launched in 2015, aimed to make public buildings, transportation systems, and information and communication technologies accessible to PwDs. However, progress has been slow. A 2021 report by the Ministry of Social Justice and Empowerment (MSJE) revealed that only 24% of public buildings in major cities are fully accessible, and less than 10% of public buses are equipped with ramps or other accessibility features.

Healthcare Challenges

- PwDs face significant barriers in accessing healthcare services. A 2020 study by the World Health Organization (WHO) and the Indian Council of Medical Research (ICMR) found that PwDs are twice as likely to report inadequate healthcare services compared to non-disabled individuals. This is due to a lack of accessible healthcare facilities, trained medical professionals, and specialized services tailored to the needs of PwDs. Additionally, the high cost of assistive devices and therapies further limits PwDs' access to essential healthcare services.

GOVERNMENT INITIATIVES:

1. Rights of Persons with Disabilities (RPWD) Act, 2016

- The RPWD Act, 2016, is the cornerstone of India's disability rights framework. It expanded the definition of disability from 7 to 21 categories and mandates non-discrimination, accessibility, and equal opportunities for PwDs.
- **Key provisions include:**
 - **Reservation in Employment:** A 4% reservation in government jobs for PwDs.
 - **Inclusive Education:** The Act requires educational institutions to become accessible and mandates the use of inclusive curricula.
 - **Accessibility:** Public and private entities must ensure that their infrastructure is accessible to PwDs, with timelines set for compliance.
 - **Equal Opportunity Policies:** Employers are required to draft and implement policies that promote equal opportunities for PwDs.
 - Despite these provisions, the RPWD Act has been criticized for weak enforcement mechanisms and a lack of monitoring at the state level.

2. Accessible India Campaign (Sugamya Bharat Abhiyan)

Launched in 2015, the Accessible India Campaign aims to make public spaces and transportation systems accessible to PwDs. The campaign focuses on three main areas:

- **Built Environment:** Making public buildings accessible.
- **Transportation:** Ensuring that public transportation systems are PwD-friendly.
- **ICT Accessibility:** Promoting accessibility in information and communication technologies, including websites and mobile applications.
- Progress has been slow, with only a small fraction of buildings and public spaces becoming fully accessible by the campaign's deadline in 2022.

3. Deendayal Disabled Rehabilitation Scheme (DDRS)

- The DDRS provides financial assistance to NGOs and other voluntary organizations working for the rehabilitation of PwDs. It supports the provision of services like skill development, assistive devices, and community-based rehabilitation. The scheme has been instrumental in improving access to assistive technologies for PwDs, but its outreach remains limited, especially in rural areas.

4. National Education Policy (NEP) 2020

The NEP 2020 emphasizes inclusive education and calls for the development of learning resources for students with disabilities. It proposes the establishment of special educator training programs, the development of inclusive curricula, and the use of assistive technologies to ensure that students with disabilities can access education at all levels.

- **Monitoring Mechanisms:** Establishing independent bodies to monitor the implementation of the RPWD Act at the state and district levels.
- **Data Collection:** Improving data collection on PwDs to better understand their needs and challenges.
- **Access to Justice:** Enhancing legal aid services for PwDs to ensure they can access justice in cases of discrimination.

3. World Bank Recommendations

The World Bank's report on disability inclusion in India emphasizes the need for a holistic approach to PwD inclusion. Key recommendations include:

- **Community-Based Rehabilitation (CBR):** Expanding community-based rehabilitation programs to reach PwDs in rural areas.
- **Technology Integration:** Leveraging technology, such as mobile applications and online platforms, to provide educational and employment opportunities for PwDs.
- **Incentivizing Private Sector:** Offering tax incentives and subsidies to encourage private companies to hire PwDs.

RECOMMENDATIONS BY VARIOUS COMMITTEES AND AGENCIES:

1. NITI Aayog's Strategy for New India @ 75

NITI Aayog's Strategy for New India @ 75 report recommends a comprehensive strategy for PwD inclusion, focusing on:

- **Inclusive Education:** Developing teacher training programs and accessible curricula.
- **Employment:** Strengthening the enforcement of the RPWD Act's employment reservation provisions.
- **Healthcare:** Expanding access to affordable healthcare services for PwDs, including mental health support and rehabilitation services.
- **Awareness Campaigns:** Promoting public awareness campaigns to combat stigma and discrimination against PwDs.

2. Committee on the Rights of Persons with Disabilities (CRPD)

The CRPD, which monitors the implementation of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), has urged India to strengthen its enforcement of disability rights. Key recommendations include:

CONCLUSION

- Disability rights and inclusion in India remain a work in progress. While the RPWD Act, 2016, and other government initiatives have laid a strong foundation for change, challenges such as social stigma, inaccessible infrastructure, and inadequate enforcement continue to impede progress. To create a truly inclusive society, India must strengthen its monitoring mechanisms, invest in accessible infrastructure, and promote inclusive education and employment opportunities. By adopting a multi-pronged approach and learning from global best practices, India can move closer to realizing the full potential of its disabled population and ensure that PwDs contribute meaningfully to the nation's growth and development.
- Through concerted efforts by the government, private sector, and civil society, disability rights can transition from being a theoretical framework to a lived reality for millions of PwDs across the country.

DEBATE ON LATERAL ENTRY IN INDIA

A recent advertisement to recruit 45 members laterally to posts under the aegis of the Union Service Public Commission sparked controversy, and was withdrawn two days later.

WHAT IS 'LATERAL ENTRY' INTO THE BUREAUCRACY?



- In a lateral entry to the civil services, persons are recruited from outside the usual bureaucratic setup for certain posts in government departments.
- It was recommended by the NITI Aayog in its Three-year Action Agenda and also the Group of Secretaries (GoS) on Governance had in its report recommended the induction of personnel in the middle and senior management level in the government.
- In India, this may include mid or senior-level positions in services such as the Indian Administrative Service.

OBJECTIVE:

Lateral entry was introduced to serve the twin purpose of:

- Bringing in domain expertise in the civil services,
- Addressing the problem of shortage of IAS officers at the Centre.
- Lateral entry envisages the inclusion of domain experts or those with experience in policy-making and implementation from outside the civil services.
- Private sector employees have often been tapped for advisory roles, but this model sees their entry into the administrative service hierarchy.

PROCESS OF LATERAL ENTRY RECRUITMENT:

- The lateral entry recruitment process into government administration is spearheaded by the Union Public Service Commission (UPSC).
- At the behest of the Department of Personnel and Training (DoPT), the UPSC orchestrates the selection for various senior roles across government departments and ministries.
- The process begins with the UPSC issuing a call for online applications to fill these specialized positions.
- Upon receiving the applications, the UPSC carefully screens them and conducts interviews with the shortlisted candidates. The Commission then compiles and forwards its recommendations to the DoPT.



- Subsequently, the Government completes the appointment of the selected candidates, who are typically engaged for a term of 3 to 5 years.

NEED FOR LATERAL ENTRY :

More Flexible Steel Frame:

- Sardar Patel hailed the bureaucratic structure as the steel frame of India, however inefficiency and corruption have corroded

India's bureaucracy which needs to be made more efficient and accountable to people.

- Bringing in talent from diverse backgrounds can potentially enhance the efficiency and performance of government departments, introducing best practices and management strategies from other sectors.
- Innovation and Reforms:
- Those recruited laterally may bring in experiences from the private sector, NGOs, or other organizations, which could aid in reforming and improving the administrative processes and governance.
- For example, under Nandan Nilekani's innovative approach, Aadhaar became the world's largest biometric ID system.

SPECIALISED SKILL AND EXPERTISE:

- The traditional recruitment process for civil services primarily focuses on generalist knowledge.
- Lateral entry allows the government to bring in individuals with specialized skills and expertise, particularly in areas such as technology, management, finance, and other domains where the government might lack expertise.
- For instance, the appointments of economists like Manmohan Singh, Vijay Kelkar, and Bimal Jalan were lateral in nature.

SHORTAGE OF BUREAUCRAT AT CENTRE:

- The lateral entry can fill the talent gap at the upper ranks of the IAS by recruiting experts from the private sector.
- The Department of Personnel and Training (DoPT) has mentioned in the 2023-24 Demands for Grants report that only 442 IAS officers are working with the Centre, against the required strength of 1,469 officers.

BRIDGE THE GAP BETWEEN THE PUBLIC AND PRIVATE SECTORS:

- The idea of 'lateral exits' has made advances, involving the reverse migration of all types of

civil servants to the private sector for a limited period.

PROS OF LATERAL ENTRY

Infusion of Specialised Expertise:

- One of the primary advantages of lateral entry is the introduction of specialised skills and knowledge into the government.
- Professionals with experience in fields such as finance, technology, or management can bring new perspectives and approaches to public administration.
- This can be particularly beneficial for roles requiring technical expertise or innovative solutions.

Enhanced Efficiency and Effectiveness:

- By bringing in experts from various industries, the government can potentially enhance the efficiency and effectiveness of its operations.
- These professionals may introduce best practices from their respective fields, leading to more effective policy implementation and problem-solving.

Flexibility and Agility:

- Lateral entry allows the government to adapt more quickly to changing needs and challenges.
- For instance, in rapidly evolving sectors like information technology or finance, having individuals with up-to-date knowledge and experience can help the government stay relevant and responsive.

Strengthening Governance:

- The introduction of lateral entrants can help in strengthening governance by providing a fresh perspective on existing issues.
- This can lead to improved decision-making and policy formulation based on contemporary practices and experiences.

CONS OF LATERAL ENTRY

Undermining Reservation Systems:

- A major concern raised by critics is that lateral entry might undermine the reservation system that aims to provide opportunities for SCs, STs, and OBCs.
- The reservation policy has been a cornerstone of affirmative action in India, designed to promote social equity and representation.

Critics argue that lateral entry positions could potentially displace reserved category candidates, thereby affecting their representation in high-level administrative roles.

Potential for Bias and Favoritism:

- There is apprehension that lateral entry could lead to favoritism and bias, especially if appointments are perceived to be influenced by political affiliations or other non-merit-based considerations.
- This could undermine the perceived fairness and transparency of the recruitment process.

Disruption of Career Progression:

- Lateral entry into senior positions might disrupt the career progression of existing civil servants who have followed the traditional route.
- This can lead to discontent and a sense of unfairness among the established bureaucracy, affecting morale and overall efficiency.

Temporary Nature of Positions:

- Many lateral entry positions are contractual and temporary, often lasting for a fixed term of three to five years.
- This temporary nature might lead to instability and a lack of continuity in key administrative roles, which can impact long-term policy implementation and institutional memory.

GLOBAL TRENDS IN LATERAL ENTRY: THE "REVOLVING DOOR" MODEL

International Practices:

- Countries such as the United States, United Kingdom, Australia, New Zealand, and Belgium have embraced lateral entry into administrative roles. This practice facilitates the movement of professionals between government and private sectors.

The "Revolving Door" Concept:

The "revolving door" model describes the dynamic exchange between:

- **Government Positions:** Including legislative roles like U.S. Congress members and various civil service positions.
- **Corporate and Lobbyist Roles:** Where individuals transition to decision-making roles in corporations or industries.

Regulatory Measures:

In the U.S., a "cooling off" period is often required before former officials can engage in lobbying. Specific regulations vary by state.

CONTROVERSIES AND CHALLENGES REGARDING "THE REVOLVING DOOR" MODEL :

- **Undermining Public Interest:** Critics argue that the revolving door can jeopardize public welfare, especially in industries such as Big Pharma, energy, and defense.
- **Conflict of Interest:** This model raises concerns about potential conflicts of interest and undue influence, affecting how policies and regulations are shaped.
- **Impact on Specialized Knowledge:** Frequent transitions of experts in fields like cybersecurity and antitrust can influence the effectiveness of legislative committees and oversight.

GLOBAL IMPACT:

- The revolving door issue is a concern worldwide, with notable impacts in the United Kingdom, France, Italy, Spain, Portugal, Sweden, and Norway.

WHAT CHALLENGES ARE ASSOCIATED WITH LATERAL ENTRIES IN THE INDIAN ADMINISTRATIVE SERVICES?

Short Tenure:

- The Central government has fixed the tenure of joint secretaries at three years.
- This is not a sufficient span of time for newcomers to get well-inculcated with the complex governance systems and be able to contribute meaningfully.

Maintaining Objectivity and Neutrality:

- Preserving objectivity and neutrality while bringing in individuals from various backgrounds and industries can be challenging.
- There might be concerns about conflicts of interest, loyalty, and impartiality, especially if the lateral recruits have had associations with private companies or interest groups.

May Hamper the Morale of Permanent Officers:

- With increased lateral entrants over time, the political leadership may end up creating a 'divide' that would hamper the morale of permanent officers.

Potential Dilution of Merit-Based Recruitment:

- The introduction of lateral entries might dilute the merit-based recruitment system that has been the foundation of the civil services.
- If not executed transparently, this could lead to perceptions of favoritism or nepotism in the selection process.

Outsider Syndrome:

- Traditional bureaucrats might resist the induction of lateral entrants due to concerns about hierarchy, power dynamics, and a potential disruption to the existing administrative structure.
- According to a lateral entrant, the bureaucracy is hostile towards the laterals and they are treated as outsiders.

Experience Requirement for Senior Positions:

- In the permanent system, IAS officers get promoted to joint secretary level after 17 years of service with an average age of a joint secretary of around 45 years and remain at that level for ten years, if similar experience requirements are used for lateral entry, it is unlikely that the best will join because, in the private sector, they rise to the top of their profession at that age.

WAY FORWARD

Prevent Misuse:

- Reforms are needed to minimize the potential misuse of this system by recruiting politically

indoctrinated individuals in the name of recruiting specialists and experts.

- For example, give a constitutional body like the UPSC the authority to conduct the recruitment process and have well-defined job requirements.

Benefiting from Competition:

- Increasing competition in any sphere is a good thing, but serious thinking is required on entry requirements, job assignments, number of personnel, and training to make it a force for positive change.

Transparent Selection Process:

- Ensure a transparent and merit-based selection process for lateral entries.
- This process should emphasise the expertise, experience, and skills required while maintaining a fair and impartial evaluation to avoid perceptions of favouritism or bias.
- United Kingdom (UK): In the UK, the Civil Service Fast Stream program allows for direct recruitment into the civil service at various levels based on specialised skills and expertise.

Gradual Integration:

- Implement a phased approach to integrate lateral entrants into the bureaucracy.
- For example, pairing them with experienced civil servants as mentors can help navigate the bureaucratic environment and effectively contribute to the system.

Clear Expectations and Role Definition:

- Clearly define the roles, responsibilities, and expectations and establish specific performance indicators and objectives to gauge their contributions and align them with organizational goals.

CONCLUSION:

It would be in the best interest of India if administrative reforms are implemented with more rigor while infusing fresh blood in our administration to allow us to grow faster in our Amrit Kaal phase and achieve our goal of reaching \$30 trillion in GDP by 2047 and becoming a developed country.

PRELIMS IN-BRIEF BI-WEEKLY

HISTORY

Namdhari sect

Overview:

- **Founder:** Satguru Ram Singh, established it in 1857.
- Known as “Kukas” due to their high-pitched recitation of Gurbani.

Beliefs:

- **Guru Granth Sahib:** Considered the supreme scripture.
- **Living Guru:** Belief in a living human Guru.
- **Lifestyle:** Teetotallers, avoid tea and coffee; consider cows sacred.

Historical Actions:

- **Resistance:** Advocated social reform and resisted British rule.
- **Punishments:** Ram Singh was deported to Rangoon by the British.

Headquarters: Bhaini Sahib, Ludhiana; presence in Punjab, Haryana, and internationally.

Angkor Wat



Historical Significance:

- **Originally** dedicated to the Hindu god Vishnu
- Converted to a **Buddhist temple** by the end of the 12th century.
- Designated as a **UNESCO World Heritage Site** in 1992.

Architectural Features:

- Exemplifies the **high classical style of Khmer architecture**.
- Constructed using **sandstone blocks**.

- The temple's five towers symbolise **Mount Meru**, a sacred mountain in Hindu and Buddhist mythology.
- The walls are adorned with **bas-reliefs depicting key deities** and events from Hindu and Buddhist traditions.
- Situated in the **north-western province of Siem Reap, within the city of Angkor**.

Qutb Shahi Tomb Complex

Overview:

- Built by the **Qutb Shahi dynasty** (1518-1687 CE).
- Located at **Ibrahim Bagh, Hyderabad**.

Architecture:

- **Style:** Indo-Muslim, with influences from Persian, Pathan, and Hindu styles.
- **Materials:** **Grey granite** with **stucco ornamentation**.

Key Facts:

- **Dynasty:** Muslim rulers of Golconda, founded by **Quli Qutb Shah**.
- **Capital:** Golconda, later Hyderabad.
- **Territory:** Extended from the **Godavari River** to **Tamil Nadu, Bijapur, and the Bay of Bengal**.

GEOGRAPHY

Coffee Production

Climatic Conditions Required:

- **Climate:** Hot and humid.
- **Temperature:** 15°C to 28°C.
- **Rainfall:** 150 to 250 cm annually.
- **Soil:** Well-drained, loamy soil rich in humus, iron, and calcium.
- **Growth Conditions:** Grown under shady trees; dry weather needed during berry ripening.

India's Coffee Position: Global Rank: **6th largest producer** and **5th largest exporter**.

Coffee Varieties:

- **Arabica:** High altitude; aromatic.
- **Robusta:** Strong; used in blends.

Coffee Board of India:

- **Headquarter-** Bengaluru

- **Statutory body**
- Under **Ministry of commerce and industry**

PM-PRANAM

Overview:

- PM-PRANAM stands for "**PM Programme for Restoration, Awareness Generation, Nourishment, and Amelioration of Mother-Earth.**"
- **Announced:** Union Budget **2023-24.**
- **Objective:** Promote sustainable and balanced fertiliser use, encourage alternative fertilisers, and support organic/natural farming practices.
- **Financial Incentive:** States/UTs reducing chemical fertiliser use below a 3-year average will receive 50% of the savings from the fertiliser subsidy to benefit local communities.
- **Fertilisers Covered:** Urea, DAP, NPK, MOP.
- **Scope:** All States and UTs in India.

Perseid Meteor Shower

Overview:

- **Origin:** Debris from Comet Swift-Tuttle, which orbits the Sun every 133 years.
- **Visibility:** Best seen in the **northern hemisphere**, especially between midnight and dawn.
- **Name Origin:** Named after the Perseus constellation.
- **Meteors:** Also known as "**shooting stars,**" meteors are small space rocks that burn up in Earth's atmosphere, sometimes creating fireballs.

Ranthambore Tiger Reserve (RTR)

Overview:

- **Geographical Position:** Located at the junction of the **Aravali and Vindhyan ranges.**
- **Rivers:** Bound by the **Chambal River** to the south and the **Banas River** to the north.
- **Great Boundary Fault:** Where the **Vindhyan plateau** meets the **Aravali range.**
- **Lakes:** Notable lakes include **Padam Talab, Raj Bagh Talab,** and **Malik Talab.**
- **Vegetation Types:** Tropical dry deciduous and tropical thorn forests.

- **Flora:** Includes **Dhok tree** (*Anogeissus pendula*), **grasslands, meadows,** and **luxuriant foliage around canals.**
- **Fauna: Predators:** Tiger (main predator) and Leopard.

Aravalli Range

Overview:

- **Geographical Extent:** North-western India.
- **Coverage:** Runs approximately 670 kilometers (430 miles) in a **southwest direction.**
- **States through where it passes:** Starts near Delhi, passes through southern Haryana and Rajasthan, and extends into Gujarat.
- One of the **oldest fold mountain ranges** in the world.
- **Highest Point:** Guru Shikhar on **Mount Arbuda.**

Teesta-V Hydropower Station

Location: Situated on the **Teesta River** in Gangtok district, Sikkim



Teesta River

- The Teesta River is a **trans-Himalayan river** that flows through the **Indian states of Sikkim and West Bengal,** and into **Rangpur in Bangladesh.**
- It is a significant **tributary of the Brahmaputra River.**
- The river **originates in the Himalayas near Chunthang in Sikkim.**
- It cuts through the **Siwalik Hills** and **flows southeast to the plains of West Bengal.**
- Originally, the **Teesta flows southward into the Padma River** but altered its course in 1787 to join the **Jamuna River (Brahmaputra).**

Tributaries:

- **Left-bank:** Lachung Chhu, Chakung Chhu, Dik Chhu, Rani Khola, Rangpo Chhu.
- **Right-bank:** Zemu Chhu, Rangyong Chhu, Rangit River.

Shiveluch Volcano

Overview:

- **Region:** Kamchatka Peninsula, Russia.
- **Type:** **Stratovolcano** with steep slopes.
- **Activity:** One of Kamchatka's most active volcanoes, with continuous eruptions since August 1999 and notable explosive events.
- **Geography:** Situated between the Sea of Okhotsk and the Pacific Ocean.
- **Climate:** Severe winters and cool, wet summers.
- **Capital:** Petropavlovsk-Kamchatsky.

Similipal Tiger Reserve (STR)

Overview:

- **Region:** Northern **Odisha**, Mayurbhanj District.
- **Tiger Reserve:** Designated in **1973** under **Project Tiger**.
- **Wildlife Sanctuary:** Declared in 1979.
- **Biosphere Reserve:** Added to **UNESCO's list in 2009**.
- **Elephant Reserve:** Part of the Mayurbhanj Elephant Reserve, which includes **Hadgarh** and **Kuldiha Wildlife Sanctuaries**.
- **Terrain:** Undulating and hilly with open grasslands and wooded areas.
- **Highest Peaks:** **Khairiburu** and **Meghashini**.

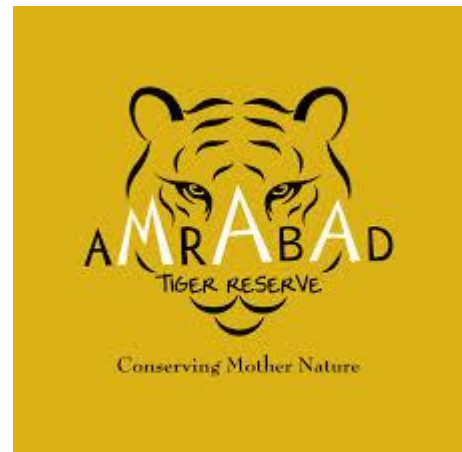
Glacial Lakes



Overview:

- **Definition:** Glacial lakes are **water bodies formed by glaciers**, typically located at the glacier's terminus.
- **Formation:** Created by glacial movement, which **erodes the terrain, leaving depressions**. These depressions are filled by meltwater when glaciers retreat.
- **Types:** Classified by ISRO into **four categories:** moraine-dammed, ice-dammed, erosion-based, and others.
- **Risks:** Glacial lakes can lead to **Glacial Lake Outburst Floods (GLOFs)**, sudden floods caused by the failure of natural ice or moraine dams.

Amrabad Tiger Reserve



Overview:

- **Location:** Nagarkurnool and Nalgonda districts, **Telangana**; part of the **Nallamala Forest in the Eastern Ghats**.
- **History:** Formerly part of **Nagarjunasagar-Srisailem Tiger Reserve**; renamed after the bifurcation of Andhra Pradesh.
- **Key Features:** Includes major reservoirs like **Srishailam and Nagarjuna Sagar Dams**, fed by the **Krishna River**.
- **Tribes:** Inhabited by the **Chenchu tribe**.
- **Flora:** Dominant species include **Terminalia tomentosa** and **Madhuca latifolia**; dense grass covers 30% of the area.
- **Fauna:** Home to **Tigers, Leopards, Indian Wolves**, and 303 bird species, including **Eagles and Woodpeckers**.

Wular Lake

Overview:

- **Location:** Bandipore district, Jammu and Kashmir; fed by the **Jhelum River**.
- **Altitude:** Situated at 1,580 m on the foothills of **Haramuk Mountain**.
- **Size:** **Largest freshwater lake in India and second-largest in Asia;**
- **Formation:** Result of **tectonic activity**; believed to be a remnant of ancient **Satisar Lake**.
- **Notable Features:** Includes the '**Zaina Lank**' island, built by **King Zainul-Abi-Din**.
- **Ramsar Site:** Designated as a **Wetland of International Importance** in 1990.

Typhoon Shanshan

Typhoon Shanshan has intensified into a "**very strong**" storm as it approaches **Japan's south-western coast**. Weather agencies have issued warnings.

Tropical Cyclone Characteristics:

- **Formation:** Originates over **warm ocean waters near the equator**. Warm, moist air rises, creating a **low-pressure area**.
 - Surrounding higher-pressure air moves towards this low-pressure zone, causing further warming and rising of air. This system of spinning clouds and wind intensifies with the ocean's heat, forming an eye at the centre as wind speeds increase.
- **Calm Centre:** The cyclone's centre is typically calm with very low air pressure.
- **Speed:** Average wind speed is around 120 km/h.
- **Closed Isobars:** Cyclones have closed isobars, leading to higher wind velocities. Isobars are lines on a weather map connecting points of equal atmospheric pressure.
- **Origin:** Forms **exclusively over oceans and seas**.
- **Movement:** Moves from east to west, influenced by trade winds, and is seasonal.

Naming of Tropical Cyclones: Cyclones are named by regional bodies:

- ESCAP/WMO Typhoon Committee
- WMO/ESCAP Panel on Tropical Cyclones
- RA I Tropical Cyclone Committee
- RA IV Hurricane Committee
- RA V Tropical Cyclone Committee

In the Indian Ocean, the **WMO/ESCAP Panel on Tropical Cyclones** is responsible for naming. United Arab Emirates (UAE) in 2020 gave the name '**Mandous**' to the cyclone

SCIENCE & TECHNOLOGY

Watermarking on AI-Generated Content

Leading tech companies like OpenAI, Meta, Microsoft, Google, and Adobe are developing watermarking techniques to detect AI-generated content.

What is Watermarking on AI-Generated Content?

- AI watermarking is a digital signature embedded in content to identify if it was generated by AI.
- It acts like a fingerprint, tracing the content back to its AI model origin.

Need for Watermarking:

- **Authentication:** Verifies the authenticity of digital content, crucial for combating deep fakes and manipulated media.
- **Tamper Detection:** Integrates with block chain to ensure any content alterations are detectable, preserving integrity.
- **Building Trust:** Helps creators and consumers verify content, reducing misinformation and counterfeiting.

Steps to Ensure AI Authenticity:

- **C2PA:** A coalition by Adobe, Microsoft, and others to set standards for verifying audio-visual content authenticity.
- **Block chain Use:** Provides transparent, immutable records of digital asset ownership and provenance.

Tarang Shakti to be Made a Biennial Event

The Indian Air Force (IAF) Chief, Air Chief Marshal V. R. Chaudhari, announced that the largest multilateral air exercise hosted by the IAF, "Tarang Shakti," will become a biennial event.

Overview:

- **Phase One:** Held at Sulur, Tamil Nadu (6th-14th August 2024), with participation from France, Germany, Spain, and the UK.
- **Phase Two:** Scheduled at Jodhpur, Rajasthan (1st-14th September 2024), with participation

from Australia, Bangladesh, Greece, Singapore, UAE, the US, and 18 observer countries.

Highlights: Featured Indian aircraft like the Light Combat Aircraft (LCA), Light Combat Helicopter (LCH), Light Utility Helicopter (LUH), and aerobatic team Sarang.

10th Edition of Exercise MITRA SHAKTI

The 10th edition of the India-Sri Lanka Joint Military Exercise, **MITRA SHAKTI**, has commenced.

Key Points:

- **Exercise Focus:** Counter-insurgency and counter-terrorism operations in semi-urban terrain.
- **Significance:** It's the largest bilateral exercise of the Sri Lankan Army and a crucial part of the growing India-Sri Lanka defence partnership.
- **Objective:** Incorporates current UN peacekeeping dynamics through tactical exercises and discussions.
- **Related Exercises:** India also conducts SLINEX (Naval exercise) with Sri Lanka.
- **Geopolitical Context:** Sri Lanka is strategically located in the Indian Ocean and shares close maritime and trade ties with India.

National Pest Surveillance System (NPSS)

- **Launched by:** Ministry of Agriculture and Farmers Welfare
- **Objective:** To provide timely pest management advisories using Artificial Intelligence (AI) and Machine Learning (ML).
- **Features:** Mobile app and web portal for accessibility.
- **Benefits:** Reduces reliance on pesticide retailers, promotes scientific pest control, and offers real-time pest identification and management to improve crop productivity.

Prokaryotes

Overview:

- **Definition:** Single-celled organisms without a distinct nucleus or membrane-bound organelles.

- **Shapes:** Rod-like (bacillus), spherical (coccus), comma-shaped (vibrio), and spiral (spirillum).
- **Cell Structure:** Includes a cell wall (except in mycoplasma), cytoplasm, and plasma membrane. Lacks a well-defined nucleus.
- **Organelles:** No membrane-bound organelles except ribosomes; possess mesosomes for various functions.
- **Reproduction:** Primarily through binary fission (asexual reproduction).
- **DNA:** Contains a single chromosome with DNA.
- **Types:** Includes bacteria and archaea, considered the oldest lifeforms on Earth.
- **Habitat:** Found globally, from land to water, and from tropics to poles.
- **Ecological Role:** Crucial in food chains and carbon cycling, especially in marine environments.

The Microwave Microbiome

Microbial Presence: Microwave ovens can host distinct microbial communities, including bacteria, viruses, and fungi, similar to other household appliances.

Influencing Factors:

- **Location:** Microwaves in offices versus home kitchens may have different microbial compositions due to usage patterns and cleaning habits.
- **Usage Patterns:** Frequent reheating of leftovers vs. occasional use affects the microbial community.
- **Hygiene Practices:** Regular cleaning and maintenance are crucial. Poor hygiene can lead to microbial growth due to food particles and moisture.

Types of Microbes:

- **Extremophiles:** Microorganisms capable of surviving high temperatures and varying moisture levels are commonly found.
- **Health and Hygiene Implications:**
- **Microbial Risk:** While not all microbes are harmful, the presence of potential pathogenic bacteria underscores the importance of maintaining proper hygiene to reduce health risks.

EOS-08 Earth Observation Satellite

Launch Details:

- **Agency:** Indian Space Research Organisation (ISRO)
- **Vehicle:** Small Satellite Launch Vehicle (SSLV)-D3
- **Launch Site:** Satish Dhawan Space Centre, Sriharikota

SSLV-D3:

- **Status:** Third and final development flight; development process completed

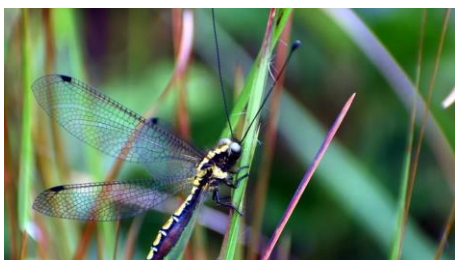
EOS-08 Satellite:

- **Orbit:** Circular Low Earth Orbit (LEO) at 475 km altitude, 37.4° inclination
- **Mission Life:** 1 year

Payloads:

- **Electro Optical Infrared Payload (EOIR):**
 - **Function:** Imaging in Mid-Wave IR (MIR) and Long Wave IR (LWIR) bands
 - **Applications:** Satellite-based surveillance, disaster monitoring, environmental monitoring, fire detection, volcanic activity, and industrial disaster detection
- **Global Navigation Satellite System-Reflectometry (GNSS-R):**
 - **Function:** Demonstrates GNSS-R based remote sensing
 - **Applications:** Ocean surface winds, soil moisture, cryosphere applications (Himalayan region), flood detection, in-land water body detection
- **SAC and SiC UV Dosimeter:**
 - **Function:** Monitors UV irradiance at the Crew Module viewport for Gaganyaan Mission; high-dose UV radiation alarm sensor

Owl flies



Recent Discovery: A rare species of owl fly, *Glyptobasis dentifera*, was rediscovered in Kerala after 75 years.

Taxonomy:

- **Order Neuroptera:** Owl flies belong to this order, which includes holometabolous insects (insects with complete metamorphosis).
- **Resemblance:** Often mistaken for dragonflies, which belong to the Order Odonata (hemimetabolous insects), due to their similar appearance.
- **Habitat:** During the day, adult owl flies perch on grass blades in lateritic soils or in densely vegetated village households.

Appearance:

- **Antennae:** Long, clubbed antennae nearly as long as their body.
- **Eyes:** Bulging eyes, a distinguishing feature.
- **Wings:** Some species develop coloured wings after emergence.

Behaviour:

- **Diet:** Adult owlflies are aerial predators feeding on other insects.
- **Defence:** When disturbed, they release a strong, musk-like chemical to deter predators.
- **Reproduction:** Owlflies lay eggs in groups on the tips of limbs and twigs. Females create a protective shield below the eggs to prevent predation.
- **Larval Stage:** Initially, larvae are found in soil or on trees, where they live in clusters for protection.

Flaviviruses

Overview:

- **Family:** Flaviviruses belong to the Flaviviridae family.
- **Genome:** Non-segmented, single-stranded, positive-sense RNA.
- **Diseases:** They cause serious diseases like Dengue, Zika, Yellow Fever, West Nile, and Japanese Encephalitis.
- **Vectors:** Primarily spread by *Aedes* mosquitoes; also transmitted by ticks and other insects.
- **Unique Case:** Hepatitis C, a Flavivirus, is transmitted through direct blood contact, not by vectors.

Recent Study: Identified importin-7 (IPO7) as crucial for transporting the flavivirus core protein into the nucleus, essential for viral replication.

Directorate General of Quality Assurance (DGQA)

Overview:

- **Function:** DGQA is an inter-service organization under the Department of Defence Production, Ministry of Defence, responsible for second-party Quality Assurance (QA) of all defence stores and equipment.
- **Scope:** It covers QA for equipment for the Army, Navy (excluding Naval Armaments), and common user items for the Air Force, from both private and public sector sources, including Ordnance Factories.

Responsibilities:

- **Quality Assurance:** Ensures extensive testing of products under various conditions.
- **Import Substitution:** Works on reducing dependency on imported items.
- **Documentation and Standardization:** Ensures standardisation and documentation of equipment.

Nipun Munition:

- **Development:** Designed and developed by the Armament Research & Development Establishment (ARDE) in collaboration with the High Energy Materials Research Laboratory (HEMRL), Pune.

Characteristics:

- **Type:** Soft-target munition.
- **Features:** User-friendly, safe during handling, transportation, and laying.
- **Effectiveness:** Highly effective against enemy targets.

Parvovirus B19

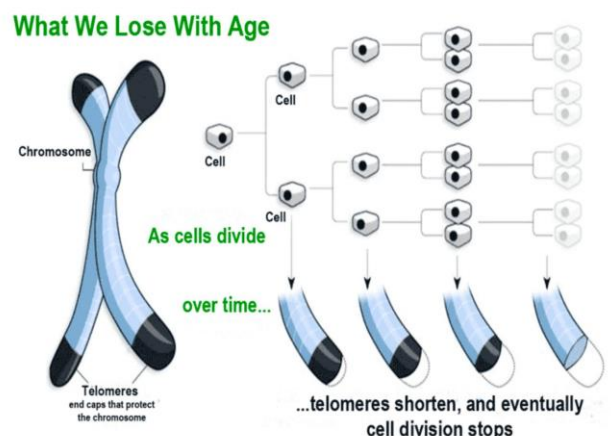
Overview:

- **Virus Type:** Parvovirus B19 is a highly contagious virus known for causing a common childhood illness, often referred to as "slapped cheek" syndrome due to the characteristic reddening of the cheeks.
- **Other Name:** Also known as "Fifth disease," it was historically fifth in a list of common childhood illnesses characterized by a rash.

Transmission:

- **Airborne Spread:** The virus spreads through airborne droplets when an infected person coughs or sneezes.
- **Blood Transmission:** It can also spread through blood or contaminated blood products.
- **Vertical Transmission:** Pregnant individuals with the virus can transmit it to the foetus through the placenta.
- **Complications:**
 - **General:** In most children, the infection is mild and requires minimal treatment.
 - **Adults:** The infection can be more serious in adults, particularly those with weakened immune systems or certain types of anaemia.
 - **Pregnancy:** Parvovirus infection in pregnant women can lead to severe health issues for the foetus.
- **Symptoms:**
 - **Asymptomatic Cases:** Many people with parvovirus infection show no signs or symptoms.
 - **Symptomatic Cases:** When symptoms do appear, they often vary by age:
 - **Children:** A distinctive "slapped cheek" rash.
 - **Adults:** Joint pain and swelling.
- **Treatment:**
 - **Symptom Management:** The infection is generally mild and resolves on its own. Treatment focuses on relieving symptoms such as fever, itching, and joint pain.

Hay flick Limit



Overview:

- **Definition:** The Hay flick Limit refers to the maximum number of times a normal somatic cell can divide before it stops dividing and enters senescence.
- **Discovery:** Named after Leonard Hay flick, a biomedical researcher who discovered this phenomenon in the 1960s.

Phases of Cell Division:

- **Phase 1:** Rapid, healthy cell division.
- **Phase 2:** Mitosis slows down as the cell approaches its division limit.
- **Phase 3 (Senescence):** Cells stop dividing entirely, entering a state where they remain alive but can no longer reproduce.

Cellular Senescence and Apoptosis:

- After reaching the Hay flick Limit, cells enter senescence and eventually undergo apoptosis, a form of programmed cell death.

Telomeres and Aging:

- **Telomeres:** Protective DNA sequences at the ends of chromosomes that shorten with each cell division.
- **Role in Aging:** The shortening of telomeres is linked to aging and the eventual cessation of cell division, although the precise relationship between telomere length and lifespan is still not fully understood.

Discovery of Liquid Water on Mars

A recent study has detected significant amounts of liquid water beneath Mars' crust, a key breakthrough in Martian exploration.

Key Points:

- **First Discovery:** Evidence of liquid water below the Martian surface, distinct from polar ice.
- **Study Details:** Published in Proceedings of the National Academy of Sciences (PNAS) by the University of California team.
- **Method:** Utilised data from NASA's InSight Lander (2018-2022), which recorded Mars quakes and meteorite impacts. Geophysical models inferred the presence of liquid water from seismic wave data.

Findings:

- **Depth & Location:** Water detected 10-20 km beneath the surface.
- **Volume Estimate:** Potential to fill an ocean 1-2 km deep if spread across Mars.

Significance:

- **Mars' Water Cycle:** Enhances understanding of Mars' climate and internal structure.
- **Search for Life:** Increases the potential for habitable environments.
- **Colonisation Challenges:** Deep water extraction complicates future human colonisation plans.

What is the Shaheen-II Missile?

Pakistan recently conducted a successful training launch of the Shaheen-II, a surface-to-surface ballistic missile.

About Shaheen-II Missile:

- **Type:** Medium-range surface-to-surface ballistic missile.
- **Possible Origin:** Likely derived from China's M-18, though not confirmed.

Specifications:

- **Range:** 1,500–2,000 km.
- **Dimensions:** 17.2 m long, 1.4 m in diameter, weighs 23,600 kg.
- **Payload:** Capable of carrying conventional or nuclear warheads.
- **Accuracy:** Estimated 350 m circular error probable (CEP), with a warhead featuring four small motors for improved precision.
- **Transport:** Launched from a 6-axle transporter erector launcher (TEL).

Ballistic Missiles Overview:

- **Definition:** Rocket-propelled weapons following a ballistic trajectory to deliver payloads.
- **Characteristics:** Powered initially by rockets; follow an unpowered, arched trajectory.
- **Payloads:** Can carry conventional, chemical, biological, or nuclear munitions.
- **Launch Platforms:** Land-based silos, mobile platforms, aircraft, ships, and submarines.

Genome Editing - ISDrA2TnpB

A new breakthrough in plant genome editing has emerged from a collaboration between ICAR-National Rice Research Institute (India) and Pennsylvania State University (USA).

About Genome Editing:

- **Definition:** A technology that allows precise modifications to the DNA sequence of organisms.
- **Applications:** Enhances crop yields, resistance to pests and diseases, and introduces traits like drought tolerance.
- **Popular Tool:** CRISPR, known for its precision and efficiency, but has limitations in plant editing due to the large size of associated proteins.



ISDra2TnpB Genome Editor:

- **Origin:** Derived from the bacterium *Deinococcus radiodurans*.
- **Size:** Less than half the size of CRISPR-associated proteins like Cas9 and Cas12, facilitating better use in plant cells.
- **Efficiency:** Demonstrates a 33.58% editing efficiency in average plant genomes.
- **Versatility:** Effective in both monocot (e.g., rice) and dicot (e.g., *Arabidopsis*) plants.
- **Base Editing:** Includes a hybrid base editor for precise single nucleotide changes.

Potential Agricultural Applications:

- **Pest Resistance:** Could develop pest-resistant crop varieties.
- **Nutritional Improvement:** May remove anti-nutrient factors, enhancing nutritional content.
- **Environmental Resilience:** Could produce crops more resilient to environmental stress, such as shorter rice varieties for cyclone-prone areas.

Antihyper Hydrogen-4

- The newly discovered antiparticle, antihyper hydrogen-4, may provide insights into the universe's formation.

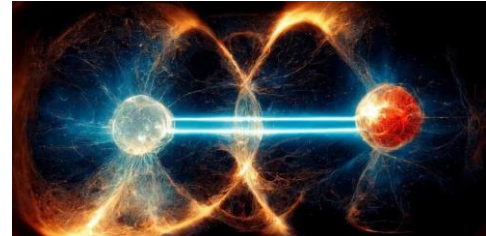
Key Points:

- **Composition:** Antihyper hydrogen-4 consists of an antiproton, two antineutrons, and one antihyperon (a baryon with a strange quark).
- **Discovery:** Traces of antihyper hydrogen-4 were found in particle collisions at the Relativistic Heavy Ion Collider (RHIC), Brookhaven National Laboratory.
- **Findings:** Both antihyper hydrogen-4 and its matter counterpart hyperhydrogen-4 decay rapidly, with no significant difference in their lifetimes observed.
- **Next Steps:** Scientists will compare the masses of antihyper hydrogen-4 and hyperhydrogen-4 to understand the matter-antimatter imbalance and the universe's formation.

Antimatter:

- Antimatter has the same properties as matter but with opposite electric charges. The antiparticle of an electron is the positron.

Quantum Nonlocality



Quantum nonlocality is a concept in quantum mechanics that contradicts classical physics' principle of locality, which states that distant objects cannot instantly influence each other.

Key Points:

- **Nonlocality:** Refers to the ability of quantum objects to instantaneously "know" each other's state, even when separated by vast distances, defying the speed of light as the universal speed limit.
- **Entanglement:** This phenomenon arises from quantum entanglement, where interacting particles become correlated and behave as a single entity, regardless of distance.
- **Implications:** Nonlocality challenges the traditional "principle of locality," suggesting that the universe's parts may be intimately and immediately connected.

Tanager-1 Satellite

NASA recently launched the Tanager-1 satellite to monitor methane emissions, a key contributor to global warming.

Launch Details:

- **Vehicle:** SpaceX Falcon 9 rocket.
- **Site:** Vandenberg Space Force Base, California.
- **Development:** Jointly developed by NASA's Jet Propulsion Laboratory and partners.

Mission Purpose:

- **Objective:** Detect major carbon dioxide (CO₂) and methane (CH₄) emissions.
- **Environmental Focus:** Targets greenhouse gases critical to global warming.

Technological Features:

- **Spectrometer Technology:** Uses advanced imaging spectrometers to identify greenhouse gases by their unique infrared signatures.
- **Emission Tracking:** Capable of monitoring emissions across 130,000 square kilometres daily.
- **Data Access:** Publicly available data to support global emission reduction.

Significance of Methane Monitoring:

- **Impact:** Methane is 80 times more effective than CO₂ at warming the atmosphere over 20 years.
- **Contribution:** Responsible for 30% of global warming since the Industrial Revolution.

BioE3 (Biotechnology for Economy, Environment, and Employment) Policy

- The Union Cabinet has approved the 'BioE3' Policy to promote high-performance biomanufacturing in India.

Objective:

- Foster high-performance biomanufacturing across sectors like medicine, materials, farming, and bio-based products.
- Support innovation-driven research, development, and entrepreneurship.

Implementation:

- Led by the Department of Biotechnology, the policy aims to accelerate technology development and commercialization.
- Establish biomanufacturing hubs, bio-AI centres, and biofoundries.

Focus Areas:

- High-value bio-based chemicals
- Biopolymers and enzymes
- Smart proteins and functional foods
- Precision biotherapeutics
- Climate-resilient agriculture
- Carbon capture and utilisation
- Marine and space research

Significance:

- Promotes a regenerative bioeconomy and green growth.
- Expands India's skilled workforce and boosts job creation in biotechnology.
- This policy aligns with national priorities, emphasising sustainable economic growth and environmental conservation through biotechnology.

Sonobuoys

The US recently approved a USD 52.8 million deal for the sale of Anti-Submarine Warfare (ASW) Sonobuoys to be integrated with the Indian Navy's Romeo helicopters.

What are Sonobuoys?

- Small, expendable devices used in underwater acoustics to detect and analyse sound in the ocean.
- Core technology for anti-submarine warfare (ASW), tracking submarines and underwater objects.
- Helps in precision attacks with air-launched torpedoes by providing real-time data.

Deployment:

- Deployed from aircraft, ships, or submarines by dropping them into the ocean.
- Sink to a specific depth and listen for acoustic signals to detect potential submarine threats.
- Multiple sonobuoys can be deployed in a pattern for precise target location.

Types of Sonobuoys:

- **Passive:** Listen for sounds without emitting signals, using hydrophones.
- **Active:** Emit sound pulses and analyze echoes to detect targets, using transducers.
- **Special Purpose:** Provide environmental data, such as water temperature and ambient noise levels.

Components:

- Typically consist of a buoyant housing, sensors, a power source, and a communication system to relay data to host platforms (e.g., aircraft or ships).

Other Applications: Used in scientific research and environmental studies, including tracking marine life like whales.

Acute Encephalitis Syndrome (AES)

Recent surge in AES cases in Gujarat, affecting primarily children, leading to multiple fatalities.

Key Points:

- **Symptoms:** Sudden onset of high fever, convulsions, altered sensorium, multi-organ dysfunction, vomiting, and in severe cases, respiratory failure.
- **Causes:** Viral, bacterial, fungal, and parasitic infections, as well as toxins.
- **Gujarat Outbreak:** 178 cases with 78 deaths across 26 districts. 36% of deceased children tested positive for Chandipura Vesiculovirus (CHPV).

RHUMI-1

India marked a milestone with the launch of its first reusable hybrid rocket, RHUMI-1, developed by Space Zone India and Martin Group.

Key Points:

- **Type:** Reusable hybrid rocket, combining solid propellant and liquid oxidizer for improved efficiency and reduced operational risks.
- **Innovations:** Features a CO₂-triggered parachute system for safe, eco-friendly recovery of components.
- **Launch Details:** Launched from Chennai's East Coast Road Beach, carrying 3 Cube Satellites and 50 PICO Satellites into a suborbital trajectory.
- **Satellites' Mission:** Cube Satellites monitor atmospheric conditions like cosmic radiation and air quality; PICO Satellites analyze environmental factors like vibrations and ozone levels.

Eastern Equine Encephalitis (EEE)

Virus

Eastern Equine Encephalitis (EEE) is a rare but severe viral infection transmitted to humans and animals

through the bite of infected mosquitoes. It primarily causes inflammation of the brain (encephalitis).

Transmission:

- Spread by mosquitoes that feed on both birds and mammals.
- Affects a variety of animals, including mammals, birds, reptiles, and amphibians.

Symptoms:

- Symptoms appear 4-10 days after the mosquito bite.
- Severe cases include headache, high fever, chills, vomiting, disorientation, seizures, encephalitis, and coma.
- Approximately 30% of those infected die, and survivors often suffer permanent neurological damage.

Treatment:

- No vaccine or specific antiviral treatment.
- Supportive care includes hospitalisation, respiratory support, and intravenous fluids.

Lunar Magma Ocean (LMO)

Recent discoveries by India's Chandrayaan-3 mission have reignited interest in the Lunar Magma Ocean (LMO) theory, which is central to understanding the moon's formation.

Chandrayaan-3's Discovery:

- **Finding:** The Pragyan rover identified ferroan anorthosite in the lunar south pole.
- **Significance:** Confirms the LMO theory, aligning with earlier Apollo and Luna mission observations.

What is the Lunar Magma Ocean (LMO)?

- **Definition:** The LMO is a hypothesized stage when the moon's surface was entirely molten after a massive impact between early Earth and a Mars-sized body.
- **Ferroan Anorthosite:** A rock type that formed as the magma ocean cooled, floating to the surface and creating the moon's initial crust.

Importance:

- **Geological Insight:** LMO explains the moon's differentiation process, where heavier materials sank and lighter ones, like ferroan anorthosite, formed the crust.
- **Preservation:** The presence of ferroan anorthosite suggests the moon's surface has remained relatively unchanged, lacking significant volcanic or tectonic activity.

Scientific Implications:

- **Supports LMO Theory:** Confirms the moon's early crust was formed from a global magma ocean.
- **Time Dilation:** The discovery ties into general relativity, with the moon's lower gravity causing time to pass slightly faster than on Earth.

Key Points:

- **Impact Hypothesis:** The moon's formation resulted from a collision between early Earth and a rogue planetary body.
- **South Pole-Aitken Basin:** The site near which Chandrayaan-3 conducted its studies.
- **APXS Instrument:** Used by Pragyan to analyze the lunar soil's chemical composition.

POLITY

Narcotics Control Bureau (NCB)

The Union Home Minister recently inaugurated the zonal office of the Narcotics Control Bureau (NCB) in Raipur, Chhattisgarh.

About Narcotics Control Bureau (NCB):

- **Establishment:** The NCB was constituted on 14th November 1985 under the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985.
- **Type:** It is the nodal drug law enforcement and intelligence agency in India, operating under the Ministry of Home Affairs.
- **Headquarters:** Located in New Delhi.

Functions and Powers:

- **Coordination:** The NCB coordinates actions across various offices, state governments, and authorities under the NDPS Act, Custom Act, Drugs and Cosmetics Act, and other relevant laws for enforcement against drug trafficking and abuse.
- **International Obligations:** It implements India's countermeasures against illicit drug trafficking in compliance with international conventions and protocols.
- **Assistance and Cooperation:** The NCB assists foreign authorities and international organisations in preventing and suppressing illicit drug trafficking globally.

- **Domestic Coordination:** It also coordinates actions with other ministries, departments, and organisations concerning drug abuse and trafficking.

Enforcement Role:

- The NCB operates through its zonal offices, which:
 - Data Collection
 - Trend Analysis
 - Intelligence Sharing
 - Collaboration: Work closely with Customs, State Police, and other law enforcement agencies.

Election Commission of India (ECI)

The Election Commission of India (ECI) recently concluded the 18th Lok Sabha elections and announced dates for Assembly polls in Jammu and Kashmir and Haryana, reaffirming its role in ensuring transparent, free, and fair elections in India.

About the Election Commission of India (ECI):

- **Constitutional Foundation:**
 - **Established under:** Article 324 of the Indian Constitution
 - **Primary Role:** Conducts elections for Parliament, state legislatures, and the offices of the President and Vice President of India.
 - **Exclusions:** Does not oversee elections for urban local bodies like municipalities and panchayats (managed by State Election Commissions).
- **Constitutional Provisions:**
 - **Article 324:** Empowers ECI to supervise, direct, and control electoral processes.
 - **Article 325:** Prohibits exclusion from electoral rolls based on religion, race, caste, or sex.
 - **Article 326:** Establishes adult suffrage (voting rights for all citizens aged 18 and above).
 - **Articles 327 & 328:** Empower Parliament and state legislatures to make laws regarding elections.
 - **Article 329:** Prohibits judicial interference in electoral matters.

- **Functions and Jurisdiction:**
 - **Advisory Role:** Advises the President/Governor on disqualification of MPs/MLAs.
 - **Quasi-Judicial Role:** Disqualifies candidates for not submitting election expenses, resolves disputes about political party recognition and election symbols.
 - **Administrative Role:** Manages delimitation, voter registration, electoral rolls, election scheduling, and ensures compliance with the Model Code of Conduct.

SOCIAL JUSTICE

BHAVISHYA

Introduction:

- **Purpose:** To address delays, clerical errors, and financial loss in pension processing.
- **Implemented by:** Department of Pension & Pensioners' Welfare (DOPPW).
- **Status:** Mandatory for all central ministries, with 99 ministries/departments onboard.

Key Features:

- **Automation:** Automatic registration of retirees with pre-filled data and auto-calculation of retirement benefits.
- **Timelines:** Enforces strict timelines for pension processing, ensuring transparency and accountability.
- **Real-Time Updates:** Provides updates via email/SMS.

Integration:

- **PFMS (Public Financial Management System):** For electronic Pension Payment Orders (ePPOs), making the process paperless.
- **Banks:** Integrated for post-retirement services.
- **Digilocker:** ePPOs are stored for easy access.

Recognition:

- **NeSDA Ranking:** Ranked 3rd in the National e-Governance Service Delivery Assessment (NeSDA) 2021.

Additional Feature:

- **Pensioners' Identity Cards:** Issued through Bhavishya.

INTERNATIONAL RELATIONS

St Martin's Island

St Martin's Island has been in the news following former Bangladesh Prime Minister Sheikh Hasina's resignation and controversies over its lease to another nation.

Key Facts:

- **Location:** North-eastern Bay of Bengal, near the Bangladesh-Myanmar border.
- **Proximity:** 9 km from the southern tip of Bangladesh's Cox's Bazar-Teknaf peninsula.
- **Size and Elevation:** 7.3 km long, 3.6 meters above mean sea level.
- **Significance:** Bangladesh's only coral island, serving as a breeding ground for sea turtles.

Historical Background:

- **Geological History:** Once part of the Teknaf peninsula about 5,000 years ago, the island gradually submerged and re-emerged over centuries.
- **Settlement History:** First settled by Arab merchants in the 18th Century, originally named "Jazira" (the island) and later "Narikel Jinjira" (Coconut Island).
- **Colonial Era:** Annexed by British India in 1900, renamed St Martin's Island after Deputy Commissioner Martin.
- **Post-Independence:** Became part of Pakistan in 1947 and then Bangladesh after the 1971 Liberation War.

Comprehensive Strategic Partnership between India and Malaysia

India and Malaysia have elevated their relationship to a Comprehensive Strategic Partnership during a recent visit by the Malaysian Prime Minister, marking a significant step in bilateral relations.

Key Outcomes of the Visit:

- **Partnership Upgrade:** Transition from Enhanced Strategic Partnership (2015) to Comprehensive Strategic Partnership.
- **Economic and Trade Relations:** Bilateral trade reached USD 19.5 billion; focus on boosting

investment in fintech, energy, digital technologies, and start-ups.

- **ASEAN-India Trade in Goods Agreement (AITIGA):** Accelerated review process to enhance effectiveness, targeted completion by 2025.

Key Facts About Malaysia

- **Location:** Southeast Asia; consists of Peninsular Malaysia and East Malaysia, separated by the South China Sea.
- **Capital:** Kuala Lumpur.
- **Highest Point:** Mount Kinabalu, 13,455 feet (4,101 meters).
- **Major Mountain Ranges:** Main Range, Crocker, Bintang, Hose.
- **Major Rivers:** Rajang, Sugut, Pahang, Klang.
- **Nature:** Tropical rainforests; part of the world's 17 megadiverse countries; home to Malayan tigers, pygmy elephants, and Bornean orangutans.
- **Political Structure:** Constitutional monarchy; independent from the UK since 1957.
- **Borders:** Peninsular Malaysia shares borders with Thailand, Singapore, Vietnam, and Indonesia; East Malaysia shares borders with Brunei, Indonesia, and maritime borders with the Philippines and Vietnam.
- **Strait of Malacca:** Main shipping route between the Indian Ocean and Pacific Ocean, located between Peninsular Malaysia and Sumatra.

India-Japan 2+2 Foreign and Defence Ministerial Meeting

Free and Open Indo-Pacific:

- Commitment to a rules-based Indo-Pacific and support for ASEAN's central role.
- Emphasis on Quad cooperation and regional stability.

Defence and Security Cooperation:

- Strengthened by Japan's 2022 National Security Strategy.
- Progress in joint military exercises and technology cooperation.
- Update to the 2008 Joint Declaration to address current security challenges.

Technology:

- Transfer of Japan's UNICORN radar technology and exploration of future defence tech cooperation.
- Women, Peace, and Security (WPS):
- Support for the WPS agenda to enhance women's roles in peacekeeping and conflict resolution.

About 2+2 Meetings:

- High-level diplomatic dialogues between the foreign and defence ministers of two countries.
- These meetings focus on strategic, security, and defence issues to strengthen bilateral relations, resolve conflicts, and build partnerships.

India's 2+2 Partners:

- **United States:** The first dialogue occurred in 2018, replacing the Strategic and Commercial Dialogue to deepen strategic cooperation.
- **Russia:** The inaugural meeting was in 2021, focusing on a multipolar world order and regional/international issues.
- **Other Partners:** Australia, Japan, Brazil, and the United Kingdom. These meetings aim to enhance defence and security cooperation and align on strategic interests.

Historical Note:

- **Indian National Army (INA):** Formed in 1942 by Captain Mohan Singh with Indian POWs and Japanese support, aiming for independence from British rule.
- Dissolved by December 1942 due to disputes with the Japanese Army. Reorganized in July 1943 by Subhas Chandra Bose into the Azad Hind Fauj, uniting former INA soldiers and Indian volunteers.

Key Facts About Japan:

- **Location:** East Asia, Pacific Ocean; an archipelago of five main islands (Hokkaido, Honshu, Shikoku, Kyushu, Okinawa).
- **Geography:** Lies east of the Sea of Japan, bordered by China, North Korea, South Korea, and Russia. Extends from the Sea of Okhotsk in the north to the East China Sea and Taiwan in the south. Known as the "Land of the Rising Sun."
- **Features:** Mountainous, with the Japanese Alps on Honshu and Mount Fuji as the highest

peak. Located on the Ring of Fire, experiencing frequent earthquakes and having about 200 volcanoes.

India Targets Doubling Trade with Africa by 2030

- **Trade Target:**
- India aims to double its exports to Africa to USD 200 billion by 2030.
- **High-Growth Sectors:**
- **Agriculture & Agro-Products:** Advanced seed technologies and agro-processing to boost food security.
- **Pharmaceuticals:** Expansion in affordable medicines, current exports at USD 3.8 billion.
- **Automobiles:** Increased exports, especially two-wheelers and affordable cars.
- **Renewable Energy:** Focus on solar power through the International Solar Alliance and improved energy grid connections.
- **Logistics & Transportation:** Use of PM Gati Shakti and Unified Logistics Interface Portal (ULIP) to enhance infrastructure.
- **African Continental Free Trade Area (AfCFTA):**
- Aims for duty-free trade and economic integration across Africa, with potential in automobiles and logistics.
- **Strategic Cooperation:**
- Support for African Union's G20 membership.
- Encouragement for Indian investment in African Special Economic Zones (SEZs).
- **Key Facts About Africa**
- **Geography:** Bordered by the Mediterranean Sea (north), Red Sea (northeast), Indian Ocean (east), and Atlantic Ocean (west). Divided nearly equally by the Equator into eight major regions: Sahara, Sahel, Ethiopian Highlands, savannas, Swahili Coast, rainforests, African Great Lakes, and Southern Africa.
- **Climate:** The hottest continent with diverse climates from arid Sahara to lush rainforests.
- **Highest Point:** Kilimanjaro, Tanzania.
- **Trade:** China is the top trade partner, with trade volumes around USD 200 billion annually. Angola has a significant Chinese resident population.

- **Gold and Minerals:** Africa produced 680.3 metric tons of gold in 2021 and dominates the global diamond market, producing about 65% of the world's diamonds by value. Petroleum and coal are abundant in 22 out of 54 countries.

India's PM Visit to Ukraine

India's Prime Minister visited Ukraine, the first Indian head of state to do so since Ukraine's independence in 1991.

Stance on Russia-Ukraine War:

- India reiterated its non-neutral stance and advocated for peace and practical solutions to resolve the conflict.

Intergovernmental Commission:

- Established to restore and deepen bilateral trade and economic relations to pre-conflict levels. Bilateral trade reached USD 3.386 billion in 2021-22.

Agreements Signed:

- Four agreements in agriculture, food industry, medical product regulation, and cultural cooperation.

Humanitarian Aid:

- India gifted four Bharat Health Initiative for Sahyog Hita & Maitri (BHISHMA) cubes to provide emergency medical care through mobile hospitals, part of Project Aarogya Maitri.

Solidarity Gesture:

- PM visited the multimedia Martyrologist exposition in Kyiv and placed a toy in memory of lost children.

BHISHM Cubes

India has committed to donating four BHISHM (Bharat Health Initiative for Sahyog Hita & Maitri) Cubes to Ukraine, aimed at enhancing emergency medical care amidst the ongoing conflict with Russia.

BHISHM Cubes:

- **Full Form:** Bharat Health Initiative for Sahyog, Hita, and Maitri.
- **Purpose:** Provides compact, mobile medical units designed for swift and effective emergency care.

Key Features:

- **Compact Design:** Medical supplies organized in 15-inch cubical boxes for quick deployment.
- **Transport Flexibility:** Can be transported by air, sea, land, and drones.
- **Mother Cube Concept:** Combines mini cubes for comprehensive care, including basic surgeries.
- **Capacity:** Each BHISHM Cube can handle around 200 emergency cases, including trauma and burns.
- **Technological Integration:** Incorporates AI and data analytics for real-time monitoring and efficient management.

Project Aarogya Maitri:

- **Objective:** Part of India's initiative to provide essential medical supplies to developing countries affected by disasters or humanitarian crises.

ECONOMY

RISE Accelerator (Rapid Innovation and Start-up Expansion)

Partnership: The RISE Accelerator is a bilateral program led by the Atal Innovation Mission (AIM), NITI Aayog, and the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia.

Objective: It supports the expansion of innovative agritech solutions across borders, addressing shared environmental and climate challenges between India and Australia.

Launch: The program was launched in 2023.

Focus Area:

- **Climate Smart Agritech:** The accelerator focuses on technologies and solutions that enhance agricultural productivity and resilience in the face of climate variability, resource scarcity, and food insecurity.
- **Target Audience:** Start-ups and MSMEs from India and Australia with solutions that prioritize farmer needs and on-farm practices.

Program Structure:

- **Duration:** Nine months.
- **Components:** Includes self-paced online learning, in-person sessions, immersion weeks in both India and Australia, field trials, and technology pilots.

- **Purpose:** To validate, adapt, and pilot technologies for new markets and foster innovations that address pressing challenges in agriculture.

Self-Regulatory Organisations (SROs)

- **Nature:** An SRO is a non-governmental entity formed by members of a specific industry or sector to regulate and govern the behaviour and standards within that industry.

Functionality:

- **Rule-Making:** SROs set and enforce rules and standards related to the conduct of their members.
- **Objectives:** Aimed at protecting consumers, promoting ethics, ensuring equality, and maintaining professionalism within the industry.

Collaboration:

- **Stakeholders:** SROs collaborate with various stakeholders, including industry members and regulatory authorities, to frame rules and regulations.
- **Impartiality:** Administer self-regulatory processes through impartial mechanisms to ensure disciplined operations among members.

Scope:

- **Beyond Self-Interest:** SROs address broader concerns such as worker and consumer protection, rather than just industry-specific interests.

Regulatory Influence:

- **Private Nature:** Although private, SROs are subject to some degree of government regulation.
- **Delegated Oversight:** Governments may delegate certain regulatory functions to SROs.
- **Watchdog Role:** SROs can act as watchdogs against fraud and unprofessional practices within their industry.

Authority:

- **Internal Mechanisms:** SROs derive their regulatory authority from internal agreements and self-governance practices, not from government grants.
- **External Agreements:** Their authority may also stem from external agreements between businesses within the industry.

Purpose:

- **Governance:** SROs aim to govern from within the industry while maintaining independence from direct government control.

Prime Minister Employment Generation Programme (PMEGP)

PMEGP is a central sector scheme administered by the Ministry of Micro, Small, and Medium Enterprises (MSME).

Collaboration: KVIC and the Department of Posts have collaborated to enhance the scheme's implementation across India.

Objectives:

- **Employment Generation:** To create employment opportunities in rural and urban areas by promoting self-employment ventures.
- **Support for Artisans:** To bring together traditional artisans and unemployed youth, providing them with local self-employment opportunities.
- **Migration Reduction:** To curb the migration of rural youth to urban areas by offering sustainable local employment.
- **Wage Growth:** To improve the wage-earning capacity of workers and artisans, contributing to economic growth.

Eligibility:

- **Age:** Individuals aged 18 years and above.
- **Income Ceiling:** No income ceiling for assistance under the scheme.
- **Educational Qualification:** For projects exceeding ₹10 lakh in manufacturing and ₹5 lakh in business/service sectors, a minimum education of 8th standard pass is required.

Implementing Agency:

- **KVIC:** The scheme is implemented by the Khadi and Village Industries Commission (KVIC), a statutory body under the Ministry of MSME.
- **Role of KVIC:** KVIC is responsible for planning, promoting, and implementing programs for the development of khadi and village industries in rural areas.

Prime Minister Wi-Fi Access Network Interface (PM-WANI) Scheme

- **TRAI** has proposed a reduction in broadband rates for **Public Data Offices (PDOs)** under the PM-WANI scheme to make internet access more affordable and boost the program's success.

PM-WANI Scheme:

- **Launch:** The scheme was initiated by the Department of Telecommunications (DoT) in December 2020.
- **Objective:** To provide affordable, high-speed internet connectivity, particularly in rural and remote areas, through a nationwide public Wi-Fi network.

Background:

- **Challenges:** The program has faced challenges due to the high cost of connectivity charged by Telecom Service Providers (TSPs) and Internet Service Providers (ISPs).

Current Tariff Issues:

- **Cost for PDOs:** PDOs have been charged up to ₹8 lakh annually for Internet leased lines, making the project economically unviable.

Targets vs. Reality:

- **Deployment Shortfall:** As of July 2024, there are 207,642 deployed PM-WANI Wi-Fi hotspots, far below the National Digital Communications Policy 2018 target of 5 million by 2020.
- **Future Goals:** For Digital India 2030, the target is set at 50 million public Wi-Fi hotspots.
- **Usage Decline:** The average daily data usage per hotspot has dropped significantly, highlighting the need for tariff rationalisation.
- **TRAI (The Telecom Regulatory Authority of India (TRAI))** regulates telecommunications in India, ensuring fair competition, protecting consumer interests, and promoting growth.)

Green Shoots

The start-up sector in India has observed the emergence of "green shoots" of recovery in the first half of this year, with niche verticals attracting investor interest.

About Green Shoots:

- **Definition:** "Green shoots" is a metaphorical term used to describe early signs of economic recovery or positive data during an economic downturn.
- **Origin:** The term was first used by UK Chancellor Norman Lamont in 1991 to describe the beginning of economic recovery during a downturn in the United Kingdom.
- **Symbolism:** Similar to plant growth, "green shoots" symbolise the initial signs of economic health and revival, particularly following a recession.

Economic Significance:

- **Indicators of Recovery:** While there is no strict definition of what constitutes green shoots, improvements in key economic indicators are often considered as such. These can include:
- **Industrial Production:** Increased output and growth in industrial sectors.
- **Car Sales:** A rise in the sales of automobiles, indicating consumer confidence.
- **Infrastructure Developments:** Progress in infrastructure projects, including stabilisation of prices for commodities like cement and steel.

Unified Pension Scheme (UPS)

The government recently introduced the Unified Pension Scheme (UPS), marking a reversal of the National Pension System (NPS) implemented 21 years ago during the Atal Bihari Vajpayee government.

Unified Pension Scheme:

- **Launch Date:** The Unified Pension Scheme was introduced on August 24, 2024.
- **Replacement:** The scheme replaces the National Pension System (NPS) with a structure closely resembling the Old Pension Scheme (OPS).

Contributions under the UPS:

- **Employee Contribution:** Employees are required to contribute 10% of their salary.
- **Government Contribution:** The government contributes 18.5% of the employee's salary.
- **Sustainability:** The government's contribution may be adjusted based on periodic actuarial assessments to ensure the scheme's sustainability.

Transition from NPS to UPS:

- **National Pension System (NPS):** Originally implemented for employees joining on or after January 1, 2004, the NPS linked pension pay-outs to the accumulated contributions invested in market-linked securities.
- **Switch Option:** Employees who joined after 2004, including retirees, have the option to switch from NPS to UPS, which is expected to benefit approximately 99% of NPS members.

Pradhan Mantri Mudra Yojana (PMMY)

In the Union Budget 2024, the loan limit under the scheme's Tarun category was increased to ₹20 lakh, aimed at beneficiaries who have successfully repaid previous MUDRA loans.

Pradhan Mantri Mudra Yojana (PMMY):

- **Launch Year:** Pradhan Mantri Mudra Yojana (PMMY) was launched in 2015 by the Government of India.
- **Purpose:** The scheme aims to provide affordable credit to micro and small enterprises, focusing on integrating underserved enterprises into the formal financial system.
- **Objective:** To "fund the unfunded" by enabling small borrowers to secure loans from various financial institutions such as Public Sector Banks (PSBs), Regional Rural Banks (RRBs), Cooperative Banks etc.

Categories of Loans:

- **Shishu:** Loans up to ₹50,000, aimed at new and micro enterprises.
- **Kishore:** Loans ranging from ₹50,000 to ₹5 lakh, for businesses in the growth phase.
- **Tarun:** Loans from ₹5 lakh to ₹10 lakh, for businesses looking to expand further.
- **Subsidy:** There is no direct subsidy under PMMY. However, if a loan is linked to a government scheme that provides capital subsidies, the loan can be availed under PMMY with the associated benefits.

Vision for MUDRA 2.0:

- **Expanded Scope:** MUDRA 2.0 should focus on improving outreach, especially in rural and semi-urban areas.

- **Financial Literacy Programmes:** Nationwide initiatives covering budgeting, savings, credit management, investment strategies, and digital literacy should be introduced to reduce default rates and improve business operations.
- **Enhanced Credit Guarantee Scheme (ECGS):** To encourage more lending to small and microenterprises, MUDRA 2.0 should include an ECGS, reducing risk for financial institutions.
- **Robust Monitoring and Evaluation Framework (RMEF):** Leveraging technology, MUDRA 2.0 should implement a framework for real-time tracking of loan disbursements, utilisation, and repayments, ensuring transparency, minimising misuse, and improving efficiency.

Agriculture Infrastructure Fund (AIF) Scheme

The government has expanded the scope of the Agricultural Infrastructure Fund (AIF) scheme to enhance farm-related infrastructure facilities across the country.

Agriculture Infrastructure Fund (AIF) Scheme:

- **Launch Year:** 2020.
- **Type:** Central Sector Scheme.
- **Objective:** To provide medium- to long-term debt financing for investment in post-harvest management infrastructure and community farming assets through interest subvention and financial support.
- **Duration:** The scheme spans from FY 2020 to FY 2032 (10 years).
- **Exclusions:** Public Sector Undertakings (PSUs) are not directly eligible, but projects sponsored by them under PPP are eligible.

Pradhan Mantri Jan Dhan Yojana (PMJDY)

Pradhan Mantri Jan Dhan Yojana (PMJDY) celebrated its 10th anniversary on August 28, 2024 marking a significant achievement in promoting financial inclusion.

Key Points:

- **Launch Date:** August 28, 2014

- **Objective:** To provide universal access to banking services, including savings accounts, credit, insurance, and pensions.
- **Significance:** Backbone for Direct Benefit Transfers (DBTs) and several government schemes.

Account Features:

- **Zero-Balance Accounts:** No minimum balance required.
- **RuPay Debit Card:** Includes accident insurance coverage of up to ₹2 lakh.
- **Overdraft Facility:** Up to ₹10,000 available per household.

Recent Achievements:

- **Account Growth:** From 14.72 crore in March 2015 to 53.13 crore by August 2024.
- **Deposits:** Increased from ₹15,670 crore (March 2015) to over ₹2.31 lakh crore (August 2024).
- **Rural Focus:** 66.6% of accounts are in rural and semi-urban areas.

ECOLOGY & ENVIRONMENT

New Ramsar Sites in India

Three New Ramsar Sites:

- Nanjarayan Bird Sanctuary (Tamil Nadu)
- Kazhuveli Bird Sanctuary (Tamil Nadu)
- Tawa Reservoir (Madhya Pradesh)

Current Statistics:

- Total Ramsar Sites in India: 85
- Total Area: 1,358,068 hectares

Details of New Sites:

- **Nanjarayan Bird Sanctuary:**
 - **Location:** Tiruppur district, Tamil Nadu
 - **Features:** Shallow wetland; supports 191 bird species, 87 butterfly species, 7 amphibians, 21 reptiles, 11 small mammals, and 77 plant species
 - **Importance:** Feeding and nesting habitat for resident and migratory birds; vital water source for agriculture
- **Kazhuveli Bird Sanctuary:**

- **Location:** Villupuram district, Tamil Nadu
- **Features:** Brackish shallow lake; part of the Central Asian Flyway; significant for migratory birds and resident bird breeding
- **Tawa Reservoir:**
 - **Location:** Confluence of Tawa and Denwa rivers, inside Satpura Tiger Reserve, Madhya Pradesh
 - **Features:** Important for aquatic flora and fauna; habitat for rare and endangered species of plants, reptiles, and insects; critical for local and migratory birds
- **Significance:**
 - Tamil Nadu has the highest number of Ramsar Sites (18), followed by Uttar Pradesh (10).

Eri Silk

The North Eastern Handicrafts and Handlooms Development Corporation (NEHDC) under the Ministry of Development of North Eastern Region (DoNER) has obtained the Oeko-Tex certification for Eri Silk.

About Eri Silk:

- **Vegan Silk:** Eri Silk is the world's only vegan silk, where the silkworm (moth) is not killed, making it cruelty-free.
- **Source:** Produced by the domesticated silkworm *Philosamia ricini*, which primarily feeds on castor leaves.
- **Geographical Spread:** Predominantly cultivated in Assam, with presence in Bihar, West Bengal, Odisha, and other northeastern states.
- **GI Tag:** Eri Silk is a Geographical Indication (GI) tagged product from Assam.

Oeko-Tex Certification:

- **Standards:** Ensures textiles are free from harmful substances and produced under environmentally friendly conditions.

Significance:

- Enhances the global reputation of Eri Silk as an authentic GI product from Assam.

- Opens up opportunities for Eri Silk in international markets, strengthening its global export potential.

Green Tug Transition Program (GTTP)

Definition of Tug: Tugs, or tug boats, are specialised marine vessels used to manoeuvre larger ships by pushing or pulling them, typically using two lines.

Function:

- Tugs are essential for guiding ships in situations where the ships cannot move on their own, such as in narrow harbours, canals, or congested areas.
- **Launch Date:** The GTTP was launched on May 22, 2023, as part of the 'Panch Karma Sankalp' initiative.

Objective: The program aims to phase out conventional fuel-based harbour tugs operating in Indian Major Ports, replacing them with green tugs powered by cleaner, sustainable alternative fuels.

Implementation Phases:

- **Phase 1:** Starts on October 1, 2024, and continues until December 31, 2027.
- **Target Ports:** Four Major Ports — Jawaharlal Nehru Port Authority, Deendayal Port Authority, Paradip Port Authority, and V.O. Chidambaranar Port Authority — will procure or charter at least two green tugs each.

Design & Specifications: Green tugs will be based on standardized designs and specifications issued by the Standing Specification Committee (SSC).

Nodal Agency: The National Centre of Excellence in Green Port & Shipping (NCoEGPS) is the nodal entity for the GTTP.

Vision: India aims to become a 'Global Hub for Green Ship' building by 2030 with the GTTP's launch.

Technology: 'Green Hybrid Tugs' will be powered by Green Hybrid Propulsion systems, eventually adopting non-fossil fuel solutions like Methanol, Ammonia, and Hydrogen.

New Atlas of Zebrafish Spinal Cord Regeneration

Overview: A recent study has created a detailed atlas of the cells involved in regenerating the zebrafish spinal cord, showcasing the fish's remarkable regenerative capabilities.

Zebrafish:

- **Size:** Small (2-3 cm long)
- **Habitat:** Freshwater fish native to tropical and subtropical regions of South Asia, primarily found in paddy fields, stagnant water, and streams.
- **Appearance:** Distinguished by horizontal blue stripes.
- **IUCN Red List Status:** Least Concern

Significance in Research:

- **Regenerative Capacity:** Notable for its ability to regenerate almost all organs, including the brain, heart, eye, and spinal cord.

Research Advantages:

- Large number of embryos produced per clutch.
- Optical clarity of developing embryos enables live imaging.
- Cost-effective and easy to breed in large quantities.
- Approximately 70% of zebrafish genes are similar to human genes.
- Over 80% of genes linked to human diseases are also present in zebrafish.

Gross Environment Product Index

Uttarakhand is the first Indian state to launch the Gross Environment Product (GEP) Index.

Purpose: The GEP Index is designed to evaluate ecological development resulting from human interventions.

Components:

- **Air Quality:** Measures the state of air quality.
- **Water Quality:** Assesses water quality.
- **Number of Trees:** Tracks the number of trees planted annually.
- **Organic Soil Area:** Measures the area of organic soil.

Significance:

- **Impact Assessment:** Helps in assessing the impact of anthropogenic pressure on ecosystems and natural resources.
- **Ecological Growth:** Provides a comprehensive measure of a state's ecological growth and environmental well-being.

Miyawaki Method?

Methodology:

- **Planting Density:** Involves planting two to four types of indigenous trees per square meter.
- **Growth Mechanism:** Dense planting leads to rapid growth as seedlings compete for sunlight.

Characteristics:

- **Native Species:** Uses only native species suited to the local climate.
- **Growth Rate:** Trees grow 10 times faster, are 30 times denser, and exhibit 100 times more biodiversity compared to traditional methods.
- **Development Time:** Trees become self-sustainable and mature within three years.

Application: Urban Resilience: Useful for rapidly increasing green cover in urban areas, improving climate resilience.

Banni Grasslands

Location : Situated along the northern border of the Kachchh district in Gujarat, India.

Cultural and Demographic Significance:

- **Inhabitants:** Home to 22 ethnic groups, predominantly pastoralists.

Biodiversity:

- **Flora:** Contains 37 grass species, including Prosopis Juliflora, Cressa critica, Cyperus spp, Sporobolus, Dichanthium, and Aristida.
- **Fauna:** Hosts a variety of wildlife such as Nilgai, Chinkara, Blackbuck, Wild Boar, Golden Jackal, Indian Hare, Indian Wolf, Caracal, Asiatic Wildcat, and Desert Fox. Additionally, it supports domesticated animals like buffaloes, sheep, goats, horses, and camels.
- **Avifauna:** Home to 275 bird species.

Protected Areas:

- **Conservation:** Includes the Kutch Desert Wildlife Sanctuary and Chhari Dhand Conservation Reserve.

Slow Loris

Villagers in Shimlabagan, Assam, have reported sightings of the rare and endangered Slow Loris species.

About Slow Loris:

- **Habitat:** Exclusively found in South and Southeast Asia. They are arboreal, meaning they live in trees and generally come down to the forest floor only to defecate.

- **Venomous Primate:** They are the world's only venomous primates. They have a small bare patch under their arm that secretes oil. When threatened, they lick this oil, which combines with their saliva to create a venom capable of killing small arthropods and mammals.

Species: There are nine species of Slow Loris, including:

- Philippine Slow Loris
- Bengal Slow Loris
- Greater Slow Loris
- Kayan Slow Loris
- Bangka Slow Loris
- Bornean Slow Loris
- Sumatran Slow Loris
- Javan Slow Loris
- Pygmy Slow Loris
- **Bengal Slow Loris (*Nycticebus bengalensis*):** Listed as Endangered on the IUCN Red List and legally protected under the Wildlife Protection Act, 1972. Found in India's northeast and extends to Vietnam and China.

Features:

- **Physical Characteristics:** Small, nocturnal, with large, round eyes adapted for night vision, compact bodies, short snouts, dense fur, and distinctive facial markings.
- **Behaviour:** They possess a unique toothcomb for grooming and extracting gum from trees. Generally solitary, territorial, and capable of remaining motionless for long periods.
- **Diet:** Omnivores.

Purandar Figs

India's first ready-to-drink fig juice made from GI-tagged Purandar figs has been exported to Poland with facilitation by the Agricultural and Processed Food Products Export Development Authority (APEDA).

Purandar Figs:

- **GI Tag:** Awarded in 2016, Purandar figs are recognized for their quality and unique characteristics.
- **Cultivation:** Grown in Purandar taluka, Pune district, Maharashtra. Requires dry weather, hilly slopes, and well-drained medium land.

- **Soil:** Red and black soil in Purandar is rich in Calcium and Potassium, contributing to the figs' violet colour and size.
- **Features:** Bell-shaped, larger than other varieties, with distinctive violet skin. Contains more than 80% pulp with a pinkish-red colour, known for high nutritional value and rich in vitamins and minerals.

Agricultural and Processed Food Products Export Development Authority (APEDA):

- **Establishment:** Created by the Agricultural and Processed Food Products Export Development Authority Act of 1985.
- **Ministry:** Operates under the Ministry of Commerce and Industry.
- **Objective:** Develop and promote the export of scheduled products. Exporters of these products must register with APEDA.
- **Headquarters:** New Delhi

Functions:

- Setting standards and specifications for scheduled products.
- Registering exporters on payment of required fees.
- Improving packaging and marketing of scheduled products.
- Inspecting products to ensure quality.
- Providing training and development support related to scheduled products.
- Conducting surveys and feasibility studies.
- Collecting and publishing statistics.

Gongronema sasidharanii

Discovery: A newly discovered plant species in Pampadum Shola National Park, Idukki District, Kerala.

Characteristics: Features smooth stems and small urn-shaped flowers that are creamy white to purplish-green.

Significance: First record of the genus *Gongronema* in South India. Previously, *Gongronema* species were found only in northeast India, Uttar Pradesh, Punjab, and West Bengal.

Pampadum Shola National Park:

- **Location:** Eastern part of the Southern Western Ghats, Idukki District, Kerala.
- **Area:** Approximately 12 sq. km.
- **Name Meaning:** 'Pampadum Shola' translates to 'the forest where the snake dances.'

- **Climate:** Misty and cloudy throughout the year with heavy rainfall during the North-East monsoon.
- **Vegetation:** Includes evergreen forests, moist deciduous forests, shola grasslands, and semi-evergreen forests.
- **Flora:** Hosts 22 species of trees, 74 species of herbs and shrubs, and 16 species of climbers.

Fauna:

- **Mammals:** Tigers, leopards, giant gizzard squirrels, flying squirrels, Nilgiri Tahr, and spotted deer.
- **Unique Species:** Nilgiri marten, the only marten species in South India.
- **Butterflies:** Approximately 100 species recorded.

Nilgiri Tahr:

- The Nilgiri Tahr is the only Caprinae species found in the tropical mountains of southern India. Endemic to the Western Ghats.
- It historically inhabited a large area between Kerala and Tamil Nadu and is classified as Endangered under the IUCN Red List.

Humpback Whales

Recent research shows that humpback whales use their 'bubble-nets' more dynamically than previously known, manipulating this tool in various ways to enhance their food intake.

About Humpback Whales:

- **Scientific Name:** Megaptera novaeangliae
- **Name Origin:** Named for the hump on their dorsal fin and the distinctive shape of their back when diving.

Distribution:

- **Habitat:** Found in all oceans worldwide.
- **Migration:** Undertake one of the longest migrations of any mammal, traveling between polar feeding grounds in summer and tropical or subtropical breeding grounds in winter.

Features:

- **Size:** Typically range from 12 to 16 metres in length and weigh around 36 metric tons.
- **Colour:** Mainly black or grey with white undersides to their flukes, flippers, and bellies.
- **Flippers:** Long, white, wing-like flippers, often as long as one-third of the whale's total body length.

- **Knobs:** Large knobs on the head, jaws, and body, each associated with one or two hairs.
- **Feeding:** Use a technique called bubble netting, where they exhale bubbles in a spiral below a food-rich patch of water to concentrate prey. Multiple whales may surface within the bubble curtain to feed.
- **Vocalization:** Known for their songs, which can be heard up to 20 miles away. Male humpback whales are particularly noted for these vocalisations.

Lifespan:

- **Longevity:** Can live for 80 to 90 years.
- **Conservation Status:** IUCN Red List: Least Concern

Registration of Exotic Animals- PARIVESH 2.0 Portal

The Ministry of Environment, Forest and Climate Change (MoEFCC) has mandated the registration of exotic pets listed under Schedule IV of the Wildlife Act via the PARIVESH 2.0 portal within six months.

About Exotic Species:

- **Definition:** Animals or plants moved from their natural habitat to a new location due to human activities.
- **Current Registration:** Delhi's forest and wildlife department has registered eight exotic species, including ball python, iguana, cockatiel, red-eared slider turtle, African grey parrot, Amazonian parrot, blue-headed parrot, and conure.
- **Criteria:** As per the Living Animal Species (Reporting and Registration) Rules, 2024, individuals possessing species listed under Schedule IV of the Wild Life (Protection) Act, 1972, must report and register them.

Legislation:

- **Wild Life (Protection) Amendment Act, 2022:**
- Introduces Section 49 M, requiring registration of possession, transfer, birth, and death of species listed in CITES Appendices and Schedule IV of the Wild Life (Protection) Act, 1972.

PARIVESH 2.0 Portal:

- **Purpose:** A web-based application developed by MoEFCC for online submission and

monitoring of environmental, forest, wildlife, and coastal regulation zone clearance proposals.

- **Acronym:** PARIVESH stands for Pro-Active and Responsive facilitation by Interactive, Virtuous, and Environmental Single Window Hub.
- **Functionality:** Provides a single-window solution for managing green clearances and compliance monitoring across India, emphasising process transformation and technology integration.

Northern Bald Ibis

- **Scientific Name:** *Geronticus eremita*
- **Conservation Status:** Endangered (formerly Critically Endangered)
- **Historical Range:** Native to Central Europe until the 17th century; also found in North Africa and the Arabian Peninsula.
- **Extinction in Europe:** Extinct in Central Europe by the 17th century due to excessive hunting.
- **Distinctive Features:** Black plumage with an iridescent green sheen, bald red head with black markings, and a long, downward-curved beak. Red beak and legs are prominent. No sexual dimorphism.

- **Diet:** Feeds on insect larvae, earthworms, and other invertebrates using their long, slender beak to probe the ground.
- **Habitat:** Prefers open areas with short grass such as meadows, pastures, and sports fields. Not a scavenger despite their vulture-like appearance.
- **Breeding Habits:** Nest on steep rock faces with protective nooks, laying up to four greenish eggs. Incubation begins with the first egg, leading to staggered hatching.

Talley Valley Wildlife Sanctuary

A Mumbai-based lepidopterist recorded 85 butterfly species during a four-day expedition to Talley Valley Wildlife Sanctuary in Arunachal Pradesh's Lower Subansiri district.

About Talley Valley Wildlife Sanctuary:

- **Location:** Lower Subansiri district, Arunachal Pradesh
- **Area:** 337 sq. km
- **Rivers:** Pange, Sipu, Karing, and Subansiri flow through the sanctuary
- **Inhabitants:** Home to the Apatani tribe, known for their unique customs, traditions, and handicrafts

SELF EVALUATION BI-WEEKLY

PRELIMS

Q1. Consider the following statements about the architectural features of Angkor Wat:

1. The temple's five towers symbolise Mount Meru, a sacred mountain in Hindu and Buddhist mythology.
2. It is surrounded by a 15-foot-high wall and a wide moat.
3. The walls of Angkor Wat are adorned with bas-reliefs depicting only Hindu deities.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

Q2. Consider the following statements regarding the climatic conditions required for coffee cultivation:

1. Coffee requires a hot and humid climate with a temperature range of 15°C to 28°C.
2. It grows best in areas with an annual rainfall of 100 to 150 cm.
3. Well-drained, loamy soil rich in humus, iron, and calcium is ideal for coffee cultivation.

Which of the statements given above is/are correct?

- A. 1 and 3 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2, and 3

Q3. With reference to PM-PRANAM, consider the following statements:

1. It aims to promote the use of chemical fertilisers to boost agricultural productivity.
2. States reducing chemical fertiliser usage below a 3-year average will receive financial incentives under this program.
3. The program covers all States and Union Territories in India.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

Q4. Consider the following statements regarding the Perseid Meteor Shower:

1. The Perseid Meteor Shower originates from debris left by Comet Swift-Tuttle.
2. It is best viewed in the southern hemisphere.
3. The meteors are often referred to as "shooting stars."

Which of the statements given above is/are correct?

- A. 1 and 3 only
- B. 2 and 3 only
- C. 1 and 2 only
- D. 1, 2, and 3

Q5. Consider the following statements about Ranthambore Tiger Reserve:

1. The Chambal River bounds it to the north, and the Banas River bounds it to the south.
2. It is located at the junction of the Aravali and Vindhyan ranges.
3. The Dhok tree is the dominant vegetation in Ranthambore.

Which of the statements given above is/are correct?

- A. 1 only

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

Q6. Consider the following statements about Similipal Tiger Reserve:

1. It is located in the Mayurbhanj District of Northern Odisha.
2. The reserve was designated as a Tiger Reserve under Project Tiger in 1980.
3. Similipal is part of the UNESCO World Network of Biosphere Reserves.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

Q7. With reference to glacial lakes, consider the following statements:

1. Glacial lakes are typically located at the terminus of glaciers.
2. Glacial lakes can lead to Glacial Lake Outburst Floods (GLOFs) due to the failure of natural ice or moraine dams
3. ISRO classifies glacial lakes into moraine-dammed, ice-dammed, erosion-based, and volcanic types.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

Q8. Consider the following statements about Typhoon Shanshan:

1. Typhoon Shanshan has intensified into a "very strong" storm as it approaches Japan's south-western coast.
2. Tropical cyclones originate over land and move towards the ocean.
3. Cyclones have a calm centre known as the eye, with very low air pressure.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2, and 3

Q9. What is the primary purpose of watermarking AI-generated content?

1. To improve the quality of digital content.
2. To verify the authenticity of digital content and combat misinformation.
3. To increase the production speed of AI models.

Select the correct answer using the code given below:

- A. 1 only
- B. 2 only
- C. 1 and 3 only
- D. 2 and 3 only

Q10. Which countries participated in the Phase Two of the Tarang Shakti exercise?

1. Spain
2. Australia
3. UAE

Select the correct answer using the code given below:

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2, and 3

Q11. Which of the following exercises is related to naval operations between India and Sri Lanka?

- A. MITRA SHAKTI
- B. Malabar
- C. Yudh Abhyas
- D. SLINEX

Q12. Which of the following features are included in the National Pest Surveillance System (NPSS)?

1. Mobile app
2. Web portal
3. Satellite imaging for pest monitoring

Select the correct answer using the code given below:

- A. 1 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2, and 3

Q13. Which of the following characteristics are true about prokaryotes?

1. They have a well-defined nucleus.

2. They reproduce primarily through binary fission.

3. They lack membrane-bound organelles except ribosomes.

Select the correct answer using the code given below:

- A. 1, 2, and 3
- B. 1 and 2 only
- C. 1 and 3 only
- D. 2 and 3 only

Q14. Which of the following microorganisms are commonly found in microwave ovens?

1. Bacteria
2. Viruses
3. Fungi

Select the correct answer using the code given below:

- A. 1 only
- B. 1 and 2 only
- C. 1 and 3 only
- D. 1, 2, and 3

Q15. What are the functions of the Global Navigation Satellite System-Reflectometry (GNSS-R) payload on the EOS-08 satellite?

1. Demonstrates GNSS-R based remote sensing.
2. Measures UV irradiance for the Gaganyaan Mission.
3. Detects ocean surface winds and soil moisture.

Select the correct answer using the code given below:

- A. 1 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2, and 3

Q16. Which of the following statements about owl flies is/are correct?

1. Owl flies belong to the Order Neuroptera.
2. They are often mistaken for dragonflies, which belong to the Order Odonata.
3. Adult owl flies are primarily herbivores.

Select the correct answer using the code given below:

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only

D. 1, 2, and 3

Q17. Which of the following statements about Parvovirus B19 is/are correct?

1. It is known for causing a common childhood illness called "slapped cheek" syndrome.
2. It is transmitted primarily through airborne droplets.
3. It can lead to severe health issues in pregnant women.

Select the correct answer using the code given below:

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2, and 3

Q18. Which of the following statements about the ISDra2TnpB genome editor is/are correct?

1. It is larger in size compared to CRISPR-associated proteins.
2. It is derived from the bacterium *Deinococcus radiodurans*.
3. It demonstrates high efficiency in editing both monocot and dicot plants.

Select the correct answer using the code given below:

- A. 1 and 3 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2, and 3

Q19. Which of the following statements about antihyper hydrogen-4 is/are correct?

1. It consists of an antiproton, two antineutrons, and one antihyperon.
2. Traces of antihyper hydrogen-4 were found in particle collisions at the Large Hadron Collider (LHC).
3. Both antihyper hydrogen-4 and hyperhydrogen-4 decay rapidly with no significant lifetime differences.

Select the correct answer using the code given below:

- A. 1 and 3 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2, and 3

Q20. What is the significance of the Oeko-Tex certification for Eri Silk?

- A. Certifies it as a non-GI product
- B. Guarantees its use of traditional silk production methods
- C. Confirms it as a high-end fashion accessory
- D. Ensures it is free from harmful substances and produced under environmentally friendly conditions

Q21. Which new Ramsar site is situated inside the Satpura Tiger Reserve?

- A. Nanjarayan Bird Sanctuary
- B. Kazhaveli Bird Sanctuary
- C. Tawa Reservoir
- D. None of the above

Q22. What is the primary habitat of the Nilgiri Tahr?

- A. Himalayan foothills
- B. Western Ghats
- C. Eastern Ghats
- D. Coastal regions of Tamil Nadu

Q23. Regarding the Northern Bald Ibis, which of the following statements is incorrect?

- A. The species is listed as Endangered on the IUCN Red List.
- B. It was historically native to Central Europe but became extinct there due to excessive hunting by the 17th century.
- C. The Northern Bald Ibis is known for its scavenging habits and primarily feeds on carrion.
- D. It nests on steep rock faces and lays up to four greenish eggs with staggered hatching.

Q24. Under the Pradhan Mantri Mudra Yojana (PMMY), which category of loans was recently increased to ₹20 lakh, and what is its target beneficiary group?

- A. Tarun loans for businesses looking to expand further.
- B. Shishu loans for new enterprises.
- C. Kishore loans for businesses in the growth phase.
- D. Micro loans for informal sector workers.

Q25. Evaluate the following statements regarding Japan's natural features and seismic activity:

1. Japan's highest peak is Mount Fuji, which is located on the island of Shikoku.
2. The country's position on the Ring of Fire contributes to its frequent seismic activity and volcanic eruptions.
3. Japan extends from the Sea of Japan in the west to the Sea of Okhotsk in the east.

4. The Japanese Alps are divided into three ranges: the Northern, Central, and Southern Alps.

Which of the statements are true?

- A. 1 and 2 only
- B. 2 and 4 only
- C. 2 and 3 only
- D. 3 and 4 only

MAINS

1. Examine the concept of 'Lateral Entry' into India's civil services. What are its key objectives, benefits, and challenges? Compare it with global practices like the 'Revolving Door' model and suggest reforms to address concerns over transparency, merit, and potential disruption to the bureaucratic system.

2. "Critically examine the effectiveness of India's disability rights framework, including the RPWD Act, 2016, and initiatives like the Accessible India Campaign. Highlight key challenges and suggest measures to enhance inclusion and enforcement."

3. What is Mpox and how is it transmitted?

4. Discuss the strategic importance of Central and Eastern Europe in the context of global geopolitical dynamics. How does India's recent engagement in the region reflect its shifting foreign policy priorities?

5. How can urban design and public policies be improved to ensure the safety of women in urban public spaces, considering both preventive measures and responses to violence?

SOLVED ESSAY BI-WEEKLY

CLASSROOMS: THE CRUCIBLE OF A NATION'S FUTURE

It is the Mark of an Educated Mind to be Able to Entertain a Thought Without Accepting It.

— Aristotle

THE EVOLUTION OF EDUCATION IN INDIA

Education has long been recognized as a cornerstone of progress, development, and social transformation. In India, a nation with a profound historical legacy and a rapidly evolving socio-economic landscape, the role of education in shaping its future is exceptionally significant.

Ancient Foundations

- The roots of Indian education can be traced back to ancient times, with the early centers of learning such as **Takshashila and Nalanda** standing as testaments to a long-standing tradition of scholarship.
- These institutions were celebrated for their comprehensive curricula, covering subjects from mathematics and astronomy to philosophy and literature.
- The emphasis on holistic education in these centers laid the foundation for a society that deeply valued knowledge and intellectual development.

Medieval Advancements

- The medieval period saw the introduction of new educational dimensions with the advent of Islamic rule.
- The rise of Madrasas and Maktabas marked significant advancements in the preservation and dissemination of knowledge.
- During the Mughal era, especially under Emperor Akbar, there was a concerted effort to integrate diverse cultural and intellectual traditions. This integration fostered an environment of academic and cultural

- synthesis, further enriching India's educational heritage.

Colonial Influence

- The British colonial period brought about profound shifts in the Indian education system.
- Figures such as **Lord Macaulay** played a pivotal role in introducing English education with the intention of creating a class of educated Indians who could act as intermediaries between the British rulers and the local populace. While this approach was primarily utilitarian, it inadvertently set the stage for the development of a modern education system in India.
- The establishment of institutions such as the University of Calcutta, the University of Bombay, and the University of Madras marked a new era, providing higher education opportunities and introducing Western sciences, literature, and philosophy to Indian students. This new class of educated Indians played crucial roles in the struggle for independence.

POST-INDEPENDENCE EDUCATIONAL DEVELOPMENTS

- Post-independence, the Indian government recognized the essential role of education in nation-building.
- Leaders like Mahatma Gandhi and Jawaharlal Nehru envisioned a comprehensive and inclusive education system as a key driver of social and economic development.
- The creation of the University Grants Commission (UGC) in 1956, and the establishment of institutions like the Indian

Institutes of Technology (IITs) and Indian Institutes of Management (IIMs), were landmark developments in advancing higher education. These institutions aimed to cultivate a skilled workforce to contribute to India's industrial and technological progress.

- Despite these advances, India's education system continues to face numerous challenges, including issues of access, quality, and equity.
- The Right to Education Act (RTE) of 2009 was a significant step towards addressing these challenges by ensuring free and compulsory education for children aged 6 to 14.
- Nonetheless, disparities in educational outcomes remain, particularly in rural and marginalized communities.
- Initiatives like the **Mid-Day Meal Scheme** and **Sarva Shiksha Abhiyan** have sought to improve enrollment and retention rates, yet further reforms are needed to enhance educational quality and relevance.

SUCCESS STORIES AND INNOVATIONS

Kerala's Educational Success

- Kerala stands out as a success story in educational development, with a literacy rate exceeding 96%. The state's focus on universal primary education and substantial public investment in education and healthcare has led to impressive human development indicators. Kerala's inclusive approach to education, including efforts to bridge gender and social gaps, has positively impacted broader socio-economic outcomes, illustrating the transformative potential of education.

Navodaya Vidyalayas

- The Navodaya Vidyalaya system, introduced in 1986, aims to provide quality education to talented students from rural areas through residential schools. These institutions offer free education from Class VI to XII, focusing on academic excellence, leadership, and social awareness. The success of Navodaya Vidyalayas is evident in the achievements of their alumni, many of whom have excelled in various fields, demonstrating the role of

education in promoting social mobility and reducing inequalities.

Technological Advancements

- The advent of technology has opened new horizons for education in India. Digital initiatives such as the National Digital Library of India (NDLI), SWAYAM online courses, and the e-Pathshala app for digital textbooks have broadened access to educational resources. These digital platforms have been particularly valuable during the Covid-19 pandemic, which necessitated a shift to online learning. While challenges related to digital infrastructure and access persist, technology's integration into education has the potential to democratize learning and bridge gaps in educational provision.

IMPROVING EDUCATION QUALITY

- The quality of education is closely tied to the quality of teaching. Teachers play a crucial role in shaping students' learning experiences and, by extension, the nation's future.
- Efforts to enhance teacher training and professional development are central to educational reforms in India.
- Innovative pedagogical approaches, such as experiential learning and inquiry-based methods, have been introduced to make education more engaging and effective.
- Programs like Teach for India contribute to improving education quality in under-resourced schools by bringing motivated and skilled teachers into the system.
- As India faces environmental sustainability challenges, education for sustainable development (ESD) has gained prominence.
- Integrating ESD into curricula aims to equip students with the knowledge and skills necessary to address environmental issues and promote sustainability.
- Initiatives like the Green School Program and incorporating environmental studies into school curricula are steps towards fostering environmental responsibility among students, contributing to a sustainable future for the nation.

HIGHER EDUCATION AND RESEARCH

- Higher education institutions in India, such as the IITs, IIMs, and Indian Institutes of Science Education and Research (IISERs), play a vital role in driving research and innovation.
- These institutions are at the forefront of scientific and technological advancements, addressing complex challenges in healthcare, agriculture, energy, and infrastructure.
- By fostering a culture of research and innovation, higher education institutions contribute to economic growth and the improvement of living standards.

POLICY RECOMMENDATIONS

Enhancing Educational Access and Quality

- To fully harness the potential of education in shaping India's future, several key policy recommendations are pertinent. Investing in early childhood education is crucial for laying a strong foundation for lifelong learning. Strengthening programs like Anganwadis to ensure quality early education for all children is essential. Continuous professional development for teachers should focus on modern pedagogical methods and the integration of technology in teaching. Addressing disparities in educational access

and outcomes requires intensified efforts, particularly for marginalized communities.

Expanding Digital Infrastructure

- Expanding digital infrastructure and access to technology can enhance educational opportunities, especially in remote and underserved areas. Encouraging higher education institutions to collaborate with industry and government to drive research and innovation, alongside increased funding for research and development, is vital.

CONCLUSION

Education's role in shaping a nation's destiny is undeniable. In India, the journey of educational development is marked by significant achievements and ongoing challenges. From ancient centres of learning to contemporary digital classrooms, education has been a driving force behind India's social, economic, and cultural progress. By continuing to invest in and reform its education system, India can unlock its full potential and build a more equitable and prosperous society. As the nation looks to the future, its commitment to education will remain instrumental in shaping its destiny and ensuring a brighter future for all its citizens.

Education is the most powerful weapon, which you can use to change the world.

—Nelson Mandela



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