

# Current Affairs Update (Feb 1-7)

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## National

### India's First Geo Park

The first geological park of India will be built in Lamheta, Jabalpur in Madhya Pradesh. Geopark is a unified area, which advances the protection and use of geological heritage in sustainable manner. It also promotes the economic well-being of the people living there.

The geological park will be built in Lamheta, because this place is among significant places in world, from geological point of view. In 1928, William Henry Sleeman had discovered Dinosaur fossil from this area. UNESCO has also recognised Lamheta as geo heritage site.

Lameta Formation is also called as Infratrappean Beds. It is a sedimentary geological formation found in Madhya Pradesh, Maharashtra and Gujarat. It is associated with the Deccan Traps. It is of Maastrichtian age and is known for dinosaur fossils.

### Project Sadbhawana

Sadbhawana means goodwill. The Operation Sadbhawana was launched by the **Indian Army in Jammu and Kashmir**. The main aim of the project was to **help people affected by terrorism** in the region. The operations mainly targets to address the aspirations of the people.

The project mainly aims to integrate the locals into the national mainstream. It works to reduce the proxy wars fought by Pakistan in the region. **Proxy wars** are conflicts fought by the terrorist groups on behalf of the government. Pakistan government pays money and supplies ammunitions to the terrorist groups to fight such wars in the Kashmir region.

It mainly focuses on **five areas**. They are infrastructure development, education, community development projects, women and youth empowerment, health and sanitation. The project will neutralise the anti India propaganda sponsored by Pakistan in Kashmir.

### Centre appoints Anantha Nageswaran as CEA

- The Government of India has appointed **Anantha Nageswaran** as **the new Chief Economic Advisor**. He is a former member of **Prime Minister Economic Advisory Council**.
- The CEA reports to the Finance Minister of India. The post is equivalent to Secretary in India.
- The CEA is the head of the Department of Economic Affairs that operates under Ministry of Finance.

# International

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## Central Asia Meet

**First India-Central Asia Summit** was recently hosted by **Prime Minister Narendra Modi** and attended by the **Presidents of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan**. The **India-Central Asia** summit marked **30 years of diplomatic relations**.

### Outcomes of the meet – the “Delhi Declaration”:

- India expressed concerns over **the lack of land connectivity between India and Central Asia’s land-locked countries**.
- The leaders announced plan to build a **“Central Asia Centre” in New Delhi**.
- They also announced two **“Joint Working Groups” (JWGs) on Afghanistan and the Chabahar port project**.
- The leaders highlighted the importance of **TAPI gas pipeline project** that runs from Turkmenistan’s Galknysk oil fields near Mary (Marv) through Afghanistan and Pakistan to India.

### Importance of Central Asia:

- **Central Asia** is strategically positioned as an access point between Europe and Asia and offers extensive potential for trade, investment, and growth.
- Central Asia is not a part of India’s immediate neighborhood and therefore it doesn’t share borders with India, the issue of connectivity between the two regions becomes of paramount importance.
- The region is richly endowed with natural resources like crude oil, natural gas, gold, copper, aluminum, and iron.

## EU Declaration on Digital rights

The European Union is first in the world to propose digital rights. The rights aim to support democracy and support people’s rights. It ensures a safe online environment.

### About the EU Digital Rights

- EU digital rights cover digital devices as well. It ensures the sustainability and green transition goals of the bloc.
- It defines illegal offline and illegal online activities.
- It will act as a good guide for policy makers to decide on technological solutions.
- It places people at the centre.

### Six principles

The draft Digital Rights and Principles puts forward the following six principles:

- To promote the sustainability of digital future
- To increase safety, empowerment and security of individuals
- To foster participation in digital public space
- To ensure freedom of choice online
- To support solidarity and inclusion
- To put people and their rights in the centre of digital transformation

**Key Digital Rights:** Right to use digital content. Right to access electronic devices like computers. Right to privacy. Right to create digital content. Right to express ideas digitally. Right to report what seems inappropriate.

### Rafael Nadal Record of 21 Grand Slam titles

Rafael Nadal won his 21<sup>st</sup> Grand Slam title. He beat Daniil Medvedev at the Australian Open Final to grab his Grand Slam. With this Nadal has become the first player to win 21 grand slam titles. Roger Federer of Switzerland and Novak Djokovic of Serbia have won 20 Grand slams.

Nadal has won 62 ATP singles titles. This includes 13 French open titles. Also, he has won Olympic gold medal, five Davis Cup titles. He has continuously won 81 matches on clay. He is the youngest to win Grand Slam. He won his first grand slam when he was 24 years old.

### Honduras gets its first woman President

- **Leftist Xiomara Castro** was sworn in recently as **the first woman President of Honduras.**
- **Honduras** is a Central American country.
- **Borders:** It is bordered to the west by Guatemala, to the southwest by El Salvador, to the southeast by Nicaragua, to the south by the Pacific Ocean at the Gulf of Fonseca, and to the north by the Gulf of Honduras, a large inlet of the Caribbean Sea.

### Lunar New Year 2022: Year of Tiger

As per Chinese Zodiac, also called as “Shengxiao” we are assigned a powerful animal called Shuxiang, on the basis of year we are born.

Chinese New Year is also called as Lunar New Year. It is the festival celebrating the beginning of new year on traditional lunisolar and solar Chinese calendar. In Chinese and other East Asian cultures, this festival is commonly called as Spring Festival. The festival marks the end of winter and the beginning of

spring season. Its observances traditionally take place from New Year's Eve. First day of Chinese New Year starts on new moon, appearing between January 21 and February 20.

Earliest records of Chinese astrology date back to the Zhou Dynasty during 1046 – 256 BCE. However, it flourished during Han Dynasty from 002 BCE to 002 AD. It was formalised and aligned with principles of Confucianism, traditional alchemical practices and Chinese Medicine.

### **African Union suspends Burkina Faso over mutiny**

The **African Union (AU)** has suspended Burkina Faso's participation in the organization's activities until the country restores constitutional order after the military mutiny.

Like its neighbors **Mali and Niger**, Burkina Faso has been caught in a spiral of violence since 2015, attributed to jihadist movements affiliated with **al-Qaeda and the Islamic State group** that has left at least 2,000 dead and 1.4 million displaced.

The latest move came in response to January 24 Coup that ousted President **Roch Marc Christian Kaboré**. This is the second suspension in one week following the Burkina Faso coup. **ECOWAS** was the first to suspend Burkina Faso.

The **African Union (AU)** is a continental union consisting of 55 countries of the continent of Africa, with exception of various territories of European possessions located in Africa. The bloc was **founded on 26 May 2001** in Addis Ababa, Ethiopia and launched on 9 July 2002 in South Africa.

### **India's stance on Ukraine at UNSC**

Recently, India remained absent from United Nations Security Council (UNSC) vote on Ukraine. This move of India is widely read as a play to balance its ties with Moscow and Washington. It was a procedural vote, on whether to discuss the situation in Eastern Europe.

In Eastern Europe, Russia accuses NATO of attempting to expand its membership. On the other hand, U.S. and other NATO countries accuse Russia of amassing troops for invading Ukraine.

According to UNSC working methods, 9 votes were required to go ahead for the meeting. 10 countries voted in favour of an open meeting on Ukraine. Russia lost the vote. It won support only from China.

## **Science-Tech & Environment**

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### **Two New Ramsar sites**

The Government of India recently added two new Ramsar sites. The sites were added on the World Wetlands Day. **Bakhira Wild life sanctuary** in Uttar Pradesh and **Khijadia Bird Sanctuary** in Gujarat.

These are the 48<sup>th</sup> and 49<sup>th</sup> Ramsar sites of India. Earlier, the 47<sup>th</sup> Ramsar site was **Haiderpur Wetland** in Uttar Pradesh.

**Bakhira Wildlife sanctuary:** It is the largest natural flood plain wetland in India. The floodplain wetland is that part of the river valley that gets flooded with water periodically. The resident time of water here is greater than flood plains. The sanctuary is located to the west of Gorakhpur. The **Siberian birds** visit the wetland during winter.

**Khijadia Bird Sanctuary:** It is located in Jamnagar, Gujarat. More than 300 migratory birds visit the sanctuary. It has freshwater marshlands, freshwater lakes and salt water marshlands. It is fed by river **Ruparel**. It also has creeks that support **mangroves**. It is located in the Gulf of Kutch region. The sanctuary is known for different types of nests such as **floating nests**, on ground nests and the ones built on trees. The **black – necked storks** are found in abundant in the sanctuary. It is not found anywhere else in India.

## World Wetlands Day 2022

Every year, the World Wetland Day is celebrated on **February 2**. The day is marked to increase awareness about the importance of wetlands in the world. It is celebrated on February 2 because the Convention on Wetlands was adopted on February 2, 1971 in Ramsar, Iran. It is also popularly called the Ramsar Wetland Convention.

In 2022, the World Wetlands Day is celebrated under the following theme: **“Wetland’s action for people and nature”**

## What is Gain-of-function Research?

- ‘Gain of function’ is a field of research **focused on growing generations of microorganisms, under conditions that cause mutations in a virus.**
- These experiments are termed ‘gain of function’ because they involve manipulating pathogens in a way that they gain an advantage in or through a function, such as increased transmissibility.
- Such experiments allow scientists to better predict emerging infectious diseases, and to develop vaccines and therapeutics.

### How is it carried out?

Gain of function research may use **genetic engineering or serial passaging.**

1. **Genetic engineering** involves ‘editing’ the genetic code to modify the virus in a way predetermined by the scientists.

2. **Serial passaging** involves allowing the pathogen to grow under different circumstances and then observing the changes.

**Issues related to the research:**

1. Gain-of-function research involves **manipulations that make certain pathogenic microbes more deadly or more transmissible.**
2. There is also **'loss-of-function'** research, which involves inactivating mutations, resulting in a significant loss of original function, or no function to the pathogen.
3. Gain-of-function research reportedly carries **inherent biosafety and biosecurity risks** and is thus referred to as 'dual-use research of concern' (DURC).

### What is NeoCoV?

Scientists in China have warned about a new strain of coronavirus, **NeoCov**, related to **the Middle East respiratory syndrome MERS-coronavirus**. NeoCoV carries with it the potentially combined high mortality rate of MERS-CoV (where one in three infected people die on average) and the high transmission rate of the current SARS-CoV-2 coronavirus.

NeoCoV is a bat coronavirus that was first identified in 2011. It was identified in a species of bats known as Neoromicia, which is where the name NeoCoV was derived from.

Commonly known as aloe bats, this species is distributed in the Afro-Malagasy region. NeoCoV shares an 85% similarity to MERS-CoV in the genome sequence, making it the closest known relative of MERS-CoV.

NeoCov is found in South Africa, among population of Coronaviruses. As of date, it spreads exclusively among these animals. In current form, NeoCov does not infect humans, however, further mutations may make it harmful.

### What are 'Volatile organic compounds'?

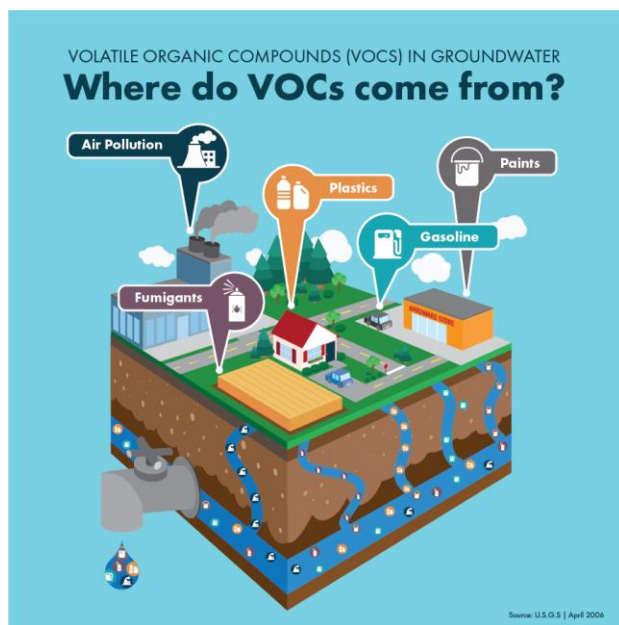
The Volatile organic compounds are chemicals that are lighter than air at room temperature. They are used as paint thinners. Also they are used in perfumes. They are naturally found in petroleum products. They are also produced by plants, animals and micro organisms. Frequent exposure to volatile organic compounds leads to cancer and respiratory irritation.

90% of the VOC in the atmosphere is produced by the plants. The VOCs play a major role in chemical processes that occur in the atmosphere. The VOCs keep the atmosphere above it clean. Also, they react with harmful pollutants and neutralise their effects on the environment. VOCs are highly important for animal – plant communication.

The concentration of VOCs in homes is five times higher than its atmospheric concentration. Also, the VOCs can remain in homes for longer duration of time. Inhaling VOCs for longer duration leads to cancer.

**Benzene:** Benzene is most harmful of all the VOCs. It is called a carcinogen. It is commonly found in fuels, cigarette smoke, cars, paints.

**Perchloroethylene:** It is used for dry cleaning. It is also a VOC. The dry cleaned clothes carry these VOCs.



### Global Center of Excellence in Affordable and Clean Energy

The Global Center of Excellence in Affordable and Clean energy was recently launched at IIT Dharwad. The center will enhance the research in affordable and clean energy. The center will help India achieve its goal of meeting 50% of the country's energy requirement from renewables by 2030. It will help to achieve Sustainable Development Goal 7. The SDG 7 focuses on providing affordable and clean energy.

### Artificial snow

China is creating artificial snow flakes for the winter Olympics to be held in 2022. China is to create artificial snow flakes at snow boarding, ski jumping venues of Olympic games. The cross country, biathlon, Nordic, freestyle and snow boarding games are to be held in Zhangjiakou.

**Creation:** An Italian snowmaking supplier called Techno Alpin is to supply the artificial snow flakes. The company is to use huge fan powered guns and stick lances. Using these equipment, the water is to be sprayed round the clock from near by reservoir. The air is to be pressurised using multiple pump

stations. While falling, the water mist particles chill down and crystallise into snow. This gives a natural snow-like feel. China is to use 49 million gallons of water from its natural resources for this arrangement.

**Concerns:** With the announcement of artificial snow, countries are raising questions about green and clean Olympics. Earlier China had promised to make the Olympics green and clean. According to environmentalists, the water to be used to create the snow is inevitable for the fruit plantations in the region. China's glaciers are melting and its natural water resources are depleting. China has lost one-fifth of ice cover since 1950. Also, according to environmentalists the artificial snow cannot be restored to fresh water. This is because chemicals are added to retain the water in the snowy state for longer duration.

### Semiconductor Chips

Semiconductors are materials which have conductivity between conductors and insulators. They can be pure elements, **silicon or germanium** or compounds; **gallium, arsenide or cadmium selenide**.

#### Significance of Semiconductor Chips:

They are the basic building blocks that serve as the heart and brain of all modern electronics and information and communications technology products. These chips are now an integral part of contemporary automobiles, household gadgets and essential medical devices such as ECG machines.

The Economic Survey for 2021-22 has said that Shortage of semiconductors led to closure or lowering of production by several firms from diverse industries.

#### Challenges ahead:

1. High Investments Required.
2. Minimal Fiscal Support from Government.
3. Lack of Fab Capacities.
4. Insufficient Grants under PLI Scheme.
5. Resource Inefficient Sector.

### New hammerhead flatworm species

Scientists recently discovered *Humbertium covidum*. These are new flat worm species. They look like a mini cobra. The new species were found hunting snails in Italy and France. They have been named after COVID pandemic.

The hammer head worms are known for the distinctive size of their head. They usually prey on earth worms. The *H.covidum* hammer head flatworm feeds on snails. They are capable of tracking their prey.



They can be used to control the population of snails. Hawaii had used flatworms to control the exploding population of African snails.

### Trojan Asteroid

- The Trojan asteroids are those asteroids that share a common orbit with a planet in the solar system. These rocks circle the same star as that of the planet in the same path.
- So far only one Trojan asteroid was known to revolve in earth's orbit. It was called **2010 TK7**.
- Recently astronomers have found another Trojan asteroid revolving in the earth's orbit. It has been named **2020 XL5**. With this discovery, the astronomers have concluded that there are lot more earth Trojan asteroids.

### OMG mission

The ocean waters are melting the glaciers in Greenland as much as the warm air is melting them from the above. The **Ocean Melting Greenland mission**, generally referred to as OMG mission was launched by **NASA**. It was a five year mission. It ended on December 31, 2021. The mission mainly measured the **ice loss in Green land**.

#### Key Findings of the Mission:

- The study conducted by the mission says that if all the Greenland ice melts, then the global ocean level will increase by 7.4 metres.
- The ice in Greenland is melting five times faster than they were 25 years ago.
- There are more than 220 glaciers in Greenland. The ocean waters are melting them at faster rate.
- The top layer of the oceans in Greenland is extremely cold. Also, it is not salty. More of the top layer water are from the Arctic. On the other hand, the bottom layers are warmer. These waters in the bottom are melting the glaciers four to five times faster. Greater the depth greater and faster is the melting. Also, water in greater depths are more saltier.

### Green Climate Fund

- The Green Climate Fund is invested in developing countries. It helps the countries to fight against climate change.
- The countries are not receiving Green Climate Fund, especially those in Africa. This is due to the lengthy and complicated process of accessing the fund.
- The issue of GCF has been in the forefront in almost every international climate meet. During the COP26 held in Glasgow in 2021, the developing countries roared their concerns around the issue. The developing countries called out that the developed nations failed to deliver the promise of 100 billion USD goal.
- Around 154 countries are eligible to receive the fund. Between 2015 and 2019, countries received 2.5 billion USD. Of this 54% went to the Small Island Developing States, African

countries and Least Developing Countries. But still 16 out of 37 eligible countries did not receive the funding.

## Economics

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### Highlights of the Union Budget 2022

Finance minister Nirmala Sitharaman on February 1 presented a budget worth Rs 39.45 lakh crore with massive push to infrastructure spending.

- The government projects India's economy to grow by 9.2 per cent in the current fiscal year.
- **India's gross domestic product (GDP) in dollar terms** has already crossed \$3 trillion.
- **Fiscal deficit** is projected to be higher at 6.9 per cent this fiscal as against 6.8 per cent estimated earlier. The fiscal deficit of the government for 2022-23 is estimated to be Rs 16,61,196 crore.
- **Soaring inflation** levels continue to be a cause of concern for the economy.

### Infrastructure development

- **PM GatiShakti National Master Plan** will encompass the seven engines for economic transformation, seamless multimodal connectivity and logistics efficiency. **The seven engines include** roads, railways, airports, ports, mass transport, waterways, and logistics infrastructure. All seven engines will pull forward the economy in unison.
- **400 new Vande Bharat trains** will be introduced and the Railways will also develop new products for small farmers and MSMEs.
- **Integration of postal and railways network** facilitating parcel movement was announced.
- **Master plan** has been formulated for highways, targets **to complete 25,000 km national highways in 2022-23**.
- **Sovereign Green Bonds** to be issued for mobilizing resources for green infrastructure.
- **Data Centres and Energy Storage Systems** to be given infrastructure status.

### Agriculture and food processing

- **Budget allocation for the ministry of agriculture and farmers' welfare:** Rs 1,32,513 crore for 2022-23 fiscal.

- **'Kisan Drones'** to be promoted for crop assessment, digitisation of land records and spraying of insecticides.
- **A fund with blended capital** raised under the co-investment model through Nabard will be set up to finance startups and rural enterprises working in agri-space.
- **Zero-budget natural farming:** The agriculture universities in the country will be encouraged to include these areas in their syllabus.

#### Education:

- **A Digital University** would be established to provide access to students across the country for world-class quality universal education.
- **One class one TV channel programme** to be expanded to 200 TV channels.
- **Virtual labs and skilling e-labs** will be established to promote critical thinking skills and simulated learning environment.
- The Digital Ecosystem for Skilling and Livelihood – **the DESH-Stack e-portal** would be launched.

#### Healthcare:

The health sector has been allocated Rs 86,200.65 crore in the Union Budget.

- **A National Tele Mental Health Programme** will be launched **to improve access to quality mental health counselling and care services.**
- An **open platform for National Digital Health Ecosystem** will also be rolled out.
- For **the National Health Mission**, the budget allocation increased from Rs 36,576 crore in 2021-22 to Rs 37,000 crore in 2022-23.

#### Tax proposals:

- Taxpayers have been allowed a one-time window to correct omissions in income tax returns (ITR). They can file the updated returns within 2 years from the assessment year.
- **30 per cent tax on income from transfer of virtual digital assets** has been proposed.
- One per cent **tax deducted at source (TDS)** on transfer of virtual assets above a threshold, gifts would be taxed.
- Government will soon roll out **digital rupee based on blockchain technology.**

#### Boost for MSMEs:

- A **Raising and Accelerating MSME Performance (RAMP)** programme will be rolled out with a Rs 6,000 crore outlay spread over 5 years for MSMEs.
- **The Emergency Credit Line Guarantee Scheme (ECLGS)** that provided much needed additional credit to over 1.3 crore MSMEs will be extended till March 2023 with its guarantee cover expanded by Rs 50,000 crore to Rs 5 lakh crore.

#### Prime Minister's Development Initiative for North-East (PM-DevINE):

- New scheme **PM-DevINE** launched to fund infrastructure and social development projects in the North-East.

#### Five river linking projects announced

- **The rivers identified for linking are:** Godavari-Krishna, Krishna-Pennar and Pennar-Cauvery, Damanganga-Pinjal and Par-Tapi-Narmada.

#### BUDGET 2022: TOP HIGHLIGHTS

1. Blockchain tech-based digital rupee
2. 5G airwaves auction in 2022
3. 30% tax on crypto income
4. 400 new-gen 'Vande Bharat' trains
5. Defence R&D to be opened up for startups, industry and academia
6. National tele mental health programme to be launched
7. Customs duty on cut and polished diamonds, gems reduced to 5%
8. E-passports with embedded chip
9. Kisan drones for crop assessment, land records etc
10. Two-year window to file revised tax returns

# Current Affairs Update (Feb 8-14)

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## National

### Criminalisation of Marital Rape debate

The Government has informed the Rajya Sabha that it has started the process of comprehensive amendments to criminal laws. This information was given in Lok Sabha by the Government in response to a question on marital rape (on whether the Centre had taken a position on inclusion of marital rape as an offence under the Indian Penal Code).

The Ministry of Home Affairs (MHA) has constituted a national level committee for reform in criminal law. The committee has been constituted under **Ranbir Singh** and several other members.

#### **Criminalisation of Marital Rape is necessary because:**

1. There are several studies to show the prevalence of non-consensual sex with their wives, and physically forcing their wives to have sex.
2. Marriage is an equal-relationship contract and not a one-time consent to everything.
3. The legal exception to the rape laws gives men unequal privilege.
4. Marital rape victims suffer from long-lasting psychological scars.
5. Exception under Section 375, violates Articles 14, 15, 19 and 21 of a woman.
6. The patriarchal nature of Indian society, ingrains it in the minds of men that women are expected to comply when their husbands demand sex.
7. The victim suffers physical abuse, and she also has to undergo mental trauma of her dignity being violated.

#### **Cons of criminalizing marital rape:**

- It “may destabilise the institution of marriage apart from being an easy tool for harassing the husbands”.
- “Rising misuse of Section 498A of IPC”, known as the dowry law, “for harassing the husbands”.
- Other countries, mostly western, have criminalised marital rape does not necessarily mean India should also follow them blindly.
- Law Commission on Review of Rape Laws has examined the issue but not recommended the criminalisation of marital rape.

- What may appear to be marital rape to an individual wife, it may not appear so to others.
- There can be no lasting evidence in case of sexual acts between a man and his own wife.

### Haryana private sector quota law stayed

The Punjab and **Haryana High Court** has stayed a law that reserves 75 per cent of jobs for Haryanvis in private establishments across the state.

Haryana government has ordered that the law (**the Haryana State Employment of Local Candidates Bill**) providing for **75% reservation for locals in private sector jobs** came into force from January 15, 2022.

#### Why was the law challenged?

- The petitioners contended that Haryana wanted to create reservation in private sector by introducing a **policy of “sons of the soil”**, which was an infringement of the constitutional rights of employers.
- It was also argued that private sector jobs were purely based on skills and analytical bent of mind, and employees had a **fundamental right to work in any part of India**.
- **Forcing the employers to employ local candidates in private sector** vide this bill impugned Act is the violation of the federal structure framed by the Constitution of India, whereby the government cannot act contrary to public interest and cannot benefit one class.

### 100 Years for ‘Chauri Chaura’ incident

- The incident (4th February, 1922) occurred at Chauri Chaura in the Gorakhpur district of the United Province, (modern Uttar Pradesh) in British India.
- During this incident, a large group of protesters, participating in the Non-cooperation movement, clashed with police, who opened fire. The demonstrators attacked and set fire to a police station in retaliation, killing all of its occupants.
- In response to this, Mahatma Gandhi, who was strictly against violence, halted the **Non-cooperation Movement** on the national level on 12 February 1922, as a direct result of this incident.

### Common Electoral Roll

Under the Common Electoral Roll, only one voter list will be used for Lok Sabha, Vidhan Sabha and other elections. In many states, the voters’ list for the panchayat and municipality elections is different from the one used for Parliament and Assembly elections.

**The distinction stems from the fact that the supervision and conduct of elections in our country are entrusted with two constitutional authorities** — the Election Commission (EC) of India and the State Election Commissions (SECs).

**Significance:**

- The preparation of a separate voters list causes duplication of the effort and the expenditure.
- Therefore, a common electoral roll and simultaneous elections as a way to save an enormous amount of effort and expenditure

### Operation AAHT

The **Railway Protection Force**, RPF has launched Operation AAHT to **curb human trafficking**. It will mainly focus on trains that are originating from border countries. The operation is held under Ministry of Railways. (RPF acts under railways ministry). Between 2017 and 2021, the RPF rescued two thousand women from the clutches of the traffickers. Women and children are the major victims of human trafficking for sexual exploitation, domestic servitude and forced marriages. Also, human trafficking occurs for organ transplant, drug servitude, etc

### MPs' right to question

In both Houses, elected members enjoy the right to seek information from various ministries and departments in the form of starred questions, unstarred questions, short notice questions and questions to private members.

**What kind of questions can be asked?**

**In Rajya Sabha**, among various norms, the question “shall be pointed, specific and confined to one issue only; it shall not bring in any name or statement not strictly necessary to make the question intelligible; if it contains a statement the member shall make himself responsible for the accuracy of the statement; it shall not contain arguments, inferences, ironical expressions, imputations, epithets or defamatory statements”.

**In Lok Sabha**, questions that are not admitted include: those that are repetitive or have been answered previously; and matters that are pending for judgment before any court of law or under consideration before a Parliamentary Committee.

**What are starred, unstarred and other categories of questions?**

**STARRED QUESTION:** The member desires an oral answer from the minister. Such a question is distinguished by the MP with an asterisk. The answer can also be followed by supplementary questions from members.

**UNSTARRED QUESTION:** The MP seeks a written answer, which is deemed to be laid on the table of the House by the concerned minister.

**SHORT NOTICE QUESTION:** These are on an urgent matter of public importance, and an oral answer is sought. A notice of less than 10 days is prescribed as the minimum period for asking such a question.

### What is collective conscience?

Collective consciousness (sometimes collective conscience or conscious) is a fundamental sociological concept that refers to the set of shared beliefs, ideas, attitudes, and knowledge that are common to a social group or society.

#### Evolution of collective conscience:

‘Collective conscience of society’ as a ground to justify death penalty was first used by the Supreme Court in **the 1983 judgment of Machhi Singh v. State of Punjab**. In that case, the court held that when “collective conscience of society is shocked, it will expect the holders of the judicial power centre to inflict death penalty”.

- It was, however, most famously used by the top court in **its 2005 judgment in the Parliament attack case in which it awarded capital punishment to convict, Afzal Guru**.
- Collective conscience found its most recent endorsement in **the 2017 judgment of the Supreme Court in the December 2012 Delhi gang rape case of Mukesh v. State of NCT of Delhi**.

**Concerns:** Can the courts allow any kind of public outcry, sense of conscience, sentiment or feeling to even remotely influence their decisions, especially when it is a case of the death sentence? This is even more relevant in the times that we live in, when television and social media bombard us, creating and determining opinion.

## International

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### Major non-NATO ally (MNNA)

- US has designated Qatar a MNNA. It is a designation given by the United States government to close allies that have strategic working relationships with the US Armed Forces but are not members of the North Atlantic Treaty Organization (NATO).
- Nations with MNNA designation are eligible to, among other things, host U.S. war reserve stockpiles of material inside their countries.
- While MNNA status provides military and economic privileges, it does not entail any commitments to the designated country.
- India is not a MNNA of US.



## ICC U-19 World Cup 2022

ICC U-19 World Cup final 2022, India cruised to a four-wicket victory against England, at Sir Vivian Richards Stadium in Antigua. The win was also a record-extending fifth U-19 title for India. New Zealand withdrew from the tournament because of extensive mandatory quarantine restrictions for minors on their return home. Scotland was named as their replacement.

## New Events of 2028 Olympics

The 2028 Olympics is to be held in Los Angeles. This is after the 2024 Olympics to be held in Paris. The 2022 Olympics was held in Tokyo. The International Olympic Committee determines the sports to be held in the Olympics games. The committee has decided to conduct 28 Olympic sports and 24 paralympic sports at the Los Angeles Olympics.

It includes surfing, climbing and skateboarding. These are new sports. They were introduced in 2020 Tokyo Olympics. Weightlifting, boxing and modern pentathlon have been left off.

## Taiwan Patriot Missile Defence System

The US government recently approved a sale of 100 million USD worth equipment to maintain and improve the Taiwan Patriot Missile Defence System. This will upgrade the system. This decision was made during Trump administration in 2019. US does not have official relations with Taiwan.

It is a surface to air missile. It is manufactured by the US defence private contractor Raytheon. These missiles counter ballistic missiles. The countries that have acquired patriot missiles are South Korea, UAE, Greece, Spain, Japan, Netherlands, Poland, Germany, Israel, Japan, Taiwan, Kuwait, Saudi Arabia, Sweden, Romania, Qatar.

# Science-Tech & Environment

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## ISRO demonstrates hack-proof quantum communication

In a major step forward towards **satellite-based quantum communication**, scientists from Ahmedabad-based Space Applications Centre and Physical Research Laboratory successfully demonstrated **quantum entanglement**. Using real-time **Quantum Key Distribution (QKD)**, they conducted hack-proof communication between two places separated by 300 meters.

QKD works by **using photons** — the particles which transmit light — to transfer data. QKD allows two distant users, who do not share a long secret key initially, to produce a common, random string of secret bits, called a **secret key**.

**Significance of this technology:**

- The encryption is “**unbreakable**” and that’s mainly because of the way data is carried via the photon. **A photon cannot be perfectly copied and any attempt to measure it will disturb it.** This means that a person trying to intercept the data will leave a trace.
- The **implications could be huge for cybersecurity**, making businesses safer, but also making it more difficult for governments to hack into communication.

## Drone Categories in India

Registration is required for all but the Nano category.

- Nano: Less than or equal to 250 grams
- Micro: From 250 grams to 2kg
- Small: From 2kg to 25kg
- Medium: From 25kg to 150kg
- Large: Greater than 150kg

### Significance of Drones:

- Use of drones in commercial, safety, law and order, disaster management and surveillance operations **reduce manpower requirement and costs.**
- **Drones offer low-cost, safe and quick aerial surveys** for data collection and are useful for industries such as power, mining, realty and oil and gas exploration.

## UNEP@50

The **United Nations Environment Programme (UNEP)** is celebrating its **50th anniversary in 2022.**

**Founded in 1972** following the landmark **UN Conference on the Human Environment.**

UNEP was conceived to monitor the state of the environment, inform policy making with science and coordinate responses to the world’s environmental challenges.

**Major Reports:** Emission Gap Report, Global Environment Outlook, Frontiers, Invest into Healthy Planet.

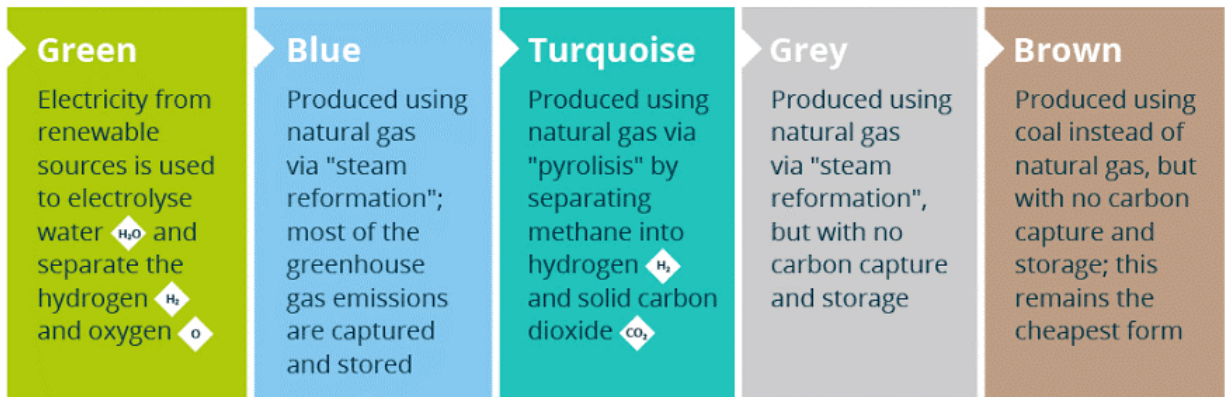
**Major Campaigns:** Beat Pollution, UN75, World Environment Day, Wild for Life.

## Significance of Hydrogen Based economy

- Due to its ability to power fuel cells in **zero-emission** electric vehicles, its potential for domestic production, and the fuel cell’s potential for high efficiency hydrogen is considered an alternative.
- Water is the only by-product that results from the usage of hydrogen fuel that makes the fuel 100 per cent clean.
- Hydrogen can also serve as fuel for internal combustion engines.

- The energy in 2.2 pounds (1 kilogram) of hydrogen gas contains about the same as the energy in 1 gallon (6.2 pounds, 2.8 kilograms) of gasoline.

### Five shades of hydrogen



### Aravalli Biodiversity Park

- On World Wetlands Day, that is, on February 2, **the Aravalli Biodiversity Park (Gurugram)** was announced as **the first Other Effective Area – based Conservation Measures site, OECM site.**
- The **OECM tag is provided by the International Union for Conservation of Nature, IUCN.** According to IUCN, the OECM sites are not protected but are rich in biodiversity.
- The OECM areas were defined at **the Convention on Biological Diversity that was held in 2018.**
- The **OECM tag does not bring any legal, financial or management implications,** but designates the area as a biodiversity hotspot on the international map.
- 'Other effective area-based conservation measures' (OECMS) is a conservation designation for areas that are achieving the effective **in-situ conservation of biodiversity outside of protected areas.**
- The Aravallis, one of the oldest mountain ranges in the world, are considered the green lungs of Delhi-NCR,** a crucial water recharge zone for the region. They also support rich fauna, including leopards, sambhar, fox, jackals and palm civets among others.

### Western Ghats: New gecko species

A team of researchers recently discovered a new gecko species in the Western Ghats of **Kerala.** The species has been named as **Hemidactylus easai.** The species was named after the former director of the Kerala Forest and Research Institute **P S Easa.**

Geckos are lizards. They are found everywhere in the world except Antarctica. They are mainly found in warm climates of the world. Geckos are unique among lizards. They are unique for their vocalisation. They use chirping and clicking sounds for their social interactions. They make hissing sounds when threatened or alarmed.

## Giant Magellan Telescope

- The Giant Magellan Telescope is under construction. It will have resolving powers ten times the Hubble Space Telescope. The telescope is to be located in Las Campanas Observatory, Chile. Las Campanas also holds magnellan telescopes.
- The telescopes are named after Ferdinand Magellan, a 16<sup>th</sup> century Portuguese explorer. Magellan was the first person to circumnavigate the earth. The telescopes are located in the Atacama Desert. The region is less affected by air pollution and light pollution.
- The size of the telescopes is measured in terms of aperture diameter. The aperture diameter is the maximum diameter of light beam that can pass through an optical system. The world biggest telescopes and their aperture diameters are as follows:
  - Thirty Meter Telescope: 30 meters
  - Giant Magellan Telescope: 24.5 meters
  - Keck Telescope: 10 meters

## Marine heat wave

A marine heat wave is usually defined as a **coherent area of extreme warm sea surface temperature** that persists for days to months. Marine heatwaves **happen when sea temperatures are warmer than normal for an extended period**. MHWs have been observed in all major ocean basins over the recent decade.

### Causes:

- The most common cause of marine heat waves are **ocean currents** which can build up areas of warm water and air-sea heat flux, or warming through the ocean surface from the atmosphere.
- **Weak winds:** Normally, sunlight passes through the atmosphere and heats the surface of the ocean. If there are weak winds this warm water doesn't mix with the cooler waters below. It sits on top and continues to heat leading to marine heat waves.

## White Cheeked Macaque

The scientists recently found white cheeked macaque in Arunachal Pradesh. The discovery adds a new species to the mammal list of India. The White Cheeked macaque was first discovered in southeastern Tibet. Apart from the white cheeked macaque, India has Arunachal macaque, Assamese macaque, Rhesus macaque.

## Impact of Geomagnetic Storm on Satellites

Elon Musk's Starlink lost dozens of satellites because they got caught in a geomagnetic storm, after their launch on February 3, 2022. Starlink had launched 49 satellites, of which 40 were impacted. These satellites were fell down from orbit before they could be commissioned.

**Solar storms** are magnetic plasma, which are ejected at great speed from solar surface. They occur during the release of magnetic energy, which is associated with sunspots (dark regions on the Sun). It can last for a few minutes or hours.

Solar flares/storms, high-speed solar winds, solar energetic particles (SEPs), and coronal mass ejections (CMEs), coming closer to the Earth can impact upper atmosphere space and near-Earth space. Solar storms can hit operations of space-dependent services including global positioning systems (GPS), satellite communications and radio.

### PSLV-C52 Mission

- **Launch site:** Satish Dhawan Space Centre, Sriharikota.
- **Launch vehicle:** Polar Satellite Launch Vehicle (PSLV-C52)
- **Number of satellites:** 3 (All Indian)
- **Main payload:** EOS-04 (Earth Observation Satellite)
- **Application:** Radar Imaging Satellite (RISAT), that has been designed to provide high quality images under all weather conditions. It will provide images for applications like forestry & plantations, agriculture, flood mapping and soil moisture & hydrology.
- **Other Indian payloads:**
  1. **Student satellite (INSPIRESat-1)** –developed by Indian Institute of Space Science & Technology (IIST)
  2. **Technology demonstrator satellite (INS-2TD)**– developed by ISRO. It is precursor to India-Bhutan Joint Satellite (INS-2B).

## Economics

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### Issues associated with the Electoral Bond scheme

Electoral Bond is a financial instrument for making donations to political parties. The bonds are issued in multiples of Rs. 1,000, Rs. 10,000, Rs. 1 lakh, Rs. 10 lakh and Rs. 1 crore **without any maximum limit**.

**State Bank of India** is authorised to issue and encash these bonds, which are valid for fifteen days from the date of issuance. These bonds are redeemable in the designated account of a registered political party.

The **Electoral Bond Scheme** acts as a check against traditional under-the-table donations as it insists on cheque and digital paper trails of transactions, however, several key provisions of the scheme make it highly controversial.

**Anonymity:** Neither the donor (who could be an individual or a corporate) nor the political party is obligated to reveal whom the donation comes from.

**Asymmetrically Opaque:** Because the bonds are purchased through the State Bank of India (SBI), the government is always in a position to know who the donor is.

**Channel of Blackmoney:** Elimination of a cap of 7.5% on corporate donations, elimination of requirement to reveal political contributions in profit and loss statements.

### Virtual digital assets

In simple words, it basically means cryptocurrencies, DeFi (decentralised finance) and non-fungible tokens (NFTs). Prima facie, this excludes digital gold, central bank digital currency (CBDC) or any other traditional digital assets, and hence aimed at specifically taxing cryptocurrencies.

**As per the Finance Bill**, a virtual digital asset is proposed to mean any information or code or number or token (not being Indian currency or any foreign currency), generated through cryptographic means or otherwise, by whatever name called, providing a digital representation of value which is exchanged with or without consideration, with the promise or representation of having inherent value, or functions as a store of value or a unit of account and includes its use in any financial transaction or investment, but not limited to, investment schemes and can be transferred, stored or traded electronically. **Non fungible token** and; any other token of similar nature are included in the definition.”

### India’s patent waiver plan at WTO

A proposal was taken up at **the World Trade Organisation (WTO)** negotiations, in 2020, to “**temporarily waive**” **intellectual property rights (IPR)** held, by primarily Western countries, on vaccines, therapeutics and diagnostics for covid-19. This proposal was **co-authored by India**. Now, India runs the risk of being excluded from this proposal.

A small group of WTO members are “discussing suggestions” **to exclude drug manufacturers in India and China** — two major, global suppliers of medicine — from prospective waivers to IPR obligations that result from **the Trade Related Intellectual Property Rights (TRIPS)** which WTO members are committed to uphold. Also, Manufacturers want to “**limit**” **any benefits of the waiver only to African countries**, and not pave the way for Indian manufacturers who, with their large production capacities, would easily undercut Western competitors.

Waiving of intellectual property rights will neither lead to increased production of vaccines or increased deployment nor practical solutions to fight the virus of COVID-19 vaccines since IP is not the barrier. Waiving of intellectual property rights could impact patient safety by opening doors for counterfeit vaccines to enter the supply chain.

# Current Affairs Update (Feb14-27)

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## National

### India bans import of drones

The government has banned the import of drones with immediate effect, except for research and development, defence and security purposes. The move aims **to promote made in India drones**.

The Directorate General of Foreign Trade of the Ministry of Commerce and Industry has notified **the Indian Trade Classification (Harmonised System), 2022** in this regard.

Last year, the Ministry notified liberalised drone rules that abolished a slew of approvals with the aim to encourage R&D and creating India as a drone hub. The government also approved a Production-Linked Incentive (PLI) scheme for drones and their components with an allocation of ₹120 crore for three financial years.

### Human trafficking

Details of the conviction of cases involving human trafficking were recently shared in Parliament. The conviction rate in human trafficking cases has been declining over the past four years. It has dropped from 27.8% in 2016 to 10.6% in 2020. The number of **Anti Human Trafficking Units (AHTU)** in the country has increased to 696.

The Ministry of Women and Child Welfare has prepared the **Trafficking in Persons (Prevention, Care and Rehabilitation) Bill, 2021**. **The bill proposes stringent punishments for offenders, including hefty fines and seizing of their properties.**

#### What are the constitutional & legislative provisions related to Trafficking in India?

1. Trafficking in Human Beings or Persons is prohibited under the Constitution of India under **Article 23 (1)**.
2. The **Immoral Traffic (Prevention) Act, 1956 (ITPA)** is the premier legislation for prevention of trafficking for commercial sexual exploitation.
3. **Criminal Law (amendment) Act 2013** has come into force wherein **Section 370 of the Indian Penal Code has been substituted with Section 370 and 370A IPC** which provide for comprehensive measures to counter the menace of human trafficking.

## Chardham project

- The project involves developing and widening nearly 900-km of national highways **connecting the holy Hindu pilgrimage sites of**; Badrinath, Kedarnath, Gangotri, and Yamunotri at an estimated cost of Rs.12,000 crores.
- The highway will be called **Char Dham Mahamarg(Char Dham Highway)** and the highway construction project will be called Char Dham Mahamarg Vikas Pariyojana(Char Dham Highway Development Project).

### What Are The Environmental Concerns That Were Flagged?

1. Large-scale construction works in hilly terrain is a recipe for disaster as it leads to a heightened risk of landslides given the felling of trees and loosening of rocks.
2. The project was being executed bypassing mandatory **environment clearances and environment impact assessment (EIA) procedures.**
3. Over 25,000 trees have reportedly been felled to make way for the project as a grave worry for **the ecologically sensitive zone.**
4. Since wider carriageways would require more excavation and blasting, the purpose of having an all-weather highway may be compromised since **the topography would become that much more sensitive to slippage and landslides.**

## River linking debate

### Arguments for:

- India receives most of its rain during monsoon season from June to September, most of it falls in northern and eastern part of India, the amount of rainfall in southern and western part are comparatively low. It will be these places which will have shortage of water. Interlinking of rivers will help these areas to have water throughout the year.
- This will cut farmers **dependence on monsoon rains** by bringing millions of hectares of cultivatable land under irrigation.
- Crop productivity would increase and so would revenues for the State.
- Even one bad monsoon has a direct and debilitating economic impact.
- The river linking project will ease the water shortages in western and southern India while mitigating the impacts of recurrent floods in eastern India.
- The Ganga Basin, Brahmaputra basin sees floods almost every year. In order to avoid this, the water from these areas has to be diverted to other areas where there is scarcity of water. This



can be achieved by linking the rivers. There is a two way advantage with this – floods will be controlled and scarcity of water will be reduced.

- Simultaneous floods and droughts continue to wreak havoc, destroying the lives and livelihoods of millions.
- India needs clean energy to fuel its development processes, and river water can be leveraged for this.
- Fulfilling water needs impact socio-economic life of people which will help end poverty.
- Need for interlinking of rivers to prevent inter-state water disputes.
- Potential benefits to transportation through navigation, as well as broadening income sources in rural areas through fishing.

**Arguments against:**

- The **idea that river linking** would allow us to cope with flood in the north east and shortage of water in the Deccan is the positive aspect as pointed earlier but misleading one too. This floods come at the time when most parts of the country run short of water, we need to hold the water somewhere to use it in dry season but the amount of flowing in the short period of time in Brahmaputra and Ganga is so huge to store and use it later.
- Interlinking of rivers is a very expensive proposal. The amount required for these projects is so huge that government will have to take loans from the foreign sources which would increase the burden on the government and country will fall in a debt trap.
- The river interlinking project will adversely affect land, forests, biodiversity, rivers and the livelihood of millions of people.
- The Ken-Betwa link threatens about 200 sq. km of the Panna tiger reserve.
- Interlinking of rivers will lead to destruction of forests, wetlands and local water bodies, which are major groundwater recharge mechanisms.
- Less than positive experience that other countries have, like diversion of Amu Darya and the Syr Darya or the Australia's experiments in its Murray Darling basin.
- It causes massive displacement of people. Huge burden on the government to deal with the issue of rehabilitation of displaced people.
- Due to interlinking of rivers, there will be decrease in the amount of fresh water entering seas and this will cause a serious threat to the marine life.

- The Shah committee pointed out that the linking of rivers will affect natural supply of nutrients for agricultural lands through curtailing flooding of downstream areas.

## SMILE Scheme

Department of Social Justice & Empowerment launched the “SMILE: Support for Marginalised Individuals for Livelihood and Enterprise” scheme. The scheme has been designed for providing welfare measures to Transgender community and people engaged in begging.

### Components of ‘Central Sector Scheme for Comprehensive Rehabilitation for Welfare of Transgender Persons’

1. Scholarships for Transgender Students studying in IX and till post-graduation to complete their education.
2. Skill Development and Livelihood under PM-DAKSH scheme
3. Composite Medical Health package in convergence with PM-JAY to support Gender-Reaffirmation surgeries through selected hospitals
4. Shelter Homes ‘Garima Greh’, where all the basis facilities (food, clothing, medical support) recreational facilities and skill development opportunities, will be provided.
5. Transgender Protection Cell will be set up in each state for monitoring cases of offences and ensuring timely registration, investigation and prosecution.

### Components of ‘Comprehensive Rehabilitation of persons engaged in the act of Begging’

1. Survey and Identification of beneficiaries by Implementing Agencies.
2. Outreach work will be done for mobilising the persons engaged in begging to avail services available in Shelter Homes.
3. Shelter homes will facilitate education for children engaged in the act of Begging.

## Chintamani Padya Natakam

The **Andhra Pradesh government** has banned a **100-year-old play** named ‘**Chintamani Padya Natakam**’. **The play was written in 1920 by playwright Kallakuri Narayana Rao, who was also a social reformer.** The play is about Chintamani, a courtesan and a devotee of Lord Krishna, who finds salvation by singing bhajans. She is courted by Subbi Shetty, a businessman from the Arya Vysya community, who loses his wealth and family due to his attraction to Chintamani.

### Why is there a controversy surrounding it?

The original play had a social message, but over the years, it has been modified purely for entertainment. Much of the play sees central character Subbi Shetty made fun of, especially for losing all his wealth to his vices.

Also, the content and dialogues are offensive, and the Central character is always portrayed as a short and dark-coloured person. Due to the way Shetty's character is portrayed, the entire community is stigmatised.

### Tarapur Massacre

Bihar will commemorate **February 15 as "Shahid Diwas"** in memory of the 34 freedom fighters who were killed by the British in Tarapur (1932).

- It was **the biggest massacre carried out by the British after the Jallianwala Bagh Massacre (Amritsar, 1919)**.
- It happened when a group of young freedom fighters planned to hoist an Indian national flag at Thana Bhavan during a protest.

#### Causes of protest:

- Arrest of Mahatma Gandhi following collapse of the Gandhi-Irwin Pact (1932).
- Hanging of Bhagat Singh, Sukhdev, and Rajguru in Lahore (1931).
- Arrest of Nehru, Patel, and Rajendra Prasad.

### Medaram Jathara

- Medaram Jatara is **the second-largest fair of India**, after the Kumbh Mela, celebrated by the second-largest Tribal Community of Telangana- the Koya tribe for four days.
- Considering the footfall of the festival and its auspicious significance, **the Jathara was declared a State Festival in 1996**.
- The Jatara is also known as **Sammakka Saralamma Jatara**.
- It is a **tribal festival honoring the fight of a mother and daughter**, Sammakka and Saralamma, with the reigning rulers against an unjust law.
- **Medaram** is a remote place in **the Eturnagaram Wildlife Sanctuary**, a part of **Dandakaranya**, the largest surviving forest belt in the region.

### Victory of Praggnanandhaa over Magnus Carlsen

India's Rameshbabu Praggnanandhaa has defeated the reigning world champion Norway's Magnus Carlsen. He did so using black pieces and took 39 moves to checkmate Carlsen. The Airthings Masters features 16 of the world's best players. **R. Praggnanandhaa** is a chess grandmaster of India. At the age of 16, he is considered to be a chess prodigy and is the fifth youngest person to have received the title of grandmaster.

## Enforcement of Fundamental Duties

A petition has been filed in the Supreme Court seeking the enforcement of Fundamental Duties under the Indian constitution through comprehensive and well-defined laws. The court has asked the centre and states to respond on this matter. The need to enforce fundamental duties arises due to a new **illegal trend of protest by protestors in the garb of freedom of speech and expression**, by way of blocking of road and rail routes in order to compel the government to meet their demands.

### Rationale behind the demand:

- The petition referred to the Bhagwad Gita on the importance of duty. Lord Krishna guides Arjuna and educates him with the importance of duties in all spheres/ stages of one's life.
- It also referred to the erstwhile Soviet Constitution where the rights and duties were placed in the same footing.
- Fundamental duties instill a "profound sense of social responsibility towards the nation". Hence, they have to be enforced.

## Ramanujan Prize

The Ramanujan Prize for Young Mathematicians was awarded to Professor Neena Gupta, a mathematician of the Indian Statistical Institute in Kolkata, in a virtual ceremony on 22nd February 2022. She received the award for the year 2021 for her outstanding work in affine algebraic geometry and commutative algebra.

The prize is awarded annually to a researcher from a developing country funded by the Department of Science and Technology (DST) of the Government of India in association with ICTP (International Centre for Theoretical Physics) and the International Mathematical Union (IMU).

## Permanent Indus Commission

A 10-member Indian delegation will visit Pakistan for the annual meeting of the Permanent Indus Commission from March 1-3. Under the Indus Water Treaty, it is mandatory to hold a meeting at least once every year ending March 31.

**Significance:** In a first since the signing of the Indus Water Treaty between the two countries, three female officers will also be part of the Indian delegation, which will be advising the Indian Commissioner on various issues during the meeting.

**Focus areas:** Pakistan's objections on Indian hydroelectric projects namely Pakal Dul (1,000 MW), Lower Kalnai (48 MW) and Kiru (624 MW) in Chenab basin in Jammu and Kashmir and few small hydroelectric projects in Ladakh are likely to be on the agenda for discussion.

**About the Indus Water Treaty:** It is a Water-Distribution Treaty, signed in Karachi on 1960, between India (Pm Jawaharlal Nehru) and Pakistan (President Ayub Khan), brokered by the World Bank.

## International

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### Philippines' stance on RCEP

Philippines Senate has postponed the ratification of RCEP after Farmers and other civil society groups in the country took cue from India's decision to stay out of RCEP.

RCEP is a free trade agreement among Asia-Pacific nations of Australia, Brunei, China, Cambodia, Japan, Indonesia, Laos, South Korea, Myanmar, Malaysia, The Philippines, New Zealand, Thailand, Singapore, and Vietnam. 15 member countries of RCEP accounts for around 30% of world's population and 30% of global GDP. Thus, RCEP is the largest trade bloc in history. It is the first free trade agreement involving largest economies of Asia, including China, Japan, Indonesia, and South Korea.

### World Food Programme

India signed an agreement with the United Nation's **World Food Programme (WFP)** for the distribution of 50,000 MT of wheat that it has committed to sending Afghanistan as part of a humanitarian assistance.

The World Food Programme (WFP) is the food assistance **branch of the United Nations** and **the world's largest humanitarian organization addressing hunger and promoting food security**. Born in 1961, the WFP strives to eradicate hunger and malnutrition, with the ultimate **goal in mind of eliminating the need for food aid itself**.

### India's greatest concerns in Russia-Ukraine crisis

1. **World War scenario:** Any conflict- where the U.S. and its European allies are ranged against Russia will impact the whole world- economically and in terms of security, and India, as a partner to both Moscow and Washington will either have to take sides, or be prepared to deal with unhappiness from both sides.
2. **S-400 delivery and US waiver:** The crisis comes precisely as India's purchase of the Russian S-400 missile system is under way- and New Delhi hopes for a waiver of U.S. sanctions on this. Conflict will complicate both the delivery of the system, and the possibility of a presidential waiver.
3. **Moves focus from China:** Just as U.S. and Europe had grown more focussed on their Indo-Pacific strategy that puts India centre-stage, and India grapples with Chinese aggression and land-grab at the Line of Actual Control, and 100,000 troops along the boundary on both sides, the world's attention is diverted from China to Russia.

4. **Brings Russia China closer-** the Crisis will make Moscow more dependent on friends like China, and build a regional bloc of sorts that India is not a part of. In Beijing this week, the future seems evident- as India has announced a diplomatic and political boycott of the Olympic games- while Putin, Central Asian Presidents, and Pakistan PM Imran Khan are all in Beijing to stand in solidarity with Xi Jinping.
5. **Energy crisis:** In any conflict- Europe worries Russia will turn down gas and oil supplies- driving energy prices up. Already tensions have pushed oil prices up 14% in a month past \$90 and analyst say they could hit \$125 a barrel if the situation is not resolved.

### Nord Stream 2 Pipeline

- This is a **1,200-km pipeline that runs from Ust-Luga in Russia to Greifswald in Germany through the Baltic Sea.** It will carry 55 billion cubic metres of gas per year. It was decided to build this pipeline in 2015.
- Nord stream 1 system is already completed and together with NS2P, it will supply 110 billion cubic metre of gas a year to Germany.

### Why in the News?

Germany has taken steps to halt the process of certifying the Nord Stream 2 gas pipeline from Russia after Russia announced that it will recognise the independence of eastern Ukraine's separatist republics, Donetsk and Lugansk territories.

### Doxxing

Doxxing is **publishing and analysing others' personal information** on the internet with a malicious intent that can reveal the person's real identity making them victims of harassments and cyber-attacks. **Meta's** oversight board has suggested Facebook and Instagram to make strict doxxing rules.

### Munich Security Conference

The Munich Security Conference is being held in Germany. India is taking part in it. The Munich Security Conference is an annual conference on international security policy that has been held in Munich, Bavaria, Germany since 1963.

The conference is held annually in February. Over the past four decades the Munich Security Conference has become the most important independent forum for the exchange of views by international security policy decision-makers.

Each year it brings together about 350 senior figures from more than 70 countries around the world to engage in an intensive debate on current and future security challenges.

## India, UAE sign Comprehensive Trade Agreement

India and the United Arab Emirates have signed a **Comprehensive Economic Partnership Agreement (CEPA)**.

### What is CEPA and how is it different from FTA?

It is a **kind of free trade pact** which covers negotiation on the trade in services and investment, and other areas of economic partnership.

- It may even consider negotiation on areas such as **trade facilitation and customs cooperation, competition, and Intellectual Property Rights**.
- Partnership agreements or cooperation agreements are **more comprehensive than Free Trade Agreements**.
- CEPA also looks into the **regulatory aspect** of trade and encompasses an agreement covering the regulatory issues.

**As per the CEPA signed between India and the UAE:** 90% of India's exports will have duty-free access to the Emirates. It covers goods, services and digital trade.

# Science-Tech & Environment

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## Milan 2022

- MILAN, a **Multilateral Naval Exercise hosted by India**, made a modest beginning in the Andaman and Nicobar Islands in 1995 with participation of four littoral navies.
- This biennial congregation of friendly navies, over the last two and a half decades, has progressively grown in magnitude with the previous edition in 2018 being attended by 17 countries.
- MILAN 2022 has been scheduled for the first time at Visakhapatnam, the City of Destiny. **MILAN 2022 is the eleventh edition of the event** and would be held under the aegis of Eastern Naval Command.
- This is **the first time the exercise has been shifted from the Andaman to Vizag**, as the scale of the exercise has been enhanced.

## JET facility

Scientists in the United Kingdom said they have achieved a new milestone in producing **nuclear fusion energy**, or imitating the way **energy is produced in the Sun**. A team at the Joint European Torus (JET)

facility near Oxford in central England generated 59 megajoules of sustained energy during an experiment in December, more than doubling a 1997 record.

A kg of fusion fuel contains about 10 million times as much energy as a kg of coal, oil or gas.

The energy was produced in a machine called a **tokamak**, a doughnut-shaped apparatus, and **the JET site is the largest operational one of its kind in the world. Deuterium and tritium**, which are **isotopes of hydrogen**, are heated to temperatures 10 times hotter than the centre of the sun to create plasma.

ITER is a **fusion research mega-project** supported by seven members – China, the European Union, India, Japan, South Korea, Russia and the USA – **based in the south of France**, to further demonstrate the scientific and technological feasibility of fusion energy.

### High Ambition Coalition on Biodiversity Beyond National Jurisdiction

On last day of One Ocean Summit, declaration on “High Ambition Coalition (HAC) on biodiversity beyond national jurisdiction (BBNJ)” was introduced. The One Ocean Summit was organised under the leadership of French President.

The BBNJ Treaty are also known as “Treaty of the High Seas”. It is an international agreement on conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. It is currently under negotiation at the United Nations. The new treaty is being developed within the framework of United Convention on the Law of the Sea (UNCLOS), which is an important international agreement governing human activities at sea.

SDG 14 aims to manage and protect marine and coastal ecosystems.

United Nations has designated the decade between 2021 and 2030 as the ‘Decade of Ocean Science for Sustainable Development’, in a bid to restore declining marine life and raise awareness.

### Parker Solar Probe

For the first time in history, we can see **the planet Venus in Color**, thanks to NASA Parker Solar Probe. **The Wide-field Imager for Parker Solar Probe (WISPR)** by the American space agency has managed to take pictures of the surface of Venus revealing stunning continents, plains, plateaus and even a layer of Oxygen.

Recently, the Parker Solar Probe, became the first spacecraft to fly through **the outer atmosphere of the Sun- ‘Corona’**.

### Target for Renewable Energy in Agriculture Sector

Central government has set the target to replace diesel with renewable energy in agricultural sector by **2024**. This target was set in line with Government’s commitment of increasing the share of non-fossil fuels by 2030 and becoming a **net zero emitter by 2070**.



Through **KUSUM Scheme**, central government is also running a scheme to solarise the agriculture. This would help in installing solar-run irrigation systems. It is dubbed as “Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM) scheme”. Under the scheme, farmers are given option to sell additional power, generated through solar power projects installed on their barren lands, to the grid. The scheme seeks to add a solar capacity of 30.8 GW by 2022.

### What is ‘Hippocratic Oath’?

Indian Medical Association (IMA) has come out against the suggestion by National Medical Commission’s (NMC), to **replace Hippocratic Oath with Charak Shapath** during the convocation with medical graduates.

According to IMA, Charak Shapath was not made from the viewpoint of modern medicine. IMA is of the view that, oaths shall follow an international outlook. It must be beyond the views of race, caste, gender and creed. IMA is concerned that; the proposed oath will lead to exclusion of modern medicine from the global community. It will drag the sector backward.

Hippocratic Oath is an ethical code for fresh medical graduates. It is believed to be written by ancient **Greek physician Hippocrates**. This oath was revised by World Medical Association (WMA) and promoted it as the **Declaration of Geneva in 1948**. It outlines the professional duties of physicians and affirms ethical principles of global medical profession.

### HelioSwarm and MUSE

NASA has selected **two science missions – the Multi-slit Solar Explorer (MUSE) and HelioSwarm –** to help improve our understanding of the dynamics of **the Sun, the Sun-Earth connection, and the constantly changing space environment**.

The MUSE mission will help scientists understand the forces driving the heating of **the Sun’s corona** and the eruptions in that outermost region that are at the foundation of space weather.

The HelioSwarm mission is a **constellation or “swarm” of nine spacecraft** that will capture **the first multiscale in-space measurements of fluctuations in the magnetic field and motions of the solar wind** known as **solar wind turbulence**.

### What is ModifiedElephant?

ModifiedElephant operators have been infecting their targets using **spearphishing** emails with malicious file attachments. **Spearphishing** refers to the practice of sending emails to targets that look like they are coming from a trusted source to either reveal important information or install different kinds of malware on their computer systems.

**How does it work?**

Through mail, the group delivers **malware to their targets. NetWire and DarkComet**, two publicly-available **remote access trojans (RATs)**, were the primary malware families deployed by ModifiedElephant. It also sent **android malware** to its victims.

### Lassa fever

Cases of Lassa fever have been linked to travel to west African countries. Lassa virus has been named after a town in Nigeria where first cases were discovered.

The virus causing Lassa fever is found in West Africa. It was first discovered in Lassa, Nigeria in 1969. The Lassa fever spread by rats. A person can become infected, when they come in contact with food items contaminated with urine or faces of an infected rat. In rare cases, it can also spread, if a person comes in contact with infected bodily fluids of sick person or through mucous membranes like eyes, nose or the mouth. Person-to-person transmission is common in healthcare settings.

**Why in news?** One of the three persons diagnosed with Lassa fever in United Kingdom, died

### Neutrino project

**The India-based Neutrino Observatory (INO) Project** is a multi-institutional effort aimed at building a **world-class underground laboratory** with a rock cover of approx.1200 m **for non-accelerator based high energy and nuclear physics research in India.** The initial goal of INO is **to study neutrinos.**

It is a mega-science project **jointly funded by the Department of Atomic Energy (DAE) and the Department of Science and Technology (DST).**

**Neutrinos & their significance:** Neutrinos, first proposed by Swiss scientist Wolfgang Pauli in 1930, are **the second most widely occurring particle in the universe**, only second to photons, the particle which makes up light. **Neutrinos hold the key to several important and fundamental questions on the origin of the Universe and the energy production in stars.** Another important possible application of neutrinos is in the area of neutrino tomograph of the earth, that is detailed investigation of the structure of the Earth from core on wards. This is possible with neutrinos since they are the only particles which can probe the deep interiors of the Earth.

Tamil Nadu has made clear to the Supreme Court that it does not want **the Indian Neutrino Observatory (INO)** to be set up in a sensitive ecological zone in the Western Ghats at great cost to wildlife, biodiversity, and by ignoring the local opposition and public agitations to the project.

### Why is it being opposed?

- The project in question falls exactly on the hill slopes of this part of the Western Ghats, which align within it a significant tiger corridor, namely **the Mathikettan-Periyar tiger corridor.**
- This corridor links **the Periyar Tiger Reserve** along the Kerala and Tamil Nadu borders and **the Mathikettan Shola National Park.**

- The proposed project area also ecologically links to the eastern habitats, where **Srivilliputhur Meghamalai Tiger Reserve** is located. It hosts tigers from this region and helps in genetic dispersal.
- The area is a significant watershed and catchment zone for **the rivers Sambhal and Kottakudi**.

## Synthetic Biology

Department of Biotechnology has released a draft foresight paper on synthetic biology. In its paper, department has stressed on the need for a national policy to consolidate India's stand on the issue.

**Definition:** Synthetic Biology refers to “science of using genetic sequencing, modification and editing, in order to create unnatural organisms or organic molecules which can function in living systems. Synthetic biology helps the scientists in designing and synthesising new sequences of DNA from scratch.

### Application of Synthetic biology

Synthetic biology finds its applications across various fields, viz.,

1. Developing synthetic organisms for vaccination
2. Creating natural products in a lab like vanillin, which is the organic compound extracted from vanilla seeds. These seeds can be grown in yeasts with additional plant genomes.
3. In pharmaceutical industry, synthetic biology can be used for make natural compounds like artemisinin and Car T cell therapy. Artemisinin is used to treatment of malaria while Car T cell therapy is used to treat cancer.
4. It will be used in fashion industry as well. Some companies are looking after the possibility of dyeing jeans without producing hazardous waste.
5. Companies are also using it to deliver fixed nitrogen to plants instead of fertilisers and engineering microbes for creating food additives or brew proteins.

## NASA's Perseverance rover

**Nasa's Perseverance rover** has completed a full Earth year on Mars after its successful landing on February 19, 2021.

During this period on the Red Planet, **the rover has completed many firsts from its ambitious to-do list:**

1. Collected the first rock cores from another planet.
2. Served as a base station for Ingenuity helicopter.
3. Extracted oxygen from thin Martian air.

4. It broke a record for the most distance driven by a rover on Mars in a single day by travelling almost 320 meters on February 14.
5. Tested the first prototype oxygen generator on the Red Planet, called MOXIE (Mars Oxygen In-Situ Resource Utilization Experiment).

## Sea Cucumber

- Sea cucumber in India is treated as an endangered species listed under **schedule I of Wildlife Protection Act of 1972**.
- They are **marine invertebrates** that live on the seafloor found generally in tropical regions. They're named for their unusual oblong shape that resembles a fat cucumber.
- They are an integral part of the coral ecosystem as **one of the main by-products of the sea cucumbers digestion of sand is calcium carbonate and this is essential for the survival of the coral reefs**.
- They act like **garbage collectors of the ocean world**, and they recycle nutrients, thus playing an important role in keeping coral reefs in good condition.
- Sea cucumbers are in high demand in China and Southeast Asia. It is primarily smuggled from Tamil Nadu to Sri Lanka in fishing vessels from Ramanathapuram and Tuticorin districts.
- **IUCN Red List:** Brown Sea Cucumber (Endangered), Blackspotted Sea Cucumber (Least Concern), Blue Sea Cucumber (Data Deficient), etc.

# Economics

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## What is SWIFT?

It is a **messaging network that financial institutions use to securely transmit information and instructions through a standardized system of codes**. Under SWIFT, each financial organization has a unique code which is used to send and receive payments.

- **SWIFT does not facilitate funds transfer:** rather, it sends payment orders, which must be settled by correspondent accounts that the institutions have with each other.
- **The SWIFT is a secure financial message carrier** — in other words, it transports messages from one bank to its intended bank recipient.
- **Its core role is to provide a secure transmission channel** so that Bank A knows that its message to Bank B goes to Bank B and no one else. Bank B, in turn, knows that Bank A, and no one other

than Bank A, sent, read or altered the message en route. Banks, of course, need to have checks in place before actually sending messages.

**Where is it located?**

The Belgium-headquartered SWIFT connects more than 11,000 banking and securities organizations in over 200 countries and territories.

**Why in news?** As tensions exacerbate between Washington and Moscow over Ukraine, political commentators say that the United States could, as a last resort, exclude Russia from **the Society for Worldwide Interbank Financial Telecommunication (SWIFT)**.

**Nepal will be the first foreign country to adopt India's UPI system**

The **National Payments Corporation of India (NPCI)** has announced that the neighboring country of **Nepal will be the first foreign country to adopt India's UPI system**.

Unified Payments Interface (UPI) is an instant real-time payment system, allowing users to transfer money on a real-time basis, across multiple bank accounts without revealing details of one's bank account to the other party.

UPI is currently the biggest among **the National Payments Corporation of India (NPCI)** operated systems including National Automated Clearing House (NACH), Immediate Payment Service (IMPS), Aadhaar enabled Payment System (AePS), Bharat Bill Payment System (BBPS), RuPay etc.