



**3rd WEEK FEBRUARY 2023
CURRENT AFFAIRS**



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General Studies I: Modern Indian History

TIPU SULTAN

1. Context

Karnataka BJP president Nalin Kumar Kateel triggered yet another controversy recently when he asked people to chase away Tipu Sultan supporters “to the forest” as “only those who perform bhajans of Ram” should remain “in this land”.

2. About Tipu Sultan

- Tippu Sultan was born Sultan Fateh Ali Sahab Tippu on November 10, 1750 in Devanahalli, present-day Bangalore.
- He was born to Hyder Ali, who rose through the ranks of the army of the Wodeyars, the then Hindu rulers of Mysore.
- Tipu Sultan was also known as the Tiger of Mysore.
- He expanded the iron-cased Mysorean rockets and commissioned the military manual Fathul Mujahidin.
- He deployed the rockets against advances of British forces and their allies during the Anglo-Mysore Wars, including the Battle of Pollilur and Siege of Srirangapatna.
- He negotiated the 1784 Treaty of Mangalore with the British, ending the Second Anglo-Mysore War.
- Tipu’s conflicts with his neighbours included the Maratha–Mysore War, which ended with the signing of the Treaty of Gajendragad.
- In the Third Anglo-Mysore War, he was forced into the Treaty of Seringapatam, losing a number of previously conquered territories.
- In the Fourth Anglo-Mysore War, a combined force of British East India Company troops, supported by the Marathas and the Nizam of Hyderabad defeated Tipu in 1799.



3. Tipu the Dictator

- Warfare in Tipu's time was brutal and those who rebelled were dealt with an iron fist. It was common practice to set strong examples to forestall future opposition.
- Among the punishments Tipu applied to rebels or conspirators were forced conversion and the transfer of people from their home territories to Mysore, with some of the absent populations replaced by migrants from other regions, such as the Bellary district.
- The forced removals occurred from both Kodagu and Malabar, the former as a response to continued resistance against Mysore rule, the latter – specifically, Nairs and Christians – as a result of their resistance and perceived treachery in the Anglo Mysore Wars.

- The Hindu right's narrative of Tipu's bigotry emphasises Tipu's militarism as well as his perceived attacks on "Hindu" rulers and subjects.

4. Tipu Sultan's Reforms

- Tippu is credited for the introduction of iron-cased rockets in warfare.
- Tippu Sultan introduced first modern war rockets in the Anglo Mysore Wars (though some sources say that it was his father Hyder Ali who introduced these and Tipu only improved upon existing models).
- Tipu Sultan also pioneered administrative and economic reforms.

5. Coinage system:

- Haidar Ali added pagodas on coins with Persian legends, always in the name of the Mughal emperor Shah Alam II.
- His successor, Tipu Sultan, continued to issue pagodas, mohurs and rupees, with legends that were completely new.
- As for copper, the new large paisa was commenced by Haidar Ali and was continued throughout the reign of Tipu Sultan, who added other denominations.
- He started a new land revenue system in Mysore, as well as introduced sericulture, which continues to employ many Kannadigas to date.

6. Tipu's Legacy

- Kate Brittlebank argues that on both sides of the political aisle, Tipu has been mythologised to suit political exigencies of the day.
- In the course of India's freedom struggle, Tipu Sultan became a symbol of resistance against British rule.
- His death while defending his fortress of Srirangaptna against British armies in 1799 was valourised as the ultimate sacrifice for the motherland. Today, there has been an increased spotlight on his autocratic tendencies and brutal repression in annexed territories, with an increased emphasis on his religion.

- Both portrayals fall short, missing the complexity of Tipu's character and material circumstances.
- When political leader's talk about "Tipu's supporters", they are trying to win support in the present by invoking a past which suits their narrative.

GS I: Indian Heritage & Culture

LAVANI

1. Context

NCP leader Ajit Pawar has directed members of his party to not organise raunchy public shows in the name of Lavani, a folk song and dance performance that is popular in Maharashtra.

2. Key points

- Pawar took serious note of a complaint by well-known Lavani dancer Megha Ghadge during a meeting of the cultural cell of the NCP.
- Ghadge had not gone after Patil specifically but had raised the issue of the absolute degradation of Lavani culture by using DJs and making girls dance wearing ghaghra choli in front of the public.

3. About the Lavani folk art form

- The Word Lavani comes from "Lavanya" or beauty. Lavani is a traditional folk art form in which women dancers wear nine-yard-long sarees in bright colours, make-up and ghunghroos and perform on dholak beats on a stage before a live audience.
- As an indigenous art form, Lavani has a history going back several centuries and it attained particular popularity in the Peshwa era in the 18th century.

- Traditionally, performances were held in front of kings or lords and for the entertainment of tired soldiers resting during breaks in fighting.
- There are several sub-genres of Lavani of which the most popular is the Shringarik (erotic) kind, in which the lyrics are often teasing, with sensuous dance steps and delicate gestures employed to convey erotic meaning.
- Over the years, Lavani has gained more acceptability among the people, even though certain taboos around it continue.
- The audience has historically been all male, but in recent years, some women too have begun to attend performances.
- Lavani became well known outside Maharashtra throughout India and even outside the country following its use in popular media such as cinema.
- Over the past few years, with the explosion in the use of social media, short clips of dances have become very popular.



4. The basis of Criticism

- The sensual component in Lavani has long been frowned upon.
- In 1948, then Chief Minister of Bombay Balasaheb Kher banned Lavani performances after receiving complaints about their alleged obscenity.
- Cultural historians have recorded that this led to a sanitisation of the art form, with later performers choosing indirect references to erotic meanings over direct gestures and overt lyrics.
- Live performances continue to get huge responses from the public in rural Maharashtra and politicians and political parties often invite Lavani dancers to perform at their events.
- A mostly young and male crowd attends the programmes as female dancers perform film songs in both Hindi and Marathi.
- The women often dress in a risqué fashion and their gestures to the crowd draw loud cheers.

5. Conclusion

- Lavani and other arts of Maharashtrian tradition are important but they should be performed in such a way that everyone can enjoy them.
- There should not be any obscenity. Unfortunately, in some districts, obscene dances have been banned but they continue to happen in other districts.

GS I: Indian Heritage & Culture

MEHRAULI: DELHI

1.Context

The demolishing authorities claimed that the houses encroached on government land – belonging to the Mehrauli Archaeological Park, protected by the Archaeological Survey of India. Spread over 200 acres right next to Qutub Minar, the archaeological park has over 100 historically significant monuments, with the oldest well over a thousand years old

2.About Mehrauli

Mehrauli is the oldest inhabited area of what we call Delhi. Little more than an urban village today, Mehrauli has survived and thrived over the years as a spiritual centre, a trading post, a wholesale market and now, as a destination housing multiple high-end boutiques

3. Seven cities of Delhi

- What we today know as Purani Dilli (Old Delhi) is actually a misnomer. The city's history far predates Shahjahanabad, with the oldest evidence of habitation painted grey ware fragments found in Purana Quila dating back to the Iron Age (circa 1100-800 BC)
- Historians identify seven cities of Delhi, dating from the 11th century onwards: Lalkot/Quila Rai Pithora/Mehrauli, Siri, Tughlaqabad, Firozabad, Shergarh (present-day Old Fort), Shahjahanabad and New Delhi. Depending on how one counts and what one considers 'a city', this number can be as high as 11



Source: Wikicommons media

- Mehrauli is widely considered to be the oldest 'city' of Delhi and is the oldest area of the metropolis to be continuously inhabited.

-
- Like any city, Mehrauli has witnessed multiple cycles of building and rebuilding over the centuries
- First founded as Lalkot in the 11th century by Anangpal II, a ruler of the Rajput Tomar dynasty, remains of the earliest version of the city can be found around Sanjay Van and the Qutab Golf Course
- This was later christened ‘Quila Rai Pithora’ by Mughal court historian Abu’l Fazl in his epic hagiography, ‘Ain-i-Akbari’.
- This city passed hands from the Tomars to the Chauhans, who are credited to have further fortified the complex
- The city fell into the hands of the Mamluk dynasty (Slave dynasty) in 1192. Under ruler Qutubudin Aibak, the first ruler of the Slave dynasty, the next round of construction began in the area
- Notably, he began the building of the Qutub Minar to commemorate his victory (though other explanations also exist to his motivations) as well as the Quwwat-al-Islam (Might of Islam) mosque, the oldest known mosque in north India (India’s oldest mosque – Cheraman Juma – was built by Arab merchants in Kerala)
- In the next century, a slew of building activities took place in the region with tombs, baolis (step wells), palaces and other fortifications built in the reigns of Iltutmish, Razia Sultan and Alauddin Khilji
- Mehrauli lay on a historic trade route, as the number of sarais (Ladho Sarai, Ber Sarai, Neb Sarai) around the area would suggest
- A sarai was a resthouse for weary travellers. In ‘Atlas of the Mughal Empire’, historian Irfan Habib writes that the area would have been along the trading route connecting Bara Pullah (a Mughal-era bridge in Delhi) to Pataudi, Rewari and Narnaul (in present-day Haryana).

3. Cosmopolitanism of Mehrauli

Mehrauli is also a spiritual centre, home to both Hindu and Muslim shrines. Sufi saint Hazrat Qutubuddin Bakhtiar Kaki (1173 -1235 AD) was buried in the city and his dargah remains popular till date, across religious lines



Source: Wikicommons

- Some historians cite the dargah as a reason for the city surviving the test of time despite power shifting elsewhere, the dargah remained a revered destination for pilgrims far and wide
- Another spiritual centre for the community is the Yogmaya mandir, believed to be one of the oldest in the city
- Yoginis (semi-divine deities) have been an integral part of Indian folklore and this temple dedicated to them is believed to have been constructed by the Pandavas
- The cosmopolitan spirit and secular heritage of Mehrauli are perhaps best expressed in the annual community celebration of ‘Phool Walon ki Sair’ or Sair-e-Gulfaroshan (walk of the flowers)
- This 19th-century Mughal-era festival was revived in 1962 by India’s first prime minister, Jawaharlal Nehru, and has become the symbol of the city’s communal harmony since then
- The three-day festival includes processions and festivities led by shehnai players and dancers. An offering of pankhas (large floral fans) is made to the Yogmaya Temple and a chadar is offered at the dargah of Khwaja Bakhtiyar Kaki

GS I: Indian Heritage & Culture

JAMIAT ULAMA-I-HIND

1. Context

Maulana Arshad Madani, president of Jamiat Ulama-i-Hind (Arshad Madani faction) was recently in the eye of a storm for saying that "**Om and Allah are one**".

2. Key Points

- Madani was speaking Sunday at the three-day general assembly of the Jamiat Ulama-i-Hind (JUH) at Ramlila Ground, with Hindu, Jain, Christian and Sikh leaders in attendance.
Very few people know that when there was nothing in the world, Manu would worship Om.
- Om has no colour, no shape. Like the air, it is everywhere. It made the skies and the earth.
- Madani said this is what we call Allah. You call the same thing Ishwar.

3. About Jamiat Ulama-i-Hind

- The Jamiat Ulama-i-Hind is a 104-year-old organisation of Indian Muslim scholars.
- In the lead-up to India's Independence, the JUH had staunchly opposed the Muslim League's politics and the partition of India.
- Today the JUH has 10 million members and 1,700 branch offices across India.
- Through a network of sub-organisations, it works in the fields of education, charity, and safeguarding the rights of Indian Muslims and aims to foster amity between different religious communities.

4. History of the Jamiat Ulama-i-Hind

- While the JUH was formally founded in 1919, it was the outcome of a movement going back to the 18th century, when the social reformer Shah Waliullah Dehlawi (February 21, 1703-August 20, 1762), was disappointed with "the degeneration of the ruling classes, coupled with the depredations of European imperialism".
- It decided to remodel all aspects of Muslim life including its religious, social, political and cultural dimensions through the espousal of ijtehad (independent reasoning) and the rejection of taqlid (unquestioning acceptance).

5. The Silk Letter Movement

- Till the First World War, Muslims inspired by Waliullah participated in armed resistance to the British, of which two notable events were the Revolt of 1857 and the Silk Letter Movement of 1916.
- The Silk Letter Movement involved Indian Muslim scholars working to enlist the help of other Muslim nations, such as Turkey and Afghanistan, against the British.
- Communication during this movement was made through letters written on silk scarves, which gave it its name.
- The Conspiracy was discovered by the British, who imprisoned top clerics, including Shaykh al-Hind Maulana Mahmud Hasan and Maulana Husain Ahmad Madani, in deplorable conditions in Malta. Arshad Madani is the son of Maulana Husain Ahmad Madani.
- The failure of the Silk Movement made the Muslim clerics look for other, more effective ways to fight the British and they turned to non-violent, political methods, joining forces with the Congress party.

6. JUH's foundation, role in the freedom struggle

- On November 23, 1919, the Khilafat Committee held a conference in Delhi, attended by Muslim scholars from across the country.
- From among these scholars, a group of 25, including the likes of Ahmad Saeed Dehlavi, Kifayatullah Dihlawi, Muhammad Ibrahim Mir Sialkoti and Sanaullah Amritsari, came together to form the Jamiat Ulama-e-Hind. Its first session was held on December 28, 1919.

- The Jamiat's efforts received a boost with the release of Shaykh al-Hind and others from prison.
- As the Independence movement gathered steam, so did the demand for a separate homeland for Muslims.
- However, the JUH always resisted this demand, steadfastly asserting that India should not be divided.
- Their stand has been documented in history and is proof that not for a moment did all, or most, Muslims in India want to partition.
- Muhammad Ali Jinnah was arguing about nationhood based on religion, Maulana Madani said "**Nation is made by homelands**".
- It was not necessary for people sharing a country to have the same religion.
- After Independence and Partition, the JUH worked to rehabilitate Muslim refugees.

7. Role in post-independence India

- After Independence, the JUH in a session chaired by Maulana Azad decided they would never form a political party based on religion.
- Individual members of the JUH have served as MPs and MLAs, emphasising their association and commitment to India's democracy.
- The JUH has worked for riot relief, to educate Muslim youth including girls and provides legal aid to Muslim youth embroiled in legal cases. In riots, the JUH has played the role of a fire brigade.
- They also work to make sure that youth educated in Madrasas get degrees from the National Institute of Open Schooling (NIOS) too.

The legal wing of JUH has helped many Muslims "Who are jailed falsely". The JUH checks if the person in prison is innocent. If they feel the person has been picked up falsely, they extend aid. If they think the person could genuinely be involved in terror activities or other misdeeds, they don't provide legal representation.

- Khan was present at the event where Madani made the comments that caused controversy.

- The controversy was entirely misguided. All Madani was trying to do was emphasise our essential oneness and unity.
- In 2008, the JUH split, with the formation of the Jamiat Ulama-i-Hind (Arshad Madani faction).
- In 2022, the factions began their merger process, which is yet to officially conclude.
- The other faction is headed by Maulana Mahmood Asad Madani.

GS I: Social reformer

DAYANAND SARASWATI

1. Context

Prime Minister Narendra Modi Sunday (February 12) paid tribute to Dayanand Saraswati on the 200th birth anniversary of the social reformer, hailing his contributions towards the fight against social discrimination and untouchability.

2. Dayanand Saraswati

Swami Dayanand Saraswati was born on 12th February 1824 in Tankara, Gujarat in a Brahmin family. His parents, Lalji Tiwari and Yashodhabai were orthodox Brahmin. He was earlier named Mool Shankar Tiwari as he was born during Mool Nakshatra. He wandered as an ascetic for fifteen years (1845-60) in search of truth. Dayananda's views were published in his famous work, Satyarth Prakash (The True Exposition).



Dayananda Saraswati

(12 February 1824 - 30 October 1883)

3. Hinduism under 19th century colonial Rule

- From the 18th century, as the British got ever so entrenched in India, they brought with them missionaries to spread the Christian faith.
- A part of the West's "civilising mission", missionaries provided an ideological justification to what was an exploitative imperial project.
- Furthermore, through their growing influence, they also created a degree of subservience to the Empire, especially in certain sections of the population.
- A reason for the success of Christian missionaries in the Indian subcontinent was the nature of native culture and belief systems at the time.
- As Dayanand Saraswati himself put it, over the centuries, Hindus had moved away from the teachings and traditions of the Vedas, which were the source of the "ultimate truth" in the world.
- This departure from the true Sanatan Dharma (what he referred Vedic religion as) resulted in practices such as idolatry, untouchability, sectarianism, sati, primacy of the priestly class, etc. becoming commonplace.

4. Arya Samaj

- It aims to reestablish the Vedas, the earliest Hindu scriptures, as revealed truth.
- He rejected all later accretions to the Vedas as degenerate but, in his own interpretation, included much post-Vedic thought.
- During the 1920s and early 1930s tension grew around a number of issues.
- Muslims were angered by “music-before-mosque”, by the cow protection movement, and by the efforts of the Arya Samaj to bring back to the Hindu fold (shuddhi) those who had recently converted to Islam.
- The Arya Samaj has always had its largest following in western and northern India.
- The Samaj opposes worship of murtis (images), animal sacrifice, shraddha (rituals on behalf of ancestors), basing caste upon birth rather than upon merit, untouchability, child marriage, pilgrimages, priestly craft, and temple offerings.

5. Contribution to the society

- He was an Indian philosopher, social leader and founder of the Arya Samaj.
- Arya Samaj is a reform movement of Vedic dharma and he was the first to give the call for Swaraj as “India for Indian” in 1876.
- He was a self-taught man and a great leader of India leaving a significant impact on Indian society. During his life, he made a prominent name for himself and was known among a wide array of Princes and the public.
- The first Arya Samaj unit was formally set up by him at Mumbai (then Bombay) in 1875 and later the headquarters of the Samaj were established at Lahore.
- His vision of India included a classless and casteless society, a united India (religiously, socially and nationally), and an India free from foreign rule, with Aryan religion being the common religion of all.
- He took inspiration from the Vedas and considered them to be ‘India’s Rock of Ages’, the infallible and the true original seed of Hinduism.
- He gave the slogan “Back to the Vedas”. He subscribed to the Vedic notion of chaturvarna system in which a person was not born in any caste but was

identified as a brahmin, kshatriya, vaishya or shudra according to the occupation the person followed.

6. Contribution to the Education system

- He introduced a complete overhaul of the education system and is often considered as one of the visionaries of modern India.
- The DAV (Dayanand Anglo Vedic) schools came into existence in 1886 to realize the vision of Swami Dayanand Saraswati. The first DAV School was established at Lahore with Mahatma Hansarj as the headmaster.

NATIONAL WOMEN'S DAY

1.Context

Today is the birth anniversary of Sarojini Naidu. Born on February 13, 1879, in Hyderabad, Naidu played a huge role in shaping the history of India through her activism, poems, and lyrics. She is referred to as the Nightingale of India.



Image source: DNA

2.About Sarojini Naidu

- Sarojini Naidu played an active role in the Indian National Movement for the country's independence. She started writing poems at the young age of 12.
- She was not only a freedom fighter but also fought a lot for women's rights. She also has the distinction of being the first woman governor of India
- The Nightingale of India, Sarojini Naidu, has been immortalised in history
- A prominent political leader, she worked tirelessly to advance the cause of women's empowerment and equality.
- In recognition of her contributions to women's rights and the Independence movement, Naidu's birthday is celebrated as Women's Day in India
- On this day, events and activities are held across the country to honour Sarojini Naidu and to encourage more women to take up leadership roles and make their mark in their communities
- The world recognises Naidu for her literary accomplishments
- She has authored poetry on subjects including tragedy, romance and patriotism, She was a gifted intellectual and thinker
- Prominent Indian leaders like Gopal Krishna Gokhale were admirers of Sarojini Naidu's poetry.
- In 1925, Sarojini Naidu became the first woman to hold the office of President of the Indian National Congress
- She also participated in the Salt Satyagraha. The British government imprisoned Naidu for 21 months beginning in 1942 for her involvement in the Quit India Movement
- As a passionate advocate for women's rights, Sarojini Naidu put up a valiant fight. She was one of the leaders of the Women's Indian Association, which was established to promote women's rights and empowerment

3.Important Quotes of Sarojini Naidu

"Sense of justice is one of the most wonderful ideals of Islam because as I read in the Qur'an I find those dynamic principles of life, not mystic but practical ethics for the daily conduct of life suited to the whole world."

"Shall hope prevail where clamorous hate is rife, Shall sweet love prosper or high dreams have place Amid the tumult of reverberant strife 'Twixt ancient creeds,

'twixt race and ancient race, That mars the grave, glad purposes of life, Leaving no refuge save thy succouring face?"

"When there is oppression, the only self-respecting thing is to rise and say this shall cease today because my right is justice. If you are stronger, you must help the weaker boy or girl both in play and work."

"I say it is not your pride that you are a Madrasi, it is not your pride that you a brahmin, it is not your pride that you belong to south India, it is not your pride that you are a Hindu, that it is your pride that you are an Indian".

"A country's greatness lies in its undying ideals of love and sacrifice that inspire the mothers of the race".

TREATY OF ALINAGAR

1. Background

The Treaty of Alinagar, signed on February 9, 1757, was a reluctant agreement signed by Bengal's Nawab Siraj ud Daula with the English East India Company



Image Source: Britanica

2. A trading company comes to India

1. The English East India Company (henceforth referred to as ‘the Company’) was formed in 1600 by a royal charter
2. The charter gave the Company monopoly of all trade from England in the East and the right to carry gold bullion to finance its activities, with the aim of combating growing Dutch influence in the East
3. The Company formally began trading with India in 1613, supported by a royal *farman* from Mughal emperor Jehangir which allowed the Company to open its factories and warehouses
4. Till the middle of the 18th century, the Company worked with local rulers, often subservient to them, and established a thriving business
5. While over time it had acquired control of various trading posts on both sides of the coast, the Company was yet to engage in a concerted effort to expand its territories

3. Bengal as a trading town

- The three primary trading towns where thriving British communities emerged by the 18th century were Bombay, Madras and Calcutta
- Of these, Calcutta was the most important, as by the 18th century, goods from Bengal comprised nearly 60 per cent of all English imports from Asia
- It was Mughal emperor Aurangzeb who gave the Company the right to trade in Bengal for an annual payment of Rs 3000
- After his death in 1707, the Mughal Empire started to crumble. Those who were previously subordinate to the Mughal crown started vying for autonomy.
- While the Mughal emperor remained the symbolic head across much of the erstwhile Mughal heartland, his actual power was fast diminishing
- This was a problem for the British, who relied on the legitimacy of the Mughal crown to carry out trade, unhindered
- When another *farmaan* from the Mughal emperor Farrukhsiyar in 1717 established favourable terms for the Company to continue its trade in Bengal, this was met with local opposition
- Nawab Murshid Quli Khan, the new autonomous ruler of Bengal, refused to extend the 1717 *farmaan*'s duty-free provision to cover also the private trade of the Company officials
- He also denied permission to the Company to buy the thirty-eight villages and refused to offer minting privileges to the British

4.Siraj ud daula

- In 1755, wary of French competition, the English began renovating the fortifications in Calcutta without the Nawab's permission
- The situation was already tense when matters took a turn for the worse in 1756. An Indian trader named Krishna Ballabh took refuge inside the renovated Fort William in Calcutta
- He had been charged with cheating by the new Nawab, Siraj ud Daula. This was a major provocation and the young Nawab threatened military action as well as a crackdown on the Company's business
- When the Company failed to listen to warnings, Siraj showed his strength by taking over the Company factory at Cossimbazar

- A few weeks later, the Nawab's forces would attack Fort William, capturing Calcutta on June 20. They would ransack the city and the Nawab would shortly rename it Alinagar
- However, the Nawab's position was far weaker than his easy takeover of Calcutta made it seem. Not only did he face a large Company force on its way to Bengal from Madras under Robert Clive, there was also the looming threat of the Afghans under Ahmad Shah Abdali who had already caused havoc in the Northern territories of the weak Mughal Empire
- A surprise attack by the Company forces defeated the Nawab's forces outside Calcutta in early 1757

5. Treaty of Alinagar

- Under the threat of an impending Afghan assault and under advice from his ministers, the Nawab reluctantly decided to sign a treaty with the Company on February 9, 1757: **the Treaty of Alinagar**
- This treaty restored all the privileges that Farrukhsiyar's 1717 *farmaan* had granted to the East India Company, allowing it to carry out duty-free trade, build further fortifications and operate a mint
- The story of the Treaty of Alinagar is a story of the eventual rise of the East India Company as a political force to be reckoned with
- Though the treaty ostensibly maintained the sovereignty of the Nawab of Bengal, its terms were extremely favourable to the Company
- Finally, on June 23, 1757, Robert Clive's army met the Nawab's once again, in the famous Battle of Plassey
- Though outnumbered, the Company won a decisive victory, thanks to defections from senior commanders of the Nawab's army, including the infamous Mir Jafar
- Historians point to the Company's victory in Plassey as the moment when the East India Company became a proper colonial enterprise, interested not just in trade, but territorial control that would serve its economic interests
- For most Indians, the history of British colonial rule in India begins in Plassey. However, the roots of it were sown long back. While the Treaty of Alinagar itself might be relegated to a minor footnote in history, understanding what led up to it provides much greater perspective of the machinations of early colonial expansion in India

GS II: Governance

MINISTRY OF COOPERATION

1. Context

Recently, the government announced the formation of a separate Union Ministry of Cooperation, a subject that till date was looked after by the Ministry of Agriculture. In the Cabinet reshuffle of July 7, Home Minister Amit Shah was given charge of the new Ministry.

2. Ministry of Cooperation

- Before the reshuffling of the Cabinet Ministers in India, Prime Minister Narendra Modi announced the creation of a new Ministry of Cooperation.
- Amit Shah to handle the portfolio of the newly-set up Ministry of Cooperation along with his current Home Affairs portfolio.
- The new ministry is created to realize the vision of 'Shakar Se Samridhi' (Prosperity through cooperatives). In Hindi, the Ministry of Cooperation is known as 'Sahakarita Mantralaya'.
- A Co-operative based economic development model in our country is very important, where each member works with a spirit of responsibility.
- The Central Government with the creation of the Ministry of cooperation has signalled its deep commitment to community based developmental partnership.

3. What will be the new Ministry's objectives?

- The Ministry of Cooperation will provide a separate administrative legal and policy framework for strengthening the cooperative movement in the country.
- It will help deepen Cooperatives as a true people based movement reaching upto the grassroots. In our country, a Co-operative based economic

development model is very relevant where each member works with a spirit of responsibility.

- The Ministry will work to streamline processes for ‘Ease of doing business’ for co-operatives and enable development of Multi-State Co-operatives.

4. What is Cooperative Movement?

- Cooperatives are organisations formed at the grassroots level by people to harness the power of collective bargaining towards a common goal.
- In agriculture, cooperative dairies, sugar mills, spinning mills etc are formed with the pooled resources of farmers who wish to process their produce.
- The country has 1,94,195 cooperative dairy societies and 330 cooperative sugar mill operations.
- In 2019-20, dairy cooperatives had procured 4.80 crore litres of milk from 1.7 crore members and had sold 3.7 crore litres of liquid milk per day.
- Cooperative sugar mills account for 35% of the sugar produced in the country.
- In banking and finance, cooperative institutions are spread across rural and urban areas.
- Village-level primary agricultural credit societies (PACSs) formed by farmer associations are the best example of grassroots-level credit flow.
- These societies anticipate the credit demand of a village and make the demand to the district central cooperative banks (DCCBs).
- State cooperative banks sit at the apex of the rural cooperative lending structure. Given that PACSs are a collective of farmers, they have much more bargaining powers than an individual farmer pleading his case at a commercial bank.
- There are also cooperative marketing societies in rural areas and cooperative housing societies in urban areas.

5. What Laws Govern Cooperatives In India?

- Agriculture and cooperation are in the state list, which means state governments can govern them.

- A majority of the cooperative societies are governed by laws in their respective states, with a Cooperation Commissioner and the Registrar of Societies as their governing office.
- In 2002, the Centre passed a MultiState Cooperative Societies Act that allowed for registration of societies with operations in more than one state.
- These are mostly banks, dairies and sugar mills whose area of operation spreads across states. The Central Registrar of Societies is their controlling authority, but on the ground the State Registrar takes actions on his behalf.

6. Significance of Cooperatives

- It provides agricultural credits and funds where state and private sectors have not been able to do very much.
- It provides strategic inputs for the agricultural-sector; consumer societies meet their consumption requirements at concessional rates.
- It is an organization for the poor who wish to solve their problems collectively.
- It softens the class conflicts and reduces the social cleavages.
- It reduces the bureaucratic evils and follies of political factions;
- It overcomes the constraints of agricultural development;
- It creates a conducive environment for small and cottage industries.

7. Why was the New Ministry Necessary?

It was necessary to restore the importance of the cooperative structure in the country. Various studies conducted by institutions like Vaikunt Mehta Institute of Cooperative Management have shown the Cooperative structure has managed to flourish and leave its mark only in a handful of states like Maharashtra, Gujarat, Karnataka etc. Under the new Ministry, the cooperative movement would get the required financial and legal power needed to penetrate into other states also.

GS II: Governance

IT SURVEY AND SEARCH

1. Context

The Income Tax (I-T) Department on February 14 conducted surveys at the premises of the British Broadcasting Corporation (BBC) in Delhi and Mumbai.

2. About I-T Surveys

- The surveys at the BBC's offices are being carried out under various provisions of the I-T Act, 1961, such as Section 133A, which gives the I-T Department the power to carry out "Surveys" to collect hidden information.
- The provision for surveys was incorporated into the Act through an amendment carried out in 1964.

Section 133A allows an authorised officer to enter any place of business or profession or charitable activity within their jurisdiction to verify the books of account or other documents, cash, stock or other valuable article or thing, which may be useful for or relevant to any proceeding under the Act.

- An I-T authority may, during the survey, make an inventory of any cash, stock or other valuables; it may record the statements of anyone or placemarks of identification on the books and documents or take their extracts or copies.
- The I-T authority may also "impound and retain any books of account or other documents after recording reasons for doing so".
- However, to retain such books for more than 15 days (excluding holidays), prior approval of a senior officer, including the Principal Chief Commissioner or Chief Commissioner or Principal Director General or Director General or Principal Commissioner or Commissioner must be obtained.
- The provisions for impounding or seizing the goods were introduced only by the Finance Act, of 2002.

3. About I-T search

- A search typically refers to what is called a raid although the word raid has not been defined anywhere in the Income Tax Act.
- However, search has been defined under Section 132 of the Act.

- Under this Section, the I-T Department can carry out a process of inspection by entering and searching any building where it has reasons to believe someone has undisclosed income or property like money, bullion and gold.

An I-T search can even be carried out when "any person to whom a summons or notice has been or might be issued will not or would not produce or cause to be produced, any books of account or other documents which will be useful for or relevant to any proceeding under the Act.

- The Act says that during a search, any authorized officer including the Deputy Director of Inspection, Inspecting Assistant Commissioner, Assistant Director of Inspection or Income-Tax Officer can:
 1. Enter and search any building or place where he has reason to suspect that such books of account, other documents, money, bullion, jewellery or other valuable article or thing are kept;
 2. Break open the lock of any door, box, locker, safe, almirah, or other receptacles for exercising the powers conferred by clause (i) where the keys thereof are not available;
 3. Seize any such books of account, other documents, money, bullion, jewellery or other valuable articles or things found as a result of such search;
 4. Place marks of identification on any books of account or other documents or make or cause to be made extracts or copies therefrom;
 5. Make a note or an inventory of any such money, bullion, jewellery or other valuable article or thing.

4. Difference between a search and a survey

- While in common parlance, people often use these two words (and also raid) interchangeably, they are defined differently and they denote different things.
- Broadly speaking, a search is a more serious proceeding than a survey, with larger consequences.
- Search, as defined under Section 132, can take place anywhere within the jurisdiction of the authorized officer.

- A survey under Section 133 A(1) can only be conducted within the limits of the area assigned to the officer or at any place occupied by any person in respect of whom he exercises jurisdiction at which a business or profession or activity for a charitable purpose is carried on.
- Also, surveys can be carried out only during working hours on business days, whereas a search can happen on any day after sunrise and continue until the procedures are completed.

5. Conclusion

Finally, while the scope of a survey is limited to the inspection of books and verification of cash and inventory, in a search, the entire premises can be inspected to unravel undisclosed assets, with the help of the police.

GS II: Governance

INDIA'S MENTAL HEALTHCARE ACT

1. Context

In a report, the National Human Rights Commission (NHRC) flagged the "**inhuman and deplorable**" condition of all 46 government-run mental healthcare institutions across the country.

2. Key Points

- The report notes that the facilities are illegally keeping patients long after their recovery, in what is an "**infringement of the human rights of mentally ill patients**".
- These observations were made after visits to all operational government facilities, to assess the implementation of the Mental Healthcare Act 2017 (MHA).

3. About Mental Healthcare Act 2017

- The MHA, 2017 centred on the agency of individuals, acknowledged their right to live as part of a community (under Section 19) and focused on rehabilitation.

Under **Section 19 of the Act**, the government was made responsible for creating opportunities to access less restrictive options for community living such as halfway homes, sheltered accommodations, rehab homes and supported accommodations.

- The Act also discourages using physical restraints (such as chaining) and unmodified electro-convulsive therapy (ECT) and pushes for the right to hygiene, sanitation, food, recreation, privacy and infrastructure.
- More importantly, the Act recognised that "**People have a capacity of their own unless proven otherwise**".
- Additionally, under **Section 5**, people are empowered to make "**advance directives**".
- They can nominate a representative for themselves, thereby potentially helping to eliminate absolute forms of guardianship in favour of supported decision-making.
- This barring cases where the person needs a higher degree of care and support.
- Experts note this was the first time a psychosocial approach to mental health was adopted.
- The Act acknowledged that external factors such as income, social status and education impact mental well-being; therefore, recovery needs psychiatric and social input.

4. Challenges

- While the MHA safeguards the rights of people in mental health care establishments, enforcement challenges remain.
- Almost 36.25 per cent of residential service users at state psychiatric facilities were found to be living for one year or more in these facilities.
- Under the MHA, all States are required to establish a **State Mental Health Authority and Mental Health Review Boards** (MHRBs) bodies that can

further draft standards for mental health care institutes, oversee their functioning and ensure they comply with the Act.

- The majority of States are yet to be established or remain defunct Further, many states have not notified minimum standards which are meant to ensure the quality of MHEs.
- The Act takes on a human rights lens by shifting the obligation of care onto different stakeholders including caregivers, government institutions, police officials and mental health practitioners.
- Poor budgetary allocation and utilisation of funds create a scenario where shelter homes remain underequipped, establishments understaffed and professionals and service providers are not adequately trained to deliver proper healthcare.
- While **Section 19** recognises the right of people to "**live in, be part of and not be segregated from society**", there have been no concrete efforts towards implementation.
- The dearth of alternative community-based services further complicates access to rehabilitation.

GS II: Governance

GEO HERITAGE SITES AND GEO RELICS BILL

1. Context

February 14 is the last day for comments and suggestions to be sent in for the draft Geo-heritage Sites and Geo-relics (Preservation and Maintenance) Bill, as notified by the Ministry of Mines.

2. Aim of the Bill

The Bill is aimed at providing for the declaration, preservation, protection and maintenance of geo-heritage sites and geo-relics of national importance, for geological studies, education, research and awareness purposes.

3. Geo-Heritage sites and Geo-Relics

- According to a 2016 press release by the Ministry of Mines, the Geological Survey of India (GSI) declares geo-heritage sites/ national geological monuments for protection and maintenance.
- The GSI or the respective state governments take necessary measures to protect these sites.
- Coming under the Ministry of Mines, the GSI was established in 1851 to investigate and assess coal and other mineral resources of the country through regional-level exploration.
- The draft bill defines Geoheritage sites as “sites containing geo-relics and phenomena, stratigraphic type sections, geological structures and geomorphic landforms including caves, natural rock-sculptures of national and international interest; and includes such portion of land adjoining the site,” that may be required for their conservation or to access to such sites.
- Geo-relic is defined as “any relic or material of a geological significance or interest like sediments, rocks, minerals, meteorite or fossils”. The GSI will have the power to acquire geo-relics “for its preservation and maintenance”.

4. How many Geo-heritage sites Present in India?

The 32 geo-heritage sites spread across 13 states include the Volcanogenic bedded Barytes of Mangampeta in Cuddapah district of Andhra Pradesh, the Akal Fossil Wood Park in Jaisalmer, Rajasthan and others.

5. What does the Geo-heritage Sites and Geo-relics Bill say?

- The Bill states that despite identifying these sites, there are concerns over their preservation.
- Due to the absence of any legislation in the country for the protection, preservation and maintenance of the geoheritage sites, these are increasingly threatened with destruction not only by the natural causes of decay but also by population pressure and changing social and economic conditions which is aggravating the situation.
- It states, 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.

- The world's oldest metallurgical records of gold, lead and zinc in Rajasthan and Andhra Pradesh are still preserved but are under great threat.

6. Key Proposals of the bill regarding Preservation

- It would authorise the Central Government to declare a geoheritage site to be of national importance. This would be under the provisions of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLARR Act).
- Through a public notification in the Official Gazette, the government would spell out what areas were to be acquired by it, and objections to this can be raised within two months.
- Provision is made for compensation to the owner or occupier of land who incurs loss or damage from 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.
- The Bill imposes a prohibition on construction, reconstruction, repair or renovation of any building within the geoheritage site area or utilisation of such area in any other manner, except for construction for preservation and maintenance of geoheritage site or any public work essential to the public.
- Penalties for destruction, removal, defacement or contravention of any direction issued by the Director General, GSI in the geo-heritage site are mentioned.
- There is a penalty of imprisonment which may extend to six months or fine which may extend to Rs.5 lakh, or both. In the case of a continuing contravention, additional fine of upto Rs.50,000 for every day of continuing contravention may be imposed.

GS II: Governance

ANTI-CHEATING LAW

1. Context

A day after a protest in Dehradun over paper leaks and scams in the government recruitment tests turned violent, the Uttarakhand Governor Friday gave his assent to an ordinance brought by the government to prevent the use of unfair means in exams.

2. Key points

- The Uttarakhand Competitive Examination (Measures For Control and Prevention of unfair Means in Recruitment) Ordinance, 2023, has provisions of fines up to Rs 10 crore and life imprisonment for the guilty.
- It was urgently approved by CM Dharami and forwarded to Raj Bhavan.
- With Governor Lt Gen (retd) Gurmit Singh's assent, it became law within 24 hours.
- The protest by the Uttarakhand Berozgaar Union had seen stones being hurled and the police resorting to lathi-charge on the protesters.
- Dharami met representatives of the union, assuring them of his government's commitment to conduct "**unbiased cheating-free and transparent exams**".

3. Provisions of the anti-cheating law

- The ordinance said that the main aim behind the law was to prevent offences related to obstructing the sanctity of examinations, use of unfair means, leakage of question papers and other irregularities.
- It covers public examinations for recruitment to posts under the state government, autonomous bodies run by the government, authorities, corporations and institutions operated with grants of the state government.
- According to the ordinance, if any examinee is caught cheating or causing another examinee to cheat in a competitive examination (online and offline) or to have indulged in unfair means, he shall be punishable with imprisonment for three years and with a minimum fine of Rs 5 lakh.
- If the fine is not paid, the examinee shall be jailed for another nine months.
- A second-time offender will be punishable with a minimum jail term of 10 years and a fine of Rs 10 lakh.
- In default of payment of the fine, he will be jailed for another 30 months.

If any person, printing press, or a service provider contracted or ordered for

examination, management for conducting an examination or any person and an organisation authorised to keep and transport the examination material, any employee of the examination authority, limited liability partnership, coaching the centre or any other institution has indulged in conspiracy or other unfair means, they shall be punished with a jail term of not less than 10 years, which may extend to life imprisonment.

- They will also be punished with a minimum fine of Rs 1 crore which can go up to Rs 10 crore.
- If they can not pay the fine, the convicts will serve another jail term of three years.
- Also, an applicant found cheating will be debarred for two to five years from the date of the chargesheet and in case of conviction from all competitive exams for 10 years.
- All the properties earned using unfair means will be seized. The offences are cognizable, non-bailable and non-compoundable.
- The law was in the works from last year, after allegations of irregularities in the Uttarakhand Subordinate Services Selection Commission (UKSSSC) exams.

4. Recent scams in exams

- For the past few days, there have been continuous agitations against multiple papers leaks in Uttarakhand since 2016.
- For instance, irregularities were found in the 2016 village panchayat development officer exam.
- The recent Uttarakhand Public Service Commission (UKPSC) exam was cancelled after it turned out that exam papers had been leaked and sold to candidates.
- The biggest on the list is the case of a written exam conducted by the UKSSSC on December 4 and 5 in 2021, in which around 1.6 lakh candidates appeared and 916 were selected for different departments.
- After the results were announced, student organisations alleged that question papers were sold to the examinees before the test.

- The latest trigger for the protests was the UKPSC patwari and accountant exam, held in January, in which 1.4 lakh candidates appeared for 563 vacancies.
- The exam was subsequently cancelled and was conducted again on Sunday.

5. UP's anti-cheating law of 1992

- In the late 1980s and early 90s, public examinations in Uttar Pradesh (from which Uttarakhand was carved out in 2000) frequently witnessed allegations of cheating, involving officials, teachers, students and even local gangsters.
- In 1991, then Uttar Pradesh Chief Minister Kalyan Singh appointed Rajnath Singh as the education minister. Both leaders planned to establish a system to curb cheating.
- Next year, in 1992, the Kalyan Singh government promulgated a stringent anti-cheating Act.
- The law aimed to end the practice of mass copying in school and university examinations and contained a provision that any student found copying would be handcuffed and sent to jail.
- The Act made the use of unfair means in exams a non-bailable cognizable offence and allowed the police to enter examination centres to conduct checks and arrest the offenders.
- During the UP-Board examinations of 1992, newspapers in the state published pictures of handcuffed students caught cheating in the exams, causing an uproar.
- Due to the strict implementation of the law, around 17 per cent of the students left the examination midway.
- As a result, only **14.70 per cent of intermediate and 30.30 per cent** of high school candidates passed the board exams.
- The Mulayam Singh Yadav-led Samajwadi Party (SP) made this an election issue.
- In the 1993 elections, the SP came to power in alliance with the Bahujan Samaj Party and scrapped the anti-copying ordinance within hours of taking the oath.
- The government also implemented the "**self-centre**" rule, allowing schools and colleges to become examination centres for their students.

- There was an increase in cases of cheating and unfair means after this, though the pass percentage in government exams improved.
- In 1997, with the return of the BJP and Kalyan Singh as the CM, the government reintroduced the **Anti-Copying Act**, but with the change that the offence was made bailable.

GS II: International relations

INDO-PACIFIC STRATEGY

1. Context

Ahead of her scheduled participation in the G20 Foreign Minister's meeting in March in New Delhi, Canada's Foreign Minister Melanie Joly made a quiet bilateral visit to the capital this week.

2. Key points

- Both sides appear keen to draw a line under the bitterness that has dogged their relationship over the last few years and Canada's freshly minted Indo-Pacific strategy, which has attracted notice for its unusually blunt language against China seems to have provided an appropriate opening.
- The two Ministers expressed interest in deepening collaboration across domains and look forward to the **Early Progress Trade Agreement (EPTA)**.
- It welcomed Canada's Indo-Pacific strategy, given the shared vision of a free, open and inclusive Indo-Pacific.
- The Canadian side said they discussed strengthening the economic partnership advancing security cooperation, facilitating migration and mobility and growing our strong people-to-people ties.
- The Ministers also discussed furthering Canada and India's cooperation in the Indo-Pacific, following the announcement of Canada's Indo-Pacific Strategy in November.
- None of the issues that have strained ties, such as Khalistani activities in Canada found mentioned in the official statements.

3. Embrace of Indo-Pacific

- Canada's Indo-Pacific strategy was released last November, amid domestic and International calls for Ottawa to join the US-led alliance against China and stand for the "**shared interests and values**" of Western democracy.
- Canada, 20 per cent of whose population originates in the **Indo-Pacific region**, is the last G7 nation to embrace the concept of the Indo-Pacific it has been more comfortable earlier with "**Asia Pacific**".

3.1. The three-way deal

- Prime Minister Justin Trudeau, who has been in office since 2015, found Canada's historically soft policy on China upended in December 2018, when Canadian authorities arrested Meng Wanhou, a top executive of the Chinese telecom giant Huawei, for extradition to the United States.
- Days later, China detained two Canadians in apparent retaliation.
- Three years later, after a **three-way deal between China, Canada and the US**, both countries returned each other's nationals.
- With a lot of economic interests at stake, Canada continued to make efforts to repair ties with China.
- But the ruling **Liberal Party** found itself increasingly out of step on this with the anti-China mood at home as well as with its allies, especially the US.

4. Change in Canada's China Policy

- Last year, a series of steps signalled a change in **Canada's China Policy**, including a sudden tightening of investment rules to prevent Chinese state companies from taking control of its critical minerals and mines industry.
- Trudeau's government suggested the basis for this decision was an assessment of threats to national security. It also banned Huawei 5G.
- Canada's Parliament passed a resolution to declare China's treatment of its Uighur minority as "**genocide**".
- Against this fast-evolving background, Canada announced its Indo-Pacific strategy reportedly three years in the making at the end of 2022.

5. Features of the strategy

- China is an increasingly disruptive global power. Key regional actors have complex and deeply intertwined relationships with China.
- Canada's Indo-Pacific Strategy is informed by its clear-eyed understanding of this global China and Canada's approach is aligned with those of our partners in the region and around the world.
- China increasingly disregards the same international rules and norms that have helped China's rise.
- It appears several times about its dependence on China: Canada cannot ignore China's "**sheer size**" China remains Canada's main export destination. So cooperation is necessary to address issues such as **climate change and health**. Plus, the Chinese economy "**offers significant opportunities for Canadian exporters**".
- In short, Canada is saying it will both "**Unapologetically**" defend its national interest and cooperate with China when required.

The strategy contains a funding commitment of US \$1.7 billion over five years, spread over infrastructure projects through the US-led G7 Partnership for Global Infrastructure and Investment, US \$403 million for an enhanced military presence including a third frigate in the Indian Ocean and expanded participation in regional military exercises.

5.1. Objectives

Five objectives are outlined:

1. Promote peace, resilience and Security
2. Expand trade, investment and supply chain resilience
3. Invest in and connect people
4. Build a sustainable and green future
5. Be an active and engaged partner to the Indo-Pacific

Engagement with India is seen as critical to the strategy.

6. Canada-India relations

- Despite a bilateral relationship "**Underpinned**", according to an MEA brief, "by shared values of democracy, Pluralism, expanding economic engagement, regular high-level interactions and long-standing people-to-people ties", ties have been in the sick bay for several years.
- The big issue for India is the safe haven that Canada has been for separatist Khalistani groups and what India sees as the Liberal Party's pandering to these groups for votes.
- Diaspora Sikhs are well represented in the Trudeau government. Some of them are politically supported by pro-Khalistan groups.
- Jagmeet Jimmy Dhaliwal whose **New Democratic Party** supports Trudeau's minority government in Parliament is viewed with suspicion by the Indian establishment.
- Trudeau's visit to India in 2017 was a diplomatic disaster over the Khalistan issue.

Last year, New Delhi objected to Canada permitting a Khalistani secessionist "**referendum**" in the Sikh diaspora and hit back with an advisory against travel in Canada warned against hate crimes.

- 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 have been a constant irritant in the relationship.
- Still, both countries seem to realise that any attempt to restore bilateral ties will need to surmount Canada's vote-bank restraints and India's security concerns.

Canada's Indo-Pacific strategy, says India's strategic importance can only increase as its economy grows and it becomes the world's most populous country, offering a wider staging ground for the two to come together, based on a shared suspicion of China and seeking to expand trade ties, invest in supply chain resilience and greater people-to-people exchanges.

- Though not spelt out, there could also be a defence and security component with Canada's resolve to participate more in maritime security and exercises in the Indo-Pacific and deeper counter-terrorism cooperation than exists now.

- The under-negotiation EPTA is seen as a stepping stone to a comprehensive economic partnership agreement and may pave the way for a wider reset of ties. Whether this will help to "**decouple**" from China is another question.

GS II: Governance

CHILD MARRIAGE ACT

1.Context

Over the last few days, **Assam has arrested many men** in a state-wide crackdown on child marriages. Those arrested have been booked under the provisions of the stringent POCSO Act and the Prohibition of Child Marriage Act

2.Arrests made by law

- Men who married girls below 14 years of age would be booked under the Protection of Children From Sexual Offences Act
- Those marrying girls between 14 and 18 years would be booked under the Prohibition of Child Marriage Act
- **The POCSO Act**, of 2012 criminalises sex between a minor and an adult, The law does not recognize a minor's consent as valid
- Sexual assault under POCSO is a non-bailable, cognisable offence. This means that the police can make an arrest without warrant.
- So a presumption of sexual assault is being made in case of child marriage involving minor girls below the age of 14
- Sexual assault, that is not penetrative, carries a minimum imprisonment of three years that may extend to five years with a fine
- Moreover, under Section 19, POCSO Act imposes a "mandatory reporting obligation" which requires every person who suspects or has knowledge of a sexual offence being committed against a child must report it to the police or the Special Juvenile Police Unit

- These mandatory reporting obligations also require doctors to report cases where minor girls seek medical assistance during pregnancies or for termination of pregnancies
- Often doctors are forced to report sexual activity involving a minor girl, even if all parties involved have consented to the marriage

The **Prohibition of Child Marriage Act 2006**, says that child marriages are illegal but not void. Instead, they are voidable at the option of the minor party, in the scenario that the minor petitions the court to declare the marriage void. The Act stipulates 18 years as the minimum marriageable age for women, while for men it is 21 years. The Act punishes child marriage with “rigorous imprisonment which may extend to two years or with fine which may extend to one lakh rupees or with both.”

3. About POSCO Act:

- It was enacted to protect the children from sexual offences, harassment, and pornography for safeguarding the well-being of children
- Act defines a **child as** -"any person whose age is below 18 years age" and it's gender-neutral
- It defines different forms of sexual abuse, including penetrative or non-penetrative assault, as well as sexual harassment and pornography
- It deems sexual assault will be "**aggravated**" under certain circumstances, such as an abused child is mentally ill or when abuse is committed by a person in a position of trust or authority like a family member, police officer, teacher, or doctor
- This act assigns policemen as a child protector in the Investigation Process
- Under section 45, powers to make rules are vested with Central Government
- Section 42A of the Act provides any inconsistencies with provisions of any other law, POSCO will override such provisions
- Section 29 of the Act says when the person is prosecuted for committing an offence of sexual assault against a minor, the special court saying "shall presume" the accused guilty

4. Data Showing child marriages in India

- NFHS-5 data show that about 25 % of women aged 18-29 years married before the legal marriageable age of 18.
- The proportion has declined only marginally from NFHS-4 (28%). Expectedly, the prevalence is higher in rural than urban India (28% and 17% respectively).
- West Bengal has the highest prevalence (42%) followed by Bihar and Tripura (40% each).
- Oddly, the decline in child marriages has been partly at best in these high-prevalence states.
- At the other end of the spectrum are Goa, Himachal Pradesh, and Kerala (6% to 7%).
- If we look at the data community-wise, 39% of child marriages in India take place among Adivasis and Dalits.
- The share of advantaged social groups is 17% and the remaining share is of Other Backward Classes.
- Regarding household wealth, 58 % of these marriages occur among the poorest wealth groups (bottom 40%), about 40% of them occur among the middle 50% and only 2% of them occur among the top 10% of wealth groups.
- Only 4% of child marriages in India take place among women who have completed more than 12 years of education.
- Thus, the data confirm that a significant proportion of child marriages takes place among women with less than 12 years of Schooling and households that are socially and economically disadvantaged.

5. Factors behind child marriages

5.1 Poverty

Equally, a large proportion of child marriages take place primarily because of poverty and the burden of the huge costs of dowry associated with delayed marriages.

These factors curtail a girl's opportunities to continue her education.

And in turn, the lack of educational opportunities plays an important role in facilitating child marriages.

5.2 Social Norms

It is because of social norms in many regions and cultures that parents begin preparations for a girl's marriage once she has reached menarche.

Because marriage often determines a woman's status in many societies, parents also worry that if they don't marry their daughters according to social expectations, they will not be able to marry them at all.

Forced child marriage also is a route to cementing family, clan, and tribal connections or settling obligations.

5.3 Limited Education

Little or no schooling strongly correlates with being married at a young age. Conversely, attending school and having higher levels of education protect girls from the possibility of early marriage.

5.4 Insecurity in the Face of Conflict:

When families live in unsafe regions, parents may genuinely believe that marrying their daughters is the best way to protect them from danger.

GS II: Polity

TIPRALAND

1. Context

The newest political party in Tripura, the Tipraha Indigenous Progressive Regional Alliance (TIPRA) Motha, floated in 2019 by Pradyot Bikram Manikya Debbarma,

the son of Tripura's last king has created a flutter with its demand for a Greater Tipraland. With this core demand, the party has brought other indigenous political parties under its fold.

2. What is Greater Tipraland?

- Greater Tipraland includes the region under the Tripura Tribal Areas Autonomous District Council (TTAADC) and 36 villages out of it, within the Tripura State boundaries.
- Tipra Motha demands that this area be carved out as a state or union territory.
- It is essentially an extension of the ruling tribal partner Indigenous Peoples Front of Tripura- I PFT's demand of Tipraland, which sought a separate state for the tribals of Tripura.
- The new demand seeks to include every tribal person living in an indigenous area or village outside the Tripura Areas Autonomous District Council (TAADC) under the proposed model.
- The idea doesn't restrict to simply the Tripura tribal council areas but seeks to include 'Tupsara' of Tripuris spread across different states of India like Assam, Mizoram, etc. as well, even those living in Bandarban, Chittagong, Khagrachari, and other bordering areas of neighboring Bangladesh.



Source : Wikipedia

3. Reasons for the Demand

- The TTADC receives two percent of the state budget while it has 40% of the state's population.
- The call for Greater Tripaland arose due to unfulfilled demands of revising the National Register of Citizens (NRC) in Tripura and opposition to CAA in the past.
- Tripura saw turbulent violent struggles by different outlawed insurgent outfits like the Tripura National Volunteers (TNV), United Bengali Liberation Front (UBLF), National Liberation Front of Tripura (NLFT), All Tripura Tiger Force (ATTF), etc. - all demanding self-determination and sovereignty, albeit on different ethnic and community lines.

4. Does parliament have the power to create new states?

- Parliament derives powers to create a new state from Article 2 and Article 3 of the Constitution of India.
- Article 2- Parliament may by law admit into the union, or establish, new states on such terms and conditions as it thinks fit. States like Sikkim (previously not within India) became a part of the country under Article 2.
- Article 3- It empowered the Parliament to make laws related to the formation of new states and the alteration of existing states.

5. What is the genesis of the demand?

- Tripura was a kingdom ruled by the Manikya dynasty from the late 13th century until the signing of the Instrument of Accession with the Indian government in 1949.
- The demand stems from the anxiety of the indigenous communities in connection with the change in the demographics of the state, which has reduced them to a minority.
- It happened due to the displacement of Bengalis from erstwhile East Pakistan between 1947 and 1971.
- From 63.77% in 1881, the population of the tribals in Tripura was down to 31.80% by 2011.

- In the intervening decades, ethnic conflict and insurgency gripped the state, which shares a nearly 860-km-long boundary with Bangladesh.

6. How has this affected Tripura?

- It seems to have considerably polarised an already uneasy relationship between the tribals and the non-tribals since the State emerged from the days of armed insurgency.
- The TIPRA Motha put up a massive roadshow in November which is being hailed as one of the largest political mobilizations of tribals in the State.

GS II: Polity

ARTICLE 105

1. Context

In his letter to Rajya Sabha Chairman Jagdeep Dhankhar on February 9, Kharge cited Article 105 of the Constitution which deals with the privileges and powers of parliamentarians.

Protesting against the expunction of parts of his speech on the motion of thanks on the President's address, Leader of Opposition in Rajya Sabha and Congress president Mallikarjun Kharge has argued that MPs have freedom of speech and that he did not make any personal allegations in the House.

2. About Article 105

Article 105 of the Constitution deals with "powers, privileges, etc of the Houses of Parliament and the members and committees thereof and has four clauses.

1. Subject to the provisions of this Constitution and the rules and standing orders regulating the procedure of Parliament, there shall be freedom of speech in Parliament.
2. No member of Parliament shall be liable to any proceedings in any court in respect of anything said or any vote was given by him in Parliament or any committee thereof and no person shall be so liable in respect of the publication by

or under the authority of either House of Parliament of any report, paper, vote or proceedings.

3. In other respects, the powers, privileges and immunities of each House of Parliament and of the members and the committees of each House shall be such as may from time to time be defined by Parliament by law and until so defined shall be those of that House and its members and committees immediately before the coming into force of section 15 of the Constitution (Forty-fourth Amendment) Act, 1978.

4. The provisions of clauses 1, 2 and 3 shall apply to persons who by the virtue of this Constitution have the right to speak in and otherwise to take part in the proceedings of, a House of Parliament or any committee thereof as they apply about members of Parliament.

- Simply put, Members of Parliament are exempted from any legal action for any statement made or act done in the course of their duties.
- For example, a defamation suit cannot be filed for a statement made in the House.
- This immunity extends to certain non-members as well, such as the Attorney General for India or a Minister who may not be a member but speaks in the House.
- In cases where a Member oversteps or exceeds the contours of admissible free speech, the Speaker or the House itself will deal with it, as opposed to the Court.

3. Restrictions on this privilege

There are some restrictions on this privilege, indeed. For example, Article 121 of the Constitution prohibits any discussion in Parliament regarding the "Conduct of any Judge of the Supreme Court or of a High Court in the discharge of his duties except upon a motion for presenting an address to the President praying for the removal of the Judge.

4. The origin of the Privilege of Parliament

- The Government of India Act, of 1935 first brought this provision to India, with references to the powers and privileges enjoyed by the House of Commons in Britain.
- An initial draft of the Constitution too contained a reference to the House of Commons, but it was subsequently dropped.
- However, unlike India where the Constitution is paramount, Britain follows Parliamentary supremacy.
- The privileges of the House of Commons are based on Common law, developed over centuries through precedents.

4.1. R vs Elliot, Holles and Valentine

- In the 17th Century case "**R vs Elliot, Holles and Valentine**", Sir John Elliot, a member of the House of Commons was arrested for seditious words spoken in a debate and for violence against the speaker.
- However, the House of Lords provided immunity to Sir John, saying that words spoken in Parliament Should only be judged therein.
- This privilege has also been enshrined in the Bill of Rights 1689, by which the Parliament of England definitively established the principle of a constitutional monarchy.

4.2. Bradlaugh v. Gosset

In the 1884 case of "**Bradlaugh v. Gosset**", then the Chief Justice Lord Coleridge of the House of Lords observed: What is said or done within the walls of Parliament cannot be inquired into in a court of law".

5. Indian courts rulings

5.1. Tej Kiran Jain v N Sanjiva Reddy

- In the 1970 ruling in "**Tej Kiran Jain v N Sanjiva Reddy**", the Supreme Court dismissed a plea for damages filed by the followers of the Puri Shankaracharya against parliamentarians.
- The judgement recalled that in March 1969, a World Hindu Religious Conference was held at Patna.

- The Shankaracharya took part in it and is reported to have observed that untouchability was in harmony with the tenets of Hinduism and that no law could stand in its way and to have walked out when the National Anthem was played.
- The petitioners claimed that when the issue was debated in Parliament, uncharitable remarks were made against the seer.
- The petitioners argued that the MP's immunity was against an alleged irregularity of procedure but not against illegality.
- However, the SC ruled that "the word **"anything"** in Article 105 is of the widest import and is equivalent to **'everything'**".

5.2. P V Narasimha Rao vs. The state's

- Almost two decades later, in 1998, the SC in the case of P V Narasimha Rao vs. The state's answered two questions on parliamentary privilege, broadly relating to questions of corruption.
- In 1993, Narasimha Rao was the Prime Minister of a minority government at the Centre.
- When a vote of no-confidence was called by members of the opposition against the government, some factions of the ruling party paid Jharkhand Mukti Morcha (JMM) members to vote against the motion.
- The motion was defeated in the House, with 251 members supporting it and 265 members against it.

Two questions came before the Supreme Court.

1. Whether MPs could claim immunity from prosecution before a criminal court on charges of bribery related to parliamentary proceedings, under Articles 105 (1) and 105 (2).

2. Whether an MP is a "Public Servant" under the Prevention of Corruption Act, 1988.

- A five-judge Bench of the apex court ruled that the ordinary law would not apply to the acceptance of a bribe by an MP in case of parliamentary proceedings.

- Broadly interpreted, as we think it should be, Article 105 (2) protects a Member of Parliament against proceedings in court that related to or concern, or have a connection or nexus with anything said, or a vote given, by him in Parliament.
- The court said, giving a wider ambit to the protection accorded under Article 105 (2).
- The Court rationalised this by saying it will "enable members to participate fearlessly in Parliamentary debates" and that these members need wider protection of immunity against all civil and criminal proceedings that bear a nexus to their speech or vote.

GS II: Polity

ARTICLE 356

1. Context

On Thursday (February 9), Prime Minister Narendra Modi recalled in Rajya Sabha that congress governments at the Centre had dismissed 90 state governments by "misusing" Article 356 of the constitution and that former PM Indira Gandhi had "misused" it 50 times to dismiss elected state governments.

2. Article 356

- Article 356 of the Constitution of India gives the President of India power to suspend state government and impose President's rule of any state in the country "if he is satisfied that a situation has arisen in which the government of the state cannot be carried on by the provisions of the Constitution.
- It is also known as a "State Emergency" or "Constitutional Emergency".
- Upon the imposition of this rule, there would be no council of Ministers.
- The state will fall under the direct control of the Union government, and the Governor will continue to head the proceedings, representing the President of India.

3. Parliamentary approval and Duration

- A proclamation imposing President's Rule must be approved by both the House of Parliament within two months from the date of its issue.
- The approval takes place through a simple majority in either House, that is, a majority of the members of the House present and voting.
- Initially valid for six months, the President's Rule can be extended for a maximum period of three years with the approval of the Parliament, every six months.

4. Report of the Governor

- Under Article 356, President's Rule is imposed if the President, upon receipt of the report from the Governor of the state or otherwise, is satisfied that a situation has arisen in which the government of the state cannot be carried on by the provisions of the Constitution.
- A proclamation of the President's Rule may be revoked by the President at any time by a subsequent proclamation. Such a proclamation does not require parliamentary approval.

5. Origins of Article 356

- Article 356 was inspired by section 93 of the Government of India Act, of 1935. This provided that if a Governor of a province was satisfied that a situation had arisen in which the government of the province cannot be carried on by the provisions of the said Act, he could assume to himself all or any of the powers of the government and discharge those functions in his discretion.
- The Governor, could not encroach upon the powers of the high court. For the British, this provision allowed for a 'controlled democracy'-while providing some autonomy to provincial governments, section 93 allowed the British authorities to exercise ultimate power when they deemed necessary.

6. How was the provision used as a political weapon in independent India?

- During the decades of Congress's dominance at the Centre, Article 356 was used against governments of the Left and regional parties in the states.

- Until 1959, Jawaharlal Nehru's government had used the article six times, including to dislodge the first-ever elected communist government in the world, in Kerala in 1959.
- In the 1960s, it was used 11 times. After Indira came to power in 1966, Article 356 was used seven times between 1967 and 1969 alone.
- The 1970s were more politically turbulent. Between 1970 and 1974, President's Rule was imposed 19 times.
- Post Emergency, the Janata party government used it in 1977 to summarily dismiss nine congress-state governments. When Indira returned to power in 1980, her government too imposed president's Rule in nine states.
- In 1992-93, Prime Minister Narasimha Rao dismissed three BJP governments in the wake of the demolition of Babri Masjid, besides Kalyan Singh's government in UP.

7. Article 356 and its Safeguards

- The 1994 Supreme Court (S.R.Bommai case) majority decision, in essence, overturned a long tradition that the use of Article 356 was not subject to review by courts, a doctrine articulated in a landmark 1997 case, State of Rajasthan Vs Union of India.
- The Bommai case verdict laid down the conditions under which state governments may be dismissed, and the mechanisms for that process.
- In the S.R. Bommai case, a nine-member bench of the supreme court construed the scope of Article 356, which also allows the imposition of the President's Rule in the states, with stringent conditions.
- These included ascertaining whether objective conditions exist which render it impossible to carry out governance in the state where the proclamation has been made and the process has to be approved by both Houses of Parliament before consideration for Judicial review.

GS II: International relations

RUSSIA-CHINA-UKRAINE

1. Context

As the Russia-Ukraine conflict marches toward the one-year mark, there seem to be hardly any signs of de-escalation.

2. Key Points

- Western powers have started providing powerful offensive weapons to Ukraine and Russia has threatened grave consequences in response.
- Moreover, as Western sanctions on Russia progressively tighten, the country is increasingly becoming reliant on China.
- While China has officially been speaking in a largely neutral language, there have been some instances which have come to light recently of China allegedly assisting Russia in its campaign.

3. China's stance on the conflict

- China's formal stance on the conflict has been along the lines of all countries deserve respect for their sovereignty and territorial integrity and that support should be given to all efforts that are conducive to peacefully resolving the crisis which it has consistently been reiterating on the world stage.
- With an emphasis on "**all countries**", China appears to be demonstrating its position as being equidistant from both the conflicting parties.
- However, despite this articulation, China's attitude towards the conflict has often been categorised as "**Pro-Russian neutrality**".
- Russia and China are engaged in a Comprehensive strategic partnership of coordination for a new era and despite the conflict, China has pushed ahead with strengthening its relations with Russia.
- Moreover, China has painted the U.S. and NATO as Prime Instigators of the crisis, echoing the Russian narrative in this regard.

It also needs to be noted that in the past one year since the start of the conflict, out of the seven resolutions put to vote in total at the UN General Assembly, Security Council, Human Rights Council and the World Health Organization by the West against Russia, China voted against three and abstained from four.

- China had only voted in favour of one UN Security Council resolution the proposal which was raised by Russia on humanitarian aid.
- Hence, China's portrayal of a neutral stance has many detractors.
- However, as the conflict progressed, China's rhetoric seems to be becoming less pro-Russia and more neutral in tone.
- Xi Jinping, the President of China, during his November 2022 meeting with German Chancellor Olaf Scholz, warned that the conflict should not cross the nuclear threshold; perhaps referring to Russia's President Vladimir Putin's nuclear threats to deter Western support to Ukraine.
- Subsequently, in his piece in The National Interest in December 2022, he struck a sympathetic note with the Ukrainians.
- He had also in other instances emphasised that there are some limits in China's relations with Russia despite the talks of a "**no limits**" partnership.
- Apart from the higher level leadership in China, there have also been some alleged noises from below the hierarchy which has been critical of Putin's actions.
- Nevertheless, the new trend in China's attitude to the conflict was once again on display during the G-20 Summit held in Bali in November 2022.
- The leaders' declaration which stated that most members strongly condemned the war did not concur with China only because it objected to calling the conflict a "**war**".
- However, China not opposing the condemnation of the conflict itself, rather than its terminological nuance is something which has not missed international scrutiny.

4. China's involvement in the conflict

- Outside the realm of discourse, China's actions do not seem to carry any such nuances, as it is intervening at least in an indirect manner in the conflict.
- China has benefited immensely from buying cheap Russian oil and gas.
- Since the start of the conflict, China has displaced Germany as the largest purchaser of Russian oil, with Russia replacing Saudi Arabia as China's largest supplier of crude oil.
- The growing collusion between the two countries is not just limited to hydrocarbons, but also extends to materials and technology.

- China's covert assistance to Russia by accessing Russian customs data compiled by C4ADS an American think tank.
- Chinese State-Owned enterprises in the defence sector have provided navigation equipment, jamming technology, radar systems and fighter jet parts to their Russian counterparts.
- According to the data, several tens of thousands of shipments of dual-use goods have been sent by China to Russia, to which the latter would otherwise be having only restricted access due to sanctions.
- It has also been found that millions of chips have made their way to Russia through China; chips are central to modern military equipment and also subject to increasing sanctions by the West both against Russia and China.
- China refuted such allegations and claimed that the military dimensions of such transactions were mere speculations.
- This is in sharp contrast to China's rhetoric which demands Western powers not sends military support to intensify the conflict.

These actions by China have a huge significance concerning recent developments, wherein countries like Germany and the U.S. are sending their offensive weapon platforms to Ukraine such as the **Leopard and Abrams tanks**, respectively.

- The West is starting to take action against China in this milieu. For instance, the U.S. has recently slapped sanctions on Spacety China, a Chinese satellite company which was indirectly providing satellite imagery of Ukraine to the Wagner Group, a Russian private military force which is now heavily involved in the conflict.

5. China's emerging attitude

- While there is a strengthening of neutrality in China's rhetoric, the same is absent in its actions.
- This trend and dichotomy can only be explained by understanding China's larger game plan.
- China needs to keep Russia close and well-supplied because Russia is its premier ally in its large global ambition to undermine U.S. dominance.

- China would also like to keep its Russia card so that in the eventuality of the conflict turning into peace talks, China could use it to gain concessions from the West.
- Perhaps, the ideal bargain that China seeks is on the trade and technology front where it is facing a major challenge from the West of late.
- This is significant for China, especially at a time when it desperately needs a post-Zero Covid economic revitalisation.

China cannot overtly support Russia as it will hurt its relations with both Ukraine and European Union (EU).

China is the largest trading partner for both Russia and Ukraine; in fact, China displaced Russia in 2019 as Ukraine's largest trading partner.

- Ukraine and not the U.S. is China's largest corn supplier and its third largest supplier of military equipment; China is Ukraine's biggest market for defence goods.
- Liaoning, China's first aircraft carrier, is a refurbished aircraft carrier bought from Ukraine after the Soviet Union's disintegration.
- China, therefore cannot abandon all its interests in Ukraine for Russia's sake.
- China also has very strong economic ties with the EU and would like the EU to further bolster its strategic autonomy to act more independently of the U.S. in matters of geopolitics.
- On the whole, China's efforts at the end to encourage Russia in a limited and covert manner, without raising alarms in the West seem to be intended to keep the war going.
- For one, it provides valuable time and information for planning a Taiwan invasion.
- China may be watching and learning from Western assistance to Ukraine to forecast its response to a possible invasion of Taiwan in the future by China.
- It is certainly in China's best interest to keep Russia and the West divided, lest they team up together against China as in the 19th Century.
- Moreover, with the conflict prolonging, the West will be distracted from the Indo-Pacific theatre and Russia will be left weakened to pose any threat to China's growing influence in the post-Soviet space.

- At the same time, China can fill the economic void in Russia left by the withdrawal of Western investment and technology, while engineering an economic recovery for itself.
- China can also build up its strategic reserves and capabilities during the crisis to prepare for an inevitable hostile period of relations with the U.S. in a post-Ukraine scenario.

GS II: Social issue

DAWOODI BOHRAS

1. Context

A five-judge Constitution Bench of the Supreme Court on Friday (February 10) referred the challenge to the constitutional validity of the practice of ex-communication in the Dawoodi Bohra community to the nine-judge Bench constituted to review the September 28, 2018, Sabarimala judgment. The petition (Central Board of Dawoodi Bohra Community & Anr. v. State of Maharashtra & Anr) has been pending since 1986.

2. Who are the Dawoodi Bohras?

- The Dawoodi Bohras are members of the Muslim community's Shia sect. The Dawoodi Bohra community has inherited a distinguished heritage and rich historical legacy which traces to the Fatimi imams.
- Their leader is known as the Al-Dai-Al-Mutlaq, who first operated from Yemen and then, for the last 450 years, from India.
- The current and 53rd leader is His Holiness Dr. Syedna Mufaddal Saifuddin.
- The main language of the community is Lisan al-Dawat, a dialect of Gujarati with inclusions from Arabic and Urdu. The leader of the community has the right to excommunicate its members.
- Excommunication includes the action of not being allowed to access a mosque belonging to the community and not being allowed to have a burial dedicated to the community.

3. Practice of ex-communication

- On November 1, 1949, the Bombay Prevention of Excommunication Act (now repealed) was enacted, which sought to prevent the practice of excommunication prevalent in certain communities, as it led to the deprivation of legitimate rights and privileges of its members and in keeping with the spirit of changing times and in the public interest.
- The law defined excommunication as the "expulsion of a person from any community of which he is a member, depriving him of rights and privileges which are legally enforceable by a suit of civil nature.
- It invalidated excommunication of any member, "notwithstanding anything contained in law, custom, usage" for the time being in force.
- A member of the Dawoodi Bohra community filed a suit in 1949, saying the Act rendered certain orders passed by their leader unlawful. Other cases also came before various courts.

4. Legal validity of Excommunication

- The 51st leader of the community challenged the constitutional validity of the act in 1962 stating it violated fundamental rights guaranteed in the constitution under Article 25- Freedom of conscience and free profession, Practice, and Propagation of religion. Article 26-Freedom to manage religious affairs.
- It was submitted that the power of excommunication was part of the management of community affairs in matters of religion.
- It was also submitted before the SC that the power to excommunicate is not absolute or arbitrary.
- The expulsion from the community can be effected only at a meeting of the Jamat. The person concerned will be even given a due warning and an opportunity of mending.
- The practice was also claimed to be essential.

5. Contentions

Respondents to the petition said that Quran does not permit excommunication and that it went against the spirit of Islam.

They also contended that the right to regulate religious communities does not include the right to excommunicate.

6. Supreme court View

- The supreme court held in 1962 that Dai's position is an essential part of the community. The power to excommunicate is to enforce discipline and preserve the denomination and not to punish.
- The judgment came in a challenge to the Bombay Prevention of Excommunication Act of 1949.
- In October 2022, the court said that it would consider whether the practice of excommunication that was protected by the 1962 order can continue.
- Lawyers representing the Al-Dai-Al-Mutlaq submitted that the petition had become infructuous since the impugned Act had already been repealed by the 2016 Act.
- The petitioners (Central Board of Dawoodi Bohra Community) argued that a nine-judge Constitution Bench was going to consider the broad issues on the interpretation of Articles 25 and 26 but the specific issue challenging the constitutionality of excommunication may not be considered by it and sought a decision on that limited issue.

7. What exactly did the supreme court say recently?

- A Constitutional Bench led by Justice S K Kaul said that the 1962 judgment needed a relook. The court held that the consideration was needed mainly on two grounds: balancing the rights under Article 26(b)-the right of religious denominations to manage their own affairs in matters of religion - and Article 21- whether the practice can be protected under Article 26(b) when tested on the touchstone of constitutional morality.
- The court said both these issues are covered by questions pending for the consideration of the nine-judge Bench and requested the Chief Justice of India to tag it with the matters pending before the nine-judge Bench.

8. What is Sabarimala's review Petition?

- The apex court had on September 28, 2019, by a 4:1 verdict held that the devotees of the Sabarimala deity Lord Ayyappa do not constitute a separate religious denomination and therefore cannot claim the benefit of Article 26 of the Constitution of India.
- It also said that the exclusion of women between the ages of 10 to 50 years from entry into the temple is violative of Article 25 of the Constitution.

GS III: Economy

CURRENT ACCOUNT DEFICIT

1. Context

While data released by the government shows that India's exports and imports declined by 6.59 per cent and 3.63 per cent respectively in January.

2. Key Points

- There are indications that the current account deficit (CAD) the difference between exports and imports will moderate despite the global slowdown triggered by rising inflation and interest rates.
- The moderation in CAD, expected to be aided by the fall in commodity prices, rising workers' remittances and services exports and abatement of selling pressure by foreign investors, is set to boost sentiment on the investment front, as it will also bring the pressure off the currency.

3. The significance of CAD

- When the value of the goods and services that a country imports exceed the value of the products it exports, it is called the **current account deficit**.
- CAD and the fiscal deficit together make up the twin deficits the enemies of the stock market and investors.
- If the current account of the country's trade and transactions with other countries show a surplus, that indicates money is flowing into the country,

boosting the foreign exchange reserves and the value of the rupee against the dollar.

- These are factors that will have ramifications on the economy and the stock markets as well as on returns on investments by people.

4. RBI on CAD

- According to the RBI, the CAD which was at \$36.4 billion for the quarter ending September 2022, is expected to moderate in the second half of 2022-23 and remain eminently manageable and within the parameters of viability.
- CAD for the first half of 2022-23 stood at 3.3. per cent of the GDP.
- The situation has shown improvement in Q3: 2022-23 as imports moderated in the wake of lower commodity prices, resulting in the narrowing of the merchandise trade deficit.

5. Narrowed Trade deficit

- January trade deficit narrowed to \$17.7 billion, led by a sharp fall in imports, while exports fell by a smaller amount.
- The sharp drop in imports was due to non-oil imports falling, mainly due to a price impact (softening in coal prices from mid-December), likely softening in domestic demand post the festival season (Such as lower imports of transport equipment) and the seasonal impact of the Chinese New Year holidays.
- On the other hand, after the Rs 26, 000 crore sell-off by foreign portfolio investors in January, FPI outflows have come down to Rs 4, 400 crores in February so far.
- Workers' remittances went up to \$ 30 billion in the April-September 2022 period from \$ 25. 48 billion in the same period a year ago.
- At the same time, gold imports fell to \$20 billion from \$ 23.9 billion a year ago.

6. Improvement of Capital flow

- While there is a perception in the markets that capital flows could come under some pressure with China's reopening and any deviations in monetary

policy expectations, inflows are expected to increase the economy on the whole as foreign investors are unlikely to keep away from India, which is expected to witness one of the highest growth rates among large economies.

- At a time when the economies of many developed markets are expected to take a hit, the RBI has projected the GDP growth for the next fiscal (FY2024) at 6.4 per cent and the Union Budget has indicated a capital expenditure of Rs 10 lakh crore (over \$120 billion).
- Moreover, with the rise in interest rates in India after the RBI hiked the repo rate by 250 basis points to 6.50 per cent, non-resident Indian deposits, remittances and FPI investment in debt are expected to rise further.
- NRI deposits had increased by \$3.62 billion to \$ 134.49 billion in the April-November period of 2022.
- Capital flow into India came under pressure in 2022 following the sharp rise in interest rates in the US.
- While FPIs pulled out Rs 121, 439 crores in 2022, even in the first six weeks of 2023, the FPI flow has been negative and the equity markets have witnessed a net outflow of Rs 32, 887 crores till February 16.
- While the flow of capital will depend upon the interest rate movement and currency movements vis-a-vis the US dollar, there is optimism among global investors about India.

7. Moderate CAD impact on Market

- While rising CAD raises concerns among investors as it hurts the currency and thereby the inflow of funds into the markets a notable decline in CAD in January has improved market sentiments.
- The benchmark Sensex at BSE rose 407 points intraday on Thursday before closing at 61, 319 with a gain of 44 points or 0.07 per cent.
- CAD is very important for the currency and the value of an economy hinges a lot on the value of its currency thereby, it also supports the equity markets by keeping the fund flow intact.
- While the numbers for January have come good, experts say this needs to be sustained.

GS III: Economy

MARGINAL COST OF FUND-BASED LENDING RATES

1. Context

Following the 25 basis points (bps) hike in repo rate by the Reserve Bank of India, multiple lenders have raised their marginal cost of fund-based lending rates (MCLR) by up to 15 basis points, which will result in higher equated monthly instalments (EMI) for borrowers.

2. Reasons for the hike

- Last week, the RBI raised its benchmark repo rate the rate at which it lends to banks by 25 bps to 6.5 per cent, taking the cumulative increase in the key rate by 250 bps since May 2022.
- The country's largest lender **State Bank of India** (SBI) has increased its MCLR by 10 bps across all tenors, effective February 15, 2023.
- The overnight MCLR has been hiked by 10 bps to 7.95 per cent.
- The bank is offering a rate of 8.1 per cent each on one-month and six-month MCLR, compared to 8 per cent earlier on both the tenors.
- The lender has raised the one-year MCLR to 8.5 per cent from 8.4 per cent earlier.
- The two-year and three-year MCLR have been revised to 8.6 per cent and 8.7 per cent respectively.

3. Other Banks

- Another state-run lender **Bank of Baroda** (BOB) has increased its MCLR by 5 bps across all tenors from February 12.
- The bank has revised the one-year MCLR to 8.55 per cent from 8.5 per cent.
- The overnight, one-month and three-month MCLR stand at 7.9 per cent, 8.2 per cent and 8.3 per cent, respectively.

- **Indian Overseas Bank (IOB)** has raised MCLR by up to 15 bps across all its tenors.
- The one-year MCLR has been hiked to 8.45 per cent from 8.30 per cent.
- Similarly, one-month, three-month and six-month MCLR have also been raised by 15 bps to 7.9 per cent, 8.2 per cent and 8.35 per cent, respectively.
- The overnight, two-year and three-year MCLR have been revised upwards by 10 bps.

4. About MCLR

- MCLR Introduced on April 1, 2016, MCLR is the minimum interest rate below which banks cannot lend.
- Banks calculate all operating costs as a percentage of the marginal cost of funds for computing MCLR.
- Under the MCLR regime, banks decide on the interest rate at which they will offer to borrowers based on the marginal cost at which they get funds, through funds and by borrowing from the RBI.

5. Impact

- Any change in the repo rate the rate at which the RBI lends money to banks to meet their short-term funding needs impacts the interest rate for borrowers.
- Banks review their MCLR of different maturities every month on a pre-announced date with approval from their boards.
- To further improve the transmission of repo rates to banks' lending and deposit rates, the RBI in October 2019 introduced the External Benchmark linked Lending Rate (EBLR) system.
- Banks now offer lending rates which are linked to the RBI's repo rate or yields on treasury bills.
- Any change in the repo rate immediately gets reflected in the bank's lending rate.
- Some segments of borrowers were issued loans before October 2019, continuing with the old MCLR regime.

GS III: Economy

TAXING WINDFALL PROFITS

1. Context

Recently, the Union government hiked the windfall profit tax levied on domestically-produced crude oil as well as on the export of diesel and aviation turbine fuel (ATF). Just three days before this, the Chairman of the Central Board of Indirect Taxes & Customs Vivek Johri told PTI that prices of crude were on the rise again and thus, for the time being, windfall tax will continue.

2. About Windfall tax

- The U.S. Congressional Research Service (CRS) defines a windfall as an "unearned, unanticipated gain in income through no additional effort or expense".
- They are called so as the profits are derived from an external or unprecedented event or from something the firm actively did not participate in, for instance, the energy price rise as a result of the Russia- Ukraine conflict.
- Typically, it's levied as a one-off tax retrospectively over and above the normal rates of tax.
- In oil markets, price fluctuations lead to volatile or erratic profits for the industry. Hence, tax is levied to redistribute unexpected gains when high prices benefit producers at the expense of consumers.
- It can be used to fund social welfare schemes, and as a supplementary revenue stream for the government.

3. Need for Windfall Tax?

- To narrow the country's widened trade deficit on account of rising prices of oil, gas, and coal rise in prices due to pandemic recovery and supply issues resulting from the Russia-Ukraine conflict and consequent increase in energy demands.

- The rising prices imply huge profits for energy companies while resulting in hefty gas and electricity bills for households-widening income inequality.
- The "grotesque greed" of big oil and gas companies eg. the largest energy companies in the first quarter of the year made combined profits of close to \$100 billion.

4. Windfall Profits

- ‘Windfall profits’ refer to an unanticipated spike in earnings of an entity resulting from an exogenous event (which could be one-off and/or prolonged) and not resulting from a business decision.
- The B.K. Chaturvedi committee’s report on the Financial Position of Oil Companies (2008) stated that taxing these windfall gains has been seen as a prerogative of governments, partly to meet fiscal needs and to pursue redistributive justice.
- The central idea here is for sovereigns to capitalize on the lofty profits made by the entities and use them for specific domestic pursuits, for example, spur collections (of taxes) to guard against the consequences of a larger geopolitical event or redistribute them for it to be used for domestic social service schemes, among other reasons.

5. What led to windfall gains?

- Russia’s actions in Ukraine were central to the volatility observed in the oil market in the previous calendar year.
- For perspective, Russia was among the major players in the global oil market and among the largest producers alongside Saudi Arabia and the U.S.
- As a response to Russia’s actions, several Western countries moved to stop or curtail their energy imports from Russia.
- This led to sharp increases in fossil fuel prices as sovereigns went to look for other suppliers for their energy needs, culminating in major profits for oil companies.
- This was a total reversal of fortunes compared to the onset of the pandemic when oil had struggled to even attain fiscal breakeven.

- In India, ONGC's profit after tax (PAT) until September end of the ongoing fiscal year stood at 28,032 crores, compared to the 40,306 crores in the complete fiscal ending March 31, 2022.
- The turn of events has led to oil companies prioritizing investments in conventional sources to provide energy security than transitioning towards cleaner energy to meet energy requirements.

6. Criticism against imposing Windfall Tax

- The one-off taxes, which by definition are imposed retrospectively, are seen as arbitrary, fueling uncertainty among businesses about future taxes.
- The imposition of windfall tax is branded as anti-investment and anti-business.

GS III: Economy

INDIA'S FISCAL DILEMMA

1. Context

The recently announced budget affords a good opportunity to take stock of the fiscal situation.

Most obviously, it is the last full budget before the 2024 elections.

2. Key Points

- The next fiscal is the first time in a long time that India's economy might have a normal year.
- In 2019-20 came the **NBFC crisis**, 2020-21 saw the **pandemic** and 2021-22 the **recovery**, while 2022-23 witnessed **global turmoil** in the wake of the Russian invasion of Ukraine.
- It is only in the next fiscal that we can finally compare like, one "**normal**" budget with another.

3. Comparison of the fiscal situation

So, what can we learn from this comparison? Unsurprisingly, some of the news is good, some are mixed and some are uncomfortable. Consider each in turn.

3.1. Comfortable

- The good news is that in many ways the fiscal situation has proved resilient to the successive shocks (See table).
- Tax collections as a per cent of GDP are marginally higher than they were in 2018-19.
- On the spending side, the composition has improved, as capital expenditure has soared from 1.5 per cent of GDP to a budgeted 3.5 per cent of GDP.
- And sizeable off-budget expenditures were brought back onto the budget two years ago in a major and laudable step to improve transparency.
- The fiscal deficit is now on a downward trajectory, budgeted to fall to about 6 per cent of GDP next year from a Covid peak of more than 9 per cent.

CENTRE'S BUDGET

(in per cent of GDP)

ITEM	2018-19 (Actual)	2023-24 (Budget estimate)
Gross tax revenues (GTR)	10.9%	11.1%
Corporate income	3.5%	3.1%
Personal income	2.4%	3.0%
GST	1.9%	3.2%
Customs and excise	1.8%	1.9%
Net tax revenues of centre (NTR)	7.0%	7.7%
Non-tax revenues	1.9%	1.3%
Total receipts of centre	8.9%	9.0%
Expenditures	12.3%	14.9%
Interest	3.1%	3.6%
Subsidies	1.2%	1.3%
Other current expenditure	6.4%	6.7%
Capital	1.6%	3.3%
Deficit	3.4%	5.9%
MEMORANDUM ITEMS		
"True" deficit	-4.3	5.9
"True" expenditures"	-13.2	14.9
States' share of GTR	36%	31%
Interest as share of NTR	44%	47%

Image Source: The Indian Express

3.2. Mixed developments

- Tax collection as a per cent of GDP is marginally higher than they were in 2018-19.
- At the same time, there have been some mixed developments, particularly on the revenue side.
- Personal income taxes have shown an encouraging rise, but this has been accompanied by increases in exemption limits, meaning that taxation is now

resting on a narrower base of taxpayers, even as prosperity grows and spreads to the middle class.

- Meanwhile, the GST's promise has not yet been realised, as its collection ratio has remained essentially the same as it was five years ago, largely because efficiency gains have been offset by repeated reductions in rates.
- Furthermore, corporate tax revenues have declined significantly, again because tax rates have been reduced, in this case, more than offsetting the returns from the improved profitability and market share gains of large corporations (at the expense of the informal sector).

3.3. Uncomfortable

The uncomfortable news is two-fold.

3.3.1. Increase in expenditures

- First, there has been a notable increase in expenditures over the past five years.
- Here, one needs to be careful with the numbers because 2018-19 spending was understated, as certain transactions had been shifted off-budget.
- Even after this correction is made, however, the true increase in expenditure remains substantial, exceeding 1.5 percentage points of GDP.
- As a result, the structural fiscal deficit will amount to an uncomfortably large 6 per cent of GDP next fiscal.
- The run of large deficits since 2018-19 has necessitated large amounts of borrowing, which have pushed up interest obligations to the point where they now absorb nearly half of the centre's tax revenues.
- As we showed in a piece with Olivier Blanchard, this exceptionally high ratio increases India's fiscal vulnerability while also squeezing out important social expenditures.

3.3.2. Centralisation

- On the revenue side, the states will receive just 31 per cent of gross tax revenues next fiscal, compared with 37 per cent in 2018-19.

- This reflects the centre's increasing use of cesses, which are not shared with the states, as well as the use of a considerable portion of tax collections (from the GST compensation cess) to repay the GST Council for the loans given to the states during the pandemic.
- A subtler form of centralisation is taking place on the expenditure side.
- Non-interest, non-subsidy current expenditure is being compressed, by a sizeable 1 percentage point of GDP in 2022-23 and a further 0.5 per cent of GDP next year.
- How is this being achieved? Various mechanisms are at work, but a key one is that the centre is scaling back its transfers to states for various centrally sponsored schemes.
- Some of the reduction can be justified because the economy has recovered from the pandemic.
- And some of it is aimed at forcing the states to improve their efficiency, not just in their spending but also in the way they manage their funds.
- That goal is laudable, especially if the states can be made to reduce their egregiously wasteful power subsidies.
- But the consequence is major pressure on state government expenditures.

4. Fiscal performance of the country

- The fiscal performance of the country as a whole is not available because of a lack of current data for the states.
- But we do know a few things. For example, we know that despite the sharp increase in the centre's capital spending, investment by the overall public sector has declined compared to 2018-19 because the states and especially public sector undertakings have reduced their outlays.
- In sum, despite the centre's prudence in avoiding a major fiscal stimulus during the pandemic, the fiscal situation has weakened considerably over the last five years.
- The centre's structural deficit is larger, overall debt has risen to an uncomfortably high 85 per cent of GDP and interest obligations have increased exceptionally burdensome levels.
- So, something needs to be done and is being done.

4.1. Limits and Limitations

- The centre's consolidation strategy, however, relies heavily on centralisation, which has both limits and limitations.
- The **limits** are clear. Even under an optimistic scenario, where centralisation leads to a long-needed improvement in state government efficiency, there is only so much consolidation that can be achieved in this fashion.
- Then, the centre will need to find other ways to reduce the deficit to its target of 4.5 per cent of GDP.
- As for the **limitations**, if centralisation does not succeed in improving efficiency, it would simply result in a redistribution of resources from the states to the centre.
- In that case, states would either need to reduce the services they provide to their people.
- Or they would need to increase their borrowing, in which case the overall fiscal position might not improve at all.
- And all of this assumes that the finances will play out as foreseen in the budget as the 2024 elections approach.
- On the other hand, if they are affected by the broader nationwide trend of aggressively competitive populism the overall fiscal picture would worsen.
- Euphoria and pessimism are both unwarranted. But anxiety gnaws.

GS III: Science & technology

STANDARD MODEL THEORY

1. Context

In an astonishing feat of metrology, physicists recently reported measuring the electron's magnetic moment with a precision of 0.13 parts per trillion (ppt).

2. Key points

- The resulting measurement is 2.2 times more accurate than the previous best, recorded 14 years ago.
- More importantly, it's the most precise test so far of a theory that has both comforted and baffled physicists the Standard Model of particle physics and therein lies the rub.

3. About Standard Model

The Standard Model (SM) is the theory that describes the properties of all subatomic particles, classifies them into different groups and determines how they are affected by three of the four fundamental forces of nature:

1. Strong-nuclear force,
 2. Weak-nuclear force and
 3. Electromagnetic force (it can't explain gravity).
- In the 1960s, physicists used SM to predict the existence of a particle called the Higgs boson, which was finally discovered in 2012.
 - Similarly, the SM has allowed physicists to successfully predict the existence and properties of dozens of particles and is considered to be one of the most successful theories in the history of physics.
 - However, it still can't explain why the universe has more matter than antimatter, what dark matter is or what dark energy is.
 - In one strategy to crack these still-open questions, physicists have tested different SM predictions to higher and higher limits and checked whether the predictions agree with the observations. So far, they have all agreed.

4. Electron's magnetic moment matter

- The SM's most precise prediction is of the electron's magnetic moment.
- Physically, the magnetic moment describes how willing an electron is to align itself in the direction of a magnetic field.

Mathematically, it's equal to $-\mu/\mu_B$. Here, μ (pronounced mew) is the electron's magnetic moment (measured in amperes aq. metres) and μ_B is a physical constant called the Bohr magneton. Together $-\mu/\mu_B$ is a dimensionless number.

- In the new study, researchers in the U.S. suspended a single electron in a magnetic field at an ultracold temperature inside a vacuum chamber and measured currents induced in nearby electrodes by the electron's movement.
- They measured the value of $-\mu/\mu_B$ to be 1.00115965218059, within 0.13 ppt.

- They achieved such a precise result by closely controlling the electric fields that hold the electron in place, stabilising the magnetic field and finely adjusting the hardware's physical properties, thus subtracting the sources of uncertainty that could affect the data.
- As a result to quote the physicists writing in their preprint paper, "The most precise prediction of the SM agrees with the most precise determination of a property of an elementary particle" to 1 ppt.
- While the result could be good for the SM, two open questions could also affect it.

5. Implications of the result

- **First**, The electron and the muon are very similar particles, but the muon is around 207 times heavier.
- Multiple measurements until 2021 have found that the muon's magnetic moment disagrees with the SM prediction by about 0.0000000251.
- If this is the handiwork of beyond-SM forces acting on the particle, their effects should also be visible on the electron's magnetic moment.
- But because the electron is lighter, the effects will be 40, 000 times weaker. By achieving such a highly precise result, the new result suggests that the physicists could not find these signs.
- **Second**, a series of mathematical calculations connect the data that physicists record in an experiment and the value of the electron's magnetic moment.
- One of these calculations involves the fine structure constant (α) a universal constant that specifies the strength with which an electron couples to the electromagnetic field. (If it couples more strongly, the field will exert a greater force on the electron.)
- Two studies published in 2018 and 2020 measured the value of α and reached two distinct answers differing by 0.00000016.
- They should have reached the same answer since α is a constant.
- If this discrepancy is resolved, the physicists' measurement can test the SM prediction to 10 times more precision.

6. Evidence beyond SM forces

- Physicists will test as many of the SM's predictions as they can, to the extent they can to look for a crack in its facade.
- They already have some leads the SM says neutrinos should be massless, but they are not and of course the muon anomaly.
- Physicists have also built detectors to look for different kinds of hypothetical dark-matter particles combing through astronomical data to make sense of dark energy and are scrutinising sense of dark energy and are scrutinising each other's calculations.
- Many of them are also debating whether they need an even larger supercollider to succeed the Large Hadron Collider.
- The group that measured the electron's magnetic moment itself has plans to upgrade its setup and repeat the measurement with the electron's anti-particle, the positron.
- Altogether, the community hopes that at least one of these efforts guided by the principles they uncover in their theoretical studies will reveal a glimpse of a world beyond the Standard Model.

GS III: Environment & ecology

CLIMATE CHANGE

1. Background

At the G-20 summit in Bali, rich nations including the U.S., Japan and Canada have pledged \$20 billion to wean Indonesia off coal. The U.S. and Japan have led the International Partners Group to mobilise funds from the public and private sector to support Indonesia's efforts to reach carbon neutrality by 2050

But a lot more needs to be done, and in that context it is significant that at the ongoing Climate Change Conference (COP27) in Egypt, compensation against loss and damage due to climate change is finally on the main agenda, unlike previous years

2. Compensation

- Between 1900 and now, developed countries have benefitted from industrial development, which also led to greenhouse gas (GHG) emissions

- Developing countries were relatively late in starting out on economic development
- They may be contributing to emissions now, but that is a weak reason to ask them to stop economic development
- A farmer in rural Africa can claim that his country has not added to emissions historically, but because of the U.S. or Russia's industrialisation, his agriculture yields are declining
- An urban worker in South America has to work, without choice, in unforgiving heat wave conditions caused by the developed world's emissions of the past
- Therefore, options like financing the developing or underdeveloped countries by the developed world have been discussed
- Ourworldindata.org cites data from the Global Carbon Project to show that between 1751 and 2017, 47% of the CO₂ emissions came from the U.S. and the EU-28. In total, just 29 countries

3. Damage of emissions

- A paper published by *Springer Link* under the Climate Change umbrella earlier this year shows that emissions attributable to the U.S. over 1990-2014 caused losses that are concentrated around 1–2% of per capita GDP across nations in South America, Africa, and South and Southeast Asia, where temperature changes have likely impacted labour productivity and agricultural yields
- But emissions may have also helped a few countries, such as those in Northern Europe and Canada. Moody's Analytics estimates that by the middle of the century, Canada would see a rise in GDP of 0.3% (about \$9 billion a year) as warmer climates spur agriculture and labour productivity
- The Canadian Climate Institute cautioned that such a claim was not wholly true and that other factors must be considered. For example, climate change-spurred floods could cost Canada \$17 billion annually by 2050
- According to the UN Environment annual programme, "the international community is falling far short of the Paris goals, with no credible pathway to 1.5°C in place. Only an urgent system-wide transformation can avoid climate disaster... The world must cut emissions by 45% to avoid global catastrophe"

4. India's emissions

- India is among the top seven emitters (others being China, the EU-27, Indonesia, Brazil, the Russian Federation and the U.S.)
- These seven, plus international transport, accounted for 55% of global GHG emissions in 2020
- Collectively, G-20 members are responsible for 75% of global GHG emissions
- If we seek economic development, some GHG emissions are unavoidable
- But, put in the context of India's population, its emissions are far lesser per head, than for others
- World average per capita GHG emissions were 6.3 tonnes of CO₂ equivalent (tCO₂e) in 2020
- The U.S. is way above this level at 14, followed by 13 in the Russian Federation and 9.7 in China. India remains far below the world average at 2.4
- In addition to last year's pledge of net-zero emissions by 2070, India has also committed to generate 500 GW of renewable energy capacity by 2030, bringing down emission intensity of GDP, as also raising forest cover
- It was changed from "phase-out" to "phase-down" of coal which reflects the country's ground realities of large energy requirements, met predominantly by thermal power, to spur economic development

GS III: Environment & ecology

MARBURG VIRUS

1. Context

Equatorial Guinea has confirmed its first-ever outbreak of Marburg virus disease, following the deaths of at least nine people in Kie-Ntem province, the country's health minister said on Monday. The World Health Organization (WHO) confirmed the outbreak in the small Western African country.

2. About Marburg Virus

- The Marburg virus is part of the so-called filovirus family that also includes the Ebola virus, which has wreaked havoc in several previous outbreaks on the African continent.
It is a highly dangerous pathogen that causes severe fever that often includes bleeding.
- The virus frequently 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 alleviate symptoms can improve the chances of survival.
- Depending on the strain and case management, the fatality rates for the virus range from 24% to 88%.
- During an outbreak in Angola in 2004, the virus killed 90% of the 252 people who were infected. In Ghana last year, two people died of Marburg.

3. Why it is called Marburg Virus?

- The rare virus was first identified in 1967 after it caused simultaneous outbreaks of disease in laboratories in Marburg, Germany and Belgrade, Serbia.
- Seven people died who were exposed to the virus while conducting research on monkeys.
- The natural carrier of the Marburg virus is the African fruit bat, which carries the virus but does not fall sick from it.
But the animals can pass the virus to primates in close proximity, including humans.
- Human-to-human transmission then occurs through contact with blood or other bodily fluids.

4. What is known about the outbreak so far?

- According to the WHO, so far nine deaths and 16 suspected cases have been reported. Symptoms so far have included fever, fatigue, as well as blood-stained vomit and diarrhea.

- The government of Equatorial Guinea announced last week that it was investigating the cause of several suspected cases of hemorrhagic fever, but said only three people had shown light symptoms.
- The affected area was located in a rural eastern region of dense forest near the borders of Gabon and Cameroon.

GS III: Science & technology

BASHINI

1. Context

As the battle between tech giants Google and Microsoft over the future of Internet search intensifies, something enormously significant is happening in India, seeking to harness the power of artificial intelligence (AI) for the country's estimated 150 million farmers. WhatsApp, the enormously popular messaging service, could soon facilitate search on key government schemes, powered by the sensational AI chatbot ChatGPT, and an ambitious national-level programme that aims to build vast crowdsourced datasets with samples of Indian voices in several local languages.

2. Bashini

- Digital India BHASHINI is India's artificial intelligence (AI) led language translation platform.
- A Bhashini Platform will make Artificial Intelligence (AI) and National Language Processing (NLP) resources available to MSME (Medium, Small and Micro Enterprises), Startups and Individual Innovators in the public domain.
- Bhashini Platform is a part of the National Language Translation Mission.
- The mission aims to ensure that as more Indians connect to the internet, they are able to access global content in their own languages.

3. Importance of Bashini

- It will empower Indian citizens by connecting them to the Digital Initiatives of the country in their own language thereby leading to digital inclusion.
- It will also encourage participation of startups.
- Mission will create and nurture an ecosystem involving Central/State government agencies and start-ups, working together to develop and deploy innovative products and services in Indian languages.
- It is a giant step to realize the goal of Digital Government.
- It also aims to increase the content in Indian languages on the Internet substantially in the domains of public interest, particularly, governance-and-policy, science & technology, etc., thus will encourage citizens to use the Internet in their own language.

4. How will the bot understand and interpret local languages?

- While ChatGPT has impressed with its ability to respond to complex queries in fascinating and eloquent ways, building a national digital public platform for Indian languages will be critical for the success of the WhatsApp chatbot that the Bhashini team is working on.
- To build such a language model, it is essential to have large datasets of the various local languages spoken in India, on which the model can be trained, officials said. And this is where an initiative called Bhasha Daan comes in.
- In the test phase, the model currently supports 12 languages including English, Hindi, Tamil, Telugu, Marathi, Bengali, Kannada, Odia, and Assamese.
- If a user were to send a voice note in any of these languages, the chatbot will successfully return a response.

5. Concerns

- Technology ethics experts have cautioned that responses of generative AI models like ChatGPT may not always be accurate.
- Last week, when Google unveiled Bard, its competitor to ChatGPT, the bot made a factual error about the James Webb Space Telescope. The company's shares dropped by \$100 billion after the mistake was spotted.

- In its current testing phase, the WhatsApp chatbot can only respond to simple queries about government schemes, etc.
- This is primarily due to the current limitation of ChatGPT itself the fact that it cannot access information from the Internet in real time.
- ChatGPT's language model was trained on a dataset that only includes information until 2021.

GS III: Agriculture

INTERNATIONAL YEAR OF MILLETS

- The United Nations general assembly has declared the year 2023 "International year of Millets.
- The initiative led by UN Resolution was adopted with the support from more than 70 nations across the globe.
- It will help to create awareness throughout the world about the significant role of millets in sustainable agriculture and its benefits as a smart food.
- It produces more than 170 lakh tonnes which makes 80 per cent of the millets produced in Asia.
- The earliest evidence for these grains has been found in the Indus Valley civilization and was one of the first plants to be domesticated for food.
- It is grown in about 131 countries and is the traditional food of around 60 crore people in Asia and Africa.
- The government of India has declared to celebrate the International year of Millets, 2023 to make it a people's movement so that Indian millets, recipes and value added products are accepted globally.
- To provide a unique opportunity to increase global production, ensure efficient processing and consumption, promote better utilisation of crops rotations and encourage better connectivity throughout food systems.
- To promote millets as a key component of the food basket.
- The Food and Agriculture Organisation (FAO) in a brief message said that the opening ceremony of the International year of Millets hosted by FAO.

- It aims to raise awareness and create momentum for the International year of Millets by engaging FAO members and other stockholders and highlighting the sustainable cultivation and consumption of millets.
- The pandemic has shown that food security is still a concern for the planet.
- Climate change can also impact food availability.
- At such a time, a global movement related to millets is an important step, since they are easy to grow, climate resilient and drought resistant.
- Millets are good for consumers, cultivators and climate.
- They are a rich source of balanced nutrition for consumers. They benefit cultivators and our environment since they need less water and are compatible with natural ways of farming.
- It is an opportunity to raise awareness of and direct policy attention to nutritional and health benefits of millets and their suitability for cultivation under adverse and changing climatic conditions.
- It is an occasion to promote the sustainable production of millets while also highlighting their potential to create sustainable market opportunities for producers and consumers.
- International year of Millets 2023 aims to contribute to the UN 2030 agenda for sustainable development, particularly SDG 2 (zero hunger), SDG 3 (Good health and well-being), SDG 8 (Decent work and economic growth), SDG 12 (Responsible consumption and production), SDG 13 (Climate action) and SDG 15 (life on land).

1. The Sustainable cultivation of millets can support climate-resilient agriculture.

SDG 13 (Climate action) and SDG 15 (life on land).

- Millets are often referred to as climate-resilient crops because they can grow on arid lands with minimal inputs and maintenance, are tolerant or resistant to diseases and pests and are more resilient to climate shocks than other cereals.
- Including and/ or expanding the production of millets in national agricultural systems can support the transformation to more efficient, inclusive, resilient

and sustainable agrifood systems for better production, better nutrition, a better environment and a better life.

2. The sustainable production of millets can fight hunger and contribute to food security and nutrition.

SDG 2 (End hunger)

- In arid areas, millets are very often the only crops that can be harvested in the dry season and are a crucial part of the household food basket.
- Millets can help to overcome food scarcity in difficult periods, therefore contributing to the food security and nutrition of vulnerable populations.
- Millets can grow in very poor and fertile soils in dryland conditions and do not heavily deplete soil nutrients.
- By providing land cover in arid areas, they reduce further soil degradation and help support biodiversity and sustainable land restoration.

3. Millets can be an important part of a healthy diet

SDG 3 (Good health and well-being)

- Millets are a good source of minerals, dietary fibre, antioxidants and protein.
- With a low glycaemic index, they are a good option for people with high-blood sugar.
- Millets are also gluten-free and an excellent and cost-effective source of iron-deficient diets.
- As whole grains, each variety of millets provide different amounts and types of fibre.
- Dietary fibre has a role in regulating bowel function, blood sugar and lipids and satiation.

4. Greater consumption of millets can offer opportunities to smallholder farmers to improve their livelihoods

SDG 8 (Decent work and economic growth)

- The production of millets and the demand for them has declined as other cereals such as wheat, maize or rice became a dietary preference.
- By promoting millets and regaining market opportunities, additional sources of revenue can be created for smallholders and in the food sector, boosting economic growth.
- Millets were among the first plants to be domesticated and for centuries, they have been an important food for hundreds of millions of people in sub-saharan Africa and Asia.
- They are deeply rooted in Indigenous People's culture and traditions and therefore a strategic crop to guarantee food security in areas where they are culturally relevant.

5. Proper handling of millets is key to maintaining their high quality and nutritional benefits

SDG 2 (zero hunger), SDG 3 (Good health and well-being)

- Timely harvesting ensures good grain quality followed by threshing to remove grains from the stalks.
- Controlled mechanised processes for the dehusking of millets at any scale are more efficient than manual dehusking, as they reduce losses from spillage and provide clean intact grains that are ready for market.
- Smallholders and supply chain holders benefit accordingly from better incomes and reduced drudgery.
- Innovative agro-processing, especially in the production of nutritious foods, could target both traditional and non-traditional markets such as youth urban consumers, tourists etc.
- This value addition could lead to market expansion and increased food and nutrition security and incomes for smallholders farmers.

6. Greater trade in millets can improve the diversity of the global food system

SDG 8 (Decent work and economic growth), SDG 12 (Responsible consumption and production)

- Millets, including sorghum, account for less than 3 percent of the global grains trade.
- With the need to improve the resilience of global trade and its ability to respond to sudden changes in the foodgrain market, millets are a valuable option to increase output diversity and mitigate risks related to production shocks.
- Market structure and transparency, in relation to volumes and prices of millets are key elements to ensure stability and sustainability.
- It is important to ensure that millet traders benefit from the same tools as other grain traders, such as digitalisation, which could boost the added value of millet along the grain's value chain and consequently provide more revenue opportunities for producers.

GS III: Agriculture

INDIAN AGRICULTURE EXPORTS

1. Context

India's agricultural exports are poised to scale a new peak in the financial year ending March 31, 2023. But so are imports, bringing down the overall farm trade surplus. Government data show the value of farm exports in April-December 2022, at \$39 billion, was 7.9% higher than the \$36.2 bn for the corresponding period of

the previous year. At the present rate, the record \$50.2 bn exports achieved in 2021-22 look set to be surpassed.

2. Drivers of Exports

The two big contributors to India's agri-export growth have been rice and sugar.

2.1 Rice

- India in 2021-22 shipped out an all-time-high 21.21 million tonnes (mt) of rice valued at \$9.66 bn including both non-basmati and basmati rice.
- In the current fiscal, the growth has been primarily led by basmati rice.
- Its exports have gone up by 40.3% in value (from \$2.38 bn in Apr-Dec 2021 to \$3.34 bn in Apr-Dec 2022) and 16.6% in quantity (2.74 mt to 3.20 mt) terms.
- The corresponding increases have been less for non-basmati exports.

2.2 Sugar

- More spectacular perhaps is sugar. Exports hit a record \$4.60 bn in 2021-22, as against \$2.79 bn, \$1.97 bn, \$1.36 bn, and \$810.90 mn in the preceding four fiscals.
- This fiscal has seen a further surge of 43.6%, from \$2.78 bn in Apr-Dec 2021 to \$3.99 bn in Apr-Dec 2022.
- India's exports of rice and sugar are well on course to touch, if not top, \$11 bn and \$6 bn respectively in 2022-23.

3. Imports

More than a general export slowdown, it's the growth in imports that should be cause for concern. This has come mainly from three commodities.

3.1 Vegetable oils

- The first is vegetable oils, whose imports shot up from \$11.09 bn in 2020-21 to \$18.99 bn in 2021-22, and even more during the first nine months of 2022-23 over the same period of last fiscal from \$14.04 bn to \$16.10 bn or 14.7%.

- According to the Solvent Extractors' Association of India, India's total edible oil imports rose from 13.13 mt in 2020-21 to 14.03 mt in the 2021-22 oil year (Nov-Oct) and increased further by 30.9% from 2.36 mt in Nov-Dec 2021 to 3.08 mt in Nov-Dec 2022.
- Imports now account for over 60% of the country's estimated 22.5-23 mt annual oil consumption.

3.2 Cotton

- The second is cotton. India's cotton exports reached an all-time high of \$4.33 bn back in 2011-12. It remained at reasonably high levels until 2013-14 (\$3.64 bn), before plunging to \$1.62 bn by 2016-17 and \$1.06 bn in 2019-20.
- There was a recovery thereafter to \$1.90 bn in 2020-21 and \$2.82 bn in 2021-22.
- But during this fiscal, not only have exports collapsed to \$512.04 mn in Apr-Dec (from \$1.97 bn in Apr-Dec 2021), imports have soared from \$414.59 mn to \$1.32 bn for the same period.
- Thus, India has turned from a net exporter to a net importer of cotton.

3.3 Cashew

- The third commodity is cashew. During April-December 2022, imports have posted a 64.6% rise to \$1.64 bn from \$996.49 mn in Apr-Dec 2021, even as exports of cashew products have fallen from \$344.61 mn to \$259.71 mn for the same period.
- A similar trend has been witnessed in spices, with exports de-growing and imports edging up.

4. Policy Implications

- The UN Food and Agriculture Organisation's Food Price Index- having a base value of 100 for the 2014-16 period averaged 122.5 points in 2012-13 and 119.1 points in 2013-14. Those were the years when India's agri-exports were at \$42-43 bn.

- As the index crashed to 90-95 points in 2015-16 and 2016-17, so did exports to \$33-34 bn.
- The exports recovery in 2020-21 and 2021-22 happened on the back of rising global prices and the FAO index averaging 102.5 points and 133 points in the two years.
- The index peaked at 159.7 points in March 2022, just after the Russian invasion of Ukraine.
- Since then, it has fallen every month, with the latest reading of 131.2 points for Jan 2023 the lowest after the 129.2 points for Sept 2021.

5. Expectations

- Going by past correlation, one can expect this to lead to India's farm exports showing in the months ahead.
- Moreover, this could be accompanied by increased imports, as was the case from 2014-15 to 2017-18.
- In the event, the focus of policymakers too may have to shift from being pro-consumer (to the extent of banning/restricting exports) to pro-producer (providing tariff protection against imports).

6. Way forward

- The government needs to do something about cotton and edible oils. India's cotton production has declined from a high of 398 lakh bales in 2013-14 to a 12-year low of 3.7.05 lakh bales in 2021-22.
- Clearly, the effects of not allowing new GM technologies after the first-generation Bt cotton are showing.
- A proactive approach is required in edible oils as well, where planting GM hybrid mustard has been permitted with great reluctance and is now before the Supreme court.

GS III: Science & technology

MICRO LED TECHNOLOGY

1. Context

Apple is currently working on this new display technology and plans to implement the same on future watch models starting in 2024 and gradually on its other devices including iPhones and Macs.

2. Key points

- Apple's shift to microLED display technology is reportedly under process.
- Considered the next big transition in display technology, micro-LEDs are self-illuminating diodes that have brighter and better colour reproduction than Organic Light Emitting Diode (OLED) display technology.
- The complications and challenges with the new technology might delay Apple's plans.

3. About micro LED display technology

- The basis of micro LED technology is sapphires. A sapphire can shine on its own forever.
- A microLED screen is filled with such small but strong light.
- The picture in a microLED screen is generated by several individual light-emitting diodes.
- Samsung, the pioneer in microLED technology explained in a video that a microLED is as small as cutting a centimetre of hair into 200 smaller pieces.

Each of these micro LEDs is a semiconductor that receives electric signals. Once these micro LEDs are gathered, they form a module. Several modules are then combined to form screens.

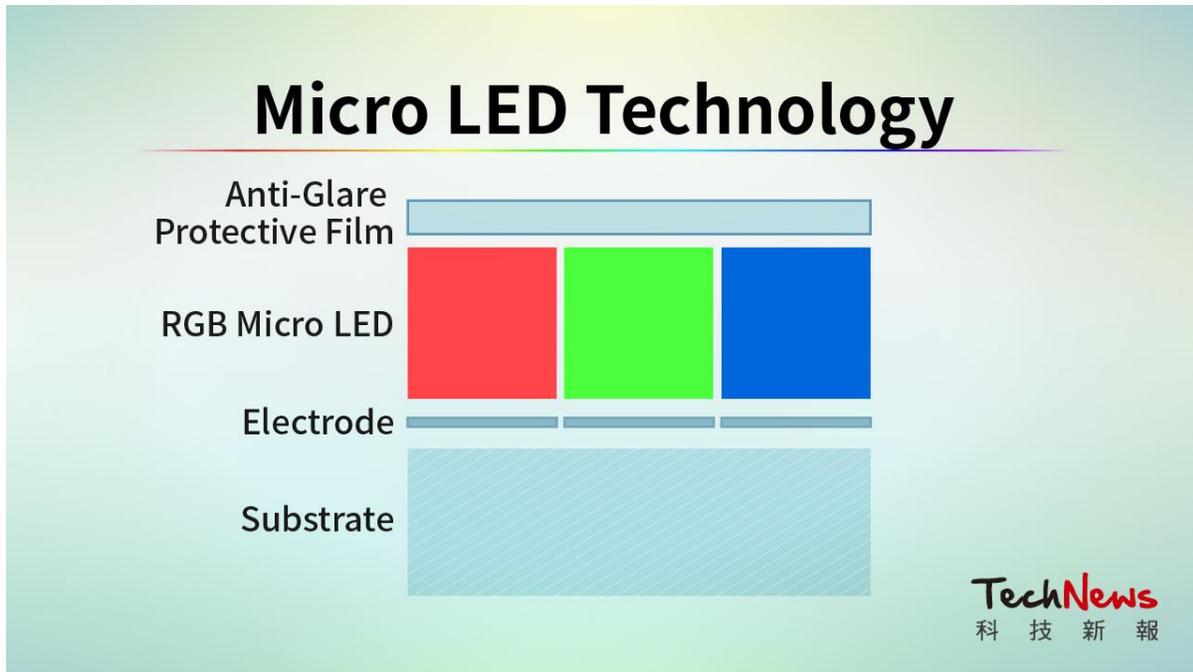


Image Source: Tech News

4. Benefits over other displays

- 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 and are quite a technological feat.
- Micro LEDs have limitless scalability, as they are resolution-free, bezel-free, ratio-free and even size-free.
- The screen can be freely resized in any form for practical usage.
- In addition to being self-emissive, MicroLEDs also individually produce red, green and blue colours without needing the same backlighting or colour filters as conventional displays.
- The electronics company is currently the world's most advanced manufacturer of displays and has been producing its version of micro LEDs for TVs.
- Samsung and LG Displays have evolved with brighter OLED panels over the last couple of years but microLED promises even greater luminance without panel degradation issues.

- Samsung has come up with MicroLED displays with up to 4,000 nits of peak brightness, roughly double what the best OLED and LCD TVs are capable of right now.

5. Apple's new technology

- Micro LED displays will be Apple's first screens designed and developed in-house.
- The tech company currently sources screens from Samsung, LG, Japan Display Inc., Sharp Corp. and BOE Technology Group Co.
- Apple's transition to the new displays could reduce its reliance on technology partners like Samsung and LG and replace Apple supplies with homegrown parts.
- The Cupertino-based company currently makes its M1 and M2 chips.
- It has dropped Intel's chips in its Mac computers to boost in-house designs and plans to do the same with key wireless components in its iPhones.
- Now, by making the displays on its own, Apple could be in a better position to customise its devices and keep a stronger control of its supply chain, thus reducing delays in product availability.

5.1. Apple working on this tech

- Apple started working on the tech in 2014 after purchasing startup LuxVue which pioneered microLED technology.
- The development of Apple's microLED screens was led by veteran executive Lynn Youngs within Apple's hardware engineering division in Apple.
- The company has started testing microLED displays on its Watch Ultra.

5.2. The challenges with the new displays

- Apple planned to transition to microLED screens as early as 2020. But the project languished due to high costs and technical challenges.
- Apple's 2024 target could potentially be extended to 2025. The company could also offer a limited supply of new devices to get the transition started.

5.3. When can we see it and in which products?

- The screens are expected to debut with the Apple Watch Ultra in 2024, but Apple eventually plans to bring the technology to its entire lineup of iPhone, iPad, Mac and Apple Watch devices.
- However, 9 to 5 mac reported that it could be a decade before we see it in a Mac as the technology is still so nascent and complicated. These transitions can take a long time.
- The iPhone had OLED screens six years before the iPad was expected to get them, 9 to 5 pointed.

GS III: Science & technology

QUASICRYSTALS

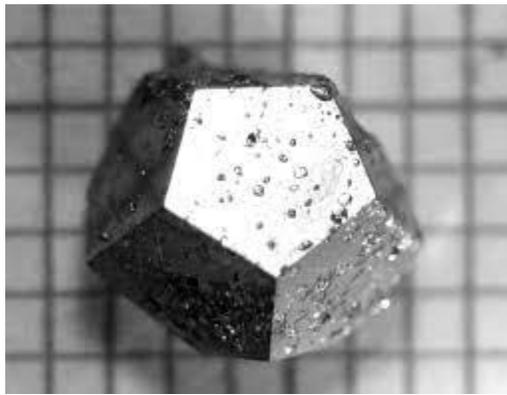
1. Context

Scientists have discovered a new type of quasicrystal, one with 12-fold symmetry, in the Sand Hills of north central Nebraska, USA, according to a recent study. It said that this quasicrystal was formed during an accidental electrical discharge, possibly by a lightning strike or a downed power line in a dune

2. What is Quasicrystal

- Quasicrystal is essentially a crystal-like substance. However, unlike a crystal, in which atoms are arranged in a repeating pattern, a quasicrystal consists of atoms that are arranged in a pattern that doesn't repeat itself regularly
- It's also the first time that researchers have found a quasicrystal somewhere other than meteorites or the debris from nuclear blasts. Notably, scientists have been producing them in laboratories for years now, but it's quite rare to discover naturally occurring quasicrystals
- For the longest time, physicists believed every crystalline arrangement of atoms must have a pattern that repeats itself perfectly over and over again
- However, this changed in 1982, when material scientist Dan Shechtman discovered crystal structures that are mathematically regular, but that do not repeat themselves

- While studying diffraction patterns, which occur when X-rays are passed through the crystals
- Since their discovery, quasicrystals have been widely created in labs and known to “possess novel electrical, photonic, and mechanical properties that aren’t found in other materials, making them an attractive prospect for materials scientists”



3. Findings of the new study

- Although quasicrystals can be easily produced, they are rarely found outside of the laboratory
- The first one was identified in a meteorite, found in 2009 near the Khatyrka River in Chukotka, Russia
- The second one was discovered in 2021 during the study of debris from the site of the world’s first nuclear explosion, which took place in 1945 in New Mexico
- Scientists suggest that in both instances, for the formations of quasicrystals, materials were subjected to extremely high-pressure and high-temperature shock events
- According to the APS report, an “analysis of the meteorite (found in 2009) sample revealed the temperature reached at least 1200 degree Celsius and the pressure 5 GPa, while the New Mexico sample reached 1500 degrees Celsius and closer to 8 GPa. These transient, intense conditions contorted the materials’ atoms, forcing them to arrange into patterns unseen for usual laboratory conditions.”
- The latest discovery is only the third time that scientists have come across a quasicrystal in nature

- The scientists behind the latest research also mentioned that the discovered quasicrystal has a dodecagonal or 12-sided atomic structure, which is quite unusual because the previously found quasicrystals, as well as the lab-grown ones, have five-fold symmetric patterns

GS III: Science & technology

GAGANYAAN

1. Context

At a water Survival test facility operated by the Indian Navy in Kochi, the ISRO has started training for the recovery of crew members of its first human spaceflight, Gaganyaan.

2. Key Points

- At the test facility, which can simulate different environmental and sea state conditions, the space agency is finalising a standard operating procedure to recover crew members as quickly as possible when the craft splashes down in the sea after re-entering the atmosphere.
- While preparations have been going on since 2004 when the manned space mission was first endorsed by the ISRO Policy Planning Committee, there was a lack of clarity on when exactly the mission would be launched, although the target initially in the discussion was 2015.
- In May 2016, the government told Lok Sabha, as it had done earlier that there was no plan for a manned mission to be launched in the "**near future**".
- The mission would now be completed for less than Rs. 10, 000 crores.

3. The manned space mission

- A manned space mission is very different from all other missions that ISRO has so far completed.
- In terms of complexity and ambition, even the **mission to the Moon (Chandrayaan)** and **Mars (Mangalyam)** are nowhere in comparison.

- For a manned mission, the key distinguishing capabilities that ISRO has had to develop include the ability to bring the spacecraft back to Earth after the flight and to build a spacecraft in which astronauts can live in Earth-like conditions in space.
- Over the years, ISRO has successfully tested many of the technologies that are required, but many others are still to be developed and tested.

4. About GSLV Mk-III rocket

- One of the most important requirements is the development of a launch vehicle that can carry heavy payloads into space.
- The spacecraft carrying human beings called the crew module is likely to weigh over 5 to 6 tonnes.
- ISRO's main launch vehicle, the PSLV (Polar Satellite Launch Vehicle), which carried the Chandrayaan and Mangalyaan missions too, can carry payloads that are barely up to 2 tonnes and that too only to orbits at about 600 km altitude from the Earth's surface.
- That is why the development of GSLV Mk-III, a launch vehicle with capabilities to deliver much heavier payloads much deeper into space was necessary.

5. About Gaganyaan

- After three decades of efforts, mainly concentrated on developing an indigenous cryogenic engine to power the rocket, ISRO successfully tested GSLV Mk-III, now called LVM-3 (Launch Vehicle Mark-3), in an experimental flight in December 2014.
- Then, in June last year, ISRO successfully launched the first "developmental" flight of LVM-3, which carried the GSAT-19 satellite into space.
- The LVM-3 is the declared launch vehicle for taking the manned crew module into space. Over the next few years, many more flights of GSLV are scheduled.
- These will help ISRO in perfecting the cryogenic technology for sending up heavier and heavier payloads.

- The government approved the funding for the next 10 flights of GSLV MK-III at an estimated cost of Rs 4, 338.2 crores.
- This was supposed to take care of GSLV Mk-III missions till 2024.

5.1. Reentry and recovery tech

- The satellites normally launched by ISRO, like those for communication or remote sensing are meant to remain in space, even when their life is over.
- Even Chandrayaan and Mangalyaan were not meant to return to Earth.
- Any manned spacecraft, however, needs to come back. This involves mastering the highly complicated and dangerous reentry and recovery ability.
- While reentering Earth's atmosphere, the spacecraft needs to withstand very high temperatures, over several thousand degrees, which is created due to friction.
- Also, the spacecraft needs to reenter the atmosphere at a very precise speed and angle and even the slightest deviation could end in disaster.
- The first successful experimental flight of GSLV Mk-III on December 18, 2014, also involved the successful testing of an experimental crew module that came back to Earth after being taken to an altitude of 126 km into space.
- Called the Crew module Atmospheric Reentry Experiment (CARE), the spacecraft reentered the atmosphere at about 80 km altitude and landed in the sea near the Andaman and Nicobar Islands from where it was recovered by the coast Guard.
- The external configuration of that crew module was the same as that to be used in the manned flight. Many more tests would be done over the next few years.

5.2. Crew Escape System

- This is a crucial safety technology, involving an emergency escape mechanism for the astronauts in case of a faulty launch.

- The mechanism ensures the crew module gets a warning of anything going wrong with the rocket and pulls it away to a safe distance, after which it can be landed either on sea or on land with the help of attached parachutes.
- On 5th July 2018, ISRO completed the first successful flight of the crew escape system.
- A simulated crew module weighing about 3.5 tonnes was launched from Sriharikota.
- It reached 2.7 km into space before unfurling its parachutes and floating back to the Earth's surface.
- The system is likely to undergo many more tests in the coming years.

5.3.. Life support

- The Environmental Control and Life Support System (ECLSS) is meant to ensure that conditions inside the crew module are suitable for humans to live comfortably.
- The inside of the crew module is a twin-walled sealed structure that will recreate Earthlike conditions for the astronauts.
- It would be designed to carry two or three astronauts.

The ECLSS maintains a steady cabin pressure and air composition, removes carbon dioxide and other harmful gases, controls temperature and humidity and manages parameters like fire detection and suppression, food and water management and emergency support.

- While the layout and design of the ECLSS have been finalised, its many individual components and systems are in the process of being tested.
- The design and configuration of the inside of the crew module have also been finalised.
- Ground testing will have to be followed by tests in the space orbit while simulating zero gravity and deep vacuum.

5.4. Astronaut training

- In the early part of the planning process, a proposal for setting up an astronaut training centre in Bangalore was floated. Initially targeted by 2012, it is yet to take off.
- While ISRO still plans to set up a permanent facility, the selected candidates for the first manned mission will most likely train at a foreign facility.
- Candidates will need to train for at least two years in living in zero gravity and dealing with a variety of unexpected experiences of living in space.
- Some training would also be imparted at the Institute of Aerospace Medicine of the Indian Air Force at Bengaluru.

6. From an idea to a plan

August 2004: ISRO Policy Planning Committee recommends manned space mission.

November 2006: National Committee comprising 80 scientists and technocrats endorses the proposal.

September 2007: First Public announcement of the human space programme.

February- March 2009: Another committee, comprising Montek Singh Ahluwalia, R Chidambaram, Roddam Narasimha, M G K Menon, Yash Pal, M S Swaminathan and K Radhakrishnan discusses the desirability and feasibility of the programme and expresses support.

April 2010: Failure of GSLV-D3

December 2010: Failure of GSLV-F06

December 18, 2014: Successful testing of experimental flight of GSLV Mk-III; this also successfully tests an experimental crew module, demonstrating reentry capability.

June 2017: First developmental flight of GSLV Mk-III

July 2018: The first successful flight of the crew escape system

August 15, 2018: Prime Minister announces manned mission to take place before 2022.

GS III: Science & technology

LITHIUM IN J&K

1.Context:

The Geological Survey of India (GSI) **has established “inferred” lithium resources** of 5.9 million tonnes in Salal-Haimana area of Reasi District of Jammu and Kashmir. These resources have been established as part of the “Reasi Sersandu-Kherikot-Rahotkot-Darabi” mineral block, where prospecting has been ongoing since 2021-22

2.Key Takeaways

- Under the United Nations Framework for Classification for Reserves and Resources of Solid Fuels and Mineral Commodities (UNFC 1997), the stage of prospecting is categorised as ‘G4’ when it entails reconnaissance surveys a fairly advanced stage of prospecting
- The finds in this case are learnt to include bauxite (the ore for aluminium) and rare earth elements, alongside lithium
- The finds in this case are learnt to include bauxite (the ore for aluminium) and rare earth elements, alongside lithium
- There are two caveats with the latest lithium find:

1.The new find is categorised as “inferred” one of three categories that mineral resources are subdivided into, in order of increasing geological confidence.

The “inferred” mineral resource is the part of a resource for which quantity, grade and mineral content are estimated only with a low level of confidence based on information gathered from locations such as outcrops, trenches, pits, workings and drill holes that may be of limited or uncertain quality, and also of lower reliability from geological evidence

2.The lithium find in J&K, in inferred terms, is also comparatively small, considering that proven reserves in Bolivia are 21 million tonnes, 17 million tonnes in Argentina, 6.3 million tonnes in Australia, and 4.5 million tonnes in China

- The country currently imports all its lithium needs
- The domestic exploration push, which also includes exploratory work to extract lithium from the brine pools of Rajasthan and Gujarat and the mica belts of Odisha and Chhattisgarh, comes at a time when India has stepped up its economic offensive against China a major source of lithium-ion energy storage products being imported into the country

- Currently, India is almost entirely dependent on import of these cells and the move to ink sourcing pacts for lithium is seen as another salvo in the front against imports from China, the major source of both the raw material and cells
- India is seen as a late mover as it attempts to enter the lithium value chain, coming at a time when EVs are predicted to be a sector ripe for disruption
- Over 165 crore lithium batteries are estimated to have been imported into India between FY17 and FY20 at an estimated import bill of upwards of \$3.3 billion
- This report, along with 15 other resource-bearing geological reports and 35 geological memorandums, were handed over to respective state governments during the CGPB meeting
- Of these 51 mineral blocks, five blocks pertain to gold, and other blocks are of commodities like potash, molybdenum, base metals spread over 11 states and Union Territories including J&K, Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Odisha, Rajasthan, Tamil Nadu and Telangana
- The blocks were prepared based on the work carried out by GSI from field seasons 2018-19 until February 2023
- According to the Ministry of Mines' approved annual Field Season programme (prospecting plan), the GSI takes up different stages of mineral exploration reconnaissance surveys (G4), preliminary exploration (G3), and general exploration (G2) as per the guidelines of UNFC and the Minerals (Evidence of Mineral Contents) Amendment Rules, 2021 (Amended MMDR Act 2021) for augmenting mineral resource for various mineral commodities, including lithium

3.Extraction of Lithium

- Lithium can be extracted in different ways, depending on the type of the deposit generally either through solar evaporation of large brine pools, or from hard-rock extraction of the ore
- In India, there is some potential to recover lithium from brines of Sambhar and Pachpadra areas in Rajasthan, and Rann of Kutch, Gujarat.
- The major mica belts located in Rajasthan, Bihar and Andhra Pradesh and the pegmatite belts in Odisha, Chhattisgarh, alongside rock mining being

undertaken at Mandya, Karnataka, are other potential geological domains of the country

- This is part of a concerted domestic exploration push for the alkali metal a vital ingredient of the Lithium-ion rechargeable batteries that power electric vehicles (EVs), laptops and mobile phones
- The Atomic Minerals Directorate for Exploration and Research (AMD), an arm of the Department of Atomic Energy, had earlier conducted preliminary surveys that had shown the presence of lithium resources of 1,600 tonnes in the igneous rocks of the Marlagalla–Allapatna region of Karnataka’s Mandya district.
- The AMD has been carrying out exploration, both on surface and some subsurface exploration, to augment lithium resources in the potential geological domains of the country

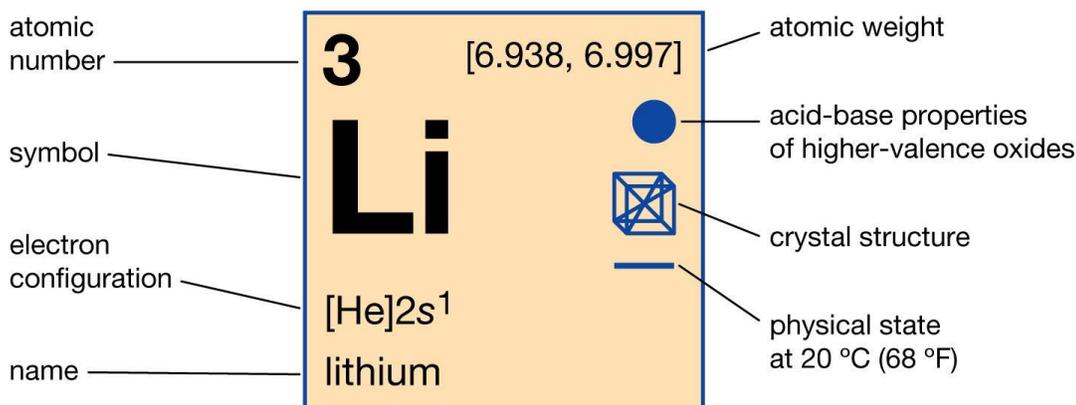
4.About Lithium

Lithium is a chemical element with the symbol Li and atomic number 3. It is a soft, silvery-white alkali metal. Under standard conditions, it is the least dense metal and the least dense solid element

Lithium is one of the key components in electric vehicle (EV) batteries. As the world transitions from gasoline and diesel to electric vehicles, the demand for lithium is going up rapidly too. Lithium is used not only in EVs but also in batteries for gadgets like laptops and mobile phones. It has also found application in the glass and ceramics industries

In fact, lithium has been dubbed “white gold” for its widespread usage in items indispensable to modern-day living

Lithium



 Alkali metals	 Solid
 Body-centred cubic	 Strongly basic

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Image Source: Britanica

GS III: Science & technology

SSLV-D2

1. Context

In its second development flight slated for February 10 morning, the Small Satellite Launch Vehicle (SSLV-D2) will place the Indian Space Research Organisation (ISRO) earth observation satellite EOS-07 and two co-passenger satellites- **Janus 1** and **AzaadiSat2** developed by start-ups in a 450-km circular orbit around the Earth.

The mission of ISRO's smallest vehicle scheduled for 9.18 am will last only 15 minutes. It will be ISRO's first launch of 2023.

2. The Aim of the launch

- The new vehicle was developed to capture the emerging small and microsatellite commercial market, with launches offered on demand.
- The rocket can be assembled by a small team in only a few days, compared to the six months and around 600 people it takes for ISRO's workhorse PSLV.
- The plan is to make it available in a week the assembly can be done in two days, (followed by) two days of testing and in the next two days, are doing the rehearsal and launch already done this time.



Image Source: ISRO

3. Second attempt at a launch

- The launch vehicle uses three solid stages followed by a liquid-fuel-based Velocity Trimming Module (VTM) to place satellites in orbit.
- The vehicle'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.

- This was because of excessive vibration sensed by accelerometers during the second stage separation, which made the onboard system "**think**" that the sensors were faulty.
- For the second flight, structural changes have been made to the equipment bay, along with changes in the separation mechanism for stage 2 and logic changes for the onboard system.
- 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 MkIII, now called LVM 3, When carried Chandrayann-2 in 2019.

4. About Janus-1

- Janus-1 technology demonstrator satellite built by United States-based Antaris and its Indian partners XDLinks and Ananth Technologies.
- The creation of a standardised satellite bus on which multiple payloads can be attached just like lego blocks.
- This will enable companies to quickly and cheaply launch their payloads.
- Once launched, we can handle the operations for them or give the companies access to our platform so that can control it.
- A satellite bus is the main structure of a satellite on which the payloads can be used for multiple applications such as earth observation, signal monitoring or ship tracking rest.
- The company aims to make satellite buses of different sizes, for satellites weighing around 100kg.

Janus-1 which weighs only 10.2 kg, is a six-unit cube satellite with five payloads on board two from Singapore and one each from 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.

5. About AzaadiSat 2

- The payloads have been built by 750 girl students from across India.
- A similar satellite by SpaceKidzIndia was launched aboard SSLV-D1 in August last year.

- The payloads remain the same LoRa amateur radio, a sensor to measure radiation levels in space and sensors to measure the health of the satellite such as temperature, reset count and intertidal data but this second satellite has an additional feature.

6. Space Awareness Programme

- **SpaceKidzIndia** which aims to promote space awareness among children has made the satellite expandable: the 8-unit satellite will have a spring mechanism-based external frame which will open up once the satellite is in orbit.
- After the frame opens up, the satellite will become four times its size.
- This external frame will host a new cheaper type of solar panel to provide energy to the satellite.
- Energy for sustaining longer durations in space is one of the challenges of small satellites, which is why we have made the structure expandable. This is the first time such a thing is being tried out.
- The small size at the time of launch with a bigger power pack means the satellite will easily fit in the launch vehicles and start-ups will spend less on launch services.
- **One hundred and fifty of the 750 students developed some of the payloads.**
- The satellite will also carry the G20 logo to space and the NCC song to celebrate 75 years of the organisation.
- The **space song** is about girl children and students of rural India dreaming of becoming space scientists has been composed by Devi Sri Prasad.

Mains Corner

1. What is Lavani folk art and discuss its evolution and criticism. (250 Words)

2. What are Income Tax surveys and how it is different from Income Tax searches? (250 Words)
3. Discuss the constitutional provisions, powers and functions of the Deputy speaker of Lok sabha? (250 words)
4. Discuss the contributions of Dayanand Saraswati to the society and in the field of educational system (250 words)
5. Discuss the constitutional provisions for creating a new state in India and why Tripura is demanding a separate statehood (250 words)

Prelims Corner

1. Which of the following pairs are not correctly matched?
 - A) Operation Dost: India's humanitarian aid to quake-hit Turkey
 - B) Operation Rainbow: India's rescue operation in Sri Lanka
 - C) Operation Castor: India's operation in Japan after Tsunami in 2011.
 - D) Operation Homecoming: India's operation to bring back Indian citizens stranded in conflict-torn Libya

Answer (C)

2. With reference to NISAR, consider the following statements:
 1. It is Jointly developed by the Japan Aerospace Exploration Agency (JAXA) and the Indian Space Research Organisation (ISRO).
 2. By using synthetic aperture radar (SAR), NISAR will produce high-resolution images.

3. NISAR will observe subtle changes in Earth's surfaces, helping researchers better understand the causes and consequences of such phenomena.

How many statements above are incorrect?

- A) Only one of the three statements
- B) Only two of the three statements
- C) All three statements
- D) None of the above statements

Answer (A)

3. Consider the following statements:

- 1. The Prohibition of Child Marriage Act 2006, says that child marriages are illegal and void.
- 2. Jaya Jaitly Committee submitted a report stating that the marriageable age for women should be increased from 18 to 21 years of age.

Which of the above statements are incorrect?

- A) Only 1
- B) Only 2
- C) Both 1 and 2
- D) Neither 1 nor 2

Answer (A)

4. With reference to TARKASH, consider the following statements:

- 1. It is a joint exercise by India's National Security Guard (NSG) and US Special Operations Forces (SOF).
- 2. The recent sixth edition of the exercise, for the first time, simulated a validation exercise for Chemical, Biological, Radiological and Nuclear (CBRN) terror response mission.

Which of the above statements is/are correct?

- A) Only 1
- B) Only 2
- C) Both 1 and 2
- D) Neither 1 nor 2

Answer (C)

5. With reference to *Treaty of Alinagar*, consider the statements below:

1. It was a reluctant agreement signed by Bengal's Nawab Murshid Quli Khan with the English East India Company.
2. The Treaty of Alinagar, which made neither party satisfied, set the stage for the Battle of Plassey a few months later.

Which of the above statements is/are incorrect?

- A) Only 1 B) Only 2 C) Both 1 and 2 D) Neither 1 nor 2

Answer (A)

Prelims Key

1	2	3	4	5
C	A	A	C	A