

# NEWS JUICE MONTHLY

**1st February to 28th February, 2023** 

Summary of The Hindu & The Indian Express along with News Background



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# POLITÝ & GOVERNANCE

# Supreme Court income tax order on Sikkim triggers protests

# **Relevance: Prelims**

# Why in news?

The Sikkim govt. has filed a review petition in the Supreme Court for the modification of the court's observation on Sikkimese Nepalis.

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- The Supreme Court ordered that Sikkimese Nepalis were immigrants while allowing exemption from income tax to all old settlers cutting across ethnic lines.
- All Political Parties in Sikkim are protesting against the SC judgement.

# **Arguments by Supreme Court**

- In its judgment, the SC had said that under the Sikkim Income Tax Manual, 1948, "all persons engaged in business were subjected to tax irrespective of their origin."
- Therefore, there was no difference
  between the original inhabitants of
  Sikkim, namely, the Bhutia-Lepchas,
  and the persons of foreign origin settled
  in Sikkim like the Nepalis or persons of
  Indian origin who had settled down in
  Sikkim generations back."
- The SC also agreed with a petitioner's argument that while Sikkimese Nepalis along with other migrants in the state were benefiting from Section 10(26AAA) of the IT Act, 1961, settlers of Indian origin were excluded from it.



## **SC Judgement**

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- The Supreme Court held on January 13 in
  Association of Old Settlers of Sikkim vs Union of India that the benefit of tax
  exemption provided in
  Section 10 (26AAA) shall
  be extended to all
  Sikkimese people.
- Before this judgment, the tax exemption excluded "old Indian settlers", who had permanently settled in Sikkim before the merger of the state into the Indian union on April 26, 1975, even if their names were recorded in the "Register of Sikkim Subjects".

## Section 10 (26AAA)

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- Section 10 (26AAA) is meant to reduce the taxpayer's burden by providing exemptions.
- It describes "exempted income", the one that does not form a part of the total income while calculating the tax for an individual.
- Section 10 (26AAA) was inserted into the IT Act, 1961 by the Finance Act, 2008 with retrospective effect from April 1, 1990. This is the date on which the IT Act was made applicable in Sikkim.
- The Association of the Old Settlers of Sikkim challenged the constitutional validity of the definition of the term 'Sikkimese' under Section 10 (26AAA), as it excluded Indians who settled in Sikkim before April 26, 1975, the day Parliament approved the merger of Sikkim with India.



# What is judicial majoritarianism?

**Relevance: Prelims; Governance** 

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### Why in news?

- The recent 4:1 majority judgment of the Supreme Court in favour of demonetization came under criticism.
- Justice Nagarathna was the only one on this bench who ruled against this move terming it 'unlawful'. She is being praised for her verdict.
  - Now, this situation raises questions regarding the general acceptance of numerical majorities in judicial decisionmaking and the constitutional disregard of analysis and appreciation of arguments and evidence in dissenting judgments.

#### Judicial majoritarianism As opposed to standard matters heard by Division Benches consisting of two judges, cases which involve a substantial interpretation of constitutional provisions are heard by larger benches.

- In such cases, Constitutional Benches, consisting of five or more judges, are set up under Article 145(3) of the Constitution.
- Such Benches usually consist of five, seven, nine, 11 or even 13 judges. This is done to facilitate decision-making by ensuring numerical majorities in judicial outcomes.

# **Dissent among judges**

- The rate of judicial dissent at the height of the **Emergency** in 1976 was a mere 1.27% as opposed to 10.52% in 1980.
- It was also found that the rate of dissent where the Chief Justice was a part of the Bench was lower than in those cases where the Chief Justice was not on the Bench.
- Such situations raise questions about the efficiency of going by majority verdicts on questions of national and constitutional importance.

# Maharashtra govt to recruit transgenders in police



# **Relevance: Prelims**

Why in news?	What brought this?	A deadline!
<ul> <li>For the first time ever, transgenders (third-gender persons) will now be recruited by Maharashtra police.</li> </ul>	- In Nov. 2022, Arya Pujari, a transgender, petitioned the Maharashtra Administrative Tribunal (MAT) after she was not allowed to apply for the 18,331 posts for constables and driver constables advertised by the Maharashtra police.	- The Bombay High Court has asked the Maharashtra govt. to come up with criteria for physical tests of transgenders. As per HC, if govt. fails to do so, it would not be allowed to conduct the written exams for male and female candidates.
<ul> <li>A govt. appointed panel has come up with physical tests criterion in this regard.</li> </ul>	<ul> <li>MAT directed the Maharashtra government to allow transpersons to apply, following which the government approached the Bombay High Court stating that no guidelines had been formulated for hiring of transpersons.</li> <li>The HC then pulled up the government and upheld the order given by MAT that transpersons be</li> </ul>	- The selection committee is now referring to the rules formulated by other states like Karnataka, Tamil Nadu and Bihar where transgenders are allowed in the police force.

allowed in the force.

# Andhra Pradesh chooses Visakhapatnam to be its new capital



# **Relevance: Prelims**

Why in news?	Plan of 3 Capitals	Plan ran into difficulties!	
- Andhra Pradesh's Chief Minister Y S Jagan Mohan Reddy has announced that Visakhapatnam will be the new capital of the state.	- This announcement is being seen as Jagan's reiteration that he will go ahead with his plan for all- round development of Andhra Pradesh through decentralisation — and will establish three capitals for the state, each with a different purpose.	- Hundreds of farmers who had given up their land for the development of the capital city at Amaravati under the previous government, filed petitions in the Andhra Pradesh High Court, challenging the govt's	
- The state needs a new capital since Hyderabad, capital of undivided Andhra Pradesh, is now with Telangana, and the two states have been sharing the capital temporarily.	<ul> <li>Jagan has proposed to make Amaravati as the legislative capital, Visakhapatnam as the executive capital, and Kurnool as the judicial capital of the state.</li> <li>The Jagan govt passed the Andhra Pradesh Decentralisation and Inclusive Development of All Regions Act, 2020, which provided for three different</li> </ul>	<ul> <li>Following this, the state govt decided to scrap the decentralisation law in Nov. 2021. However, despite this move, the Jagan govt continued to propagate the decentralisation plan.</li> </ul>	

capitals for the state.

# **About High Court Order**

- In 2022, the Andhra Pradesh High Court directed the A.P. govt to develop Amaravati. It set a deadline of six months to do so.
  - The state govt was also told to develop the plots allocated to farmers in lieu of the agricultural land they had given up, and hand them back in three months along with necessary infrastructure facilities around them.

## Matter in SC

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- Though the state govt made some half-hearted efforts to develop the plots, it also went on to challenge the High Court's order in the Supreme Court. In late 2022, the SC put a stay on the implementation of the High Court's directions.
- An SC bench then sought responses from the Centre, the A.P govt, and the aggrieved farmers by Jan. 31, 2023. However, the matter was not taken up on Jan. 31, and a fresh date will now be given.



# Private TV channels to air National interest content daily



# **Relevance: Prelims**

Why in news?	Guidelines	About the Themes
- From March 1, private TV channels in the country will be	- The national interest content can be embedded in the programmes being telecast.	- Private broadcasters will air the content based on certain themes given by the I&B ministry.
required to air 'national interest content' for 30 minutes every	- The content need not be of 30 minutes at a stretch. It can be split over smaller time slots, but can't be done from midnight to 6	- The ministry has mentioned eight themes.
day.	am.	- They are - 1. education and literacy:
- This comes after an advisory by the Ministry of Information & Broadcasting.	- The broadcasters are now required to keep a record of the content telecast for a period of 90 days. The Electronic Media Monitoring Centre, under I&B Ministry, shall keep the record.	<ul> <li>2. agriculture and rural development;</li> <li>3. health and family welfare;</li> <li>4. science and technology;</li> <li>5. welfare of women;</li> <li>6. welfare of the weaker sections of the society;</li> </ul>
	<ul> <li>The govt also requires the broadcasters to submit a monthly report online on the Broadcast Seva Portal.</li> </ul>	<ul> <li>7. protection of environment and of cultural heritage; and</li> <li>8. national integration.</li> </ul>

#### Relaxations

- The content can be shared between the broadcasters and a repeat telecast on one or several channels will now also be allowed.
- In fact, a digital repository of relevant videos or textual content for the purpose may be developed which may be accessed and used by TV channels.
- The condition applies to all channels, except those mentioned specifically as exempt, where this may not be feasible. These include wildlife channels and foreign channels, besides live telecast in case of sports channels.
- Channels broadcasting over 12 hours of devotional/spiritual/yoga content are exempt from furnishing monthly reports.



# Wangchuk demands greater autonomy for Ladakh region



# **Relevance: Prelims & Mains Paper II; Governance**

Why in news?	About him	Reason behind Protest
- Sonam Wangchuck, the famous Ladakhi engineer and innovator,	<ul> <li>Sonam Wangchuk did his graduation in Mechanical Engineering from the National Institute of Technology of Srinagar in 1987.</li> </ul>	- Wangchuck has repeated his longstanding demand for including Ladakh under Schedule 6 of the Indian Constitution.
recently went on a five-day fast.	- He then studied Earthen Architecture at Craterre School of Architecture in Grenoble, France,	- This is aimed at safeguarding the environment of the region, and the rights of indigenous people.
regional demands for greater autonomy.	<ul> <li>In 2018, Wangchuk was awarded the Ramon Magsaysay Award for his efforts in improving the lives of</li> </ul>	- As per Wangchuck, industrial powers and business houses want to start mining on a large scale in Ladakh.
<ul> <li>He says he would intensify protests if the region's demands are not met.</li> </ul>	<ul> <li>Ladakhi youth.</li> <li>Wangchuk is widely believed to be the inspiration for a character played by actor Aamir Khan in the famous 2009 Hindi film '3 Idiots'.</li> </ul>	- He also cited threats to livelihoods and survival of the tribal population, with issues of water scarcity coming up as glaciers melt with increasing industrialisation.

#### **About Sixth Schedule**

- The Sixth Schedule under Article 244 of the Indian Constitution provides for the formation of autonomous administrative regions called Autonomous District Councils (ADCs).
- These Councils have some autonomy on legislative, judicial, and administrative matters.
- ADCs have up to 30 members with a term of five years, and can make laws, rules and regulations with regard to land, forest, water, agriculture, village councils, health, sanitation, village-and town-level policing, etc.
- Currently, it applies to the Northeastern states of Assam, Meghalaya, Mizoram (three Councils each), and Tripura (one Council).



# Govt. launches Yuva Sangam Program to promote cultural ties



## **Relevance: Prelims**

#### Why in news?

- The "Yuva Sangam" program was recently launched by the govt.
- It is an initiative to build close ties between the youth of the North East Region and the rest of India under the spirit of Ek Bharat Shreshtha Bharat.
- Over 20,000 youth will travel across India to learn more about the cultures of other regions. Many of them will be from the Northeast.

# Pune hosts DHARA, the annual meeting of river cities alliance members



### **Relevance: Prelims**

## Why in news?

- The annual meeting of the members of the River Cities Alliance (RCA) is being organized in Pune.
- Called DHARA (Driving Holistic Action for Urban Rivers), this meeting is being organized by the National Mission for Clean Ganga (NMCG) in association with the National Institute of Urban Affairs (NIUA).
- DHARA 2023 will provide a platform for senior officials across India to co-learn and discuss solutions for managing local water bodies.
- They'll learn about lake and pond rejuvenation, de-centralized used-water management, enhancing the river-related economy, groundwater management, and flood management.

#### About RCA

- River Cities Alliance (RCA) was launched in 2021. This first-ofits-kind alliance in the world started with 30 cities as its members. Currently, this figure stands at 95.
- RCA discusses and exchanges information for the sustainable management of urban rivers.
- It is backed by two Ministries the Ministry of Jal Shakti and the Ministry of Housing and Urban Affairs.

# Ministry of Mines drafts Geo-heritage Sites and Geo-relics Bill

# **Relevance: Prelims; Polity**



- The Ministry of Mines has drafted the Geo-heritage Sites and Geo-relics (Preservation and Maintenance) Bill.
- It is aimed at declaration, preservation, protection and maintenance of geoheritage sites and georelics of national importance.
  - The bill, if passed, will promote geological studies, education, research and awareness about Geo-heritage Sites and Geo-relics.

## **Geo-heritage Sites and Geo-relics**

- The geo-heritage sites/ national geological monuments are declared by the Geological Survey of India (GSI). Notably, GSI which comes under the Ministry of Mines was established in 1851.
- The draft bill defines Geoheritage sites as sites that contain geo-relics, geological structures and geomorphic landforms including caves, natural rock sculptures of national and international interest.
- A Geo-relic is defined as any relic or material of geological significance or interest like sediments, rocks, minerals, meteorites or fossils".

## **Threats and Examples**

- In the absence of any legislation, geoheritage sites are being increasingly threatened with destruction through decay, population pressure etc.
- Examples "The fossil wealth of dinosaur remains of Madhya Pradesh and Gujarat, marine fossils of Kutch and Spiti...oldest life forms viz. stromatolites of Rajasthan and Madhya Pradesh...are of great geoheritage and geotourism value."



# Key proposals of the Bill

- The key proposals of the bill are:
- The GSI will now have the power to acquire geo-relics for their preservation and maintenance.
- Authorize the central govt to declare a geoheritage site to be of national importance. Declaration would be under the provisions of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLARR Act).
- It would spell out, through a public notification in the Official Gazette, what areas were to be acquired by it, and objections to this can be raised within two months.
- provide compensation to the owner or occupier of land who incurs loss of or damage to the land due to the exercise of any power under this Act. The market value of any property will be ascertained in accordance with the principles set out in the RFCTLARR Act.
- prohibit construction, reconstruction, repair or renovation of any building within the geoheritage site area.
- impose a fine of Rs. 5 lakhs and/or imprisonment of six months for any destruction, removal, or defacement of the geoheritage sites.

**Critics raise fears!** 



- The sweeping powers to be given to the GSI in this bill have raised some concerns.
- Experts have questioned GSI's authority to acquire any material of geological significance as well as sites of geological importance.
- The issue of land acquisition for the purpose of safeguarding these sites could also lead to issues with local communities.

# Govt's Bhashini platform to use AI to help welfare schemes beneficiaries

**Data Collection** 



**Relevance: Prelims; Governance** 

#### Why in news?

- Bhashini, a small team at the Ministry of Electronics and IT (MeitY), is currently building a WhatsApp-based chatbot. It could soon facilitate search on key government schemes.
- This project will use ChatGPT generated information to give voice-based responses to queries using voice notes.
- This chatbot is being developed keeping in mind sections of India's rural and agrarian population that primarily depends on govt schemes and subsidies.
- These potential users speak a wide range of languages, which makes it important to build a language model that can successfully identify and understand them.

This ambitious programme will be implemented through the use of Bhasha Daan portal. It aims to crowdsource voice datasets with samples of Indian voices in several local languages.

- People can contribute on the project's website by recording themselves reading out a portion of text, by typing out a sentence that they hear, or by translating text in one language into another.
- This model which is still in its test phase, currently supports 12 languages. They include English, Hindi, Tamil, Telugu, Marathi, Bengali, Kannada, Odia, and Assamese.

# EC grants Eknath Shinde-led Shiv Sena faction 'bow and arrow' symbol



## **Relevance: Prelims; Polity**

Why in news?	Background	How does EC decides on party symbol?
- The Election Commission of India (ECI) has ordered that the Eknath Shinde camp of the Shiv	- In Oct. 2022, the ECI froze Shiv Sena's symbol and party name. It allotted new temporary names	- The EC handles any split in a political party outside the legislature on the basis of Para 15 of the Symbols Order, 1968. It takes into account all the available facts and circumstances of the case and hears their representatives.
official name and the 'bow and arrow' symbol of the party.	both factions of this party.	- Para 15 of the Symbols Order, 1968, states: "When the Commission is satisfiedthat there are rival sections or groups of a recognised political party each of whom claims to be that
- Meanwhile, the Uddhav Thackeray- led faction will retain the interim party name Shiv Sena UBT and the flaming torch as its poll symbol.		party the Commission may, after taking into account all the available facts and circumstances of the case and hearing (their) representativesdecide that one such rival section or group or none of such rival sections or groups is that recognised political party and the decision of the Commission shall be binding on all such rival sections or groups."

# First Major Split Case

# **Criteria of deciding Strength**

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- The first case to be decided under the 1968
  Order was the first split in the Indian National
  Congress in 1969. Then, the leaders K Kamaraj,
  Neelam Sanjiva Reddy, S
  Nijalingappa, and Atulya
  Ghosh, known as the
  Syndicate, expelled Indira
  Gandhi from Congress.
- It led to a split in the party. While the "old" Congress led by Nijalingappa retained the party symbol of a pair of bullocks carrying a yoke; the breakaway faction led by Indira Gandhi was given the symbol of a cow with its calf.

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- In almost all such disputes so far, a clear majority of party delegates/office bearers, MPs and MLAs have supported one of the factions.
- In the case of the Shiv Sena, the majority of the party's elected representatives switched over to Shinde's side.
- Whenever the ECI could not test the strength of rival groups based on support within the party organisation (because of disputes regarding the list of office bearers), it has sought to fall back on testing the majority only among elected MPs and MLAs.
- This principle was followed up to 1997. The ECI felt that merely having MPs and MLAs is not enough, as the elected representatives had fought and won polls on tickets of their parent (undivided) parties.
- It introduced a new rule under which the splinter group

   other than the group that got the symbol had to
   register itself as a separate party, and could lay claim
   to national or state party status only on the basis of its
   performance in state or central elections after
   registration.



# 10 crore tele-consultations on eSanjeevani app



#### **Relevance: Prelims; Governance**

## Why in news?

- eSanjeevani app attained a landmark of 10 crore teleconsultations recently.
- An e-health initiative of Union Ministry of Health and Family Welfare, eSanjeevani is a national telemedicine service that strives to provide an alternative to the conventional physical consultations via digital platform.
- eSanjeevani is a cohesive part Ayushman Bharat Digital Health Mission (ABDM).
- world's largestIn less than 3 years, this initiative has garnered the distinction of being the government owned telemedicine platform.

## About eSanjeevani

- eSanjeevani consists of two verticals that cater to patients.
- The first vertical eSanjeevani 'Ayushman Bharat-Health and Wellness Centers' (AB -HWCs) endeavors to bridge rural-urban digital health divide by providing assisted teleconsultations.
- This vertical operates on a Hub-and-Spoke model wherein the AB-HWCs are set up at state level, act as spokes, which are mapped with the hub (comprising MBBS/ Specialty/Super-Specialty doctors) at zonal level.

- eSanjeevaniOPD is the latter vertical which caters to citizens in both rural and urban alike.
- It leverages technology via smartphones, tablets, laptops enabling doctor consultations to be accessible from the patient's residence regardless of location.
- Centre for Development of Advanced Computing (C-DAC), Mohali, is augmenting the faculties of this vertical to be able to serve up to 1 million patients per day.

# **New Governors include former SC Judge**

# **Relevance: Prelims & Mains Paper II; Polity**

# Former SC Judge

- Former Supreme Court judge Justice S.
  Abdula Nazeer is among the six new faces
  who were appointed as Governors by the
  President Droupadi Murmu in February, 2023.
- Justice Nazeer (retd), who was part of the fivejudge bench that delivered the November 2019 Ayodhya verdict, has been appointed as the new Governor of Andhra Pradesh.
- The former Supreme Court judge, who also headed the five-judge Constitution bench that upheld the Centre's decision to demonetise ₹500 and ₹1000 currency notes in November 2016, retired last month.
- Some Opposition leaders questioned the appointment of a former Supreme Court judge as a Governor. Desire for post-retirement job may influence the judgements delivered by a SC Judge.

## **4 BJP Leaders**

- Four leaders of the Bharatiya Janata Party (BJP), including Gulab Chand Kataria, who was serving as the Leader of Opposition in Rajasthan, have also been appointed as Governors.
- While Mr. Kataria will be new Governor of Assam, other BJP leaders who were nominated for governorship are Lakshman Prasad Acharya for Sikkim, C.P. Radhakrishnan for Jharkhand and Shiv Pratap Shukla for Himachal Pradesh.



#### **Two Resignations**

- The President also accepted the resignations of Maharashtra Governor Bhagat Singh Koshyari and Ladakh Lieutenant Governor R.K. Mathur.
- Following an uproar in Maharashtra over his controversial remarks on Chhatrapati Shivaji and the calls for his removal by Opposition parties, Mr. Koshyari had issued a statement in January saying that he had already expressed his desire to step down to Prime Minister Narendra Modi.

#### Ladakh LG Resignation

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- In Ladakh as well, the Ministry of Home Affairs (MHA) removed Mr. Mathur from the L-G position amid an agitation by civil society groups.
- The protesting groups sought safeguards for the newly-created Union Territory, such as inclusion under the Sixth Schedule of the Constitution that provides protection to tribal dominated areas.
- The Leh Apex Body and the Kargil Democratic Alliance (KDA) have been at the forefront of these demands.
- Mr. Mathur, a 1977-batch retired Indian Administrative Service officer was appointed as Ladakh's first L-G in 2019, after the special status of Jammu and Kashmir (J&K) under Article 370 of the Constitution was diluted.
- That left power concentrated in the hands of the L-G in Ladakh, which locals expressed concerns about, especially given that Mr. Mathur was an "outsider", not from the Union Territory.



# Jal Jeevan Mission (JJM)

## **Relevance: Prelims; Governance**

# About JJM

- The aim of the Jal Jeevan Mission (JJM) is to provide piped water to every rural household by 2024.
- In the Budget address, Finance Minister Nirmala Sitharaman apportioned ₹69,684 crore, a 27% increase, from the ₹54,808 crore from the revised estimates of financial year 2022.
- Of the targeted 19.3 crore rural households, only 3.2 crore had piped water in August 2019. The JJM dashboard on the Jal Shakti Ministry website says that as of February 2023, over 11 crore households, or about 57% of the targeted, now have tap water.
- While that is an impressive jump in percentage points for three years, it will be difficult with only 12 months to go to ensure that the remaining 43% are connected.

## **State Wise performance**

- So far, only the States of Goa, Gujarat, Haryana and Telangana have reported 100% coverage of eligible households with piped water, with Punjab and Himachal Pradesh nearly there at over 97%.
- Excluding these, only 10 other States or Union Territories have reported over 60% coverage.
- Large, populous States such as Uttar Pradesh and Rajasthan have reported only 30% coverage, and Madhya Pradesh, around 47%.



#### **Issues with water connections**

- A fully functional tap water connection is defined as a household getting at least 55 litres of potable water per capita per day all through the year; however, local reports suggest that despite having a tap connection, several village households revert to their local groundwater resources as the quality of supplied tap water is inadequate.
  - While over 90% of institutions such as anganwadis and schools reported access to tap water, several of them reported high levels of chlorine as well as problems with bacterial contamination.



# Supreme Court gets unhappy over sealed cover jurisprudence



#### **Relevance: Prelims & Mains Paper II; Governance**

#### Why in news?

The Chief Justice of India D.Y.
Chandrachud has firmly refused the 'suggestions' offered by the govt in a sealed cover on the formation of a proposed committee to enquire into the Hindenburg report on the Adani Group.

This signals the Supreme Court's acute awareness of how 'sealed cover jurisprudence' has begun to threaten the very credibility of the judicial institution. The "routine" handing over of sealed covers in court by the state, the contents of which are unknown to the other parties, often fighting for life and personal liberty, is eroding public confidence in the 'open court' principle of justice administration.

Why 'No' to Sealed covers?

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The petitioners are unable to defend themselves, not knowing what they are supposed to defend against. Passing on materials in a sealed cover to the court compels judges to accept the state's version, that too, in cases in which the govt's own actions are challenged.

#### History

The origins of sealed cover jurisprudence can be traced to service or administrative cases. Official service records and promotion assessments of individual personnel were received in a sealed cover in order to avoid harm to the reputation of officers.

- The court continues to receive confidential documents in sexual assault cases to protect the identity of survivors.

#### **Excessive use**

## What do the rules say?

- Recent times have seen the govt produce numerous documents, ranging from status reports to 'notes', alleged evidence collected during investigation into terror and money-laundering cases.
  Even court-appointed committee reports, as in the BCCI case, have been accepted in sealed covers.
- Sealed cover documents have been received by the Supreme court in cases such as the Rafale jets' purchase deal, Assam National Register of Citizens case, Ayodhya title dispute, Gujarat Police 'fake' encounter case, Narendra Modi biopic release case, in the sexual harassment case concerning then Chief Justice Ranjan Gogoi, the electoral bonds case, Bhima Koregaon case and the anticipatory bail plea for former union finance minister P. Chidambaram.
- In these cases, sealed cover had risen to the status of 'due procedure'.

- Rule 7 of Order XIII of the Supreme Court Rules, 2013 provides that the Chief Justice or the court can, through a judicial order, direct any document to be kept confidential in a sealed cover if publication of the records is "considered to be not in the interest of the public".
- Section 123 of the Evidence Act of 1872 provides that the govt should give a prior permission to a person who wants to give evidence "derived from unpublished official records relating to any affairs of state".



## **Only in 'Extenuating circumstances'**

- The Supreme Court during the hearing has observed that the govt should claim "specific privilege" in an affidavit and explain the "extenuating circumstances" to keep documents secret from the other party.
- An extenuating circumstance refers to a situation or condition that provides an excuse for an action.
- As per the court, the burden would lie on the govt to prove that even sharing altered copies of the records would prove harmful to national security and public order. The court has made it clear that sealed covers could be used only in a "small exception" of cases.



# **Centre seeks changes in process of designating senior advocates**



## **Relevance: Prelims & Mains paper II; Polity**

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#### Why in news?

- In October 2018, the Apex Court released a list of "Guidelines to Regulate the Conferment of Designation of Senior Advocates".
- This came after its 2017 decision in a case filed by India's first woman Senior Advocate Indira Jaising ('Indira Jaising vs. Union of India'), for greater transparency in the process of designating.
- The guidelines discouraged the system of 'voting by secret ballot", except in cases where it was "unavoidable."
- The Central government is seeking to change these guidelines for the designation of senior lawyers.

#### 2018 guidelines

- According to the 2018 guidelines, a "Committee for Designation of Senior Advocates" or a "permanent committee" was created and empowered with powers of conferment. The CJI-chaired committee was to consist of two senior-most SC judges, the Attorney General of India, and a "member of the Bar" nominated by the chair and other members. The Committee was to meet twice a year, at least.
- The CJI or any other judge could recommend the name of an advocate for designation.
- Alternatively, advocates could submit their applications to the "Permanent Secretariat", which would evaluate them on criteria like 10-20 years of legal practice, be it as an advocate, district judge, or judicial member of an Indian tribunal where qualification for eligibility is not less than that prescribed for a district judge.

### **Procedure before 2017**

- Section 16 (1) of the Advocates Act, 1961 states "there shall be two classes of advocates, namely, senior advocates and other advocates."
  - However, Section 16 (2) allows an advocate to be designated as a senior advocate if he consents to it, and "if the Supreme Court or a High Court is of opinion that by virtue of his ability [standing at the Bar or special knowledge or experience in law], he is deserving of such distinction."
  - Further, it was the Chief Justice and the judges who designated an advocate as a 'senior' advocate.

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## 'Indira Jaising' case

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- The SC laid down guidelines for itself and all High Courts on the process of designating senior advocates in 2017 Jaising case. Jaising challenged the existing process as "opaque", "arbitrary" and "fraught with nepotism."
- It was this judgment that decided the setting up of a "permanent committee" and a "permanent secretariat", a body tasked with receiving and compiling all applications for designation with relevant data, information, and the number of reported and unreported judgments.
- After this, the proposal for designation is to be published by it on the official website of the concerned court, inviting suggestions and views, which shall then be forwarded to the permanent committee for scrutiny.
- The committee then interviews the candidate and makes an overall evaluation based on years of practice, pro-bono work undertaken, judgments, publications, and a personality test.
- Once a candidate's name is approved, it will be forwarded to the Full Court to decide on the basis of the majority. The Full Court can also recall the designation of a senior advocate.



## Why the Centre wants modifications?

- The Central government is seeking to modify the 2017 order on the designation guidelines for lawyers based on a "point-based system", which awarded 40% weightage to publications, personality, and suitability gauged through the interview. The Centre argues that this system is subjective, ineffective, and dilutes the "esteem and dignity of the honour being conferred traditionally."
  - The application points to the "bogus" and "sham" journals where people can publish their articles without any academic evaluation of the contents and quality of the articles, simply by "paying a nominal amount".
- Further, the Centre argues that the current requirements for designation are "extraneous" and have resulted in "ousting otherwise eligible candidates".
- Finally, the application seeks to reinstate the rule of a simple majority by a secret ballot, where the judges can express their views about the suitability of any candidate "without any embarrassment."



# 2023 Sansad Ratna Awards announced

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# **Relevance: Prelims**

## Sansad Ratna Awards

- These awards which were instituted in 2010 are inspired by the teachings of former President APJ Abdul Kalam. He also launched the first edition of these Award functions in Chennai.
- Sansad Ratna Awards seek to recognise and felicitate the topperforming MPs on the basis of their work in the Parliament.
- So far, 90 Parliamentarians have been given this award.

#### This year's winners

- The names of the winners of the annual Sansad Ratna Awards for 2023 have been announced. The 13th edition of the award ceremony is set to be held this year on March 25 in New Delhi.
- For 2023, the Jury Committee
  has chosen a total of 13 MPs
  (8 from Lok Sabh and 5 from
  Rajya Sabha) and two
  parliamentary committees for
  the award, with a lifetime
  award being presented for
  the first time this year.



#### Awardees

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- The Finance Committee (Lok Sabha, under BJP's Jayant Sinha) and
  Transport, Tourism and Culture
  Committee (Rajya Sabha, under
  YSR Congress's V Vijayasai Reddy)
  have been nominated for Awards for
  their outstanding cumulative
  performance from the beginning of
  the 17th Lok Sabha until the end of
  Winter Session of 2022.
- T K Rangarajan (former Rajya Sabha MP for two terms and a Senior CPIM Leader) will be honoured with the "Dr APJ Abdul Kalam Lifetime Achievement Award" for his contribution to "Parliament and Indian people" over the years.

# Who chooses the winners and how?

- The jury committee of Sansad Ratna Awards comprises "eminent Parliamentarians and (members of) civil society".
- Factors on which decision is based on include questions asked, private members Bills introduced, debates initiated, attendance, funds utilised, etc.
- Though Sansad Ratna Awards are not given by the Govt of India, over the years, its jury members have included individuals from the govt.
- The idea behind starting these awards was of K Srinivasan, a communication strategist who founded the Prime Point Foundation in 1999. This foundation which also runs the awards show gets support from IIT Madras.





# INTERNATIONAL ORGANISATIONS X BILATERAL RELATIONS

# Russia suspends New START, the last remaining nukes control treaty with the US

## **Relevance: Prelims; International Relations**

#### Why in news?

Days before the first anniversary of the beginning of the war in Ukraine, President Vladimir
Putin announced that Russia is suspending its participation in the New START, the last remaining major military agreement with the U.S.

As per Putin, the fact that the US wants to inspect Russia's military facilities — a requirement under the treaty — while at the same time saying openly that its goal is Russia's strategic defeat, was the "theatre of the absurd".

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The name START comes from the original "Strategic Arms Reduction Treaty", known as START-I, which was signed between the US and the erstwhile USSR in 1991, and came into force in 1994.

START-I capped the numbers of nuclear warheads and intercontinental ballistic missiles (ICBMs) that each side could deploy at 6,000 and 1,600 respectively.

It lapsed in 2009, and was replaced first by the Strategic Offensive Reductions Treaty (SORT, also known as the Treaty of Moscow), and then by the New START treaty.

## **New START**

- The New START, officially,
  the "Treaty between America and Russia on Measures for the Further Reduction and Limitation of Strategic
  Offensive Arms", entered into force on February 5, 2011,
  and placed new verifiable
  limits on intercontinentalrange nuclear weapons.
- Both countries had to meet the treaty's central limits on strategic offensive arms by Feb 5, 2018, and to then stay within those limits for the period the treaty remained in force. They subsequently agreed to extend the treaty through Feb 4, 2026.


## **Imposed limits**

- The limits of the treaty that the US and Russia met by Feb 5, 2018, and have complied to since then are:
- 700 deployed intercontinental ballistic missiles (ICBMs), deployed submarinelaunched ballistic missiles (SLBMs), and deployed heavy bombers equipped for nuclear armaments
- 1,550 nuclear warheads on deployed ICBMs, deployed SLBMs, and deployed heavy bombers equipped for nuclear armaments (each such heavy bomber is counted as one warhead toward this limit)
- 800 deployed and non-deployed ICBM launchers, SLBM launchers, and heavy bombers equipped for nuclear armaments.

# How is the compliance ensured?

- Detailed procedures for the implementation and verification of the central limits, and all treaty obligations, are part of the treaty terms.
- The treaty provides for 18 on-site inspections per year for US and Russian inspection teams, biannual data exchanges on strategic offensive arms and the operation of the Bilateral Consultative Commission (BCC).
- Since the New START Treaty's entry into force, as of Feb 1, 2023, the two parties have conducted 328 on-site inspections, exchanged 25,311 notifications, held 19 meetings of the Bilateral Consultative Commission, and held 42 biannual data exchanges on strategic offensive arms subject to the treaty.



# Amid worries over China, Canada looks to mend ties with India

# **Relevance: Prelims**

#### Why in news?

- Canada's Foreign Minister Mélanie Joly recently visited India.
- This visit comes in the wake of Canada's newly framed Indo-Pacific strategy, which is highly critical of China.

#### Change of Shift!

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- Lately, Canada's Justin Trudeau government has taken steps that signal a change in Canada's China policy. Last year, one of its top officials labelled China, "an increasingly disruptive global power".
- Canada has now tightened investment rules to prevent Chinese state companies from taking control of its critical minerals and mines industry, over fears of national security.
- Besides the banning of Huawei 5G, Canada's Parliament also passed a resolution to declare China's treatment of its Uighur minority as "genocide".
- Notably, in 2018, Canadian authorities arrested a top executive of the Chinese telecom giant Huawei, for extradition to the U.S. Just days later, China retaliated by detaining two Canadians.



Foreign Ministers Joly and Jaishankar in New Delhi



## India unhappy with Canada!

- Canada's ties with India have deteriorated in the past few years. The big reason behind that is Canada has become a safe haven for the separatist Khalistani groups.
- Some Sikh leaders such as Jagmeet
   'Jimmy' Dhaliwal whose New
   Democratic Party supports Trudeau's
   minority government in Parliament,
   are politically supported by pro-Khalistan groups.
- Last year, India objected to Canada permitting a Khalistani secessionist "referendum" in the Sikh diaspora.
- Last month, a Hindu temple near Toronto was vandalised and defaced with anti-India graffiti. Concerns that Canada is slow to act against anti-India elements on its soil are hindering the relations between the two countries.

## **Possible steps to improve ties**

- India's growing strategic, economic, and demographic importance makes it a critical partner for Canada in the Indo-Pacific. In return, Canada can be a reliable supplier of critical minerals as well as a major investor.
- Both countries can sign defence and security pacts. Canada can also increase its participation in maritime security and exercises in the Indo-Pacific, and deeper counterterrorism cooperation.
- Early Progress Trade Agreement (EPTA) which is still under negotiation can boost economic ties between the two countries.



# What is Paris Group? Why is it news?

## **Relevance: Prelims; International Organizations**

## Why in news?

- The Paris Club will provide financial assurances to the International Monetary Fund on Sri Lanka's debt.
- An assurance from it as well as other bilateral creditors is one of the conditions that Sri Lanka has to fulfil for the IMF to receive a \$2.9 bn bailout package.
- The economy of Sri Lanka needs forex loan to facilitate essential imports such as fertilisers, medicines, etc.

## What is Paris Club?

- The Paris Club is an informal group of mostly western creditor countries that help countries that are unable to repay their bilateral loans.
- It grew from a 1956 meeting in which Argentina met its public creditors in Paris.
- Paris Club has 22 members Australia,
  Austria, Belgium, Brazil, Canada,
  Denmark, Finland, France, Germany,
  Ireland, Israel, Italy, Japan, Korea,
  Netherlands, Norway, Russian Federation,
  Spain, Sweden, Switzerland, U.K., and the
  U.S.
- All these members are also members of the OECD (Organisation for Economic Cooperation and Development).



## How it functions?

- The Paris club operates on the principles of consensus and solidarity.
- Any agreement reached with the debtor country will apply equally to all its Paris Club creditors.
- A debtor country that signs an agreement with its Paris Club creditors should then not accept less favourable debt terms from other creditors.
- The Paris group countries dominated bilateral lending in the last century. To date, it has reached 478 agreements with 102 debtor countries worth \$614 billion.
- However, its importance has decreased over the last two decades with the emergence of China as the world's biggest bilateral lender.

# Lenders of Sri Lanka

- In Sri Lanka's case, China, Japan and India are the largest bilateral creditors.
- Sri Lanka's debt to China is 52 per cent of its bilateral debt, 19.5 per cent to Japan, and 12 per cent to India.



# China's Spy balloon

# **Relevance: Prelims; International Events**

#### Why in news?

- The United States has accused China of flying a "spy balloon" in its airspace.
- Beijing has responded, calling the object "a civilian airship used for meteorological research".
- The incident has caught public imagination and set off a political row in Washington after it was seen floating over sensitive areas of Montana in the US.
- Officials claim the white balloon is the size of three buses and is carrying a "large" payload.

#### The US's response

- The balloon was well above commercial air traffic and did not pose a threat to civil aviation.
- The US used F-22 Raptor fighter aircraft to destroy the balloon.





## How relevant are high-altitude balloons today?

- Spy balloons have been used in military for over 200 years.
- While satellites and improved aeroplane and drone technologies have reduced the salience of high-altitude balloons in the military, they still occupy an important niche.
- Unlike satellites which can cost millions of dollars to create, and require sophisticated technology to launch, high-altitude balloons are cheap and easy to launch and control.
- While balloons cannot directly be steered, they can be roughly guided to a target area by changing altitudes to catch different wind currents.
- Moreover, unlike satellites which are at much higher altitudes and moving at incredible speeds, spy balloons have the advantage of being able to hover around at lower heights, thus providing better quality images as well as more time to gather intelligence in a particular area.
  - The latest incident, in which the balloon not only reached mainland US but has since been able to operate uninterrupted, only highlights its continued relevance.



# India-US Joint Exercise - TARKASH

## **Relevance: Prelims; Bilateral Relations**

## TARKASH

- What are CBRN weapons?
- India and the United States recently conducted a joint exercise named TARKASH in Chennai.
- It was carried out by India's National Security Guard (NSG) and US Special Operations Forces (SOF).
- This exercise for the first time included a mock drill to tackle Chemical and Biological, Radiological and Nuclear (CBRN) weapons' attacks by terrorists.

- CBRN weapons have the capability of creating mass casualties. Thus, they are classified as weapons of mass destruction.
- Chemical weapons include mustard gas and nerve agents. They damage the victim's respiratory system, skin, and eyes, create breathing difficulties which may lead to death.
- Biological agents include anthrax, botulinum toxin and plague. They cause fever, malaise, cough, and shock.
- Radiological weapons include weaponized radioactive waste and other material as well as nuclear weapons.





# NATO urges Turkey to allow Sweden and Finland to join this alliance



## **Relevance: Prelims; International Organizations**

#### Why in news?

- The North Atlantic Treaty Organization (NATO) has asked Turkey to approve applications by Finland and Sweden to join this defence alliance.
- Notably, every member of this 30-nation alliance needs to approve
  Finland and Sweden's membership. Only
  Turkey and Hungary are yet to do so.
- In 2022, Turkey blocked an early attempt by NATO to fast-track such applications.

#### More about NATO

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- NATO was founded in 1949 by the US, Canada, and several western European nations.
- The objective behind its formation was to ensure their collective security against the Soviet Union.
- All NATO members are committed to mutual defence in response to an attack by any external power.

#### Why do Sweden and Finland want to join it?

- Russia's invasion of Ukraine in 2022 led to deep worries for both Finland and Sweden.
- Soon, both countries applied for NATO's membership.
- If and when they do join NATO, both of them will get guaranteed military support by NATO members in case of an external attack.



BBC

# **Reasons behind Turkey's objections**

- Turkey has taken its current stance since it accuses Sweden of providing shelter to Kurdistan Workers Party (PKK).
- PKK represents Kurds, a major ethnic group which forms nearly a fifth of Turkey's population. They live in the mountainous Kurdistan region of south-eastern Turkey but want an independent national homeland.
- Turkey also wants Sweden and Finland to lift their restrictions on the sale of arms to it. The restrictions were imposed after Turkey's military campaign in Syria in 2019.

#### Will a noble gesture help?

- A deadly earthquake in Turkey and its neighbour Syria last week which killed over 40,000 people has brought these countries together.
- Both Sweden and Finland have provided financial support as well as sent experts and equipment.
- However, experts believe that it may be too early to speculate if this move will help the relations between the three countries.



# Indians go West, take up 'residence by investment'

# Relevance: Prelims & Mains Paper II; Indian Diaspora

#### Why in news?

- In 2022, over 2.25 lakh Indians renounced Indian citizenship, the highest ever since 2011, according to data tabled by the Ministry of External Affairs (MEA).
- The data reflects how
  Indians, especially high
  net worth individuals
  (HNIs) are moving
  westward with new
  passports, in search of
  better opportunities,
  healthcare, quality of
  life, and education,
  among several other
  factors.
- HNIs are those who have wealth of over \$1 million or ₹8.2 crore. According to the Henley Global Citizens Report, there were 3.47 lakh such people in India in December 2021.

**HNIs** 

- Of these, 1.49 lakh HNIs were found in just nine cities: Mumbai, Delhi, Kolkata, Bengaluru, Hyderabad, Pune, Chennai, Gurgaon, and Ahmedabad.
- According to the report,
   India ranked fourth in the world in terms of privately-held wealth, after the U.S.,
   China, and Japan.

# Moving out

As many as 2.25 lakh Indians renounced Indian citizenship in 2022, the highest in the past decade





## **Residence through Investment**

There has been a surge in requests for residence-through-investment programmes especially for the U.S. EB-5 visa, Portugal Golden Visa, Australian Global Talent Independent Visa, Malta Permanent Residency Programme, and Greece Residence by Investment Program.

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The EB-5 visa programme of the U.S., which requires a minimum investment amount of \$800,000 (around ₹6.6 crore) over a period of 5 to 7 years and the creation of 10 permanent jobs for U.S. citizens, is much sought after. The visa makes an individual eligible for American citizenship after five years.



# Post-Brexit trading agreement with Northern Ireland



#### **Relevance: Prelims & Mains paper II; Bilateral Relations**

#### Why in news?

- Britain and the European Union are getting closer to an agreement on solving a dispute over their post-Brexit trading arrangements with Northern Ireland.
- These trading agreements are called Northern Ireland Protocol. Northern Ireland Protocol has proved to be the most contentious issue in post-Brexit period.
- Northern Ireland Protocol, as agreed in the post-Brexit agreement, requires that customs checks be placed at the goods entering the Northern Ireland, rather than between Northern Ireland and the Republic of Ireland.

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#### **Good Friday Agreement**

- The island of Ireland consists of Northern Ireland (part of UK) and the independent nation of Republic of Ireland. Northern Ireland is dominated by Protestants/Unionists, who are loyal to the British crown.
- On the other hand, Republic of Ireland is dominated by Catholics/Nationalists who wanted unified Irish republic and were against the decision of Northern Ireland to join the UK. The different view points led to long and violent conflict between the two sides known as The Troubles.
- 'The Troubles' ended with signing of 1998 Good Friday Agreement, which requires that there won't be a border (and all that entails, such as checkpoints and customs) between Northern Ireland and Ireland.



## **Northern Ireland Protocol**

- Now, Northern Ireland, though part of UK, shares land border with Ireland, which is part of EU.
- If 1998 Good Friday Agreement is adhered, then goods could move freely from Northern Ireland to Republic of Ireland, which is against the concept of EU single market because now, after Brexit, northern Ireland is not a member of EU.
  - The other solution, which was incorporated in Northern Ireland Protocol, was a 'sea border' at the ports of Northern Ireland. Certain goods meant only for Northern Ireland but not for Ireland (which falls within the EU market)—would undergo checks at sea border before entering the island. So that these goods do not pass into Republic of Ireland (part of EU) from Northern Ireland.

#### lssue

- However, this solution has divided the economy of Northern Ireland from rest of UK. The goods travelling from Rest of UK (Great Britain island) to Northern Ireland are required to undergo checks and additional paperwork which is hampering the trade.
- Consequently, the UK seeks to renegotiate the Northern Ireland
   protocol with the EU. However, so far, EU has refused to negotiate
   and suggested the UK to look for creative solution.



# Ajay Banga, nominated to head World Bank

# **Relevance: Prelims; Economics**

## Why in news?

# Who will confirm?

- Indian-American business executive Ajay Banga was nominated by US President Joe Biden to head the World Bank.
  - If confirmed by the World Bank board of directors, Banga, 63, will be the first Indian-American to head either of the two top international financial institutions: the International Monetary Fund and the World Bank.

- Banga's confirmation will be subject to a vote from World Bank executive directors. As the biggest shareholder, the US's nomination usually ends up being selected.
- The president of the World Bank is ex officio chair of the Board of executive directors of the International Bank for Reconstruction and Development (IBRD) or the World Bank and the International Development Association (IDA).
- They also chair other UN bodies like the Board of Directors of the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA), and the Administrative Council of the International Centre for Settlement of Investment Disputes (ICSID).





#### **Previous President**

Ajay Banga



- US banker David Malpass was the previous president of the World Bank Group before he stepped down just over a week ago.
- Malpass will leave on June 30, around a year before his fiveyear term is to end. He was picked in 2019 by then US president Donald Trump.
- Banga was raised in India. After finishing school at Hyderabad Public School, he earned a Bachelor's degree in Economics from the University of Delhi's St. Stephen's College, and later did an MBA degree from the Indian Institute for Management, Ahmedabad.
- Starting his career with Nestle in 1981, he went on to join Pepsico and then Citigroup. He was also the president and CEO of Mastercard, the financial services company.
- When Banga met Prime Minister Narendra Modi in New York in 2014, just after the latter was elected, the two discussed India's prospects in the US business community. In 2016, Banga was awarded the Padma Shri by the President of India.
- Banga currently serves as Vice Chairman at General Atlantic, a private equity company.

# India's position over War in Ukraine



## **Relevance: Prelims & Mains Paper II; Bilateral Relations**

Why in news? Basic approach of India	
- Russia- Ukraine war has completed a year.	- In the statements made in the early stages of the conflict, it had articulated five basic points.
<ul> <li>In the last year, the UN and its bodies have voted on resolutions pertaining</li> </ul>	<ul> <li>*First, it had said it was "deeply disturbed", but did not name Russia at all.</li> </ul>
to the Russia-Ukraine war at least 39 times: 38	- *Second, it called for "cessation of violence and hostilities".
times since Russia invaded Ukraine on February 24 and once on January 31.	<ul> <li>*Third, it had flagged its core concern about Indian nationals. About 22,000 Indian nationals, mostly students, had had to be evacuated by special planes.</li> </ul>
- India, which has maintained a diplomatic	- *Fourth, it called for respect for "territorial integrity and sovereignty", and respect for UN charter and international law.
balancing act and has walked the tightrope between US-led West and Russia, has	- This was important since a P-5 country (a permanent member of the UN Security Council) had invaded a neighbour, and Delhi viewed this from the lens of its northern neighbour, China.
abstained on most occasions.	- *Fifth, it advocated diplomacy. It maintained that dialogue and diplomacy is the path forward.

#### **Bucha massacre**

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- The needle moved after the Bucha massacre in which innocent civilians were killed and India joined the western chorus in condemning the incident, and even asking for an international probe.
- This is the most significant shift and the most vocal criticism of Moscow's actions, where Delhi called for an international probe into an incident in a country.
- India has always been wary of calling for an international probe, since it has always rejected similar calls for probe by Pakistan into what Islamabad calls "human rights violations".
- So, while India has not explicitly condemned the Russian invasion, this incident made Delhi shift towards the West in its remarks.



# Withdrawl of French troops from Burkina Faso



# **Relevance: Prelims; International Events**

Why is France withdrawing?

- On February 19, Burkina Faso announced an official end to the operations led by France in the country.
- France had signed a military agreement with Burkina Faso in 2018 to achieve stability against the threat of Islamist militant groups.
- France signed a series of similar agreements with other West African nations, including Mali who terminated the operation in late 2022.

- For Paris, the military governments in West Africa pose multiple challenges. In February 2022, while announcing the withdrawal of France and its allies from Mali, French President Emmanuel Macron said, "Victory against terror is not possible if it's not supported by the state itself."
- Also, France has also been critical of Russian inroads into Africa. It has accused the Russian private military company Wagner Group for working closely with the military governments in West Africa.
- On January 23, Burkina Faso's military government announced its decision to end the military agreement with France and called on Paris to withdraw its troops within a month. A Burkinabe government spokesperson said that the military government and the country wanted themselves "to be the prime actors in the recapture of our territory," which was controlled by Islamist militant groups. On January 26, France agreed to withdraw its troops from Burkina Faso.



# Why did Burkina Faso end it?

- France was asked to withdraw its troops from Burkina Faso months after it pulled out its troops from Mali.
- The primary reason behind the withdrawal is the failure of its counter insurgency operations in the Sahel region against Islamist groups. Islamist insurgency has surged since 2015 and fuelled two coups in Burkina Faso last year.
- The violence linked to al-Qaeda and Islamic State groups has killed thousands and forced more than two million to flee their homes in the country.
- Secondly, as Islamist insurgency kept intensifying, France's military presence in Burkina Faso came under scrutiny. After the second coup in September 2022, anti-France protests increased in Burkina Faso with demonstrators demanding French withdrawal from the country.
- Also, Dissatisfaction with the French approach has made other actors including Russia and China more preferable partners to fight insurgency.

# What next?

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- Paris has accepted the military governments' decision which marks a significant change in its West Africa approach.
- In Burkina Faso, in the absence of France's troops, the alleged Russian mercenaries may fill the security void, as part of its bid to enhance military engagements in the continent.
- However, the new developments are unlikely to address the insurgency and the consequent insecurity.



# India sends aid to earthquake struck Turkey

## **Relevance: Prelims**

- Providing relief to the quake-hit Turkey, India is sending an Army medical team, National Disaster Relief Force (NDRF) personnel, and medical supplies.
- The Indian relief team includes orthopaedics, general surgical specialists, medical specialists etc.
- In the last 15 years, India has carried out several disaster relief operations, especially in its neighbourhood countries such as Nepal, Sri Lanka, Maldives and Myanmar and even Japan and U.S.A.



# **Operation Dost**



#### **Relevance: Prelims & Mains Paper II; Bilateral Relations**

- The Indian disaster relief team, comprising 99 personnel of Indian Army Field Hospital and National Disaster Response Force (NDRF) returned on February 20 2023 after putting in a stupendous effort to provide medical relief to disaster victims in Hatya Province of Turkey hit by earthquake.
- The effort has been applauded both at the National and International levels. The Indian Army Field Hospital has treated 3604 casualties.
- This mission of helping Turkey affected by earthquake has been officially named 'Operation Dost'.

# **Exercise 'Dustlik'**

## **Relevance: Prelims; Bilateral Relations**

- The 4th edition of joint military exercise 'DUSTLIK' between the Indian Army and Uzbekistan Army took place in February in Pithoragarh (Uttarakhand).
- 45 Soldiers each from Uzbekistan and Indian Army participated in this exercise which is aimed at promoting positive relations between both the armies.
- The first edition of the exercise was held at Uzbekistan in November 2019.





# ECONOMICS

# 'Hard' vs 'soft' landing

## **Relevance: Prelims & Mains Paper III; Economics**



eventually bring inflation

under control.

US economy at Present	Monetary policy implications	Fed response
- Let's understand Hard and Soft landing by discussing the Present state of the US Economy.	- The January inflation and employment data in the US point to two things.	- Given its commitment to price stability and getting inflation back down to 2%, it has no
- Both 'general' and 'core'	- First, inflation has remained well above the US Federal Reserve's target of 2%.	choice but to raise interest rates further.
above the US Federal Reserve's target of 2%. While the former has fallen from its June high of 7%, the latter, considered a more accurate gauge of the underlying inflationary trend in the economy, has been stubbornly stuck at around 5%.	<ul> <li>Second, falling unemployment, which reflects demand for labour outstripping supply, has complicated the Fed's job. The labour market's tightening — going "out of balance", according to Fed officials — is putting upward pressure on wages and, in turn, driving up inflation.</li> </ul>	- As credit becomes more expensive, businesses and consumers will hire less and spend less. Economic activity slowing would then reduce overall demand, help cool overheated labour markets and

Moreover, the unemployment rate, at 3.4% in January, fell to its lowest since May 1969.

## Hard and Soft Landing

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- It is important, however, to note that the Fed has already substantially hiked its funds rate (interest rate) — from a target range of 0-0.25% till March 16, 2022 to 4.5-4.75% on January 31-February 1.
  - Hiking further would risk what
    economists term a "hard landing". When
    inflation is persistent at 5% and the
    target is 2%, interest rates will have to
    be increased high and fast enough, and
    kept at those levels until economic
    activity moderates sufficiently.
  - That would mean a sharp downturn or recession. It is the opposite of subdued growth or a mild recession ("soft landing"), which follows the Fed having to raise rates only slowly and in small amounts to reduce inflation from, say, 3% and cool an economy not that overheated.



# **Eight crop specific Spices Parks across India**

Datails of Now spice Parks

#### **Relevance: Prelims**

- Spices Board of India has established eight crop-specific Spices Parks across the country.
- Spice Board is export promotion agency, controlled by the Union govt, promotes Indian spices by providing information about them. Formed in 1987, Spices Board's headquarters are in Kochi.
  - The facilitates provided by Spices parks include cleaning, sorting, grading, grinding, oil extraction and packaging of spices for use by the local farmers, traders, exporters etc.

Details of New Spice Faiks		
Name of the Spices Park	State	Spices covered
Chhindwara	Madhya Pradesh	Garlic and Chilli
Guna	Madhya Pradesh	Coriander
Guntur	Andhra Pradesh	Chillies
Jodhpur	Rajasthan	Cumin
Ramganjmandi	Rajasthan	Coriander
Puttady	Kerala	Cardamom and Pepper
Raebareli	Uttar Pradesh	Mint
Sivaganga	Tamil Nadu	Chillies and



# India received its highest-ever foreign inward remittances in FY21-22

# **Relevance: Prelims**

#### Why in news?

- During 2021-22, India received foreign inward remittances of more than \$89 Billion (\$89,127 Million). This was the highest figure for a single year.
- In 2022-23, India is expected to receive remittances of more than \$100 Billion.
- The yearly remittances data for the past five years:

Year	Inward Remittances
	(US \$ million)
2017-18	69,129
2018-19	76,396
2019-20	83,195
2020-21	80,185
2021-22	89,127

2020-21	
Source Country	Share in Total Remittances
	(Per cent)
United States	23.4
United Arab Emirates	18.0
United Kingdom	6.8
Singapore	5.7
Saudi Arabia	5.1
Kuwait	2.4
Oman	1.6
Qatar	1.5
Hong Kong	1.1
Australia	0.7
Malaysia	0.7
Canada	0.6
Germany	0.6
Italy	0.1
Philippines	0.0
Nepal	0.0
Others	31.6

Country-wise Share in Inward Remittances



# Why did the Centre convert Vodafone Idea's massive debt into equity?



## **Relevance: Prelims; Economics**

## Why in news?

- The Union govt has cleared a longawaited plan to convert Vodafone Idea's (Vi) interest dues worth more than Rs 16,000 crore (\$2 billion) into equity shares.
- This will pave the way for the government to become the single largest shareholder in this cashstrapped company. With this, the government will have a 33 per cent stake in the company.
- As per the govt, it wants atleast three private companies besides BSNL in the Indian telecom sector. This would ensure healthy competition, thus proving beneficial for consumers.

# Interest pending on AGR

- As per the new arrangement, the interest is on account of the postponement of AGR Dues pending on Vodafone's side.
- Adjusted Gross Revenue (AGR) is the spectrum usage and licensing fee that telecom operators are charged by the Department of
  Telecommunications (DoT). It is divided into spectrum usage charges and licensing fees, pegged between 3-5 percent and 8 percent respectively of the revenues earned by Telecommunications company.

# **Proposed change in Angel Tax**

#### **Relevance: Prelims; Economics**

#### Why in news?

# **Proposed change**

- A recently proposed detail has Indian start-ups worried. Indian Start-ups that offer their shares to foreign investors, may have to pay 'angel tax'.
- The move could adversely impact financing available to the start-ups, which have already been reeling under a funding crunch since 2022.

- The Budget 2023, unveiled by Finance Minister Nirmala Sitharaman , has proposed to amend Section 56(2) VII B of the Income Tax Act.
- The provision states that when an unlisted company, such as a start-up, receives equity investment from a resident (Indian Resident Investor) for issue of shares that exceeds the face value of such shares, it will be counted as income for the start-up and be subject to income tax under the head 'Income from other Sources' for the relevant financial year.
  - However, with the latest amendment, the government has proposed to also include foreign investors in the ambit, meaning that when a start-up raises funding from a foreign investor, that too will now be counted as income and be taxable.
- For instance, if the fair market value of a start-up share is Rs 10 a piece, and in a subsequent funding round they offer it to an investor for Rs 20, then the difference of Rs 10 would be taxed as income.



# Angel Tax

- Section 56(2) VII B of the Income Tax Act, colloquially known as the 'angel tax' was first introduced in 2012 to deter the generation and use of unaccounted money through the subscription of shares of a closely held company at a value that is higher than the fair market value of the firm's shares.
- Angel investors are the investors who invest in the Start ups and thus, provide them with necessary funds. As this tax is on Angel investment, so it is called Angel Tax.

#### Start-ups concerned

- The change comes as the funding for India's startups dropped by 33 per cent to \$24 billion in 2022 as compared to the previous year.
- Foreign investors are a key source of funding for the start-ups and have played a big role in increasing the valuation.
- For instance, Tiger Global, one of the most prolific foreign investors in India, has invested in over a third of the startups that have turned unicorn, with a valuation of at least \$1 billion.



# NSE puts shares of Adani group firms under ASM



# **Relevance: Prelims; Economics**

Why in news?	ASM	Margin
- The National Stock Exchange (NSE) on February 2 placed Adani Enterprises, Adani Ports, and Ambuja Cements under the additional	- The ASM was introduced on March 26, 2018 with the intention to protect investors from market volatility and unusual changes in share price.	- Before an trade order is executed, brokers are required to collect margins against to cover instances of potential losses.
<ul> <li>surveillance mechanism (ASM).</li> <li>The move comes as shares of Adani group</li> </ul>	<ul> <li>An ASM shortlisting signals to investors that the stocks have seen unusual activity.</li> </ul>	- SEBI mandates margin collection and when clients fail to maintain
companies continue to fall in the wake of accusations of stock manipulation and fraud levelled against the group by New York- based short seller Hindenburg Research.	<ul> <li>This means trading in shares</li> <li>will require a 100% margin,</li> <li>which is aimed at curbing</li> <li>speculation and shortselling.</li> <li>100% margins means that</li> <li>entire applicable margins have</li> <li>to be collected upfront before</li> <li>the trade is executed</li> </ul>	<ul> <li>Margin shortfall occurs.</li> <li>Margin shortfall is the difference between the SEBI mandated margins and the margin available (funds or securities).</li> </ul>

# Most Adani stocks hit lower circuits again; What are they?



# **Relevance: Prelims; Economics**

Why in news?	What are circuit breakers?	When are they applied?
<ul> <li>Adani Group stocks have seen a huge fall in the past few days with many</li> </ul>	- In June 2001, the Securities and Exchange Board of India (SEBI) implemented index-based market- wide as well as security based circuit breakers.	- The index-based market-wide circuit breaker system applies at three stages of the index movement, at 10, 15 and 20%.
of them hitting the lower circuits. - As a result,	<ul> <li>Circuit breakers temporarily halt trading on an exchange when a security or broad index moves in excess of a pre-set threshold</li> </ul>	<ul> <li>For e.g., if the S&amp;P BSE Sensex were to fall (or rise) more than 10% before 1 pm on a given day, circuit breakers would be triggered for a period of 45 minutes;</li> </ul>
Adani Group called off its Rs 20,000 crore FPO, with Gautam Adani saving that the	<ul> <li>amount, either downwards or upwards.</li> <li>Circuit breakers temporarily halt trading and thus stop the sell-off (or purchase). Effectively, circuit-</li> </ul>	<ul> <li>in case it fell (or rose) more than 15% on or after 2 pm, circuit breakers would be triggered for the remainder of the day.</li> </ul>
to save investors from potential losses.	breakers cap how much the value of a stock can fall (or rise) in a single day/trading session and in doing so, create a more stable market overall.	- It is to be noted that individual Security based circuit breakers only halt trading of that particular security.

# **Global index provider MSCI cuts Adani's index weightage**

## **Relevance: Prelims; Economics**

## Why in news?

- Global index provider MSCI has changed its weightage for four Adani
  Group stocks in its various widely tracked indices. These four companies are Adani Enterprises,
  Adani Total Gas, Adani Transmission, and ACC.
- MSCI's decision has come after Adani group's companies lost around \$110 billion in market capitalization over the last two weeks.
- Their shares came under heavy selling pressure after a report from New York-based Hindenburg Research alleged "brazen stock manipulation and accounting fraud" over the course of decades by the group.

# What is MSCI?

- MSCI, or Morgan Stanley Capital International, is owned by the multinational investment management and financial services company Morgan Stanley.
- It is a leading provider of stock indexes, and services for global investors. It has over 160,000 indexes in its portfolio.
- MSCI has indexes for countries, regions, emerging markets, developed markets, small cap, all cap and even Islamic indexes. It selects stocks for its equity indexes that are easily traded and have high liquidity.
- MSCI is best known for its benchmark indexes, including the MSCI Emerging Market Index and MSCI Frontier Markets Index.



#### More about them

- The MSCI India Index which covers about 85% of the total Indian equities has 113 constituents.
- The MSCI Emerging Markets (EM) Index currently includes 24 countries.

## Are closely followed

- MSCI indexes are widely tracked by foreign portfolio investors, hedge funds and other sovereign wealth funds.
- They allocate funds to various markets like India depending on the overall weightage and direction given by these indexes.
- If India and its top listed companies get good weightage in MSCI indexes, foreign investors pump in more funds on that basis and vice versa.
- The action on the Adani companies means these stocks will be less favoured by foreign investors and hedge funds while making their India allocations.



# NRIs from 10 countries allowed to make payments via UPI



## **Relevance: Prelims; Economics**

#### Why in news?

#### **About Details**

- In a major development, NRIs will now be able to transact through UPI using international mobile numbers.
- They will be able to link their non-Indian mobile phone numbers, to make payments through UPI.
- Though NRIs can use the UPI app for payments even now, being a sim-linked payments process, they need an Indian mobile phone number.

The scheme will begin on April 30. It follows the opening up of cross-border transactions such as bill payments and RuPay credit cards to NRIs by NPCI or National Payments Corporation of India.

- The first phase of this scheme will be applicable to these 10 countries — Singapore, Australia, Canada, Hong Kong, Oman, Qatar, USA, Saudi Arabia, United Arab Emirates and UK.
- The user should first link the mobile number with an NRO or NRE (non-resident ordinary or non-resident external) account.
# India's UPI and Singapore's PayNow integrated

**Relevance: Prelims & Mains Paper III; Economics** 

# Why in news?

- India's real-time retail payment system Unified
  Payments Interface (UPI),
  which has allowed for quick
  digital payments through
  apps like BharatPe and
  Paytm, and its equivalent
  network in Singapore called
  PayNow, are now integrated
  to enable faster remittances
  between the two countries
  at a competitive rate.
  - Reserve Bank of India's Governor Shaktikanta Das and the Monetary Authority of Singapore's (MAS) Managing Director Ravi Menon launched the new linkage.

# What are UPI and PayNow?

- Unified Payments Interface (UPI) is India's mobile-based fast payment system, which facilitates customers to make round-the-clock payments instantly, using a Virtual Payment Address (VPA) created by the customer.
- It eliminates the risk of sharing bank account details by the remitter. UPI supports both Person-to-Person (P2P) and Person-to-Merchant (P2M) payments and it also enables a user to send or receive money.
- PayNow is a fast payment system in Singapore. It enables peer-to-peer funds transfer service, available to retail customers through participating banks and Non-Bank Financial Institutions (NFIs) in Singapore.
- It allows users to send and receive instant funds from one bank or e-wallet account to another in Singapore by using just their mobile number, Singapore National Registration Identity Card (NRIC)/Foreign Identification Number (FIN), or VPA.



#### **UPI-PayNow linkage**

- Cross-border retail payments are generally less transparent and more expensive than domestic transactions.
- The UPI-PayNow linkage is a significant milestone in the development of infrastructure for crossborder payments between India and Singapore.
- UPI-PayNow linkage will facilitate faster, more efficient and transparent crossborder transactions relating to trade, travel and remittances between the two countries.

# Benefit to citizens of both countries

- The UPI-PayNow linkage will enable users of each of the two fast payment systems to make instant, low-cost fund transfers on a reciprocal basis without a need to get on board the other payment system.
- It will also help the Indian diaspora in Singapore, especially migrant workers and students, through the instantaneous and low-cost transfer of money from Singapore to India and vice-versa.
  - Of the total inward remittances to India in 2020-21, the share of Singapore stood at 5.7 per cent, according to the RBI Remittance Survey, 2021.



# Budget 2023: New tax regime



Why in news?	Details	New tax regime
- Finance Minister Nirmala Sitharaman made five major announcements on personal income tax.	- Under the new tax regime, the rebate limit will rise from Rs 5 lakh to Rs 7 lakh. Therefore, if an individual has opted for the new tax regime, he or she will not be	- The New tax regime has been introduced in 2020 to simplify income tax compliance for common people of the country.
- The move is aimed at incentivising people to shift to the new tax regime, which has not	required to pay any tax up to an annual income of Rs 7 lakh.	- Under the new tax regime, people are required to give up exemptions such as the House Rent Allowance.
seen much traction since launch in FY21.	<ul> <li>Changes to tax slabs in the new tax regime have also been announced. New</li> </ul>	Leave Travel Allowance, and deductions for specified investments and costs that
<ul> <li>While the new tax regime would be the default, taxpayers can</li> </ul>	income tax slabs are as follows:	would otherwise be available under the old tax regime.
also opt for the old one.	<ul> <li>Rs 0-3 lakh: Nil</li> <li>Rs 3-6 lakh: 5 %</li> <li>Rs 6-9 lakh: 10 %</li> </ul>	- However, they are allowed a higher rebate limit and
	<ul> <li>Rs 9-12 lakh: 15 %</li> <li>Rs 12-15 lakh: 20 %</li> <li>Over Rs 15 lakh: 30 %</li> </ul>	allowed to pay tax at lower rates in lieu of exemptions withdrawn to them.



## Criticism of New Tax Regime

- The new regime has more slabs than the previous one. This makes new regime complex one.
- The old regime has just three tax slabs of 10%, 20%, and 30%.
- As per Sitharaman, seven new tax slabs were brought to make the tax regime simpler and benefit those who are in lower-income grades.

# **Old Tax Regime**

- Under the Old tax regime, people are given exemptions such as the House Rent Allowance, Leave Travel Allowance, and deductions for specified investments and costs. (These exemptions and deductions are not allowed in new tax regime).
- However, the maximum rebate limit is upto Rs. 5 Lakhs (against 7 Lakhs in new tax regime)
- Also, the tax slabs are as under:
- Rs 0 2.5 lakh: Nil
- Rs 2.5 5 lakh: 5 %
- Rs 5-10 lakh: 20 %
- Over Rs 10 lakh: 30 %



# Unity Malls to be set up in states

## **Relevance: Prelims; Economics**



Why in news?	Why in news? Unity mall What is ODOP	
- This year's Union Budget saw Finance Minister Nirmala Sitharaman announce the setting up of "Unity	- So far, the FM hasn't specified what the "unity mall" would be, its physical or non- physical structure, or bow it would work!	- One District, One Product i initiative by the govt which a make regional products mo accessible while providing o those who produce them.
<ul> <li>States will be encouraged to do so in their capitals.</li> </ul>	<ul> <li>How it would work?</li> <li>However, she said that the unity malls would focus on the promotion and sale of</li> </ul>	- Under the scheme, the Star the chief product for a distri- offers support for its proces storage and marketing.
their most prominent tourism centres, or their financial capitals.	the state's own "ODOPs (one district, one product), GI products and other handicraft products.	- These products can be per produce, cereal-based prod food products like mango, p meat and fisheries.
	and for providing	- The scheme also supports and innovative products inc

products of all other

States.

- is an aims to ore capital to
- te identifies ict and then ssing,
- rishable agri ducts or potato,
- traditional cluding waste-to-wealth products, such as honey and herbal edible products.



# What is GI?

- A geographical Indication (GI) tag is given to agricultural, natural or manufactured products that originate from a specific geographical area due to which they possess unique characteristics and qualities.
- A GI tag guarantees that the product is coming from that specific area. It's kind of a trademark issued in name of community of the area from which the product is originating.

# India's IT exports see an 18% jump since 2019-20

#### **Relevance: Prelims; Economics**

#### Why in news?

- The National Association of Software and Service Companies (NASSCOM) has released the following data on India's IT exports during the last three years:
- FY 2019-20 \$150
- Billion
- FY 2020-21 \$151 Billion
- FY 2021-22 \$ 178 Billion

# **Government initiatives**

- Government has taken various steps to increase the Information Technology export from the country as detailed below:
- 1.Software Technology parks of India (STP) Scheme: Software Technology Parks of India (STPI), an autonomous society under Ministry of Electronics and Information Technology is implementing Software Technology parks of India (STP) Scheme, which is a 100% export oriented Scheme for the development and export of computer software, including export of professional services using communication links or physical media.
- The export by STPI registered IT/ITeS Units is increasing on Y-o-Y basis and is stands at\$ 80.3 Billion in the FY 2021-22.



#### **Government Initiatives**

- 2. Future Skills PRIME (Programme for Re-skilling /Up-skilling of IT Manpower for Employability): MeitY in collaboration with IT/ITeS Sector Skills Council-NASSCOM has initiated a programme titled Future Skill sPRIME. It is an 'aggregator of aggregators' platform comprising various online skills providers for digital skills training on a national scale in the online mode.
- The programme is aimed at re-skilling/ up-skilling of IT professionals in 10 new/emerging technologies namely, AI, BDA, RPA, Additive Manufacturing/ 3D Printing, Cloud Computing, Social & Mobile, Cyber Security, Augmented/Virtual Reality, Internet of Things and Blockchain.
- 3. Next Generation Incubation Scheme (NGIS) has been approved to support software product ecosystem.
- It is envisaged to create a vibrant software product ecosystem to complement the robust IT Industry for continued growth, new employment and enhance competitiveness.



# IMF bullish on India's GDP growth in its latest World Economic forecast



## **Relevance: Prelims**

#### Why in news?

- In its January update of the World Economic Outlook (WEO) report, the IMF has marginally improved the forecast for global growth in 2023.
- This comes as a major relief, given the fears of a global recession in 2023.
- Notably, the IMF releases the WEO twice every year, in April and October, apart from updating it twice — in January and July.

## **Global growth rates**

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- As per IMF's Oct. 2022 forecast, the global growth rate was expected to decelerate from 3.4% in 2022 to 2.7% in 2023. It predicted that over a third of the global economy will contract.
- However, in the latest January update, the IMF has ruled out a global recession. Instead, it expects global growth to bottom out in 2023 before starting to gather speed in 2024.
- As such, global growth is now projected to fall to 2.9 % in 2023 before rising to 3.1 % in 2024.
  - The economies of China, Russia, the US, Germany, and Italy have seen the most significant upward revisions in their 2023 GDP forecasts.
- The U.K. saw a substantial (almost 1 percentage point) downgrade in its 2023 GDP.

## **Global Inflation Trend**

- Inflation, which destabilized the global economy, is expected to have peaked in 2022 but the disinflation (the fall in inflation rate) will be slow and take all of 2023 and 2024.
- Price rise is slowing for two main reasons:
- One, monetary tightening all across the world — higher interest rates drag down overall demand for goods and services and that, in turn, slows down inflation.
- Two, in the wake of a faltering demand, prices of different commodities — both fuel and nonfuel — have come down from their recent highs.
- In 2023, advanced economies are expected to have an inflation of 4.6% while in case of emerging economies' this figure will be 8.1%.

## India to lead

- There's been no change in India's growth outlook since Oct 2022. Its growth rate will decline from 6.8% in 2022 to 6.1% in 2023, before picking up to 6.8% in 2024 due to strong domestic demand.
- This means India will remain the world's fastest-growing major economy both in 2023 as well as 2024.
- India's GDP growth rate is expected to be significantly higher than all its comparable economies, especially China (which is set to grow at 5.4% in 2023 and 4.5% in 2024).



# India becomes the world's highest milk producer

## **Relevance: Prelims**

# Why in news?

- India is the world's largest milkproducing country.
- It contributed to 24% of the global milk production in the year 2021-22.
- The milk production was 22 crore tonnes in 2021-2.
- The production has increased by 51% from 2014 15 to 2021-22.



# **RBI** hikes Repo rate by 25 bps in its bid to control inflation

# **Relevance: Prelims**

meetings.



Why in news?	<b>Control inflation</b>	Interest rates hike
- The Monetary Policy Committee (MPC) of the Reserve Bank of India has hiked the key policy rate by 25 basis points to 6.50%.	- All these Repo rate hikes are aimed at controlling retail inflation.	- As a result of this latest hike, lending rates of banks are expected to go up. This is because the
<ul> <li>Key policy rate which is also known as the Repo rate is the rate at which the RBI lends funds to banks.</li> </ul>	- RBI has lowered the inflation target for FY23 from 6.7% to 6.5% which is still	cost of funds to banks is expected to rise further.
<ul> <li>A basis point is one-hundredth of one percentage point.</li> </ul>	above its comfort level of 4%.	- EMIs on vehicles, home and personal loans will also rise. As
- This latest hike which was approved by 4 out of the 6 MPC members is the sixth since May 2022.	- Inflation is expected to be 5.3% in FY24.	much as 43.6% of the total loans are now linked to the Repo rate.
- The MPC hiked the repo rate by 40 bps in May 2022 and then by 50 bps in each of the three successive		

# Income Tax officials raid BBC offices for violating 'transfer pricing' rules

## **Relevance: Prelims**

## Why in news?

- The Income-Tax Department has conducted surveys at the premises of the British Broadcasting Corporation (BBC) in Delhi and Mumbai.
- As per it, this was done in view of the BBC's "deliberate noncompliance with the "transfer pricing rules" and its "vast diversion of profits".

## What is transfer pricing?

- Transfer pricing refers to the prices of transactions between associated businesses or companies.
- These transactions may take place under conditions that differ from those taking place between independent companies.
- Thus, the prices for these transactions are not determined by market forces, but are decided in the manner so as to reduce the taxable income in high tax rate jurisdictions.





## How does it work?

- Transfer pricing could be understood by the following example:
- Suppose company A purchases goods for 100 rupees and sells them to its associated company B in another country for 200 rupees. Company B then itself sells these goods in the open market for 400 rupees.
- Had A sold it (the goods) direct, it would have made a profit of 300 rupees. But by routing it through B, it (A) restricted it (profit) to 100 rupees, thus permitting B to pocket the balance.
- The transaction between A and B is arranged and not governed by market forces. The profit of 200 rupees is, thereby, shifted to the country of B. The goods are transferred at a price (transfer price) which is arbitrary or dictated (200 hundred rupees), but not on the market price (400 rupees).

## Its effect

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- As a consequence of transfer pricing,
  the parent company or a specific
  subsidiary tends to produce insufficient
  taxable income or excessive loss on a
  transaction.
- Profits accruing to the parent company can be increased by setting high transfer prices to transfer profits from subsidiaries that are based in high-tax countries.
- In the opposite manner, low transfer prices are used to move profits to subsidiaries located in low-tax countries.

# North India's first Nuclear Plant is coming up in Gorakhpur, Haryana



#### **Relevance: Prelims**

#### Why in news?

- North India's first Nuclear Plant is coming up in Haryana in the town of Gorakhpur.
  - One of the major achievements would be the installation of Nuclear/ Atomic Energy plants in other parts of the country, which were earlier confined mostly to the South Indian States like Tamil Nadu and Andhra Pradesh or in the west in Maharashtra.

#### Details

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- Gorakhpur Haryana Anu Vidyut Pariyojana's(GHAVP) having two units of 700 MWe capacity each of Pressurised Heavy Water Reactor (PHWR) indigenous design is under implementation near Gorakhpur village in Fatehabad district in Haryana.
- Till date, an amount of ₹4,906 Cr has been spent out of total allocated funds 20,594 Cr. (Total Financial progress is 23.8% as on date).

# 'Sticky inflation' curbs India's economic recovery

# **Relevance: Prelims**



		Table 1: India likely to miss the inflation target of 4% for five consecutive years	
Why in news?	Reasons	Year	Retail Inflation
The latest official data has	There were two main reasons	2019-20	4.8%
revealed that India's retail	behind this rise. One is the	2020-21	6.2%
inflation rose by 6.5% in	higher food inflation. The	2021-22*	5.5%
January	prices of cereal grains such as	2022-23*	6.9%
oundary,	wheat and maize went up	2023-24*	5.1%
- It means the general price level	Two January also saw a rise in	Source: IMF *Estimate	♦ explained.
turned out to be 6 5% higher	core inflation. Core inflation is		
than the price level in Jan 2022	calculated by removing food		
Inflation is calculated in	and fuel prices. Since these		
comparison to last year same	two fluctuate massively, a look		
month price level.	at the core inflation indicates		
	how the broader economy is		
- This worrying trend indicates that India's retail inflation will be	doing.		
above the crucial 4% level in	- Even super core inflation		
each of the five years as	showed increase. Super core		
indicated in Table 1.	inflation is calculated by removing gold and silver price		
- Notably, the govt. had set 4%	inflation from core inflation.		
inflation as its target level.			

# **Sticky inflation**

- The increase in retail inflation in Jan. was a sharp turnaround from the deceleration in inflation that was being witnessed in recent months.
- This figure which had peaked at 7.4% in Sept. then started falling and reached 5.7% in Dec.
- Inflation being sticky essentially means that inflation is taking longer than expected to fall. Essentially, higher food and fuel prices have seeped into the broader economy and made other things costlier.
  - However, India is not the only country facing sticky inflation; many others such as the US and countries in the euro zone — are also struggling to extricate themselves from sticky inflation.

## **Inflation affects Economic Growth**

- RBI raises the interest rates when it believes that inflation is getting out of control. Higher interest rates bring down overall demand for goods and services by making loans costlier. Lower demand is expected to cool down inflation.
- Though a hike in interest rates helps in containing inflation, it also hurts economic growth. This is because there is a constant struggle between maintaining price stability and boosting growth.
- Thus, if inflation continues to stay high (or 'sticky'), it would force RBI to keep raising interest rates or, at least, keep them at a high level for a longer period.
- Doing so will hurt India's economic recovery from the ill effects of Covid pandemic and the Russia-Ukraine war.





# **Higher pension option offered by EPFO**

# **Relevance: Prelims; Economics**

# Why in news?

#### Current pension structure

- The Employees' Provident Fund
  Organisation (EPFO)
  has issued guidelines
  to allow a section of
  its older members to
  opt for higher pension
  under the Employees'
  Pension Scheme
  (EPS).
  - The EPFO instructions came after the Supreme Court ruling that upheld the Employees' Pension (Amendment) Scheme, 2014.

- The Employees' Provident Funds and Miscellaneous Provisions Act, 1952 did not provide for a pension scheme. The EPS, administered by the EPFO, came into being in 1995.
- Both employees and employers contribute 12% of the employee's basic salary, dearness allowance and retaining allowance, if any, to the EPF. The employee's entire contribution goes to Employee Provident fund (EPF), while the 12% contribution by the employer is split as 3.67% to EPF and 8.33% to EPS.
- The Govt of India contributes 1.16% to an employee's pension. Employees do not contribute to the pension scheme.
- At the time of introduction of EPS, the maximum pensionable salary was Rs 5,000 per month. This was subsequently raised to Rs 6,500 and, from Sept 1, 2014, to Rs 15,000. The pension contribution currently is 8.33% of Rs 15,000, that is, Rs 1,250 — unless the employee and employer have opted to contribute at actual basic salary exceeding the pensionable salary.

# Eligibility

## 2014 amendments details



- The EPS provides employees with pension after the age of 58, if they have rendered at least 10 years of service and retired at age 58. If a member leaves employment between ages 50 and 57, they can avail early (reduced) pension.
- The monthly pension is computed as per this formula:
- Monthly pension = pensionable salary x pensionable service / 70, based on a pro rata basis linked to maximum monthly pensionable salary of Rs 6,500 for pensionable service up to September 1, 2014, and Rs 15,000 thereafter.
- The pensionable salary was computed as
  the average of the salary drawn during
  the 12 months prior to exit from
  membership of the pension fund. The
  2014 amendments raised this to an
  average of 60 months prior to exit.

- The 2014 amendments raised the pensionable salary cap to Rs 15,000 a month from Rs.
  6500, and allowed members along with their employers to contribute 8.33% on their actual salaries (if it exceeded the cap) towards EPS.
- It gave all EPS members as on Sept 1, 2014,
  six months to opt for the amended scheme,
  extendable by another six months at the
  discretion of the Regional Provident Fund
  Commissioner.
- Members opting for pension linked to actual salaries exceeding the wage ceiling were required to contribute an additional 1.16% of their salary towards the pension fund.
- Those who did not exercise the option within the stipulated or extended period were deemed to have not opted for contribution over the pensionable salary cap and the extra contributions already made to the pension fund were to be diverted to the provident fund account of the member, along with interest.

## SC Nov 2020 judgement

- Numerous writ petitions were filed by employees citing lack of information and awareness about the time window to opt for the amended pension scheme linked to higher pensionable salary.
  - SC upheld the 2014
    amendments, but extended
    the time to opt for the new
    scheme by four months. The
    operation of the amendment
    requiring members to make
    the 1.16% contribution was
    suspended by the court for six
    months.
- In response to SC Judgement EPFO issued February 20 circular.

\* For EPFO, this will mean a stream of sharply higher pension payouts, when linked to actual basic salary rather than the Rs 15,000 ceiling. Experts said the pension scheme does not entail defined benefits but involves defined contribution, which could create strain on the finances of the retirement fund body in future.

Impact

In times of higher inflation, and with actual salaries having risen way beyond the pensionable salary cap of Rs 15,000, this would provide better social security cover for workers after retirement. Only a negligible percentage of EPFO members — with salaries higher than the Rs 15,000 a month pensionable salary cap — had earlier opted for contributions based on actual salaries; more employees are now expected to opt for the higher pension scheme.





# ENVIRONMENT & BIODIVERSITY



# Scientists propose the use of moon dust to cool down the earth

How does it work?

#### **Relevance: Prelims; Environment**

#### Why in news?

- U.S. researchers have put up a proposal to use moon dust to tackle the effects of global warming.
- As per them, billions of tonnes of dust can be launched from the moon to a Lagrange point.

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Lagrange point is a point in space where the earth's and the Sun's gravitational fields cancel each other out. The science of the consequences of volcanic eruptions is well-known. Aerosols in the stratosphere, especially radiation-scattering ones such as sulphates, do have a cooling effect. Many climate models have confirmed that stratospheric aerosols can reduce the amount of incoming sunlight.

- This fact has motivated human efforts to artificially spray aerosols into the stratosphere to slow global warming. Notably, the U.S. govt is currently officially supporting research on solar radiation management (SRM).
- In late 2022, a private venture called Make Sunsets released tiny amounts of sulphur dioxide into the stratosphere using balloons. This was in an effort to sell 'solar-dimming' as a way to offset carbon emissions.





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# **Possible risks**

It is widely known that the eruption of Mt. Tambora in 1815 in present-day Indonesia caused average global temperatures to decrease by 0.4–0.7 °C.

- The following year, summer temperatures in Europe were the coldest between 1766 and 2000. As a result, 1816 is nicknamed 'Year Without a Summer'.
- This cool summer led to widespread drought across the planet, dropped crop yields, and led to disease and starvation.

- Recent studies have argued that even if we face a drought similar to 1816 by emitting aerosols, it won't be as harmful and that the GDPs of most countries will be positively affected by this approach to SRM.
- However, it must be remembered that even state-of-the-art climate models are only programmed to guess the temperature response to changes in solar radiation.
- Any projections related to changes in rainfall, as a result of throwing up dust into the atmosphere or in space to block sunlight, will be highly uncertain.
- Also, there are severe technical and economic challenges to bring moon dust to a Lagrange point.



# **EU unveils its 'Green Deal Industrial Plan'**

# **Relevance: Prelims; Environment**



#### Why in news?

- In a bid to support and expand its green industry, the European Union has revealed the "Green Deal Industrial Plan".
- It aims to cut red tape and provide massive subsidies.
- This plan which will soon be debated by EU leaders needs the approval of 27 national govts for its implementation.
- This move comes just a few months after the U.S. announced its Inflation Reduction Act (IRA), which contains billions of dollars of tax cuts for clean energy and climate change programs with incentives for US-based manufacturing.

#### Details

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- The new proposal will involve the following initiatives:
- Simpler regulatory framework: The plan seeks to formulate a "Net-Zero Industry Act". It will not only simplify rules but also speed up the issuance of permits for green projects.
- It also includes a "Critical Raw Materials Act", which will provide access to materials like rare earths that are crucial for developing net-zero technology.
- Access to funds: As per this proposal, Countries lacking in funds will be given money from existing EU funds of around €800 billion.
- **Enhancing skills:** This plan aims to establish "Net-Zero Industry Academies" that will provide up-skilling and re-skilling programmes in strategic industries.
- **Improving the trade network:** This plan seeks to further develop the EU's network of Free Trade Agreements and other forms of cooperation with partners to support the green transition.

## How will it tackle USA's IRA?

- In Aug. 2022, the U.S. unveiled its climate change legislation, called Inflation Reduction Act.
- The IRA provides huge tax breaks and incentives to both customers and manufacturers. However, soon after the legislature was revealed, EU leaders expressed concerns regarding its possibly "discriminatory" provisions.
- The EU members have claimed that IRA's tax credits and subsidies to green product makers would put European companies at a disadvantage and might lure them to the U.S.
- Although most analysts have praised the EU for this move, some fear that the IRA and the new "Green Deal Industrial Plan" might trigger a global subsidy war.



# 14 pilot whales get stranded in Sri Lanka

## **Relevance: Prelims; Environment**

## Why in news?

- Recently, 14 pilot whales were stranded near the shore of Kalpitiya, a town in western Sri Lanka. 11 of them were rescued but three died.
  - Whale strandings aren't uncommon in Sri Lanka. Apart from Sri Lanka, Australia's Tasmania has also seen mass beaching of whales. In Sept 2022, over 230 pilot whales were stranded on its west coast out of which around 170 died.

# What is whale stranding?

- Whale stranding is a phenomenon in which whales are stuck on land, usually on a beach. Other aquatic animals like dolphins and porpoises are also known to do the same.
- Most of the stranding events involve single animals but sometimes, mass strandings, consisting of hundreds of marine animals at a time, can happen.
- Though whale strandings are a mystery even for wildlife scientists, the reasons believed to be behind them include the topography of the region, illness, human activities and increasing noise pollution in the oceans.





## **Human activities**

- Experts believe that mass strandings could be becoming more common as the health of oceans continues to deteriorate due to human interference.
- Several studies have shown that noise from large commercial ships, military sonars or offshore drilling severely impacts whales' and other marine animals' ability to use sound to navigate, find food and protect themselves. This can drive them ashore by deafening, disorienting, or frightening them.
- Another factor could be the rising temperatures of the oceans that cause changes in prey and predator distribution, resulting in whales and dolphins coming closer to shore.

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#### Measures

- It's very difficult to prevent whale strandings. Since they happen due to several reasons, no onesize-fits-all solution would work.
- However, minimizing human activities in the sea may help reduce the chances of such incidents.



# India introduces new measures to preserve its ecological health



# **Relevance: Prelims; Environment**

Why in news?	MISHTI	Amrit Dharohar
- Finance Minister Nirmala Sitharaman's budget proposals included several schemes and	- MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes) is a new programme that will facilitate mangrove	- This scheme will encourage optimal use of wetlands, and income generation for local communities.
policies aimed at ecological conservation.	plantation along India's coastline and on salt pan lands.	- The total number of Ramsar sites in India has increased to 75 from 26 in 2014.
- They are a part of a larger "green push" with a focus on the environment and climate change.	<ul> <li>The programme will operate through "funds available Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Compensatory Afforestation Fund Management and Planning Authority (CAMPA) Fund and other sources.</li> </ul>	- Ramsar sites are wetlands of international importance that have been designated under the criteria of the Ramsar Convention on Wetlands (1971).

PM PRANAM	
- This programme -	] [-
(Prime Minister	
Programme for	
Restoration,	
Awareness,	
Nourishment and	-
Amelioration of	
Mother Earth) will	
incentivise states	
and UTs promoting	
alternative	-
fertilisers.	
- It aims to bring	
down the govt's	
subsidy burden,	
which is estimated	
to reach Rs 2.25	
lakh crore in 2022-	

23.

Bhartiya Prakritik Kheti Bio-Input Resource Centres

- To facilitate the adoption of "natural farming," 10,000 Bio-Input Resource Centres will be set-up.
- The Centres are established to create a national-level distributed micro-fertilizer and pesticide manufacturing network.
- This network will impact over 1 crore farmers over the next three years.



# India to get over 100 cheetahs from South Africa

# **Relevance: Prelims**

Why in news?	More details	Significance of this pact
- South Africa and India have signed a pact under which 12	- India and South Africa will collaborate in cheetah conservation through the transfer of technology training of	- Restoring cheetah populations is a major priority for India since it will have far-reaching conservation consequences.
flown from South Africa to India this February.	professionals in management, policy, and science.	- These include re-establishing their functional role within their historical range and improving the livelihood options and
- They will join 8 cheetahs introduced to India from Namibia in 2022.	- A bilateral custodianship arrangement will also be established for cheetahs translocated between the two countries.	economies of the local communities.
- A further 12 cheetahs will be brought each year to India for the next 8 to 10		

years.



# How do cows and sheep contribute to climate change?



#### **Relevance: Prelims & Mains Paper III; Environment**

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#### Why in news?

- Microsoft co-founder Bill Gates
   has invested in an Australian
   climate technology start-up Rumin8. It aims to curtail the
   methane emissions of cow burps.
- Rumin8 is developing a variety of dietary supplements to feed to cows in a bid to reduce the amount of methane they emit into the atmosphere. The supplements includes red seaweed, which is believed to drastically cut methane output in cows.

#### How do animals produce methane?

- Ruminants such as cows, sheep, goats, and buffaloes have a special type of digestive system that allows them to break down and digest food that non-ruminant species would be unable to digest.
  - Their stomachs have four compartments, one of which, the rumen, helps them to store partially digested food and let it ferment.
    Animals again chew this partially digested and fermented food to finish the digestive process.
  - However, as grass and other vegetation ferments in the rumen, it generates methane, a potent greenhouse gas. Ruminant animals release this methane mainly through burping.
    It is estimated that the ruminant digestive system is responsible for 27% of all methane emissions from human activity.

#### Methane, a big problem!

- Methane is one of the main drivers of climate change. It is responsible for 30% of the warming since preindustrial times, second only to carbon dioxide.
  - It's also the primary contributor to the formation of ground-level ozone, a colourless and highly irritating gas that forms just above the Earth's surface. As per a 2022 report, exposure to ground-level ozone could be contributing to 1 million premature deaths every year.
  - The atmospheric levels of methane in the atmosphere jumped 17 parts per billion in 2021, beating the previous record set in 2020.

# Mitigation of methane emissions

- For the past few years, scientists have been trying to find a dietary solution to make cows and sheep more sustainable and less gassy. As per a study, adding seaweed to cow feed can reduce methane formation in their guts by more than 80%.
- Gene-modifying techniques to curtail methane emissions in these animals are also being invented. Last year, scientists in New Zealand announced they had started the world's first genetic programme to address the challenge of climate change by breeding sheep that emit lower amounts of methane.



# Non-fossil fuel based installed capacity and Green Cover

## **Relevance: Prelims**

## Why in news?

## A reminder to the west!

- The Indian govt. has released latest data regarding the country's renewable electricity production capacity and forest area.
- As on Dec 2022, India's nonfossil fuel-based cumulative electric installed capacity stands at 174.53 Giga Watts (42.53%).
- India's total forest and tree cover has reached 8,09,537 sq. km. which is 24.62% of its total geographical area. This is an increase of 2261 sq. km. (0.28%) from 2019.

India has pointed out that developed countries have so far failed to meet the goal of providing USD 100 billion per year as compensation to developing countries.

This figure which was agreed on in 2009, is crucial since the developed countries are the world's biggest carbon emitters and cause more global warming.

- India's climate actions have so far largely been financed from domestic sources such as government budgetary support.
- Meanwhile, Global Environment Facility and Green Climate Fund has provided grants worth USD 165.25 million from 2014 to 2019 to India.



# 12 cheetahs from South Africa released at Kuno National Park



## **Relevance: Prelims**

#### Why in news?

- After covering a distance of more than 7900 kilometers from Johannesburg in South Africa, 12 cheetahs reached Kuno National Park via Gwalior.
- Now the total number of cheetahs in Kuno National Park has increased to 20. Last year in the month of September, Prime Minister Shri Narendra Modi had released 8 cheetahs brought from Namibia in Kuno National Park.





# Muography to examine ancient structures

# Relevance: Prelims; Science & Technology



Why in news?	What are Muons?	Muography
- Chinese researchers are examining the fortress wall of Xi'an, an ancient city in China.	- Muons are subatomic particles raining from space. They are created when the particles in Earth's atmosphere collide with cosmic rays.	- Though Muography is basically similar to X-ray, it can scan much larger and wider structures, due to the penetration power
- This wall is 14 km long, 12 m high and 18 m thick.	- About 10,000 muons reach every	of muons.
- They are using tiny outer space particles called	square metre of the Earth's surface every minute.	<ul> <li>As these high-energy particles are naturally produced and are</li> </ul>
muons for this purpose. These particles can penetrate hundreds of	- Muons are highly unstable and exist for just 2.2 microseconds.	everywhere, all one needs to do is place a muon detector underneath,
metres of this structure's stone surfaces.	- Though Muons resemble electrons, they are 207 times larger in size. Therefore, they are sometimes	within or near the object of interest.
- Besides generating its 3D images, they can also	called "fat electrons".	- The detector then tracks the number of muons
detect potential safety hazards inside the wall.	- Because muons are so heavy, they can travel through hundreds of metres of rock or other matter.	going through the object from different directions, to form a 3D image.
#### **Use in Archaeology**

- Muography was first used in the late 1960s to search for hidden chambers in the Pyramid of Khafre, Giza. Nothing was found at the time.
  - However, in 2017, modern archaeologists repeated the experiment with more sophisticated and advanced muon detectors and made a huge discovery.
- By placing several detectors within the pyramid, they discovered a previously unknown chamber at least 30 m long.
- Much like the 2017 experiment, scientists of the latest study also used a muon detector, called CORMIS (Cosmic Ray Muon Imaging System), to examine the wall of Xi'an city. They deployed six detectors for a week at a time.

#### **Other Uses**

- Besides archaeology, Muography has found use in customs security, internal imaging of volcanoes etc.
- Around 2015, scientists used the technique to look inside the Fukushima nuclear reactors after the 2011 earthquake and tsunami in Japan.
- Muography is also being used by researchers to analyze Mount Vesuvius, a volcano in Italy. Since 2022, they are trying to understand the finer details of the volcano's internal structure hoping that the data will play a crucial role in predicting what hazards to expect in an eventual eruption.



## **CAR T-cell therapy for cancer treatment**

#### **Relevance: Prelims; S&T**

#### Why in news?

- The three major forms of treatment for any cancer are surgery (removing the cancer), radiotherapy (delivering ionising radiation to the tumour), and systemic therapy (administering medicines that act on the tumour).
- Surgery and radiotherapy have
  been refined significantly over
  time whereas advances in
  systemic therapy have been
  unparalleled. A new
  development on this front,
  currently holding the attention
  of many researchers
  worldwide, is CAR T-cell
  therapy.

Systemic therapy's earliest form was chemotherapy: when administered, it preferentially acts on cancer cells. However, Chemotherapeutic drugs have modest response rates and significant side-effects as they affect numerous cell types and not just cancerous cells in the body.

**Chemo and immunotherapy** 

The next stage in its evolution was targeted agents, a.k.a. immunotherapy: the drugs bind to specific targets on the cancer or in the immune cells that help the tumour grow or spread. This method often has fewer side-effects as the impact on non-tumour cells is limited. However, it is effective only against tumours that express these targets.



#### What are CAR T-cells?

- Chimeric antigen receptor (CAR) Tcell therapies represent a quantum leap in the sophistication of cancer treatment. Unlike chemotherapy or immunotherapy, which require mass-produced injectable or oral medication, CAR T-cell therapies use a patient's own cells. They are modified in the laboratory to activate T-cells, a component of immune cells, to attack tumours.
- These modified cells are then infused back into the patient's bloodstream after conditioning them to multiply more effectively.
- The cells are even more specific than targeted agents and directly activate the patient's immune system against cancer, making the treatment more clinically effective. This is why they're called 'living drugs'.

#### How does it work?



- In CAR T-cell therapy, the patient's blood is drawn to harvest T-cells immune cells that play a major role in destroying tumour cells.
- Researchers modify these cells in the laboratory so that they express specific proteins on their surface, known as chimeric antigen receptors (CAR): they have an affinity for proteins on the surface of tumour cells. This modification in the cellular structure allows CAR T-cells to effectively bind to the tumour and destroy it.

#### Where is it used?

- As of today, CAR T-cell therapy has been approved for leukaemias (cancers arising from the cells that produce white blood cells) and lymphomas (arising from the lymphatic system).
  - These cancers occur through unregulated reproduction of a single clone of cells: following the cancerous transformation of a single type of cell, it produces millions of identical copies. As a result, the target for CAR T-cells is consistent and reliable.



- The complexity of preparing CAR T-cells has been a major barrier to their use. The first clinical trial showing they were effective was published almost a decade ago; the first indigenously developed therapy in India was successfully performed only in 2021.
- The technical and human resources required to administer this therapy are also considerable. Treatments in the US cost more than a million dollars.
- Trials are underway in India, with companies looking to indigenously manufacture CAR T-cells at a fraction of the cost. The preliminary results have been encouraging.

## ALMA telescope in news



#### **Relevance: Prelims; Science & Technology**

#### Why in news?

The Atacama Large Millimetre/submilli metre Array (ALMA) — a radio telescope comprising 66 antennas located in the Atacama Desert of northern Chile — is set to get major software and hardware upgrades.

#### What is ALMA?

- ALMA is a radio telescope which is fully functional since 2013 that studies celestial objects at millimetre and submillimetre wavelengths — they can penetrate through dust clouds and help astronomers examine dim and distant galaxies and stars out there. It also has extraordinary sensitivity, which allows it to detect even extremely faint radio signals.
- The telescope consists of 66 high-precision antennas, spread over a distance of up to 16 km. Each antenna is outfitted with a series of receivers, and each receiver is tuned to a specific range of wavelengths on the electromagnetic spectrum. The antennas can be moved closer together or farther apart for different perspectives like the zoom lens of a camera.
- It was designed, planned and constructed by the US's National Radio Astronomy Observatory (NRAO), the National Astronomical Observatory of Japan (NAOJ) and the European Southern Observatory (ESO).
- ALMA is operated under a partnership among the United States, 16 countries in Europe, Canada, Japan, South Korea, Taiwan, and Chile.

- ALMA is situated at an altitude of 16,570 feet (5,050 metres) above sea level on the Chajnantor plateau in Chile's Atacama Desert as the millimetre and submillimetre waves observed by it are very susceptible to atmospheric water vapour absorption on Earth.
  - Moreover, the desert is the driest place in the world, meaning most of the nights here are clear of clouds and free of light-distorting moisture — making it a perfect location for examining the universe.



- One of the earliest findings came in 2013 when it discovered starburst galaxies earlier in the universe's history than they were previously thought to have existed.
- Next year, ALMA provided detailed images of the protoplanetary disc surrounding HL Tauri a very young T Tauri star in the constellation Taurus, approximately 450 light years from Earth.
- In 2015, the telescope helped scientists observe a phenomenon known as the Einstein ring, which occurs when light from a galaxy or star passes by a massive object en route to the Earth, in extraordinary detail.
- More recently, as part of the Event Horizon Telescope project, a large telescope array consisting of a global network of radio telescopes, it provided the first image of the supermassive black hole at the centre of our own Milky Way galaxy. The image was unveiled by scientists in May 2022.

## Satellite built through NASA-ISRO partnership - NISAR



#### **Relevance: Prelims; Science & Technology**

**About NISAR** 

#### Why in news?

- Jointly developed by the National Aeronautics and Space Administration (NASA) and the Indian Space Research Organisation (ISRO), an Earth-observation satellite, called NISAR (NASA-ISRO Synthetic Aperture Radar), got a send-off ceremony at the American space agency's Jet Propulsion Laboratory (JPL) in Southern California on February 3.
- The SUV-size satellite will be shipped to India in a special cargo container flight later this month for a possible launch in 2024 from Satish Dhawan Space Centre in Andhra Pradesh.

#### NISAR is basically a Synthetic Aperture Radar.

- Synthetic-Aperture Radar (SAR) is a form of radar that uses the movement of radar antenna to create a higher resolution images of objects. Such images may be either two-dimensional or three dimensional.
- SAR uses the motion of the radar antenna over a target region to provide a higher resolution than conventional beam-scanning radars.
- SAR is typically mounted on a moving platform, such as an aircraft. This movement of SAR device creates a large synthetic antenna aperture (the size of the antenna).
- Typically, the larger the aperture, the higher the image resolution will be, regardless of whether the aperture is physical (a large antenna) or synthetic (a moving antenna) this allows SAR to create high-resolution images with comparatively small physical antennas.



## Male contraceptive pill

## **Relevance: Prelims**

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Why in news?	How it works?	No Pill for men
- Researchers from US have created an experimental contraceptive drug.	- The primary aim of this study was to slow the movement of sperms or the male gamete, which fertilizes the female egg during human reproduction.	- Contraception, in general, has been focused on women. In 1960, the oral contraceptive pill was approved for release.
- This drug temporarily stops sperm in their tracks and could prevent pregnancies.	<ul> <li>The researchers worked on a singal protein called soluble adenylyl cyclase (sAC). The researchers found that mice which do not produce enough sAC are infertile. The researchers developed a</li> </ul>	- The pill works by regulating progestin and estrogen hormones which in turn prevents the
- This means that a new kind of contraceptive for men, currently	drug that inactivates sAC leads to sperms that cannot propel themselves forward. Therefore, sAC inhibition was	fertilization of the egg by the sperm.
available through physical barriers (condoms) and surgical	seen as a possible safe contraceptive option.	<ul> <li>Developing such a method for men is more challenging since they</li> </ul>
options (vasectomy), could be developed, similar to how a pill	<ul> <li>The researchers now plans on conducting these experiments in a different preclinical model, eventually</li> </ul>	produce sperm in much larger numbers compared to women who just
exists for women.	hoping to progress to human clinical trials.	produce one egg per month.

## Sickle cell anaemia in India



#### **Relevance: Prelims; Science & Technology**

Why in news?	Sickle cell anaemia	Sickle blood cells
- Sickle cell anaemia (SCA), a genetic blood disorder, found mention in the Budget this year.	<ul> <li>In 1910, a physician named James Herrick wrote of discovering unusual red blood cells. Unusual, because unlike their usual globular structure with an indented</li> </ul>	<ul> <li>A round red blood cell can move easily through blood vessels because of its shape but sickle red blood cells end up slowing and even blocking, the blood flow.</li> </ul>
- Finance Minister Nirmala Sitharaman said that the government will work in "mission mode" to eliminate the	<ul> <li>center – like a doughnut with a hole – these blood cells were shaped like a sickle, similar to the letter C.</li> <li>Haemoglobin which is tasked</li> </ul>	<ul> <li>Moreover, sickle cells die early, resulting in a shortage of red blood cells that deprive the body of oxygen.</li> </ul>
<ul> <li>condition by 2047.</li> <li>India is the second- worst affected country in terms of predicted births with SCA — i.e. chances of being born with the condition.</li> </ul>	with carrying oxygen to all parts of the body has four protein subunits — two alpha and two beta. In some people, mutations in the gene that creates the beta subunits impact the shape of the blood cell and distort it to look like a sickle.	- These obstructions and shortages may cause chronic anaemia, pain, fatigue, acute chest syndrome, stroke, and a host of other serious health complications, even leading to death.

#### Prevalence

- Research and screening programmes have found that haemoglobinopathies — disorders of the blood — is more common among tribal populations than non-tribal communities in India.
- Research has also shown that SCA is prevalent in communities residing in areas where malaria is endemic. Around the middle 1940s, doctors found that those with sickle red blood cells were more likely to survive malaria.
- The sickle cell trait thus gave an evolutionary advantage, offering immunity to some people during malaria epidemics.
- In India, States and UTs with tribal populations contribute a significant malaria caseload.
- Additionally, the documented prevalence of SCA is higher in communities that practice endogamy, as the chances of having two parents with sickle cell trait is higher.

#### Treatment

- Sickle cell anaemia is a genetic disorder, making complete "elimination" a challenge.
- The only cure comes in the form of gene therapy and stem cell transplants — both costly and still in developmental stages.
- In gene therapy, the DNA inside the haemoglobin gene is edited to stop the disease while in stem cell transplants, the bone marrow affected by sickle cell anaemia is replaced with healthy bone marrow from a donor. Both interventions are currently being tested in clinical trials globally.
- Blood transfusion, wherein red blood cells are removed from donated blood and given to a patient, is also a trusted treatment in the absence of permanent cures. But challenges include a scarcity of donors, fears around safe supply of blood, risk of infection etc.



#### What is India doing?

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- Genetic counselling involves creating awareness and advising two carriers about the risks of having biological children. In premarital counselling, partners are provided with the knowledge of how their sickle genes could affect the newborn baby.
- In the Budget, the Union Health Minister said the government plans to distribute "special cards" across tribal areas to people below the age of 40. "The cards will be divided into different categories based on the screening results." The mission will receive funding under the National Health Mission.
  - There is concern among activists that a card only works to brand the individual as a disease carrier, alienates them, and blames the community for the spread.



## ISRO launches SSLV-D2, aims to tap commercial satellite launch market

#### **Relevance: Prelims**

#### Why in news?

- India's space agency Indian Space
  Research Organization (ISRO) has
  successfully launched the 2nd
  development flight of the Small
  Satellite Launch Vehicle (SSLV-D2). It
  took off from Satish Dhawan Space
  Centre in Andhra Pradesh.
  - SSLV-D2 will place ISRO's earth observation satellite EOS-07 and two co-passenger satellites — Janus-1 and AzaadiSat2 in a 450-km circular orbit around the Earth.
- It uses three solid stages followed by a liquid-fuel-based Velocity Trimming Module (VTM) to place satellites in orbit. VTM reduces the speed of the launch vehicle.

#### Its aim

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- SSLV-D2 was developed to tap the emerging small and microsatellite commercial market. Now, a small ISRO team can now assemble a rocket through SSLV in a few days compared to 600 people and six months duration under PSLV.
- Notably, SSLV-D2's first development flight which took place last August after repeated delays due to the pandemic failed to place the satellites in a precise orbit.
- A new vehicle is declared operational by the space agency after it completes two successful development flights.
- The last vehicle to be declared operational was the GSLV Mk III, now called LVM 3, when it carried Chandrayaan-2 in 2019.



prep<sup>y</sup>mate

#### About Janus-1 and AzaadiSat2

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- Janus-1 is a technology demonstrator satellite built by U.S. based Antaris and its Indian partners XDLinks and Ananth Technologies.
- Weighing only 10.2 kg, this satellite has five payloads on board from Singapore, Kenya, Australia, and Indonesia. The entire satellite was built in 10 months, less than half the time it usually takes to manufacture satellites of this size.
- Meanwhile, AzaadiSat2 is carrying payloads such as sensors to measure radiation levels in space and satellites' temperature etc.
- These payloads have been built by 750 girl students from across India. The satellite will also carry the G20 logo to space and the NCC song to celebrate 75 years of the organization.



## Google gears up to launch Bard to take on ChatGPT

#### **Relevance: Prelims**

#### Why in news?

- In a highly significant move, Google has announced that it is working on 'Bard', an Al chatbot. Bard will be launched in the coming weeks.
- This move is a clear response to ChatGPT, the hugely sensational Microsoft-backed Al chatbot, developed by the tiny San Francisco-based startup OpenAI.
- Al is believed to be future of internet based search.

#### How will Bard work?

- Bard is based on Google's Al model called LaMDA. Introduced in 2021 as its generative language model for dialogue applications, it ensures that the Google Assistant would be able to converse on any topic.
- Bard will use artificial intelligence to generate answers in text when people type in queries, similar to what ChatGPT does.
- As per Google, Bard can help people perform tasks like planning a birthday party, compare two Oscar-nominated movies, or explain discoveries by NASA to a 9-year-old child.



#### **Differences between ChatGPT and Bard**

#### **Rising Concerns!**



- Bard is said to have an advantage for its ability to draw information from the Internet. Though ChatGPT has impressed with its ability to respond to complex queries, its biggest shortcoming is that it cannot access real-time information from the Internet. Its dataset only includes information until 2021.
  - Meanwhile, Bard when asked questions, for which there might not be a clear-cut answer, will generate a response that reflects differing opinions. For e.g., the question, "Is it easier to learn the piano or the guitar?" would be met with "Some say the piano is easier to learn, as the finger and hand movements are more natural... Others say that it's easier to learn chords on the guitar."

- As per experts, the text generation by AI tools can be extremely prone to inaccuracies.
- The ability to search the
  Internet in real-time,
  including content such as
  hate speech and racial and
  gender biases and
  stereotyping, could lead to
  problems.

## Microsoft Bing and OpenAI set to change online search



#### **Relevance: Prelims; Science & Technology**

Details

#### Why in news?

- It is clear that the way we make an online search is set to change significantly. This thought originates from Microsoft's plans to integrate its Bing search with more artificial intelligence (AI) features.
- Bing will be powered by a new language learning model (LLM) from OpenAI, the tech startup behind ChatGPT and Dall-E.
- LLM powering Bing is bigger than what is being used to run ChatGPT.
- This also means Bing's AI chat will have more answers and a larger knowledge pool compared to ChatGPT – where the knowledge is limited to events before 2021.

- Bing search will be more conversational and interactive, almost like a smart AI assistant, rather than just showcasing endless links which is the case right now.
- Though it will still show links, it will also give a summarized answer based on reliable sources across the web.
- Bing' will also write poems, and stories and even give tips on what to do in a particular city, all designed to make search seem more personalized.

#### **Bing vs ChatGPT**

- Bing will have more answers and a larger knowledge database compared to ChatGPT.
- Notably, ChatGPT's knowledge is limited to events before 2021.

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However, Microsoft has cautioned that not all answers will be accurate since these features are still in early stage. It has asked users to rely on their own judgement when using such answers.

## What are voice deepfakes and how are they used?

#### **Relevance: Prelims; Science & Technology**

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#### Why in news?

- Recently, several cases have
  been reported about the deepfake
  voices of celebrities making racist,
  abusive, and violent comments.
  Using such voices to impersonate
  others without their consent is a
  serious concern that could have
  devastating consequences.
- A deepfake voice closely mimics a real person's voice. It can accurately copy the tone, accent, rythm, and other unique characteristics of the target person.
- People use AI and robust computing power to generate such voice clones or synthetic voices.

#### How are deepfakes created?

- Creating deepfakes needs highend computers with powerful graphics cards, and immense cloud computing power. Using powerful computing hardware can accelerate this process, which can otherwise take hours, days, and even weeks.
- Besides specialised tools and software, generating deepfakes needs training data to be fed to AI models.
- Al can use this data to render an authentic-sounding voice, which can then be used to say anything.





**Posing serious threats!** 

#### **Tools being used**

prepymate

- Attackers are using deepfake technology to defraud users and steal their identity. They are also committing phone scams and posting fake videos on social media platforms.
  - In 2020, a bank manager from in the U.A.E. received a phone call from someone he believed was a company director. Recognizing that voice, the manager authorized a transfer of \$35 million. He had no idea that the company director's voice was cloned.
- OpenAl's Vall-e, My Own Voice, Resemble, Descript, ReSpeecher, and iSpeech are some of the tools that can be used in voice cloning.
- Voice capture technology which is also improving is helping AI models create more believable deepfake voices.
- Fraudsters are also gathering clear recordings of people's voices through recorders, online interviews, etc.

Detecting voice deepfakes needs highly advanced technologies, software, and hardware to break down speech patterns, and background noise etc.

How to detect?

- Cybersecurity tools are yet to create foolproof ways to detect audio deepfakes. Though research labs use watermarks and blockchain technologies to detect deepfakes, the tech designed to outsmart such detectors is constantly evolving.
- Programmes like Deeptrace that use a combination of antivirus and spam filters are helpful in this regard.
- Call centres can use callback functions to end suspicious calls and request an outbound call to the account owner for direct confirmation.

## New Budget schemes seek to accelerate 'Digital India' push



#### **Relevance: Prelims; Science & technology**

#### Why in news?

- Finance Minister Nirmala Sitharaman has announced schemes and proposals to promote digitisation in the country.
- Digital Public Infrastructure for Agriculture: This platform will be an open source platform.
- It will offer inclusive, farmer-centric solutions through relevant information services, and support for the growth of the agri-tech industry and start-ups.
- National Digital Library for Children and
  Adolescents: This will facilitate the availability of quality books in different languages, genres and at different levels.

- Centres of Excellence for Artificial Intelligence: There is a proposal for setting up three centres of excellence for Artificial Intelligence in top educational institutions.
- These centres, in partnership with leading players in the industry, will conduct interdisciplinary research and develop cutting-edge applications and scalable problem solutions in the areas of agriculture, health, and sustainable cities.
- National Data Governance Policy: Government will formulate a data governance policy to enable access to anonymised data for innovation and research by start-ups and academia.

- **5G Services**: A hundred labs will be established in engineering institutions for developing applications using 5G services to realise a new range of opportunities, business models, and employment potential.
- **E-Courts:** Government will roll out phase three of the E-Courts project to ensure the efficient administration of justice.
- The phase three of the eCourts Project envisages a judicial system that is more accessible, efficient and equitable for every individual who seeks justice, or is part of the delivery of justice, in India.
- Bharat Shared Repository of Inscriptions (Bharat SHRI): A digital epigraphy museum will be established and one lakh ancient inscriptions will be digitised in the first stage.
- **Skill India Digital Platform:** The digital ecosystem for skilling will be further expanded by launching a unified Skill India Digital platform for enabling demand-based formal skilling, linking with employers including MSMEs and facilitating access to entrepreneurship schemes.



## Scientists create an entirely 'new kind of ice'

#### **Relevance: Prelims**

#### Amorphous ice

- In a major breakthrough, scientists have created a new type of ice. The ice is called medium-density amorphous ice.
- How it has been created? A team led of researchers at University College London shook regular ice in a small container with cm-wide stainlesssteel balls at temps of (–) 200 °C.
- Properties of newly innovated ice:
  1. It has the same structure as that of water. The ice appeared as a white granular powder that stuck to the metal balls.
- 2. It matches the density of water.
- This innovation is likely to help in studying water's mysterious properties.

Normally, when water freezes, it crystallizes and its molecules are arranged into the familiar hexagonal, solid structure that we call ice.

What's the difference?

Ice is less dense than its liquid form — an unusual property for a crystal. Depending on conditions such as pressure and the speed of freezing, water can also solidify in any of two dozen other regular arrangements.

Amorphous ice is different: it has no such order. Also, it matches the density of water. If confirmed, the new form of ice could enable studies of water in a manner that was not possible before.





## **MicroLED displays**

#### **Relevance: Prelims; Science & Technology**

#### Why in news?

- Tech giant Apple is presently making a shift towards microLED display technology.
  - Considered the next big transition in display technology, microLEDs are self-illuminating diodes that have brighter and better colour reproduction than
    Organic Light Emitting Diode (OLED) display technology.
- Apple plans to implement this technology on its future watch models from 2024. Later on, it will be used on its other devices including iPhones and Macs.

#### MicroLED display technology?

- The basis of microLED technology are sapphires which can shine on their own forever. The picture in a microLED screen is generated by several individual light-emitting diodes.
- A microLED is as small as one cm of hair cut into 200 smaller pieces. Each of these microLEDs are semiconductors that receive electric signals.
- Once these microLEDs are gathered, they form a module. Several modules are then combined to form screens.





#### **Benefits**

#### MicroLED displays are brighter, have better colour reproduction and provide better viewing angles. They make images appear as if they are painted on top of the device's glass.

- MicroLEDs have limitless
  scalability, as they are resolutionfree, bezel-free, ratio-free, and
  even size-free. Thus, the screen
  can be freely resized in any form
  for practical usage.
- Besides being self-emissive (generate light of their own),
  MicroLEDs also individually produce red, green, and blue colours without needing the same backlighting or colour filters as conventional displays.

## Display manufacturing

- MicroLED displays will be Apple's first screens that it designs and develops on its own.
- Apple currently sources screens from Samsung, LG, and Sharp.

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Samsung is currently the world's most advanced manufacturer of displays.



## **3rd patient to get cured of HIV**

#### **Relevance: Prelims; Science & Technology**

#### Why in news?

#### How it has been achieved?

- A 53-year-old man from Germany, referred to as 'the Dusseldorf patient', has become at least the third person to have been "cured of HIV".
- The HIV virus has not been detected in his body even four years after he stopped taking the medicine.
- This was achieved with a bone-marrow transplant from people carrying a specific HIV-resistant genetic mutation.

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- Referred to as the Berlin patient, Timothy Ray Brown became the first person to overcome HIV after he underwent two stem cell transplants in 2007 and 2008 for treating his blood cancer.
- As a person with HIV, his doctors selected a donor carrying two copies of a CCR5-delta 32 genetic mutation a mutation that is known to make the carriers almost immune to HIV. Brown remained HIV-free till his death due to cancer in 2020.
- This is important as it may help people from different races get transplants with CCR5-delta 32 mutation, which is naturally found mostly in Europeans.



#### What is CCR5 mutation?

- HIV (Human Immunodeficiency Virus) mainly attacks the CD4 immune cells in the human body, thereby reducing a person's ability to fight off secondary infections.
- The CCR5 receptors on the surface of the CD4 immune cells act as a doorway for the HIV virus. However, the CCR5delta 32 mutation prevents these receptors used by the HIV virus from forming on the surface, effectively removing the doorway.
  - Only 1% of the people in the world carry two copies of the CCR5-delta 32 mutation – meaning they got it from both their parents – and another 20% carry one copy of the mutation.
  - Those with the mutation hence are almost immune to the infection, although some cases have been reported.

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#### Not a complete solution



- With the mutation existing in very few people and nearly 38.4 million people living with HIV across the world, it would be very difficult to find a matching donor in the first place.
- Moreover, the mutation occurs mainly among Caucasians, and the donor pool shrinks further for many, especially those from countries with high HIV burden.
- Moreover, bone marrow transplants are a major procedure with high risks associated, especially that of the person rejecting the donated marrow.
- There is also the likelihood of the virus mutating to enter the cells through other mechanisms in such persons.

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#### **Chinese researcher case**

- A Chinese scientist called He Jiankui, in 2018, edited the genomes of twins Lulu and Nana to remove this CCR5 gene in an attempt to make them immune to HIV. Their father was living with HIV.
- A month after their birth, Jiankui announced that he had created the first genetically edited babies. He faced immediate backlash from the scientific community and legal action.
- This is because guidelines for genetic editing prohibit germ-line editing editing a genome that can be passed from one generation to the other. These editing techniques are not very precise and the long-term consequences of such editing is unknown.
- Also, antiretroviral therapy could anyway have prevented mother-to-child transmission of HIV.

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#### **Current HIV treatments**

- Although there are no cures for HIV at present, the disease can be managed using antiretroviral therapy. These medicines suppress the replication of the virus within the body, allowing the number of CD4 immune cells to bounce back.
- The drugs have to be taken for life because the virus continues to persist in the body. If the drugs are stopped, the virus can again start replicating and spreading. Low viral levels also reduce the likelihood of a person transmitting the infection.
- If left untreated, the HIV virus destroys a person's immune system. Such persons are said to be in the Acquired Immunodeficiency Syndrome stage (AIDS) where they get several opportunistic infections that may result in death.
- Although there is no vaccine for HIV, there are Pre-exposure prophylaxis (or PrEP) medicines that can be taken by people at high risk of contracting the infection. PrEP reduces the risk of getting HIV from sex by about 99%.







## **Protests in Punjab for release of 'Bandi Singhs'**

## **Relevance: Prelims**



Why in news?	Who are Bandi Singhs?	Convicted for
<ul> <li>Punjab has witnessed protests demanding the release of Bandi Singhs (Sikh prisoners), in jail for more than three decades for various convictions.</li> </ul>	<ul> <li>'Bandi Singhs' is a term given to Sikh prisoners who were convicted for involvement in militancy in Punjab and are still in jails in various parts of the country.</li> <li>Since the militancy was wiped out in early 1990s, Sikh activists argue that the prisoners have already spent over three decades in jails, some are physically and mentally unfit, and hence, should be released.</li> <li>According to an activist working for their release, 20 Bandi Singhs are still in jail.</li> </ul>	<ul> <li>For instance, Rajoana was given the death sentence for the assassination of former Chief Minister Beant Singh, while the other 19 are undergoing life sentences. Rajoana's death sentence was commuted to life during the 550th birth anniversary of Guru Nanak Dev.</li> <li>Jagtar Singh Hawara and Jagtar Singh Tara are both co-conspirators in Beant Singh's assassination.</li> <li>Satnam Singh, Dyal Singh Lahore and Sucha Singh are in Moradabad Jail in Uttar Pradesh for a crime committed in that state.</li> </ul>

#### **Issue emerging again**

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- The issue never has never really died down. It has become a religiopolitical issue in Punjab, with various political parties harping on it to either take on rivals or to get the support of radical Sikhs.
- There are now widespread protests against the AAP government in Punjab. The release of these Sikhs has to be considered by the governments of states where their cases had progressed.
- For instance, Beant Singh's assassination had taken place in Chandigarh. However, agitators say the AAP has yet not written to the Centre about the release of Bandi Singhs.





# INTERNAL SECURITY



## 'Feathering' may have been the reason behind the Nepal air crash



#### **Relevance: Prelims**

#### Why in news?

- A preliminary report by the Aircraft
  Accident Investigation Commission of
  Nepal on the crash of a Yeti Airlines
  ATR 72-500 on January 15 in
  Pokhara says that the propellers of
  the plane were found in an unusual
  "feathered" position.
  - The ATR 72-500 is a twin-engine turboprop. A turboprop is a turbine engine that drives an aircraft propeller.
  - All 72 people 68 passengers and 4 crew members — on board the aircraft were killed in the crash. Arriving from Kathmandu, the ATR 72 was approaching Pokhara's new international airport when it crashed on the Seti river gorge, around 1 km from the airport.

#### **Propeller engines**

- There are various types:
- Fixed-pitch propeller: As the name suggests, the angle or pitch at which the propeller blades meet the airflow is fixed. The blade angle or pitch cannot be changed.
- Adjustable-pitch propeller: In this type, the propeller pitch can be changed but only on the ground, physically not while the aircraft is in flight.
- Variable-pitch propeller: Both the fixed-pitch and adjustable-pitch propeller types have their limitations. Pilots wanted propellers whose pitch could be changed from the cockpit during the flight. This was achieved by the variable-pitch propeller.



#### When propellers stop functioning

- During engine failure or an in-flight engine shutdown, the affected engine no longer produces 'thrust' — the power that propels the aircraft forward.
- Moreover, the air hitting the giant 'windmilling' propeller blades produces enormous 'drag' — a force that acts in the opposite direction of 'thrust'.
- Consequently, the glide performance and airspeed of the plane can be severely impaired.

### What is 'feathering'?

- During engine failure or an engine shutdown mid-air, a pilot flying an aircraft with variable-pitch propellers is able to change the pitch/ angle of the propeller blades so that they slice the airflow in a more or less parallel motion — like a knife — and not hit the air flatly.
- This has the effect of reducing the 'drag', increasing the gliding distance, and preventing airspeed from decaying below unsafe limits. This is called the 'feathering' of propellers.
- 'Windmilling' propellers, unless 'feathered', can worsen an emergency during an engine failure at low heights.





# GEOGRAPHY

## Lithium deposits discovered in Jammu and Kashmir

#### **Relevance: Prelims; Geography**

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#### Why in news?

- The Geological Survey of India (GSI) has found "inferred" lithium resources of 5.9 million tonnes in Salal-Haimana area of Reasi district of Jammu and Kashmir.
- However, this quantity is small when compared to countries with proven lithium reserves.
   While Bolivia has 21 million tonnes of them, this figure is 17 million, 6.3 million and 4.5 million tonnes in case of Argentina, Australia and China respectively.

#### "Inferred" mineral resources

- The "inferred" is one of the categories in which mineral resources are subdivided. A mineral resource is termed "inferred" when it is in a limited quantity or its quality is uncertain.
- The GSI takes up different stages of mineral exploration.



#### **Importance of Lithium**

- Lithium is a vital ingredient of Lithium-ion rechargeable batteries that power electric vehicles (EVs), laptops and mobile phones.
- It is believed that Lithium battery technology will undergo major improvements in 2023.
- Lithium can be extracted in different ways, depending on the type of the deposit generally either through solar evaporation of large underground lakes, or from hard-rock extraction of the ore.

#### Present Indian Scenario

- Currently, almost all of India's lithium needs are met by imports. It is estimated that India imported over 165 crore lithium batteries worth \$3.3 billion between FY17 and FY20.
- Lately, India has been trying to reduce such imports from China, the major source of both the raw material and cells.
- The major mica belts located in Rajasthan, Bihar and Andhra Pradesh, the pegmatite belts in Odisha, Chhattisgarh, and rock mines in Karnataka are the potential sites where lithium could be found.





## DISASTER MANAGEMENT


# Powerful earthquakes cause major devastation in Turkey and Syria



# **Relevance: Prelims**

Why in news?		Earthquake-prone region
-	Turkey and Syria have been hit by a series of powerful earthquakes.	- The seismicity in this region is a result of interactions between the Arabian,
-	The first of them which had	Eurasian, and Anatolian plates.
	a magnitude of 7.8 was the strongest Turkey has	- The Anatolian Plate covers
	experienced in over a	much part of Turkey.
	Century.	- The earthquake took place at
-	Over the next hours, at least 41 more strong	points where Arabian and Anatolian plates join each
	tremors were recorded in the same area — south-	other.
	eastern Turkey near the	- The region where the
	Syrian border.	well-known seismic fault line.
-	The estimates say that more than 20.000 people	A fault line is a fracture or zone of fractures between two
	have died across both	blocks of rock.

### **Shallow earthquake**

- The recent earthquakes emerged from relatively shallow depths which made them extremely devastating.
- The first one, of magnitude 7.8, originated 18 km below the Earth's surface.
- Shallow earthquakes are generally more devastating because they carry greater energy when they emerge on the surface.

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On the other hand, deeper earthquakes lose much of their energy by the time they come to the surface. As a result, they cause less damage.

#### **Earthquake Measurement Parameters**

- The term magnitude in terms of earthquakes is a measure of how big the seismic waves are. Meanwhile 'strength' refers to the energy it carries.
- Magnitude is measured on a logarithmic scale.
  It means the seismic waves produced by a magnitude 6 earthquake are of 10 times higher proportions than the ones produced by a magnitude 5 earthquake. The difference in terms of energy is even higher, 32 times for every change of 1 in magnitude.
- This means that the 7.8 magnitude earthquake in Turkey was 100 times bigger — produced 100 times bigger waves — than a recent 5.8 earthquake in Nepal, and 1,024 times more powerful.
- It is to be noted that Earthquakes are the most common natural hazard that cannot be predicted. As such, no early warning systems can be developed.



# About the 1939 Erzincan disaster, Turkey's worst tragedy



### **Relevance: Prelims**

### Why in news?

- Turkey's latest earthquake is the country's worst disaster since the Erzincan earthquake of 1939.
- That earthquake which struck on Dec. 26, 1939 measured 7.8 on the Richter scale. It killed about 33,000 people.
- The earthquake created a 360km-long surface rupture, traces of which are still visible.
- The city of Erzincan got so extensively damaged that its old site was entirely abandoned and a new settlement was founded a little further to the north.









# Hockey World Cup 2023

## **Relevance: Prelims**

## About World Cup

# **Team Performances**

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- The Men's FIH Hockey World Cup is an international field hockey competition organised by the International Hockey Federation (FIH).
- The tournament was started in 1971. It is held every four years.

- Pakistan is the most successful team, having won the tournament four times.
- The Netherlands, Australia and Germany have each won three titles.
- Belgium and India have both won the tournament once.

#### India's Past Performance

•	Champions	Runners Up	Third Place
India	1 (1975)	1 (1973)	1 (1971)



## Trophy

Year

2023

- The Hockey World Cup trophy trophy consists of a silver cup with an intricate floral design, surmounted by a globe of the world in silver and gold, placed on a high blade base inlaid with ivory.
- At its peak is a model hockey stick and ball.



Host

Bhubaneswar & Rourkela, India

### 2023 Tournament

-

- The 2023 tournament was held in Bhubaneswar, India from 13 to 29 January.
- Germany defeated Belgium in a penalty shoot-out 5–4. This was the third world cup title won by Germany.
- The World Cup expanded to 16 teams in 2018.
- India secured 9th Position out of 16 teams in this World cup.

**Third Place Match** 

**Netherlands** 

3-1

Australia

Teams

16

Final

(5-4)

penalty

shootout

Belgium

Germany



# **Equatorial Guinea faces Marburg virus outbreak**

#### **Relevance: Prelims**

## Why in news?

- The West African country of Equatorial Guinea has confirmed its first-ever outbreak of Marburg virus disease.
- This outbreak which has also been confirmed by the World Health Organization (WHO) has so far killed at least nine people.
- The Marburg virus is part of the so-called filovirus family which also includes the Ebola virus which frequently causes devastation across many African countries.
- Marburg virus was first identified in 1967 after it caused simultaneous outbreaks of disease in laboratories in Marburg, Germany and Belgrade, Serbia. Seven people who got exposed to it while conducting research on monkeys, died.

#### A lethal virus!

- Marburg virus is highly dangerous. It causes fatigue, blood-stained vomit, diarrhoea and severe fever. The virus targets several organs and reduces the body's ability to function on its own.
- There are no authorized vaccines or drugs to treat Marburg, but rehydration treatment to reduce symptoms can improve the chances of survival. The fatality rates for this virus range from 24% to 88%.
- The African fruit bat is the natural carrier of the Marburg virus. Though it carries the virus, it does not fall sick from it itself.
- Animals can pass the virus to nearby primates including humans. After that, human-to-human transmission occurs through contact with blood or other bodily fluids.





# Indian American Neal Mohan takes over as YouTube CEO

# **Relevance: Prelims**

### Why in news?

- YouTube has appointed Neal Mohan, an Indian American as its new CEO.
- He will replace Susan Wojcicki who has stepped down from this post.
- Notably, Wojcicki played a key role in the creation of YouTube's parent company - Google in 1998.

### Who is Neal Mohan?

- Neal Mohan who is a Stanford graduate was part of DoubleClick, an internet advertising company. It was acquired by Google in 2008.
- A few years later, Neal became senior vice president of Display and Video Ads at Google. Later, he was appointed as the chief product officer at YouTube in 2015.
- Notably, Neal was once offered a Chief Product Officer position at Twitter. However, Google spent nearly \$100 million to make him stay.
- Neal who has also worked with Microsoft is also a member of the Council on Foreign Relations, an independent US think tank.







- Since 2015, Neal Mohan has played a major role in overseeing and launching YouTube's other biggest products.
- His tenure comes at a time when there is both excitement and concern about the role of AI chatbots like ChatGPT. They are changing how users do online searches.
- Also, YouTube is facing stiff competition from short-duration videos in the form of TikTok and Instagram Reels.

- Neal Mohan is among several CEOs of Indian origin who are leading global tech giants. They include Microsoft CEO Satya Nadella, Adobe CEO Shantanu Narayen, Alphabet CEO Sundar Pichai and FedEx CEO, Raj Subramaniam.
- Another Indian American Laxman Narasimhan will soon become CEO of the coffee chain Starbucks.

# Air India to buy 470 new aircraft over the next 10 years



# **Relevance: Prelims**

Why in news?	Details	<b>Booming Aviation Sector</b>
- Air India, now a Tata Sons- owned airline has given orders to aerospace majors, Airbus and Boeing, to buy new aircrafts.	<ul> <li>Air India will acquire 250 aircraft from Airbus. Meanwhile, Boeing will supply 220 planes.</li> </ul>	- As per International Air Transport Association (IATA) forecasts, India is the 3rd largest domestic aviation market in the world.
<ul> <li>These aircrafts, which will be 470 in all, will cost an estimated \$112 billion. They will be delivered from late 2023 to 2032 and are expected to transform India's aviation landscape.</li> <li>Notably, Air India can order an additional 370 aircraft</li> </ul>	- Not only this will be Boeing's largest order in South Asia but it would also be among the largest in commercial aviation history. An Emirates deal for 150 aircrafts at the 2013 Dubai air show was worth \$76	<ul> <li>It is expected to grow into the 3rd largest air passenger (international and domestic) market by 2024.</li> <li>At Present, While daily train traffic is 2,30,00,000 passengers, daily aviation traffic is 3,60,000 passengers.</li> </ul>
from both makers, which will take this figure to 840 aircraft in total.	billion.	

# Saudi Arabia to build cube-shaped super-city - Mukaab



#### Why in news?

- Saudi Arabia has announced a grand plan to transform its capital city -Riyadh. This new project is called the Mukaab – "cube" in Arabic. It will stand 400 metres high, wide and long, big enough to hold 20 Empire State Buildings.
- The Mukaab will be at the heart of the New Murabba Project, a plan to create "the world's largest and modern downtown" in Riyadh. The project is set to be completed by 2030.

#### **Relevance: Prelims**

#### More about Mukaab

- The Mukaab will house over 100,000 residential units, 9,000 hotel rooms and 1.4 million square metres of office space, as well as entertainment and culture venues. There will also be 1.8 million sq. m of space dedicated to community facilities.
- Spread over 19 sq. km, the new Murabba project will be built around the concept of sustainability and will add about \$ 47 billion to Saudi Arabia's non-oil GDP.
- It is currently unclear how much this project will cost or how it will be funded!



### Its architecture

- As per Saudi authorities, the cubic shape of the Mukaab will "ensure the ultimate utilization of space".
- It will be built using the modern Najdi architectural style – a twist on the traditional Najdi architectural style from the Najd region in the centre of the Arabian peninsula.
- This architectural style was perfected over generations to be best suited for the region's desert climate.
- Its design focuses on naturally controlling the climate inside the structure. Hence, the cube shape will limit the energy requirements inside it.

# **Faces Criticism**

- The Saudi govt has come under criticism from certain people who consider the planned Mukaab to closely resemble the Kaaba.
- The Kaaba, located in Mecca which the holiest city for Muslims, is a black cuboid structure considered to be the most sacred site for muslims.
- Every year, millions of pilgrims from across the world flock to Mecca for the Hajj pilgrimage where they walk around the Kaaba in a circular manner.



# Delhi's alleged liquor scam

# **Relevance: Prelims**



Why in news?	What was Delhi's liquor policy		
- Delhi's Deputy Chief Minister Manish Sisodia was arrested by the	- Proposed in 2020, it came into effect in November 2021. Delhi was divided into 32 zones with each zone having 27 liquor vends.		
Central Bureau of Investigation (CBI) under the Prevention of	- It marked the exit of the government from selling liquor — only private liquor shops would run in the city, and each municipal ward would have 2-3 vends.		
Corruption Act regarding the alleged irregularities in the now-scrapped Delhi excise policy	- It aimed to end the liquor mafia and black marketing, increase revenue and improve the consumer experience, and ensure equitable distribution of liquor vends.		
<ul> <li>It is alleged that Sisodia provided undue benefits</li> </ul>	- The government also made the rules flexible for licensees, such as allowing them to offer discounts and set their own prices instead of selling on MRP fixed by the government.		
to liquor vend licensees in lieu of "kickbacks" and "commissions", which were allegedly used by	- Following this, discounts were offered by vendors, which attracted crowds. After protests by the opposition, the excise department withdrew the discounts for some time.		
(AAP) in the Punjab Assembly elections in February that year	- After the implementation of the new excise policy 2021-22, the government's revenue increased by 27 per cent, generating around Rs 8,900 crore.		

# Sangam-era site Keeladi

## **Relevance: Prelims; Culture**

## About Keeladi

- Keeladi is a tiny hamlet in the Sivaganga district in south Tamil Nadu. It is about 12 km south-east to the temple city of Madurai and is located along the Vaigai river.
- The excavations here from 2015 prove that an urban civilisation existed in Tamil Nadu in the Sangam age.
- The Sangam age is a period of history in ancient Tamil Nadu. It was believed to be from the 3rd century BCE to the 3rd century CE. The name is derived from the renowned Sangam poets of Madurai from that time.





## What has been unearthed so far?

- There are even evidences of urban civilization with possible links to Indus Valley Civilzation.
- Over 18,000 artefacts have been unearthed. Unearthing of heaps of pottery suggest the existence of a pottery making industry, mostly made of locally available raw materials.
- Spindle whorls, copper needles, terracotta seal, hanging stones of the yarn, terracotta spheres and earthen vessels to hold liquid suggest various stages of a weaving industry. There also existed a dyeing industry and a glass bead industry.
- Gold ornaments, copper articles, semi-precious stones, shell bangles, ivory bangles and ivory combs reflect the artistic, culturally rich and prosperous lifestyle of the Keeladi people.
- Agate and carnelian beads suggest import through commercial networks while terracotta and ivory dice, gamesmen and evidence of hopscotch have been unearthed revealing their pastime hobbies.

