



# CURRENT AFFAIRS PROGRAM

## PRE CUM MAINS 2024

### DEC 2023: BOOKLET-8

#### TABLE OF CONTENTS

1. General Studies-2.....	1
1) Decriminalization of Medical Negligence??? .....	1
2. General Studies-3.....	2
1) Economy: INDIA'S INCLUSION IN JP MORGAN'S GOVERNMENT BOND INDEX – EMERGING MARKET (GBI-EM) 2	
2) Economy: Gig Economy and Gig Workers .....	2
A) The Rajasthan Gig and Platform Workers (Registration and Welfare) Act, 2023 .....	5
3) S&T: Deep Ocean Mission (DOM) .....	5
4) Internal Security: Terrorism in Jammu and Kashmir.....	7
3. Prelims Facts.....	11
1) Culture: Intangible Cultural Heritage/ Masterpiece of the Oral and Intangible Heritage of Humanity ....	11
2) Places in News: Sierra Leone .....	12
3) Places in News: Mount Merapi .....	13
4) Economy: Banking: DSIBS .....	14
5) S&T: Health: Measles and Measles Vaccine .....	15
6) S&T: Health: Rubella .....	16
7) S&T: Biotechnology: Huntington's Disease and GM Fruitflies.....	16
B) Drosophila .....	17
8) EB&CC: Biodiversity: Lantana Camara.....	17
9) EB&CC: Biodiversity: The Namdapha Flying Squirrel ( <i>Biswamoyopterus biswasi</i> ).....	18

## 1. GENERAL STUDIES-2

### 1) DECRIMINALIZATION OF MEDICAL NEGLIGENCE?

- **Why in news?**
  - Bhartiya Nyaya Samhita has kept the punishment for medical negligence lower than the punishment for causing death by other kinds of negligence (Dec 2023)
- **Introduction**
  - As per the **Section 106(1)** of the Bhartiya Nyaya (Second) Sanhita (BNSS), doctors will continue to face a two year imprisonment and/or fine if convicted. This is lesser than the Sanhita's recommended punishment of five years for other cases of death by negligence (for e.g. by rash driving).
  - **Note:** The maximum imprisonment of doctors with this amendment remains the same as it was under IPC section 304A - upto 2 years of imprisonment or fine or both.
    - Medical negligence has not been clubbed with other accidental deaths where punishment has been kept higher.
- **Need of lower punishment for medical negligence:**
  - Doctors shouldn't be punished for honest mistakes and negligence is a complex issue in medical field and therefore this shouldn't be clubbed with other kinds of negligence.
  - It will also reduce harassment of doctors from frivolous lawsuits and harassment.
  - It will ensure that doctors will be able to provide care without fear of persecution and patients can be assured of quality care.
- **Criticisms:**
  - Critiques argue that doctors should be more careful, and the scope of negligence should be lesser here.
  - Owing to the "power imbalance" in the doctor-patient relationship, an act of negligence on the part of the doctor calls for a lower punishment but a higher one.
- **Way Forward**
  - **Consult all stakeholders** including patients.
  - **Need for comprehensive data** - to understand the extent of negligence and extent of harassment.
  - **Blanket exemption** will not be a good idea as honest mistakes can be decriminalized, but carelessness needs to be punished.

## 2. GENERAL STUDIES-3

### 1) ECONOMY: INDIA'S INCLUSION IN JP MORGAN'S GOVERNMENT BOND INDEX – EMERGING MARKET (GBI-EM)

- In Sep 2023, JP Morgan Chase & Co. announced that it will add Indian government bonds into the GBI-EM Index.
- India's weight is expected to reach the maximum weight threshold of 10% in the GBI-EM Global Diversified and approximately 8.7% in the GBI-EM Global Index.
- **The process of inclusion** is set to commence on June 28, 2024, and will span a duration of ten months. These 10 months will see an incremental increase of 1% in India's index weighting, ultimately reaching an allocation of 10%.
- As per JP Morgan, around 23 IGBs with a combined national value of \$330 billion are considered eligible. All these bonds fall under the "fully accessible" category for non-residents.
- **Impact:**
  - » **Increased foreign Investment** in India's debt market.
    - It will also lead to increased passive investment by various index tracking funds.
    - Moreover, it can also be a trigger for other financial institutions to include India in their index.
    - For e.g. the foreign funds have already started pouring money into government bonds with their investments in the fully accessible category more than doubling to Rs 1.28 lakh crore by Dec 2023 (from around 60K crores last year).
  - » **Reduction in government bond yield** as more money will be available now. This will reduce government's cost of borrowing and thus will lead to ease of fiscal deficit.
  - » It will also deepen bond markets in India.
  - » It will also lead to improved BoP condition and appreciation of rupee.
- **Impact: Negative:**
  - India may get exposed to global market fluctuations, as it will be subject to shifts in sentiments, economic conditions, and policies in major economies, influencing the bond prices and yields.
- **Conclusion:** India's inclusion in JP Morgan's GBI-EM index is yet another shining example of India's growing importance in the world economy. And the benefits of index inclusion outweigh the associated risks linked to such index inclusion.

### 2) ECONOMY: GIG ECONOMY AND GIG WORKERS

- **Why in news?**
  - » In Oct 2023, in response to a delegation of Gig Workers Association, the CM of Delhi, Arvind Kejriwal announced that the government would certainly address the concerns of the gig workers and even legislate if the need arises.
- **Example Questions**

- » Discuss the key promises and perils of increasing gig economy and gig workforce in India [10 marks, 150 words]
- **About Gig Economy:**
- » A **gig economy** is a free market system in which temporary positions are common and organizations hire independent workers for short term commitments. The term "gig" is a slang word for job that lasts a specified period of time.
  - » According to Ministry of Labour and Employment, "a gig worker is a person who engages in income-earning activities outside of a traditional employer-employee relationship, as well as in informal sector"
    - **Gig workers** can be classified into platform and non-platform workers.
      - Platform workers are those whose work is based on online software apps or digital platforms, while non-platform gig workers are generally casual wage workers, working part time or full time.
- **Factors behind rise in Gig Economy:**
- » **A rapidly expanding service sector-Startup ecosystem:** Startups, including some celebrated unicorns like Ola, Uber, Zomato, and Swiggy, have emerged as a major driver of the gig economy in India. They hire contractual freelancers in both skilled and unskilled jobs to reduce cost.
  - » **The unconventional work approach of millennials, Gen Y & Gen Z**
  - » **COVID-19 Pandemic** led to many people losing their fixed jobs
  - » **Fast clipped emergence of free lance platforms**
  - » **Various other advantages** (see details below)
- **Advantages of Gig Economy/ Bright Side of Gig Economy**
- » **For Employees:**
    - **Employment opportunities:** As per NITI aayog, more than 75 lakh workers are engaged in gig economy in 2020-21, and this is expected to go to 23.5 million by 2029-30.
    - **Independence and flexibility** offered by the gig economy to choose projects and work hours has attracted millions of people to join the gig workforce.
    - **Additional income:** To impoverished population (particularly the jobless, women, and students)
  - » **For Enterprise:**
    - **An efficient and speedy go-to-market solution** that allows them to offload core business functions on demand while removing hurdles like fixed costs, long recruitment cycles, and other compliance.
    - **It improves productivity** by reducing idle and unproductive time.
    - It also offers **agility to enterprises**, making it easy to scale up or down to meet business requirements.
  - » **For Consumers**
    - Cost effective, high quality services (for e.g. Urban Company, Ola, Zomato etc.)
  - » **Benefit for overall economy:**
    - Increased labor force participation and contributes to reduction in unemployment.
    - Skilled work force such as make-up artists can find business without setting up a physical shop.

- **Key Highlights of NITI Aayog's Report: 'India's Booming Gig and Platform Economy'**
    - **Size of workforce:** In 2020-21, the gig workers constituted 2.6% (7.5 million) of the non-agricultural workforce and by 2030 they would constitute 6.7% (23.5 million) of non-agricultural workforce.
    - **Skill Levels:** As per the report, around 31% workers are in low skilled jobs; 47% of the gig work is in medium skilled jobs, and 22% work is in high skilled jobs.
    - **Female Labour Force Participation** in India has remained low (between 16% - 23%) in last few years.
      - Why? -> Structural barriers such as less access to education and skilling opportunities.
    - **Other key issues faced by workers in Gig Economy:** While platform companies have created avenues of employment, it has often been marred by:
      - **Contractual (non-permanent) work:**
        - » **No Social Security:** They don't have benefits like paid sick and casual leaves, travel and housing allowances, and provident fund saving among others.
      - **Poor Service Conditions:**
        - » Low wages, Opaque payment calculations, increasing commission deductions etc.
        - » Lack of possibility of upward mobility within an organization
        - » Gig economy can bring loneliness. It would be especially true for designers, copywriters etc. working on their laptops from home.
      - The labor codes are vague about social protection for unorganized workers.
        - » The new **Code on Social Security** of 2020 replaced all existing laws on the subject. Gig workers find a place as unorganized sector workers in this code but the actual security cover remains vague and implementation of the code remains poor.
- **Other Concerns:**
  - Traditional players like (non-app based taxi service providers) are not able to survive in this cut-throat competition environment.
- **Key Recommendations of NITI Aayog**
  - **Extending Social Security for gig and platform workers:** Extend social security measures such as income support, paid sick leave, insurance and pension plans to people working for platform economies like Swiggy, Zomato, Ola and Uber.
    - Such plans and policies may be uniquely designed by a firm, in partnership with insurance companies, or could be designed and offered in collaboration with the government, as envisaged under the Code on Social Security, 2020.
  - **Skill Development for platform jobs:** Platform led models need to be created for skilling purposes.
  - **Social Inclusion:** Niti Aayog has recommended fiscal incentives, like tax rebates or start-up grants, for companies with about 1/3rd of their workforce as women or people with disabilities.
    - **Business should have Higher share of female managers and supervisors** in the organization to ensure that communication to workers doesn't perpetuate gender stereotypes.

- **'Platform India Initiative'** - on the lines of Startup India Initiative: This should be built on the pillars of accelerating platformisation by simplification and handholding, funding support and incentives, skill development, and social financial inclusion.
- **Self-employed individuals** - selling regional and rural cuisine, street food etc., may also be linked to platforms so that they can sell their produce to wider markets in towns and cities.
- **RAISE Approach for operationalizing the Code on Social Security (CoSS), 2020:**
  - Recognize the varied nature of work to design equitable schemes.
  - Allow augmentation of social security through innovative financing mechanism
  - Incorporate, while designing schemes, the specific platforms, factoring the impact on job creation, platform businesses and workers
  - Support workers to subscribe to government schemes and welfare programs through widespread awareness campaigns
  - Ensure benefits are readily accessible to workers.

- **Conclusion:**

- Long term solution lies in creation of more better paying, secure jobs. But, at the same time there is need to ensure minimum wages, and social protection for gig and other organized workers who constitute the bulk of Indian workforce

#### A) THE RAJASTHAN GIG AND PLATFORM WORKERS (REGISTRATION AND WELFARE) ACT, 2023

- **The act provides for every platform worker to have a unique id** that would anchor all future benefits for them.
- **Welfare Fund:** The act levies a fee on every transaction as a source of revenue for the welfare fund.
- **Tripartite Welfare Board:** The act creates a tripartite welfare board made up of government, companies and workers to administer the fund.
  - » A tripartite board administered fund with the revenue source being the company, serves as an inoculation against corrupt rogue unions from striking deals because the fund can never come under just a single company's control nor the control of any one party.
  - » This is based on Hamal model of Maharashtra.
- **Information sharing to ensure transparency:** The act makes it mandatory for companies to give control over transaction level data as it requires the data to reside in a government-controlled database with an information system/app frontend through which workers have access to data.

#### 3) S&T: DEEP OCEAN MISSION (DOM)

- **Practice Questions:**
  - » Discuss the key pillars of Deep Ocean Mission (DOM). Examine how the DOM will contribute towards India's sustainable economic growth [10 marks, 150 words]
- **Introduction:**
  - » Deep Ocean Mission is India's quest to explore and harness the depths of the ocean.
    - One of its components is Samudryaan Mission which is aimed to develop an indigenous, self-propelled manned submersible to carry **3 human beings** to a **water depth of 6,000 meters in the ocean** with a suite of scientific sensors and tools for deep ocean exploration.

- » DOM is being implemented by **Ministry of Earth Science** and was approved by the union cabinet in 2021 at a cost of **Rs 4,077 crores** over a five year period (2021-22 to 2025-26).
- The mission has six pillars:
  - i. Development of technologies for **deep sea mining and a manned submersible** to carry three people to a depth of 6,000 meters in the ocean. The submersible will be equipped with **suit of scientific sensors, tools, and an integrated system for mining polymetallic nodules from the central Indian Ocean.**
  - ii. Development of **ocean climate change advisory services**, involving an array of ocean observations and models to understand and **provide future climate projections.**
  - iii. Technological innovations for the **exploration and conservation of deep-sea biodiversity.**
  - iv. Surveys and exploration aimed at **identifying potential sites of multi-metal hydrothermal sulphides mineralization** along the Indian ocean mid-oceanic ridges.
  - v. Harnessing **energy and freshwater** from the ocean
  - vi. Establishing an **advanced Marine Station for Ocean Biology**, as a hub for nurturing talent and driving new opportunities in ocean biology and blue technology.
- DOM is one of the **nine missions under the PM's Science Technology and Innovation Advisory Council (PMSTIAC)**. It is imperative that DOM supports the blue-economy priority area, blue trade, and blue manufacturing in India.
- Various institutions involved in achieving the objectives of DOM:
  - » MoES institutes, especially the **Centre for Marine Living Resources and Ecology (CMLRE)**, **Indian National Centre for Ocean Information Services (INCOIS)**, **National Centre for Coastal Research (NCCR)**, **National Centre for Polar and Ocean Research (NCPOR)** and **National Institute of Ocean Technology (NIOT)** will **collaborate with other national institutes and academia to achieve the objectives outlined in DOM**, albeit with well-segregated responsibilities
- Progress:
  - » The **National Institute of Ocean Technology (NIOT)**, an autonomous institute under MoES, has been entrusted with the **mandate of developing indigenous technologies to address engineering challenges associated with exploring and utilizing ocean resources.**

**Matsya6000** is the **deep ocean submersible designed to accommodate a crew of three members (aquanauts)**. It boasts of an **operational endurance of 12 hours**, which is extendable to 96 hours in the event of an emergency.

**Progress:** The **design of Matsya6000** has been completed.

    - Now tests will start, with a **depth of 5,000 meters** which will eventually be expanded for a **depth of 6000 meters**.
  - » NIOT has also successfully conducted **deep-sea locomotion trials on the seabed** at a depth of **5,270 meters** using India's underwater mining system, '**Varaha**'. The trial was able to **collect the polymetallic modules from the ocean bed during the trial**. This milestone is a **step towards future exploration and harvesting of deep sea resources**.

- **Why the target of 6000 meters depth?**
  - » **Polymetallic modules**, which contain precious metals like copper, manganese, nickel, iron, and cobalt, are found approximately 5,000 m deep.
  - » **Polymetallic sulphides** occur at around 3,000 m in the central Indian Ocean.
  - » **Therefore**, India's interest spans to depths of 3,000 m to 5,000 m. By equipping ourselves with the ability to explore upto a depth of 6,000 meters, we can effectively cater to both the Indian EEZ and the Central Indian Ocean.
  
- **Key challenges of India's DOM:**
  - » **High Pressure in Deep Ocean**: Operating under such high pressure requires the use of meticulously designed equipment crafted from durable metals or materials. Electronics also find it difficult to function under this high pressure.
  - » **Landing on the Ocean bed is another challenge**. It is due to incredibly soft and muddy sea bed.
  - » **Extracting minerals** will also require a lot of energy as they will have to be pumped to the surface.
  - » **The difficulty of propagation of EM waves** make it difficult to rove remotely operated vehicles.
  - » **Visibility** poses another challenge as negligible light reaches a depth of 6,000 meters.
  
- **Where does India stand in comparison to other countries?**
  - Countries such as USA, Russia, China, Japan, and France have already achieved successful deep ocean crewed mission. India is poised to join the rank of these nations.
  
- **Way Forward:**
  - » **Focus on Environment Sustainability**: The extraction of resources should be sustainable and should only minimally hamper the deep ocean ecosystem.
  - » **International Collaboration** can be crucial in understanding the key challenges and their resolution from the countries which are already doing deep ocean exploration.
  - » **Focus on training human resources** which would be specialized to work in the deep ocean systems.
  
- **Conclusion:**
  - » **DOM** with its focus on research and development, deep sea mining, biodiversity conservation and climate studies embodies the very essence of scientific zeal that India needs to move towards Atmanirbharta.

#### 4) INTERNAL SECURITY: TERRORISM IN JAMMU AND KASHMIR

- **Why in news?**
  - The Army is moving in additional troops to the Rajouri-Poonch sector after a spate of attacks on security personnel and increased activity by Pakistan origin terrorists who have created hideouts in thick forests close to LoC (Dec 2023)
  
- **Practice Question:**
  - Highlight the key emerging trends of the insurgency situation in Jammu and Kashmir. Discuss the measures that need to be taken to deal with the emerging challenges [15 marks, 250 words]

- **Introduction:**
  - In 2019, the GoI abrogated Articles 370 and 35A in a bid to end radicalization, separatism, and terrorism.
  - Various counter-terrorism measures have been successful:
    - » Pakistan's proxy war networks have been neutralized.
    - » The overground workers (OGW) have been dismantled.
    - » Infiltration has been reduced to a trickle.
    - » Increased crackdown on terror funding has made things difficult for terror groups operating within the valley, especially in south Kashmir.
    - » Terror recruitment has dipped:
      - In the first 9 months of 2023, only 25 individuals joined terrorist groups, which is significant decline compared to 143 in 2019 and 100 in 2022.
      - » Increase in surrenders due to invigorated surrender and rehabilitation policy.
        - It has also led to several youth giving up militancy quietly.
      - » Fast paced developed in J&K.
- **Key emerging trends in the issue of Insurgency in J&K:**
  - **Relative Peace in the Kashmir Valley**: In recent times, the Kashmir zone - the traditionally volatile area - is relatively quiet.
  - **Increased terrorist strikes outside the Kashmir Valley**:
    - » Unable to face security forces in urban environment, terrorists are choosing dense forests to engage with security forces.
      - It's the Pir Panjal (south) in Jammu sector which has emerged as a hub of terrorism.
      - This is particularly visible since 2020, when terrorist groups shifted their operations from the valley to the forested areas of Poonch and Rajouri in the Pir Panjal ranges.
    - » Terrorists are adopting guerrilla tactics - Target the security forces and then go back to dense forests and regroup for another attack.
    - » By striking outside the Kashmir valley, they are trying to depict the inclusivity of their resistance and are promoting the rhetoric of being influential even outside the valley. This is an attempt to keep terrorism alive and maintain international focus on Kashmir.
  - **Emergence of Virtual Terrorist Groups** which ostensibly has no antecedents.
    - In last three years, groups like the Resistance Front (TRF), Jammu Kashmir Ghaznavid Force, and People's Anti-Fascist Front (PAAF) have come to the fore. These are nothing but organizations for LeT and other terrorist outfits. TRF for instance uses the funding channels of LeT.
    - These groups have adroitly used social media platforms like X, Telegram, Facebook to push their narrative and propaganda, primarily focusing on issues like the alleged conspiracy to turn Kashmir valley into Muslim-Minority region.
  - **More well-trained and tech savvy militants**: This is evident in the way militants are able to cover their tracks.
    - For e.g. terrorists are not using their own communication system but are dependent on the phones of locals.

- **Israel-Hamas conflict** can intensify terrorist radicalization in the region and in other parts of the country.
    - » Pan-Islamic and Pakistan based terrorist organizations are weaponizing the deluge of footage from the Gaza strip.
- **Why has terrorist presence and activity shifted to the Poonch-Rajouri sector?**
  - » **Abrogation of Article 370** has also made Kashmir less conducive to separatist trends.
  - » **Kashmir's strong and layered counter-infiltration (CI) and counter terrorism (CT) grid** makes planning of proxy operations difficult.
  - » **Weaknesses in Poonch Rajouri Sector:**
    - **Chequered history of local support** to terrorists: For e.g. the security agencies are facing the problems of disinformation.
    - **The treacherous terrain of Rajouri and Poonch districts** gives the terrorists **impunity**, and they need not seek a mass support based for survival.
    - **Shifting out of security forces**: In 2020, after the Galwan clash, several companies of Rashtriya Rifles were moved from the hinterlands of Poonch, Rajouri etc.
    - **Poor Informers Network**: New officers who have shifted to the region, didn't work as hard as they should in cultivating an informers' network.
- **2023 Terrorist Incidents in J&K:**
  - Militants ambushed truck of security forces in Poonch on 20th April 2023; In May 2023, five army personnel were killed in an explosion in a forested area in Rajouri.
  - In Sep 2023, encounter in Anantnag lead to loss of four lives, including three senior security forces officials.
  - **Ambush on 21st Dec 2023 of security forces near Dera Ki Gali (DKG)** resulted in four soldiers being killed in action. The attack was claimed by the banned People's Anti-Fascist Front (PAFF), an offshoot of Pakistan backed Jaish-e-Mohammed.
- **Way Forward:**
  - **Strong operations** should be conducted in the lower reaches of the Pir Panjal with drone support.
  - **Strengthen public outreach** to build confidence and trust among civilians as was done in the Kashmir valley.
    - Mistakes like alleged death of civilians in military custody should also be dealt in a transparent manner to build trust.
  - **Inclusive development** throughout J&K.
    - The general focus on Kashmir valley has led to the Rajouri-Poonch region being at a disadvantage in terms of development funds, implementation of government programs, infrastructure development, etc.
  - **Indian agencies** need to step up their vigil in monitoring the renewed radicalization drive by the terrorist masterminds and their well-resourced benefactors.
  - **Other steps discussed with the terrorism topics:**
    - **Strengthening border infrastructure**
    - **Countering terrorism politically and diplomatically**
      - Raising the issue on international forums to isolate countries sponsoring terrorism.
      - Working towards resolving the Kashmir dispute through political negotiations.

- Strengthening Police (having a counter-terrorism cell)
- Role of educational institutions, religious institutions and Civil Society

- Conclusion:

- In the current context of receding footprint of militancy in J&K, the fight against the terrorist has to enter a decisive phase with bold and imaginative initiatives. The security forces need to set different parameter of success to include non-kinetic means, as part of a whole-of-government approach.

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# ACE CSAT

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CRITICAL THINKING

**STARTS: 8<sup>TH</sup> JAN 2024**

By **Abhishek Inamdar**  
M.Sc. Mathematics, BITS Pilani

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### 3. PRELIMS FACTS

#### 1) CULTURE: INTANGIBLE CULTURAL HERITAGE/ MASTERPIECE OF THE ORAL AND INTANGIBLE HERITAGE OF HUMANITY

- **Why in news?**
  - » Garba dance from Gujarat becomes the 15th cultural item from India to make it to UNESCO's Intangible Cultural Heritage List (Dec 2023)
- **About Intangible Cultural Heritage**
  - » An intangible cultural heritage is a practice, representation, expression, knowledge, or skill as well as instruments, objects, artifacts, and cultural spaces that are considered by UNESCO to be part of a place's cultural heritage. It is sometimes called the living cultural heritage.
  - » It focuses on intangible aspects of culture.
- **About Convention for the Safeguarding of the Intangible Heritage, 2003**
  - » It is an international treaty signed in 2003, acknowledging that cultural heritage is more than tangible places, monuments and objects. It also encompasses traditional and living expressions.
- **Intergovernmental Committee of UNESCO's 2003 Convention**
  - » The Intergovernmental Committee of the 2003 Convention consists of 24 members and is elected in the General Assembly of the Convention according to the principle of equitable geographical representation and rotation.
  - » **Core Functions** of the Committee:
    - Promoting the Objective of the Convention
    - Providing guidance on best practices
    - Making recommendations on measures for safeguarding of intangible cultural heritage.
  - » The committee also examines the requests submitted by State Parties for the inscription of intangible heritage on the lists as well as proposals or programs and projects.
  - » India has been elected as a member of the Intergovernmental Committee of UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage for the 2022-26 cycle.
    - In the past India has served as a member in two stints - 2006 - 2010 and 2014-18.
  - » The elections took place during the 9th general assembly of the 2003 Convention held at UNESCO headquarters, Paris, from 5th to 7th July 2022.
- **India** ratified the convention in Sep 2005.
- **Intangible Cultural Heritages of India:** So far, 15 Intangible Cultural Heritage (ICH) elements from India have been inscribed till date on the UNESCO's List of the Intangible Cultural Heritage of Humanity.
  - » **How is an element included in this list?**
    - Nomination by a state party. (In India, Ministry of culture has appointed the Sangeet Natak Akademi, as nodal office for matters relating to preparation of the nomination dossiers for UNESCO).
  - » **Elements inscribed from India so far include:**

S.No.	ICH Element	Year of Inscription
1	Tradition of <b>Vedic chanting</b>	2008
2	<b>Ramlila</b> , the traditional performance of the Ramayana	2008
3	<b>Kutiyattam</b> , Sanskrit theatre	2008
4	<b>Ramman</b> , religious festival and ritual theatre of the Garhwal Himalayas, India	2009
5	<b>Mudiyettu</b> , ritual theatre and dance drama of Kerala	2010
6	<b>Kalbelia</b> folk songs and dances of Rajasthan	2010
7	<b>Chhau</b> dance	2010
8	<b>Buddhist chanting of Ladakh</b> : recitation of sacred Buddhist texts in the trans-Himalayan Ladakh region, Jammu and Kashmir, India	2012
9	<b>Sankirtana</b> , ritual singing, drumming and dancing of Manipur	2013
10	Traditional <b>brass and copper craft of utensil making among the Thatheras</b> of Jandiala Guru, Punjab, India	2014
11	<b>Yoga</b>	2016
12	<b>Nawrouz</b> , Novruz, Nowrouz, Nowrouz, Nawrouz, Nauryz, Nooruz, Nowruz, Navruz, Nevruz, Nowruz, Navruz	2016
13	<b>Kumbh Mela</b>	2017
14	<b>Durga Puja</b> in Kolkata	2021
15	<b>Garba</b> of Gujarat	2023

## 2) PLACES IN NEWS: SIERRA LEONE

**Geography:** It is a country located on the southwest coast of West Africa. It shares the southeastern border with Liberia and the northern half of the country is surrounded by Guinea. It has tropical climate, with diverse environments ranging from Savanna to rainforests.

**Religion:** Muslims constitute 75% of the population. Christian are minority but quite influential.

**Capital:** Freetown.



### What led to Coup attempt in Sierra Leone? (Dec 2023)

- In Nov 2023, unidentified gunmen targeted the **Wilberforce military barracks** and several police stations and correctional centres in Freetown, Sierra Leone. It was considered a coup attempt.
- Key issues in Sierra Leone:
  - a. **Political Instability:** This instability has been there since June 2023, when President Julius Maada Wonie Bio was re-elected. Opposition have claimed that elections were manipulated.
  - b. **Economic instability:** Inflation (upto 50%); Poverty (more than 50% of population); unemployment
  - C. **Police aggression:** For e.g. the Aug 2022 riots left six police officers and 27 protestors dead.

### 3) PLACES IN NEWS: MOUNT MERAPI

**About Mount Merapi:** It is the most active volcano of Indonesia and have erupted regularly since 1548. It is located on Java Island. It is a stratovolcano whose height is 2,930 miles.

It is located at a subduction zone, where the Indo-Australian Plate is subducting under the Sunda Plate.

It is also **one of the 16 Decade Volcanoes**

#### About Decade Volcanoes

- The Decade volcanoes are 16 volcanoes identified by the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) as being worthy of particular study in light of their history of large, destructive eruptions and proximity to populated areas.
- The **Decade Volcanoes project** encourages studies and public-awareness activities at these volcanoes, with the aim of achieving a better understanding of the volcanoes and the dangers they present, and thus being able to reduce the severity of natural disaster.
- They are called decade volcanoes because the project was initiated in the 1990s as part of the United Nations - sponsored International Decade for Natural Disasters Reduction.



#### Dec 2023 Eruption:

Mount Merapi erupted again and killed at least 11 hikers. This eruption sent hot ash and other volcanic debris three kms into sky.

## About IVCEI

It is an **international NGO** that focuses on research in volcanology, efforts to mitigate disasters, and research into closely related disciplines, such as igneous geochemistry and petrology, geochronology, volcanogenic mineral deposits, and the physics of the generation and ascent of magmas in the upper mantle and crust.

## 4) ECONOMY: BANKING: DSIBS

- **Why in news?**
  - » RBI releases 2023 list of DSIBs (Dec 2023)
- **Introduction**
  - » D-SIBs means the bank is **too big to fail** i.e. their failure would be **significant disruption to the essential services** they provide to the banking system and the **overall economy**.
  - » According to RBI, these banks have become **systematically important** due to their size, cross jurisdictional activities, complexity and lack of substitution and inter-connection. Banks whose assets exceed **2% of the GDP** are considered part of this group.
  - » **An additional common equity requirement** has to be applied to DSIBs.
  - » Too big to fail indicates that **in case of distress government is expected to support these banks**. Due to this perception, they **enjoy certain advantages** in funding/investment.
- **Beginning of DSIB-Framework:**
  - » The RBI issued the **framework for dealing with D-SIBs** in July 2014.
  - » SBI was included in the list in 2015, HDFC in 2016.
- The list of D-SIBs is as follows (as of Dec 2023)
  - » SBI, HDFC, and ICICI continue to be **identified as DSIBs**.
  - » While **ICICI** continues to be in **Bucket-1**; Both HDFC (from Bucket-1 to Bucket-2) and SBI (from Bucket-3 to Bucket-4) have been shifted to higher bucket.
  - » So, **starting 1st of April 2025**, both SBI and HDFC will have **to fulfill higher buffer requirements** of the higher bucket.
    - Till 31st March 2025, **surcharge applicable** will be **0.60%** for SBI and **0.20%** for HDFC Bank.

Bucket	Banks	Additional Common Equity Tier 1 requirement as a percentage of Risk Weighted Assets (RWAs)
5	-	1%
4	State Bank of India*	0.80%
3	-	0.60%
2	HDFC Bank*	0.40%
1	ICICI Bank	0.20%

\* The higher D-SIB surcharge for SBI and HDFC Bank will be applicable from April 1, 2025. Hence, up to March 31, 2025, the D-SIB surcharge applicable to SBI and HDFC Bank will be 0.60% and 0.20% respectively.

## 5) S&T: HEALTH: MEASLES AND MEASLES VACCINE

- Measles is a highly contagious infectious disease caused by measles virus. It spreads through air when an infected person coughs or sneezes. It is an acute respiratory illness. Infection is characterized by a prodrome of fever (as high as 105-degree F) and malaise, cough, coryza, and conjunctivitis - the three "C"s, followed by maculopapular rash. The rash spreads from the head to the trunk to the lower extremities.
  - It can severely sicken young children, but is normally kept under check due to large-scale vaccination.
- About the Virus:
  - » It is a single stranded, enveloped RNA virus with 1 serotype. It is classified as a member of the genus Morbillivirus in the Paramyxoviridae family.
  - » Humans are the only natural host of the measles virus.
- Detection:
  - » RT-PCR
  - » Anti-body test
- Vaccinations:
  - » Measles can be prevented with Measles-containing vaccine, which is primarily administered as the combination of measles-mumps-rubella (MMR) vaccine.
  - » It can be used for children aged 12 months through 12 years. One dose of MMR vaccine is approximately 93% effective, and two doses are approximately 97% effective.
- Rise of Cases in 2022:
  - » This was primarily due to disruption of routine vaccination during 2020 and 2021 due to focus on COVID-19 and lockdown
- WHO Report and India's Response (Nov 2023)
  - » A new report from the WHO and US Centre for Disease Control and Prevention (CDC) said measles cases in 2022 have increased by 18%, and deaths by 43% globally, compared to 2021.
    - **Cases:** 9 million & **Deaths** - 1,36,000
  - » The report also said that globally 22 million children and in India 1.1 million infants didn't get the first dose of vaccine.
  - » **India has differed from this report:**
    - MoH&FW says that just over 21,000 Indian children didn't get the shot.

## 6) S&T: HEALTH: RUBELLA

- Rubella is a contagious viral disease caused by a virus. Most people who get Rubella usually have a mild illness, with symptoms that can include a low-grade fever, sore-throat, and a rash that starts on the face and spreads to the rest of the body. It can cause a miscarriage or serious birth defects in a developing baby if a woman is infected while she is pregnant.
- **The best protection** against rubella is **MMR** (Measles,Mumps,Rubella) vaccine

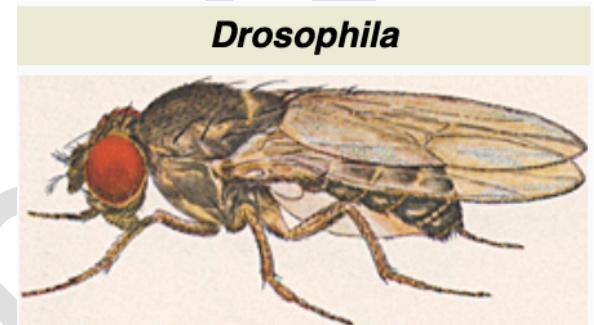
## 7) S&T: BIOTECHNOLOGY: HUNTINGTON'S DISEASE AND GM FRUITFLIES

- **What is Huntington's disease?**
  - » It is a rare, inherited disease that causes the progressive breakdown (degeneration) of nerve cells in the brain.
  - » **Symptoms:** It starts with mild symptoms like forgetfulness, loss of balance, and clumsiness in performing simple tasks. But the condition progressively worsens eventually leading to death.
  - » **Understanding the cause of Huntington's disease:**
    - The patients with Huntington's disease carry a mutated version of gene HTT. This gene codes for a protein called huntingtin, or Htt.
      - Each one of us have two copies of the HTT gene: one we inherit from father and one from mother. The disease is triggered even if only one copy of the gene is mutated while the other is normal.
    - **Use of huntingtin protein:** Nerve cells in our body needs Htt protein for their normal functioning and survival.
    - **Normal HTT gene** contains a stretch of DNA that specifies the number of times the amino acid glutamine is repeated in the Htt protein. This number varies from 11 to 31.
    - **Mutated HTT gene** however encodes abnormal Htt protein that instead destroys the neurons that regulate movement, thinking and memory. The mutated HTT the number of repetitions of glutamine amino acid is expanded to encode 35 or more repeats. **As the number of repetitions increase, the severity of Huntington's disease increases, and its debilitation begins at an earlier age**.
- **How fruitflies (*Drosophila melanogaster*) are helping us understand Huntington's disease?**
  - » Researchers genetically modified fruitflies so that their neurons produce Htt proteins that had 120 repeating units of glutamine. These flies displayed neuronal degeneration, an impaired ability to climb surfaces, and lower viability as well as longevity.
  - » Researchers also had a 'control group', with fruit flies whose neurons made proteins with 25 repeating glutamine units. These flies were largely unaffected.
  - » **In other words**, expressing the longer tract produced symptoms in the fruit flies resembling those of Huntington's disease in humans - whereas expressing the shorter tract didn't.

- **Yod1 Gene** and its impacts:
  - » Scientists studied several other genes and found that overexpression of one, called Yod1, removed all of the disease-like effects in flies caused by overexpression of Htt, including the neurodegeneration, impediments to motor activity, and lower viability and longevity.
- **Future:** Scientists now need to establish that fruit flies that overexpress the human version of the Yod1 gene will also suppress the Huntington's-like pathogenesis.

## B) DROSOPHILIA

- Drosophila is a genus of flies, belong to the family Drosophilidae, whose members are often called "small fruit flies" or pomace flies.
- One species of the Drosophila in particular **D. melanogaster**, has been heavily used in research in genetics and is a common modern organism in developmental biology for last 100 years. Several discoveries in biology have been made using this. Its genome is entirely sequenced and there is enormous information available about its biochemistry, physiology, and behavior. The terms fruit fly and Drosophila are often used synonymously with D. melanogaster in modern biological literature.
- **Developmental biology** is the field of biology that studies the process by which multi-cellular organisms grow and develop, controlled by their genes.



## 8) EB&CC: BIODIVERSITY: LANTANA CAMARA

It is also known as big-sage, wild sage, red sage and tickberry. It is a species of flowering plant within the verbena family, Verbenaceae, that is native to American tropics.

### How was it introduced in India?

Lantana arrived in India as a decorative shrub in the British colonial period but quickly took over several ecosystems as an invasive species.

**Current Spread:** The plant currently covers 40-50% of India's area and have also invaded national parks and pasture lands.

It has spread from its native Central and South America to 50 different countries, where it has become invasive species.

- **Reduces biodiversity:** It often outcompetes more desirable species, leading to reduction in biodiversity.
- **Impacts Agriculture:** It can also cause problems if it invades agricultural areas as a result of its toxicity to



Flowers and leaves of the Lantana camara. (Via Wikimedia Commons)

livestock as well as ability to form dense thickets which if left unchecked can greatly reduce the productivity of farm land.

**Recent Updates:** A decade long initiative in MP to reclaim land overrun by Lantana helps residents restart agriculture and restore natural biodiversity. (Dec 2023: Source: DTE)



## 9) EB&CC: BIODIVERSITY: THE NAMDAPHA FLYING SQUIRREL (*BISWAMOYOPTERUS BISWASI*)

The Namdapha flying squirrel is an arboreal, nocturnal flying squirrel endemic to India.

It was sole in the genus *Biswamoyopterus* until the description of the **Laotian giant flying squirrel (*Biswamoyopterus laoensis*)** in 2013.

It was first recorded in 1981 where a single individual was found in Namdapha Tiger Reserve. After that it wasn't seen till 2022.

**Updates: Missing for 42 years, Namdapha flying squirrel resurfaces in Arunachal (Dec 2023)**

**IUCN:** CR

**WPA:** Schedule-1 (after 2022 amendment)

**Habitat:** Tropical forests

**Distribution :** It is now restricted to as single valley in the Namdapha N.P. (or) W.L.S. in Arunachal Pradesh.

- Namdapha National park is the **largest protected area in the Eastern Himalayan Biodiversity hotspot** and is located in Arunachal Pradesh. It is also **one of the largest National Park in India in terms of area** (after hemis, desert, Simlipal and Gangotri)

**Threats:** Habitat loss is the primary threat. In the past it was also hunted for food, skins/fur.



**Note:** Namdapha is home to another flying squirrel (Red Giant Flying Squirrel) (*Petaurus petaurus*), whose IUCN status is LC. Like other flying squirrels, Red Giant Flying Squirrel is also mostly nocturnal and is able to glide long distance between trees.