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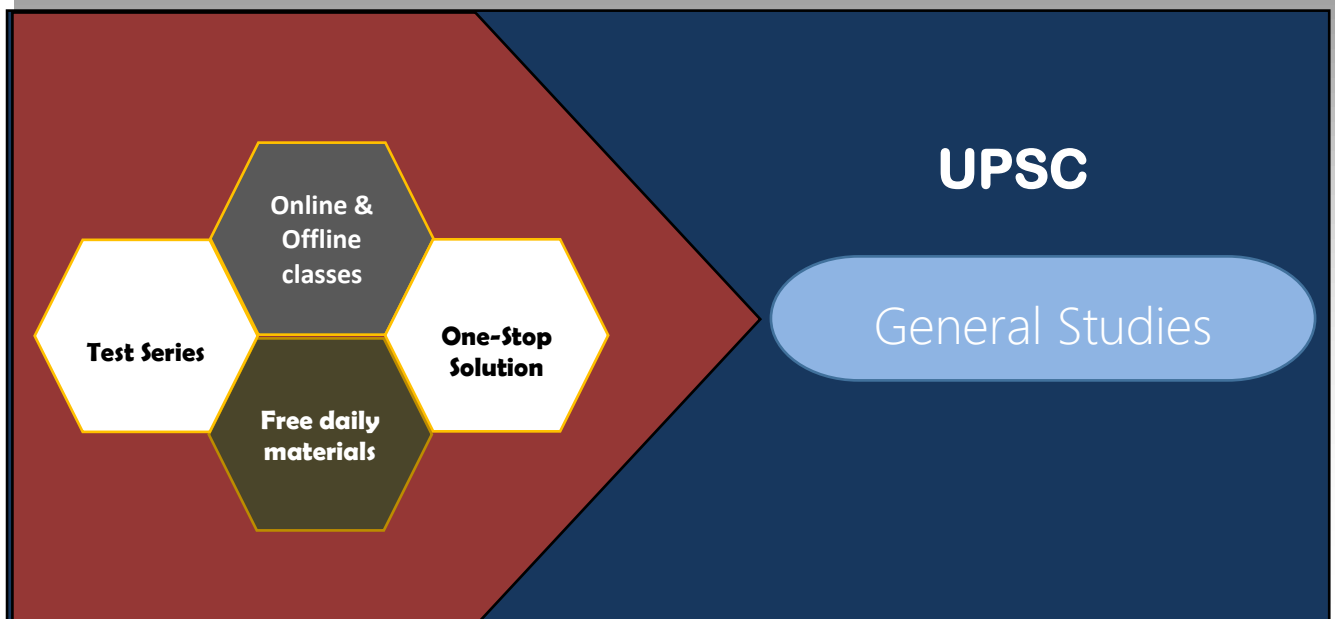
Monthly current affairs magazine

SHIKSHA

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THE HINDU & INDIAN EXPRESS**



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GS 1 : Heritage, culture ,Geography of the World and Society

1. Old age poverty is getting worse if not addressed soon

- India's old age poverty will be big by 2050. Only 2% informal workers have invested in NPS.

Why is age a cause of poverty?

- The "oldest-old", aged 80 years or over, are less able to work than younger older persons; are more likely to have spent their savings; and are most in need of age-appropriate health and long-term personal care services.

How age induces poverty in India?

- India has no legal provisions for income security of the elderly, making the impacts of ageing far harsher for those who are already economically vulnerable.
- Deteriorating brain and muscle capacity are largely non-negotiable facts of life, limiting one's ability to get a job or remain employed.

Reasons for old age poverty

- **Dependency:** A large section of the senior population in India is still dependent on the joint family set up for their senior care and post-retirement needs, with financial planning for retirement taking a back seat.
- **High population:** An increase in the number of seniors in India will reduce the percentage of India's human resource capital and its ability to drive economic growth.
- **Low insurance penetration:** This highlights the inadequacy and underscores the critical need to streamline retirement planning schemes and strengthen the pension programs in the country. There is a lack of social security framework.

Data to remember

People employed in the unorganised sector form around 90 per cent of India's workforce.

How to assure wellness and dignity to elders?

- Income security in the form of monthly pensions either state-assured or employment-linked has been one of the most prevalent modes of assuring continued wellness and dignity against the life-shock of ageing.

Addressing the roadblock

- **Universal pension program:** Income security in later years stems from multiple sources such as pensions, insurances (medical and life), Investments. This provides an opportunity for India to create a universal pension program for its 1.3 billion people.
- **Financial incentives:** There is a pressing need to promote and facilitate fiscal planning in the early years and supplement it with senior-friendly tax structures and integrated insurance products. Such measures can help provide multiple income options to seniors to help them embrace a lifestyle of their choice.
- **Regulatory mechanism:** A regulatory mechanism will set a viable base rate for the interest accrued on senior citizen deposits and ensure market dips don't affect retirement income and senior-specific saving plans.

Case study

- Rwanda has achieved roughly 2 million voluntary micro-pension enrolments (30 per cent of its adult population) within three years by making digital account activation easy and simple for informal workers.

Conclusion

- The government, Pension Fund Regulatory and Development Authority (PFRDA) and the NPS industry now need to urgently put their heads together and address the obvious supply and demand side barriers. Every day is precious. After all, pension exclusion is akin to climate change. It needs immediate attention. By 2050, India's problem of old age poverty will have become way too large, too late, too expensive and entirely irreversible.

2. How India adopted its military flags and badges based on Lord Mountbatten's suggestions?

The new Naval Ensign (flag), which will be unveiled by PM in Kochi, has brought into focus the flags and ranks adopted by the Indian military after Independence.

- Documents accessed from National Archives of India show that Lord Mountbatten, former Viceroy and Governor General of India, played a major role in suggesting new flags and rank badges.
- This was when India was about to become a Republic on January 26, 1950.

When did India switch from British-era flags and ranks?

- The switch from British-era flags and ranks took place when India became a Republic (26th Jan, 1950).
- Prior to that the flags and badges of ranks of the military were of the British pattern.
- The new, Indian pattern of flags of Army, Navy and Air Force, and also the Regimental Flags of the Army and badges of ranks of all three services were adopted on January 26, 1950.
- The 'Kings Commission' granted to Indian military officers was also changed to 'Indian Commission' on the same date.
- And at a subsequent date the King's Colours of the various Regiments were laid to rest in Indian Military Academy (IMA), Dehradun.

What did Lord Mountbatten say in the note?

- The note begins by saying that consequent to becoming a Republic the word 'Royal' shall be dropped from India's Army, Navy and Air Force.
- Mountbatten strongly recommended that no other word like 'State' of 'Republican' should replace the word 'Royal'.
- This was because it would have the effect of separating the forces of India psychologically from the other services in the Commonwealth.
- He further suggested in the letter that the Crown should be replaced from the insignias and replaced by the "three lions of Ashoka".
- Regarding the Naval Ensign, he said that all Commonwealth navies fly the same flag which consists of a large white flag with a red-cross and Union Jack in the upper corner nearer the staff and is known as the 'White Ensign'.
- The new Ensign, the note suggested, should continue to have the red-cross but the Indian national flag should replace the Union Jack.
- He suggested this to maintain commonality with the Commonwealth flags.

How did the Indian government react to Mountbatten's suggestions?

- Nehru wrote to the then defence minister in September 1949 saying that he agreed with the suggestions made by the former Governor General that there should be as little change as possible.
- The then PM particularly mentioned the changes suggested by Mountbatten for the Navy.

- Then Governor General C Rajagopalachari also wrote back to Nehru in May 1949 itself agreeing to Mountbatten's suggestions.
- In the end, Mountbatten's suggestions were virtually all accepted and implemented with effect from January 26, 1950.

3. Glass ceiling needs to be broken to unlock women potential

- According to available UNESCO data on some selected countries, India is at the lowest position, having only 14% female researchers working in STEM areas highlighting the presence of glass ceiling.

What is glass ceiling?

- A glass ceiling is a metaphor used to represent an invisible barrier that prevents women from rising beyond a certain level in a hierarchy. The metaphor was first coined by feminists in reference to barriers in the careers of high-achieving women.

How glass ceiling limits women progress?

- **Few opportunities:** Due to deep-rooted biases, it is difficult for women to access many experiences and networks that are easily accessible to men.
- **Social barriers and gender norms:** Personal barriers include notions of compromise and sacrifice that are ingrained in women. This feeds into how women present themselves. External barriers and cultural cues reinforce how men and women "ought" to behave.
- **Gender Inequity:** Stereotypes related to gender brilliance or gender-based intrinsic aptitude generate inequity which remains unnoticed.
- **Low self-confidence:** Our socio-cultural constructs reflect absolute patriarchy causing even women to be sceptical about their abilities, to accept the roles set for them in the household.

The gender gap in employment

- Around the world, finding a job is much tougher for women than it is for men. When women are employed, they tend to work in low-quality jobs in vulnerable conditions, and there is little improvement forecast in the near future.

Government initiatives

- **GATI:** It will be called GATI (Gender Advancement through Transforming Institutions). The DST is incorporating a system of grading institutes depending on the enrolment of women and the advancement of the careers of women faculty and scientists.
- **CURIE:** For infrastructure in women's universities
- **Vigyan Jyoti Scheme:** Encourage girls in high school to pursue STEM
- **The Athena Swan Charter:** is a framework which is used across the globe to support and transform gender equality within higher education (HE) and research.
- **KIRAN:** (Knowledge Involvement in Research Advancement through nurturing) Scheme to encourage women Scientists
- **Indo-US Fellowship:** for Women in STEMM (STEM and Medicine)

Conclusion

- Gender equality or parity will happen only when there is a change in mind-set and institutions consider women as assets rather than simply a diversity rectification issue. Policies that help women advance in science and society globally are needed. The world cannot afford to miss out on what women have to offer.

4. Bengaluru Floods

In overnight rainfall, areas in Bengaluru were inundated raising again the old questions about the reasons behind the flooding.

How much rain has Bengaluru received in August 2022?

- The India Meteorological Department (IMD) has said that in August 2022, Bengaluru received 370 mm of rainfall, falling only a little short of the all-time record of 387.1 mm of rainfall.
- Since June 2022, the city has received 769 mm of rainfall, departing significantly from the average of 425 mm in this period.
- In the last decade, the August of 2017 and 2011 were very wet whereas other years were dry.

Reason for the flood

Urban flooding refers to the inundation of property in a built environment, particularly in more densely populated areas, caused by rain falling on increased

amounts of impervious surfaces and overwhelming the capacity of drainage systems.

- **Rainbow Drive Layout Flood-** Rainbow Drive Layout Area was created near a drain that was used primarily for irrigation.
- Over a period of time, the buildings which were constructed close to the layout raised their height, thereby making the area a “soup bowl”.
- The excess water from the surrounding villages is being directed to the Rainbow Drive Layout.
- **Outer Ring Road Flood-** Chief Minister Bommai found that the major reason for the flooding of the area was the encroachment of stormwater drains.
- The width of the drain had come down from 30 feet to 4 feet.
- Lack of infrastructure is one of the biggest reasons why ORR floods every year.
- There are quite a few engineering flaws in the development of the road such as the lack of culverts.
- The flyover on ORR doesn't have any water harvesting system.

How is the administration addressing the flood?

- Legal procedures are being looked after which the properties encroaching on the drain would be demolished.
- An order was promulgated for the construction of a drain on a public-private model that will carry rainwater from the Layout to the Sarjapur culvert.
- With the change in the topography of the area, a new drain design is being looked into.
- **Need of the hour-** Standard operating procedures (SOP) listed by Urban development ministry at various stages of preparedness ghas to be followed.
- Development needs to be climate-smart by preventing any further worsening of the hydrological patterns in cities.
- Existing construction on lake beds and other water bodies needs to be removed or redesigned to allow flood drainage along natural water channels.

5. Uttarakhand panel seeks inputs on UCC

The expert committee formed by the Uttarakhand government to examine ways for the implementation of a Uniform Civil Code (UCC) has launched a website, seeking public opinion on the plan.

- A Uniform Civil Code (UCC) is one that would provide for **one personal civil law for the entire country**.
- This would be **applicable to all religious communities** in their personal matters such as marriage, divorce, inheritance, adoption etc.

Basis for Uniform Civil Code

- **Article 44**, one of the **Directive Principles** of the Constitution lays down that the state shall endeavour to secure a UCC for the citizens throughout the territory of India.
- These, as defined in **Article 37**, **are not justiciable (not enforceable by any court)** but the principles laid down therein are fundamental in governance.

UCC vs. Right to Freedom of Religion

1. **Article 25** lays down an individual's fundamental right to religion
2. **Article 26(b)** upholds the right of each religious denomination or any section thereof to "manage its own affairs in matters of religion"
3. **Article 29** defines the right to conserve distinctive culture

Reasonable restrictions on the Freedom of Religion

- An individual's freedom of religion under **Article 25** is **subject to "public order, health, morality"** and other provisions relating to FRs, but a group's freedom under Article 26 has not been subjected to other FRs.
- In the Constituent Assembly, there was division on the issue of putting UCC in the fundamental rights chapter. The matter was settled by a vote.
- By a 5:4 majority, the fundamental rights sub-committee headed by Sardar Patel held that the provision was outside the scope of FRs and therefore the UCC was made less important.

Minority Opinion in the Constituent Assembly

- Some members sought to **immunize Muslim Personal Law from state regulation**.
- Mohammed Ismail, who thrice tried unsuccessfully to get Muslim Personal Law exempted from Article 44, said **a secular state should not interfere with the personal law of people**.
- B Pocker Saheb said he had received representations against a common civil code from various organisations, including Hindu organisations.
- Hussain Imam questioned **whether there could ever be uniformity of personal laws in a diverse country like India**.
- B R Ambedkar said "no government can use its provisions in a way that would force the Muslims to revolt".
- Alladi Krishnaswami, who was in favour of a UCC, conceded that it would be unwise to enact UCC ignoring strong opposition from any community.
- **Gender justice was never discussed in these debates**.

Hurdles to UCC implementation

- There are practical difficulties due to **religious and cultural diversity** in India.
- The UCC is often perceived by minorities as an **encroachment of religious freedom**.
- It is often regarded as **interference of the state in personal matters** of the minorities.
- Experts often argue that the **time is not ripe for Indian society** to embrace such UCC.

Way forward

- It should be the duty of the religious intelligentsia to educate the community about its rights and obligations based on modern liberal interpretations.
- A good environment for the UCC must be prepared by the government by explaining the contents and significance of Article 44 taking all into confidence.
- Social reforms are not overnight but gradual phenomena. They are often vulnerable to media evils such as fake news and disinformation.
- Social harmony and the cultural fabric of our nation must be the priority.

6. SC takes up pleas against Places of Worship Act

The Supreme Court has set the ball rolling on a series of petitions challenging the validity of the Places of Worship Act of 1991, a parliamentary law that protects the identity and character of religious places as on August 15, 1947.

What are the petitions about?

- A slew of petitions has been filed against the Act.
- The Act has fixed a retrospective cut-off date illegally barring Hindus, Jains, Buddhists and Sikhs from approaching courts to re-claim their places of worship which were invaded and encroached.
- The main objective of these petitions is to set right a historical wrong committed by barbaric invaders.

Places of Worship Act, 1991

- It was passed in 1991 by the P V Narasimha Rao-led government.

- The law seeks to maintain the “religious character” of places of worship as it was in 1947 – except in the case of the Ram Janmabhoomi-Babri Masjid dispute, which was already in court.
- The law was brought in at the peak of the Ram Mandir movement, exactly a year before the demolition of the Babri Masjid.
- Introducing the law, then Home Minister S B Chavan said in Parliament that it was adopted to curb communal tension.

What are its provisions?

- **Anti-conversion:** Section 3 of the Act bars the conversion, in full or part, of a place of worship of any religious denomination into a place of worship of a different religious denomination – or even a different segment of the same religious denomination.
- **Holiness of a place:** Section 4(1) declares that the religious character of a place of worship “shall continue to be the same as it existed” on August 15, 1947.
- **Litigation:** Section 4(2) says any suit or legal proceeding with respect to the conversion of the religious character of any place existing on August 15, 1947, pending before any court, shall abate – and no fresh suit or legal proceedings shall be instituted.
- **Exception for Ayodhya:** Section 5 stipulates that the Act shall not apply to the Ramjanmabhoomi-Babri Masjid case, and to any suit, appeal or proceeding relating to it.

Why is the law under challenge?

- The **cut-off date of August 15, 1947, is “arbitrary, irrational and retrospective”** and prohibits Hindus, Jains, Buddhists, and Sikhs from approaching courts to “reclaim” their places of worship.
- Such places, he argued, were “**invaded” and “encroached” upon by “fundamentalist barbaric invaders”**.
- The right-wing politicians have opposed the law even when it was introduced, arguing that the Centre has no power to legislate on “pilgrimages” or “burial grounds” which is under the state list.
- Another criticism against the law is that the cut-off is the date of Independence, which means that the status quo determined by a colonial power is considered final.

7. Cloudburst Forecast in India

A cloud burst incident in the Lasko river flowing close to the India and Nepal border in Uttarakhand has resulted in significant damages to life and property.

Cloudbursts

- Cloudbursts are sudden, violent and voluminous amounts of rain in a short duration that is local in nature.
- Cloudbursts are defined by the amount of rainfall. According to the India Meteorological Department (IMD), 100 mm of rain in an hour over a region of 20 to 30 square km is called a cloudburst.
- Cloudburst is defined as a geo-hydrological hazard due to their aggressive nature and the scale of destruction.
- In India, cloudburst occurs during the time of the South-West Monsoon from the month of June.
- Cloudburst is difficult to predict since it occurs suddenly with a catastrophic force and thereby inflicts enormous losses due to inundation and erosion.

Cloudburst forecasting in India: Why it is a challenge

- The IMD's forecasts are at an advanced stage with respect to extreme rains and cyclones. However, cloudburst forecasts still remain elusive and our efforts in monitoring and forecasting them are at the early developmental stage.
- Monitoring stations on the ground can hardly capture the cloudburst characteristics due to their highly localised and short occurrence.
- The resolution of the precipitation radars of weather satellites can be much smaller than the area of individual cloudburst events, and hence they go undetected.
- The skillful forecasting of rainfall in hilly regions remains challenging due to the uncertainties in the interaction between the moisture convergence and the hilly terrain, the cloud microphysics, and the heating cooling mechanisms at different atmospheric levels.
- Multiple doppler weather radars can be used to provide forecasts for the next three hours but they are an expensive affair, and installing them across the country may not be practically feasible.

Way Forward:

- Cloudburst-prone regions should be mapped using automatic rain gauges.

- If cloudburst-prone regions are co-located with landslide-prone regions, these locations can be designated as hazardous.
- With IMD enhancing its automatic weather stations, we may have hourly data that can help map cloudburst-prone regions.
- People in risk prone areas should be moved, and construction and mining in nearby regions should be restricted as that can aggravate the landslides and flash flood impacts.

8. Why Cloudbursts forecast in India still remains elusive?

The characteristics of cloud burst events remain elusive, and our efforts in monitoring and forecasting them is at an embryonic stage.

Cyclones can be predicted about one week in advance. However, cloudburst forecasts still remain elusive.

Cloudbursts

- A cloudburst is a localised but intense rainfall activity.
- Short spells of very heavy rainfall over a small geographical area can cause widespread destruction, especially in hilly regions where this phenomenon is the most common.
- Not all instances of very heavy rainfall, however, are cloudbursts.
- A cloudburst has a very specific definition: Rainfall of 10 cm or more in an hour over a roughly 10 km x 10-km area is classified as a cloudburst event.
- By this definition, 5 cm of rainfall in a half-hour period over the same area would also be categorized as a cloudburst.

Which clouds do burst?

- Cloudburst events are often associated with **cumulonimbus clouds** that cause thunderstorms and occasionally due to monsoon wind surges and other weather phenomena.
- Cumulonimbus clouds can grow up to **12-15 km in height** through the entire troposphere (occasionally up to 21 km) and can hold huge amounts of water.
- Tall cumulonimbus clouds can develop in about half an hour as the moisture updraft happens rapidly, at a pace of 60 to 120 km/hr.
- A single-cell cloud may last for an hour and **dump all the rain in the last 20 to 30 minutes**, while some of these clouds merge to form multi-cell storms and last for several hours.
- However, cloudbursts are not defined based on cloud characteristics and do not indicate clouds exploding. Cloudbursts are defined by the amount of rainfall.

How common are cloudbursts?

- Cloudbursts are not uncommon events, particularly during the monsoon months.
- Most of these happen in the Himalayan states where the local topology, wind systems, and temperature gradients between the lower and upper atmosphere facilitate the occurrence of such events.
- However, not every event that is described as a cloudburst is actually, by definition, a cloudburst.
- That is because these events are highly localized.
- They take place in very small areas which are often devoid of rainfall measuring instruments.

Climate change and cloudbursts: How are they related?

- Climate change is projected to increase the frequency and intensity of cloudbursts worldwide.
- As the air gets warmer, it can hold more moisture and for a longer time. We call this the **Clausius Clapeyron relationship**.
- **A 1-degree Celsius rise in temperature may correspond to a 7-10% increase in moisture and rainfall.**
- This increase in **rainfall amount does not get spread moderately** throughout the season.
- As the moisture holding **capacity of air increases**, it results in prolonged dry periods intermittent with short spells of extreme rains.
- **Deeper cumulonimbus clouds will form** and the chances of cloudbursts also increase.

Detecting cloudbursts

- Satellites are extensively useful in detecting large-scale monsoon weather systems.
- However the **resolution of the precipitation radars of these satellites can be much smaller** than the area of individual cloudburst events, and hence they go undetected.
- Weather **forecast models also face a similar challenge** in simulating the clouds at a high resolution.
- The skillful forecasting of rainfall in hilly regions remains challenging due to the uncertainties in the interaction between the **moisture convergence and the hilly terrain**.
- There also involves the **cloud microphysics, and the heating-cooling mechanisms** at different atmospheric levels.

- **Multiple radars** can be a quick measure for providing warnings, but radars **are an expensive affair**, and installing them across the country may not be practically feasible.

Solutions to cloudbursts forecast

- **Multiple doppler weather radars** can be used to monitor moving cloud droplets and help to provide nowcasts (forecasts for the next three hours).
- A long-term measure would be **mapping the cloudburst-prone regions** using automatic rain gauges.
- If cloudburst-prone regions are **co-located with landslide-prone regions**, these locations can be designated as hazardous.

9. Gyanvapi -Kashi Vishwanath Temple Complex Dispute

The Varanasi District and Sessions Court has rejected the plea of the organization which manages the Gyanvapi mosque complex, challenging the maintainability of the civil suits filed by some women seeking the right to worship Goddesses on the outer wall of the complex.

Gyanvapi Mosque

- The Gyanvapi Mosque was built in 1669 during the reign of the Mughal emperor Aurangzeb, who ordered the demolition of the existing Vishweshwar temple at the site, and its replacement by a mosque.
- The plinth of the temple was left untouched, and served as the courtyard of the mosque.
- One of the walls too was spared, and it became the qibla wall, the most important wall in a mosque that faces Mecca.
- Material from the destroyed temple was used to build the mosque, evidence of which can be seen today.
- The name of the mosque is said to have derived from an adjoining well, the Gyanvapi, or Well of Knowledge.
- An old sculpture of the Nandi bull inside the compound of the present Kashi Vishwanath Temple faces the wall of the mosque instead of the sanctum sanctorum of the temple.
- It is believed that Nandi is in fact, facing the sanctum sanctorum of the original Vishweshwar temple.

The temple to Lord Shiva

- For more than 100 years after the mosque was built, there was no temple at the site.
- The present Kashi Vishwanath Temple was built in the 18th century by Rani Ahilyabai Holkar of Indore, immediately to the south of the mosque.
- Over the decades it emerged as one of the most prominent and revered centres of the Hindu religion.
- Many Hindus have long believed that the original deity of the erstwhile Vishweshwar temple was hidden by the priests inside the Gyanvapi well during Aurangzeb's raid.
- This has fired the desire to conduct puja and rituals at the sacred place where the mosque now stands.

What was the case before the Court?

- The temple worshipers side had argued that the mosque was built on the site of an older temple, while the another side pleaded that the mosque was built on Wakf premises.
- The plea also said that The Places of Worship Act of 1991 barred the changing of the character of the mosque.
- The case was initially heard by the Civil Judge (Senior Division), Varanasi, but it was transferred by the Supreme Court to the District Judge on grounds of the "complexity of the issues involved in the civil suit".
- The Supreme Court said it would wait for the district court's decision on the mosque committee's application before intervening in the matter.

Issue in Limelight

- In April 2021, Fast Track Court Civil Judge ordered the Archaeological Survey of India to get a comprehensive archaeological physical survey" done of the Kashi Vishwanath Temple-Gyanvapi Mosque complex.
- It was tasked to find out as to whether the religious structure standing at present at the disputed site is a superimposition, alteration or addition or there is a structural overlapping of any kind, with or over, any religious structure.
- The mosque is not an ASI-protected site, and the ASI has no role in its maintenance or upkeep.

What are the people seeking now?

- Worshippers find the **cut-off date of August 15, 1947, is "arbitrary, irrational and retrospective"** and prohibits Hindus, Jains, Buddhists, and Sikhs from approaching courts to "reclaim" their places of worship.

- Such places, they argue, were “invaded” and “encroached” upon by “fundamentalist barbaric invaders”.
- Certain groups have opposed the law even when it was introduced, arguing that the Centre has no power to legislate on “pilgrimages” or “burial grounds” which are under the state list.

10. Sittanavasal Rock Cave Temple

The Sittanavasal Rock Cave Temple, a major centre of Jain influence for 1,000 years just before the Christian era, is in need of better upkeep.

Sittanavasal

- Sittanavasal is a small hamlet in Pudukkottai district of Tamil Nadu, India.
- It is known for the Sittanavasal Cave, a 2nd-century Jain cave complex. From the 7th to the 9th century A.D., the village flourished as a Jain centre.
- Sittanavasal is the name used synonymously for the hamlet and the hillock that houses the:
 1. **Arivar Kovil** (temple of Arihants – Jains who conquered their senses)
 2. **Ezhadipattam** (a cavern with 17 polished rock beds), megalithic burial sites and the
 3. **Navachunai** tarn (small mountain lake) with a submerged shrine

What makes it special?

- The artwork on the ceiling of the sanctum and the ardha mandapam of Arivar Kovil is an early example of post-Ajanta cave paintings of the fourth to sixth centuries.
- It was also done using the fresco-secco technique (a process that dispenses with preparation of the wall with wet plaster).

Features of the cave paintings

- The ceiling paintings show ‘**bhavyas**’ (exalted souls who work to achieve moksha or spiritual liberation) enjoying themselves in a pool, full of lotuses; today much of it is obscured by patchy plastering.
- Faint outlines linger of dancing girls on the ‘**ardha mandapam**’ pillars.
- The colours are a mixture of plant dyes and mineral elements such as **lime, lamp black, and clay pigments** such as ochre for yellow and terre verte for the greyish-green tints.

Why in news now?

- Unrestricted public access and general exposure to the elements have led to a gradual fading away of these paintings.
- At the Ezhadipattam, inscriptions have been vandalised beyond recognition.

11. Process of sustainable tourism should be holistic and inclusive

“To other Country, I may go as a tourist. But to India I come as a pilgrim”, the words of Martin Luther King says a lot about India’s wisdom and tourism potential.

- The three-day National Conference of State Tourism Minister was held at Dharamshala , a first of its kind meeting aimed to discuss, debate and deliberate on modes and mechanisms to develop tourism in India .
- The three-day National Conference concluded with the adoption of “Dharamshala Declaration” which affirms commitment toward developing “sustainable and responsible tourism” and positions India as a “global leader in the tourism sector by 2047”.

Ttourism

- Tourism is travel for pleasure or business; also the theory and practice of touring, the business of attracting, accommodating, and entertaining tourists, and the business of operating tours.

Types of tourism

- **Domestic tourism:** Refers to activities of a visitor within their country of residence and outside of their home (e.g. a Indian visiting other parts of India)
- **Inbound tourism:** Refers to the activities of a visitor from outside of country of residence (e.g. a Spaniard visiting Britain).
- **Outbound tourism:** Refers to the activities of a resident visitor outside of their country of residence (e.g. an Indian visiting an overseas country).

What is “The Dharamshala Declaration” is all about?

- **Aim of the declaration:** The Dharamshala Declaration aims to recognise India’s role in contributing towards global tourism as well as focusing on recovery by also promoting domestic tourism.
- **Action plan:** In the declaration, the Tourism Ministry has come up with a with a action plan to encourage more Indians to travel domestically and explore India’s natural, cultural, and spiritual beauty while simultaneously

reaching the goal of an 'Ek Bharat Shrestha Bharat' (interaction and mutual understanding).

- **Strategy:** The Tourism Ministry has also been working with the Ministry of External Affairs to identify 20 Indian missions abroad with the highest tourist footfalls to India and build country-specific strategies to attract foreign tourists.
- **Plan according to G-20:** The Dharamshala Declaration affirms the plan to position India as a major tourism destination during its presidency of G-20 next year. India's age-old dictum of 'Atithi Devo Bhava' will come to the fore as it welcomes delegates from the 20 countries/European Union.
- **Necessary steps:** The Ministry of Tourism also plans to work with other Ministries to bring in necessary interventions such as visa reforms, ease of travel, travel-friendly and improved immigration facilities at airports.
- **National Tourism policy:** Drafted with a holistic vision and strategy to revive India's tourism and targets to contribute USD 1 trillion to the GDP by 2047.

A draft on National Tourism Policy 2022

- **Framework:**
- Draft on National Tourism Policy 2022 aims at improving the framework conditions for tourism development in the country.
- Supporting tourism industries, strengthening tourism support functions and developing tourism sub-sectors.
- Impetus to digitalisation, innovation and technology through the National Digital Tourism Mission and skilling through the Tourism and Hospitality Sector Skill Mission.
- The policy also gives a special impetus to private sector participation through public-private-partnerships (PPP)
- **Guiding Principles :**
- Promoting sustainable, responsible and inclusive tourism in line with our civilisational ethos From Gautama to Gandhi, India has always spoken about the inherent need to live harmoniously with nature and within our means.
- The National Green Tourism Mission aims at institutionalising green approach.

Tourism Potential in India

- **Employment generation:** India has huge tourism potential. If capitalised properly it can emerge as one of the leading sectors to contribute to GDP and also has the potential to augment employment.
- **The Pandemic cost and recovery:** The pandemic has caused conspicuous losses for this sector but over the past few months, all the major tourism indices such as domestic air passenger traffic, hotel occupancy and tourist

footfalls have shown signs of recovery and are going back to pre-pandemic levels.

- **Short term estimate:** By 2024, in short term the country is estimated to contribute USD 150 billion to the GDP from tourism, USD 30 billion in Foreign Exchange earnings and can get 15 million foreign tourist arrivals..
- **Medium term by 2030:** It is estimated to grow at seven to nine per cent Compound Annual Growth Rate in the coming decade. In the medium term, that is 2030, the tourism-related goals are USD 250 billion GDP contribution; 137 million jobs, 56 million foreign tourist arrivals and USD 56 billion in foreign exchange earnings.
- **Visionary schemes:** The visionary schemes like Swadesh Darshan or Dekho Apna Desh have the potential to increase tourism value while maintaining cultural integrity and ecological sustainability of the places.
- **Dekho Apna Desh:** Dekho apna desh rolled out in 2020 envisages encouraging domestic tourism, urging people to visit places in India. India is a land of rich cultural heritage.

Conclusion

- If the goal of positioning of India as one of the world's best tourism destinations by 2047, there is need to integrate various schemes of different ministries. Need to involve various stakeholders, and local communities; necessary interventions at urban and rural level should be a priority.

GS 2 : Polity, Governance, International Relations

1. Political crisis in Iraq

More than nine months after Iraq held its October 2021 parliamentary elections, political leaders have been unable to form a government.

What has led to the current deadlock?

- **No faith in democracy-** Iraq has failed to form a government after the October 2021 parliamentary elections in which Mr. Sadr's bloc won the most number of seats.
- Most Iraqis have simply lost faith that their democratic system will ever change their lives for the better.

- **Growing divisions-** A bitter power struggle between the country's dominant Shia parties have plunged the country into a deepening crisis, leading to the current violence.
- Usually in Iraqi politics, senior positions and ministries are parceled out to the three largest demographic groups in the country - Shiite Muslims, Sunni Muslims and the Kurdish ethnic group.
- Over the past few years, serious divisions have been growing.
- **Power struggle-** Part of the problem is the power struggle between Mr. Sadr and Mr. Maliki, the former Prime Minister who is a key leader of the Coordination Framework.
- **Foreign interference-** The rivalry has come about partially because al-Sadr is opposed to any foreign interference in Iraqi affairs, whether from the US or Iran.
- **The Coordination Framework** mostly represents militias formed in 2014 by local volunteers to fight against the Islamic State inside Iraq.
- These militias receive financial, military and even theological support from Iran and many members express allegiance to Iran over Iraq.

Under muhasasa system, President is Kurdish, Prime Minister is Shia and Parliamentary speaker is Sunni in Iraq.

What do Sadrists want?

- In protest against the rival parties' continued boycott of Parliament, Mr. Sadr asked all the legislators of the Sadrist Movement to resign.
- The Coordination Framework took advantage of the resignation of the Sadrist lawmakers and went ahead with plans to form their government.
- Mr. Sadr, now out of Parliament, called for protests in the streets.
- The protestors stormed the Parliament building in the Baghdad's Green Zone.
- **Demands**
 - Dissolution of Parliament
 - Early elections
 - Constitutional amendments to clear blockades that stand in the way of Mr. Sadr forming a majority government

What lies ahead for Iraqi politics?

- **Sadr's demands-** As per the wishes of Mr. Sadr and his loyal followers, Parliament could be dissolved, and early elections could be called.
- Mr. Sadr's readiness to reach political tie-ups with the Sunnis, Kurds and left-leaning parties enhances his chances of forming a majority government, provided the political impediments are removed.

- **Shia Coordination Framework's demands-** The second possibility is the Shia Coordination Framework electing a new President and getting their choice elected as the next Prime Minister of Iraq irrespective of the protests.
- But, it runs the risk of violence as it would not be easy for the Framework to ignore their anger.

2. Challenging the Special Marriage Act, 1954

The Supreme Court dismissed a writ petition challenging provisions of the Special Marriage Act requiring couples to give a notice declaring their intent to marry 30 days before their marriage.

What does the petition seek?

- The writ petition has said that the provisions of Special Marriage Act contravene **Article 14** as well as **Article 15** as these requirements are absent in personal laws such as Hindu Marriage Act, 1955 and customary laws in Islam.
- The writ petition has called it as violative of the right to privacy guaranteed under **Article 21** of the Constitution as they require a notice of 30 days before the date of marriage inviting objections from the public.

Why has the court dismissed the petition?

- The bench rejected the writ petition on the grounds that the petitioner was no longer an aggrieved party as she had already solemnised her marriage under SMA.
- The court further observed that if a personal cause is raised then it ceases to be a PIL.
- Another writ petition in **Nandini Praveen vs Union of India & Others** filed on similar grounds was admitted by the Supreme Court in 2020 and the government's reply to is awaited.

What provisions have been challenged?

- **Section 5 of the SMA-** It requires couples getting married under it to give a notice to the Marriage Officer 30 days before the date of marriage.
- **Section 6-** It requires such a notice to be then entered into the Marriage Notice Book maintained by the Marriage Officer.
- These notices have to be affixed at a conspicuous place in the office of the Marriage Officer so that anyone can raise an objection to the marriage.
- **Section 7-** It provides the process for making an objection.

- **Section 8-** It specifies the inquiry procedure to be followed after an objection has been submitted.

How do these provisions make couples vulnerable?

- The public notices have been used by anti-social elements to harass couples getting married.
- For persons who often marry without their parent's consent this can be life-threatening.
- There have been instances, where marriage officers have gone over and beyond the law and sent such notices to the parents of the couple.
- In certain States, couples have to seek a no-objection certificate from their parents.
- The Maharashtra and Kerala government publicly shares the details of couples marrying under SMA on its website.
- The Haryana government has laid down 16 pre-requisites which ask couples to issue a notice in a newspaper and that such notices be sent to their parents.
- The behaviour of the staff at the SDM's office is often complained for deletion or delay and dissuasion of couples from marrying under SMA.
- With as many as 11 States passing anti-conversion (or so called love-jihad) laws, parents and the State are now armed to punish and harass such couples.

3. Drug Coverage in NDPS Act

Karnataka High Court recently observed that nowhere in the Narcotic Drugs and Psychotropic Substances (NDPS) Act is bhang referred to as a prohibited drink or prohibited drug.

NDPS Act

Bhang is the edible preparation made from the leaves of the cannabis plant, often incorporated into drinks such as thandai and lassi and is frequently consumed during the festivals of Holi and Mahashivratri.

- Enacted in 1985, the NDPS Act is the main legislation that deals with drugs and their trafficking.
- Various provisions of the Act punish production, manufacture, sale, possession, consumption, purchase, transport, and use of banned drugs, except for medical and scientific purposes.
- **Coverage-** The NDPS Act defines cannabis (hemp) as a narcotic drug based on the parts of the plant that come under its purview.

- **Charas**- The separated resin, in whatever form obtained from the cannabis plant including the concentrated preparation and resin
- **Ganja**- The flowering or fruiting tops of the cannabis (excluding the seeds and leaves when not accompanied by the tops)
- Any mixture, with or without any neutral material, of any of the above forms of cannabis or any drink prepared therefrom

What is the criminal liability for cannabis cultivation?

- The NDPS Act lays out the punishment for the production, manufacture, sale, purchase, import and inter-state export of cannabis.
- The prescribed punishment is **based on the amount of drugs seized**.
- **Small quantity**- Contravention that involves 1 kg of ganja will result in rigorous imprisonment that may extend to 1 year and/or a fine which may extend to Rs 10,000.
- **Commercial quantity**- Contravention that involves 20 kg ganja involves rigorous imprisonment of 10 to 20 years, including a fine that is not less than Rs 1 to 2 lakhs.
- **Intermediate**- The contravention that involves quantity less than commercial but greater than small quantity, rigorous imprisonment up to 10 years is prescribed and a fine which may extend to Rs 1 lakh.

A 2019 report by the National Drug Dependent Treatment Centre under AIIMS noted that about 7.2 million people in India are addicted to cannabis.

4. Civil servants should be allowed to express themselves positively

- Can civil servants express their views on law, governance?
- A senior IAS officer, Smita Sabharwal from Telangana, tweeted from her personal account in support of Ms. Bilkis Bano and questioned the Gujarat government's decision, sparking off a row over whether she was in breach of the Central Civil Services (Conduct) Rules of 1964 and reviving the debate on the freedom of civil servants to express their personal views on matters of law and governance.

What is their expected role?

- They are responsible for managing the resources given to them by the government and making use of them efficiently and effectively. A sound parliamentary system of government requires civil servants to maintain their integrity, fearlessness, and independence.

What are Central Civil Services (Conduct) Rules of 1964?

- Conduct Rules lay down clear principles as to what the Government expects from its employees.
- Conduct rules apply to both official and personal life of the government servant.
- If an official violates conduct rules, he may face warning/ disciplinary action/ departmental proceedings.

What is rule 9?

- Rule 9 of the Rules of the Central Civil Services (Conduct) Rules states, “No Government servant shall... make any statement of fact or opinion... which has the effect of an adverse criticism of any current or recent policy or action of the Central Government or a State Government.”

How Indian rules are different than others?

- One of the most important functions of the civil service, as stated by the head of the Canadian Public Service, is to “**speak truth to power.**”
- Which is prohibited in Indian context because this rule is of the British era. There is no doubt that the British were very, very strict and didn't want their officers to be talking about how bad the governance was. But in a democracy, the right to criticise the government is a fundamental right and nobody can muzzle that.

Crux of this judgement in simple words

- She (the petitioner) was entitled to hold her own beliefs and express them in the manner she desired, subject to not crossing the borders laid down in the Conduct Rules which were applicable in Tripura.
- A fundamental right cannot be curtailed except by a valid law made by a legislature.

Why it is highly contextual here?

- This judgement indirectly protected constructive and just criticism by protecting fundamental rights of the civil servants.

Action of IAS officer can be justified?

- Since she added the words ‘civil servant’ in her tweet is because the dharma of the civil servant is to uphold constitutional principles in letter and in spirit, and the rule of law.

- In Bilkis Bano case, both the spirit of the Constitution and the rule of law were being subverted.
- Hence her expression can be justified.

Can we justify rule 9 here in this context?

- The rules don't violate Article 19. It is a rule, it's not the law. It's not in the Constitution. Freedom of speech is given in the Constitution, but these are Conduct Rules and they are imposed because there has to be some discipline in an organisation for that organisation to function.
- There is a process of decision-making. Right from below, the matter is examined, the pros and cons are taken up, the bureaucracy is given an opportunity to examine all the aspects, write their notes of objection or support, and finally it reaches the political executive. When a policy is decided, it has to be obeyed and complied with by the bureaucracy.

Conclusion

- Anybody could challenge these rules as they are offending constitutional fundamental rights of civil servant; then the Supreme Court would be forced to come down and say either it is good, or it is bad, and give good reasons for that.

5. Takeaways from China's Taiwan Drills

The recently concluded military drills by People's Liberation Army (PLA) in Taiwan Strait reveal a great deal about the nature of military capabilities of China.

What is the overview of China's capabilities?

- Chinese capabilities in three areas
 - Air assault capabilities
 - Missile capabilities
 - PLA's Joint Logistic Support Force (PLAJLSF)
- China's Eastern Theater Command (ETC) is responsible for planning and executing any potential invasion of Taiwan
- The Southern Theater Command (STC) is also in an advanced state of alert for the drills.

How about the missile strength of PLA?

- The PLA fired several long-range missiles of the **Dong-Feng (DF)** class to test whether the PLA's missile brigades could coordinate missile strikes and carry out post-attack battle damage assessment.
- The PLA likely gained information about Taiwan's missile defence capabilities covering the island's missile radar tracking capabilities.
- The People's Liberation Army Rocket Force (PLARF) which carried out tests likely assessed the rapidity and precision with which Taiwanese defences could be suppressed.

What about the area of precision logistics?

- It is a core weakness of the PLA because without logistics, a full-scale invasion of Taiwan is impossible.
- China's amphibious assault capabilities are a key weakness and can only succeed if the PLA has a highly developed logistics support system.
- Relying heavily on its **BeiDou** Satellite Navigation System, the PLA is trying to ensure communications and coordination between spread out mobile units on the battlefield.
- Crucial factors for effective military mission across the Taiwan Strait:
 - Timely combat support centred on supplies
 - Reinforcements and repairs
 - Evacuation
 - Medical assistance to dispersed air and amphibious assault units
- The PLA is deficient in amphibious vessels, and has an inadequate number of personnel trained for complex logistics missions and military transport aircraft.

What do the China's military drills signify?

- Beijing issued a new white paper on Taiwan in which it withdrew an earlier commitment not to deploy troops or base administrative personnel in Taiwan after reunification.
- The military drills conducted by the PRC were only a partial demonstration of the PLA's military prowess.
- The PLA has still some distance to traverse before it gains the confidence and the requisite proficiency for combined arms warfare that is crucial to the invasion of Taiwan.

The phrase "salami slicing" (A divide-and-conquer tactic used to dominate opposition territory, piece by piece) has been used to describe the actions of both sides in this conflict.

6. Gender Parity in Academia

True gender parity is when institutions consider women as assets rather than it being just a diversity rectification issue.

What incentives are provided by the government?

- **GATI-** Gender Advancement for Transforming Institutions (GATI) is a pilot project under the Department of Science and Technology to promote gender equity in S&T.
- **KIRAN-** Knowledge Involvement in Research Advancement through Nurturing (KIRAN) is a plan to encourage women scientists in S&T and to prevent women scientists from giving up research.
- **Women Scientist Scheme-** WOS under KIRAN provides career opportunities including fellowships to unemployed women scientists and technologists, especially those who had a break in career, for pursuing research in frontier areas of science and engineering.
- **CURIE-** Under Consolidation of University Research through Innovation and Excellence in Women Universities (CURIE), only women Universities are being supported for development of research infrastructure and creation of state-of-the-art research laboratories.
- **Indo-US Fellowship-** It is for Women in STEMM (Science, Technology, Engineering, Mathematics & Medicine) to encourage Indian women scientists to undertake international collaborative research in premier institutions in USA for duration of 3-6 months.
- **Vigyan Jyoti -** Vigyan Jyoti Scheme encourages girl students of Class 9 to 12 to pursue education and career in S&T.
- **SERB-POWER-** The SERB-POWER provides structured support in research to ensure equal access and weighted opportunities for Indian women scientists engaged in R&D activities.
- **The SERB Women Excellence Award** recognizes women Academy Awardees to expand their research horizon to higher levels.
- **BioCARE-** Department of Biotechnology is implementing Biotechnology Career Advancement and Re-orientation Programme (BioCARE) to encourage women scientists in Biotechnology research.
- To recognize the contribution of women scientists in the field of Earth System Sciences, Ministry of Earth Sciences has initiated a special award called “**National Award for woman scientist**”.

What is India's position in academia?

The percentage of women in R&D is 16.6% among the total number of scientists working in science and technology organisations.

- **Women in STEM-** According to UNESCO data, India is at the lowest position, having only 14% female researchers working in STEM areas.
- In India, about 43% of women constitute the graduate population in STEM, which is one of the highest in the world, but only 14% of women join academic institutions and universities.
- **Women in research-** The participation of women in research has dropped significantly (27% female as compared to 73% male).
- **Women faculty-** The percentage of women in faculty positions begins to shrink with each step up the ladder.
- **Women in prestigious institutes-** According to a report published recently, the more prestigious the institute, the lower the number of women employees.
 - For example, in IIT Madras only 10.2% and in IIT Bombay only 17.5% are women.
- **Women in decision making-** The number of female participants in decision-making bodies such as the board of governors or council of institutes of higher education of repute is abysmally low.
 - Out of the 6 IIT established in 20th century, only IIT Kharagpur and IIT Delhi have women members on their governing body.

What are the reasons for discrepancy in these two sectors?

- **Selection and promotion-** The mechanism of selection and promoting personnel in the private sector is mostly based on competence/merit because it is more market oriented than what it is in the academic institutes.
- **Schemes-** Encouraging the participation of women in the workforce in the private sector with the adoption of various schemes for women began long ago when compared to the government initiatives.
 - Flexi-hour worktime
 - Rejoining the workforce after an interim break
 - Sections operated only by women
- Gender parity will happen only when there is a change in mindset and institutions consider women as assets.

7. UN accuses China of Uighur rights abuses

The UN accused China of serious human rights violations that may amount to “crimes against humanity” in a report examining a crackdown on Uighurs and other ethnic groups.

- After initially denying their existence, Beijing has claimed the facilities are vocational training schools, attended voluntarily and aimed at stamping out religious extremism.
- But the leaked documents give an insight into how leaders saw the minority population as a security threat.
- Photos appear to show officers restraining hooded and shackled inmates with batons, while other guards wearing camouflage stand by with firearms.

Who are the Uighurs?

- There are about 12 million Uighurs, mostly Muslim, living in north-western China in the region of Xinjiang, officially known as the Xinjiang Uyghur Autonomous Region (XUAR).
- The Uighurs speak their own language, similar to Turkish, and see themselves as culturally and ethnically close to Central Asian nations.
- They make up less than half of the Xinjiang population.
- In recent decades, there's been a mass migration of Han Chinese (China's ethnic majority) to Xinjiang, and the Uighurs feel their culture and livelihoods are under threat.
- In the early 20th Century, the Uighurs briefly declared independence, but the region was brought under complete control of mainland China's new Communist government in 1949.

What was the build-up to the Uighur crackdown?

- Anti-Han and separatist sentiment rose in Xinjiang from the 1990s, flaring into violence on occasion.
- In 2009 some 200 people died in clashes in Xinjiang, which the Chinese blamed on Uighurs who want their own state.
- Xinjiang is now covered by a pervasive network of surveillance, including police, checkpoints, and cameras that scan everything from number plates to individual faces.
- According to Human Rights Watch, police are also using a mobile app to monitor peoples' behaviour, such as how much electricity they are using and how often they use their front door.
- Since 2017 when President Xi Jinping issued an order saying all religions in China should be Chinese in orientation, there have been further crackdowns.

Chinese narrative

- China says the crackdown is necessary to prevent terrorism and root out Islamist extremism and the camps are an effective tool for re-educating inmates in its fight against terrorism.

- It insists that Uighur militants are waging a violent campaign for an independent state by plotting bombings, sabotage and civic unrest.
- China has dismissed claims it is trying to reduce the Uighur population through mass sterilizations as “baseless”, and says allegations of forced labor are “completely fabricated”.

8. MGNREGA roadblocks should be removed urgently

- The delay in payment of wages has pushed MGNREGS workers in West Bengal to the brink. There are allegations of corruption against the State government, the Centre’s reluctance in releasing payments, and the plight of the workers caught in this tussle.

Significant Features of the scheme

- **Fixed employment:** MGNREGA is unique in not only ensuring at least 100 days of employment to the willing unskilled workers, but also in ensuring an enforceable commitment on the implementing machinery i.e., the State Governments, and providing a bargaining power to the labourers.
- **Assured compensation:** The failure of provision for employment within 15 days of the receipt of job application from a prospective household will result in the payment of unemployment allowance to the job seekers.
- **Locality is ensured:** Employment is to be provided within 5 km of an applicant’s residence, and minimum wages are to be paid.
- **Legal backing:** Thus, employment under MGNREGA is a legal entitlement.

What are the issues?

- **Non-purposive spending and corruptions:** Many works sanctioned under MGNREGA often seem to be non-purposive. Quite often, they are politically motivated hotspots to create rampant corruption by dominant sections of the local population. Even social audits of such projects are locally manipulated.
- **Workers penalized for administrative lapses:** The ministry withholds wage payments for workers of states that do not meet administrative requirements within the stipulated time period (for instance, submission of the previous financial year’s audited fund statements, utilization certificates, bank reconciliation certificates etc). There is no logical or legal explanation for this bizarre arrangement. It is beyond any logic as to why workers would be penalized for administrative lapses.
- **Genuine job cards being deleted:** Genuine job cards are being randomly deleted as there is a huge administrative pressure to meet 100 per cent DBT

implementation targets in MGNREGA. In states like Jharkhand, there are multiple examples where the districts had later requested to resume job cards after civil society interventions into the matter.

What can be done according to rural development committee?

- **Utilization of funds:** A large amount of funds allocated for MGNREGA have remained un-utilised. For example, in 2010-11, 27.31% of the funds remained unutilised. The Committee recommends that the Department of Rural Development should analyse reasons for poor utilisation of funds and take steps to improve the same. In addition, it should initiate action against officers found guilty of misappropriating funds under MGNREGA.
- **Context specific projects and convergence:** Since states are at various stages of socio-economic development, they have varied requirements for development. Therefore, state governments should be allowed to undertake works that are pertinent to their context. There should be more emphasis on skilled and semi-skilled work under MGNREGA. In addition, the Committee recommends a greater emphasis on convergence with other schemes such as the National Rural Livelihoods Mission, National Rural Health Mission, etc.
- **Regulation of job cards:** Offences such as not recording employment related information in job cards and unlawful possession of job cards with elected PRI representatives and MGNREGA functionaries should be made punishable under the Act.

Some innovation in MGNREGA can address the challenges

1) Looping in the skilled worker

- First, there is a suggestion to use it to meet the wage cost of their employment in small and medium enterprises (SMEs).
- Accordingly, skilled migrant workers may be placed in SMEs and their wages would be charged to MGNREGA.

2) Including farm related works

- In the last few years, un-remunerative prices of several crops have been the root cause of widespread agrarian distress.
- The suggestion is to allow farmers to employ MGNREGA workers in agricultural operations like land preparation, sowing, transplantation of paddy, plucking of cotton, intercultural operations and harvesting of crops etc. so as to reduce the cost of cultivation.
- The idea is to pay part of the wages of labour in agricultural operations from MGNREGA.

3) Increasing the number of Work Schemes

- Currently, there are only 2-3 work schemes (say PMAY) running per panchayat, which is leading to the crowding of workers at worksites.
- To prevent this and to ensure that all willing households are able to access employment through NREGA, the number of schemes needs to be increased, and 6-8 schemes must be introduced in each village.

4) Paying Workers Immediately

- Rural households urgently need cash-in-hand, and so the emerging demand is for immediate payment to workers. NREGA payments are frequently delayed by weeks or months.
- Given the circumstances, such delays will be entirely counterproductive.
- It is recommended that in remote areas, wage payments should be made in cash, and paid on the same day.

Conclusion

- Government and NGOs must study the impact of MGNREGA in rural areas so as to ensure that this massive anti-poverty scheme is not getting diluted from its actual path.

9. India to host Quad officials' meet

New Delhi will host an official-level meeting of the Quad grouping with the US, Japan and Australia next week, the first such “senior officers meeting” (SOM) to be held since the recent escalation of tensions over the Taiwan Strait.

Quadrilateral Security Dialogue: A Background

Quadrilateral Security Dialogue or the Quad is an informal strategic forum between the United States, Japan, India and Australia that is maintained by semi-regular summits, information exchanges and military drills between member countries.

- The US, Japan, India and Australia came together in the aftermath of the 2004 Indian Ocean tsunami to assist the devastated countries.
- Later, officials of the four countries met in 2007 “to look at issues of common interest.” During an India visit, then Japanese PM Shinzo Abe unveiled the idea of “the Confluence of the Two Seas” that gave birth to the concept of the Indo-Pacific.

- A decade later officials of the four countries met in the Philippines in 2017 to talk about an aggressively rising China.
- In 2019, the foreign ministers of the Quad countries met in Washington for the first time.
- In November, the Quad nations came together to participate in a two-phase joint military exercise, Malabar 2020, in the Bay of Bengal and in the Arabian Sea.

Now it is increasingly viewed as 'Asian NATO'.

Focus on Indo-Pacific: For the China-wary world

- The latest meeting of Quad comes at a time when all four countries have either trade or security disputes with China.
- Despite not explicitly mentioning China, Quad has been openly supporting a "free and fair" Indo-Pacific which is seen as a clear message to Beijing that it needs to curb its assertive behaviour.
- The optics were hard to miss when India, the US, Japan and Australia joined their navies for the mega Malabar military exercise late last year, an activity which raised alarm in Beijing.
- This posturing by the Quad nations sent a strong signal to China.

(1) US vs China

- USA had followed a policy to contain China's increasing influence in East Asia. Therefore, USA sees the coalition as an opportunity to regain its influence in the Indo-Pacific region.
- The US has described China, along with Russia, as a strategic rival in its National Security Strategy, National Defence Strategy and the Pentagon's report on Indo-Pacific Strategy.
- Both are navigating intense disagreements over trade and human rights in Tibet, Hong Kong and the western Xinjiang region, as well as the coronavirus pandemic and increasing Chinese assertiveness in the South China Sea.

(2) Australia vs China

- Australia is concerned about China's growing interest in its land, infrastructure and politics, and influence on its universities.
- Ties have been on a downward spiral since 2018 when Australia, accusing China of meddling in its domestic affairs, passed a new law against foreign interference and espionage.
- It also barred Huawei from building the country's 5G mobile network, among the first countries to do so, citing national security.

- The atmosphere worsened when PM Scott Morrison's government called for an international inquiry into the origins of the coronavirus that causes Covid-19.

(3) Japan vs. China

- Tensions between Japan and China over the Senkaku/Diaoyu Islands dispute have recently increased.
- China has relentlessly continued attempts to unilaterally change the status quo by coercion in the sea area around the Senkaku Islands.
- The more salient indicator is the number of Chinese patrols inside the territorial sea of the islands, which Japan sees as an explicit violation of its territorial sovereignty.

(4) India vs. Quad

- India's strained relations with China needs no explanation. The year long border dispute is the testimony.
- The Quad summit is taking place in the backdrop of an ongoing military disengagement between India and China following their months-long border standoff in eastern Ladakh.
- China is increasing its footprint in our neighborhood through its Belt and Road policy and political coercion following the debt trap are some of the increasing concerns other than economic imbalance.

Issues with Quad

(1) Structural problems

- The Quad has a core structural problem as its objective pivots around the U.S.
- The Quad riles China as a hostile grouping, but hardly serves the security interests of its members.
- Despite rhetoric relating to the promotion of a 'rules-based' world order, the Quad neither shares a strategic vision nor is it animated by a shared agenda.

(2) Nature of alliance

- Alliances involve written commitments to come to the defence of the other against a third party.
- Despite the potential for cooperation, the Quad remains a mechanism without a defined strategic mission.

(3) Economic alliance not feasible

- Quad is neither a military alliance nor an economic partnership.
- Its intention to counter China in the rare-earth sector is logical given the dominant role the country plays in supplying more than half of the world's such key materials.
- But, for a country like India, the lack of relevant technologies and talent pool could obstruct its progress in building up a supply chain from scratch.

(4) Overt emphasis on Maritime domain

- The entire focus on the Indo-Pacific makes the Quad a maritime, rather than a land-based grouping, raising questions whether the cooperation extends to the Asia-Pacific and Eurasian regions.
- India's core concerns with China are primarily undemarcated borders and trade deficit.

(5) Lack of existence of Indo-Pacific system

- There has never been Indo-Pacific system ever since the rise of the port-based kingdoms of Indochina in the first half of the second millennium.
- There were two Asian systems – an Indian Ocean system and an East Asian system – with intricate sub-regional balances.
- The effort by a U.S. to artificially manufacture to combine the Indo and the Pacific into a unitary system is unlikely to succeed.

(6) Indian borders can go more vulnerable

- A lesson for India is China's long-held and strategic interest in parts of Jammu and Kashmir.
- It is wrongly argued that it is Pakistan that is the issue in J&K.
- China undoubtedly is as big an issue but has quietly hidden behind Pakistan's cover.

Way Forward

- **Need for a clearer vision:** It is important for members of the Quad not to be reactive. It is also important to exhibit openness, and ensure that all talk of a 'Free and Open Indo-Pacific' is more than just a mere slogan.
- **Consensus for a common objective:** The Quad nations need to better explain the Indo-Pacific Vision in an overarching framework with the objective of advancing everyone's economic and security interests.
- **Setting an agenda:** This will reassure the littoral States that the Quad will be a factor for regional benefit, and a far cry from Chinese allegations that it is some sort of a military alliance. Future meetings can be an opportunity to define the idea and chart a future path.

- **Expanding Quad:** India has many other partners in the Indo-Pacific; therefore India should pitch for countries like Indonesia, Singapore to be invited to join in the future. There is also a vital need to economically expand the Quad.

10. Nord Stream Pipeline to remain shut

Russian has said that it can't resume the supply of natural gas through a key pipeline to Germany for now because of what it said was a need for urgent maintenance work.

- There are growing concerns in European countries that Russia would shut down its gas supplies in retaliation against the current sanctions against Moscow.

Nord Stream 1

- It is a system of offshore natural gas pipelines running under the Baltic Sea from Russia to Germany.
- Nord Stream 1 is a 1,224 km underwater gas pipeline that runs from Vyborg in northwest Russia to Lubmin in northeastern Germany via the Baltic Sea.
- Two further pipelines under construction running from Ust-Luga to Lubmin termed Nord Stream 2.
- Majority owned by the Russian energy giant Gazprom, the pipeline is the primary route through which its gas enters Germany.

Worry for Europe

- There have been growing concerns that there could be further restrictions to European gas supplies.
- European countries rely on Russian energy for their cold winters.
- But now they believe that Russia could weaponized their dependency as a response to their sanction due to the conflict in Ukraine.

What are Europe's alternative sources of energy?

- As an alternative source for energy, European countries have increasingly turned towards the US, from whom they purchase liquified natural gas (LNG) that comes via ships.
- Since ship-delivered gas ends up being far more expensive, there are also attempts to get non-Russian pipeline gas from Norway and Azerbaijan.
- While EU countries were earlier seeking to phase out fossil fuels and emphasize renewable forms of energy, many are now returning to coal to deal with the energy crisis.

11. The NPT is beginning to look shaky

The Tenth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) concluded last week in New York.

Non-Proliferation Treaty (NPT)

- The NPT is a **multilateral treaty** aimed at limiting the spread of nuclear weapons including three elements:
 - Non-proliferation
 - Disarmament
 - Peaceful use of nuclear energy.
- The treaty was signed in **1968 and entered into force in 1970**.
- The Treaty **does not** affect the right of state parties to develop, produce, and use nuclear energy for peaceful purposes.
- **India** is one of the only **five countries** that either did not sign the NPT or signed but withdrew.

NPT's success and weakness:

Weakness:

- **Consensus document:** Since **1970**, when the NPT entered into force, only **four of the 10 review** conferences have concluded with a consensus document.
- **Differences among members:** the United States, the United Kingdom and Russia were earlier always on the same page, but now Russia has adopted a different point of view.
 - The difference in 2022 was that it pitched Russia against the West.
- **No discussions:** No meaningful discussions or negotiations on nuclear disarmament have ever taken place in the NPT framework.
- **Withdrawal from ABM treaty:** S withdrew from the 1972 **Anti-Ballistic Missile (ABM) Treaty in 2002** on the grounds that it unduly constrained its missile defence activities.
- **US withdrawal from INF:** In 2019, the U.S. decided to quit the **Intermediate-Range Nuclear Forces (INF) Treaty**.
 - It had obliged both the US and **Russia** to get rid of all ground-launched missiles with a range of **500-5,500 km**.

Success:

- **Talks between the US and Russia:** Arms control talks between the U.S. and Russia did take place and succeeded in bringing collective arsenals from about **65,000** in the early **1980s** to less than **12,000**
- **Four countries have tested and developed nuclear arsenals:** In the last 50 years, only four more countries have gone on to test and develop nuclear arsenals – **India, Israel, North Korea and Pakistan**, despite apprehensions that by the 1980s, there would be close to 25 nuclear powers.
- **Reagan-Gorbachev declaration:** All that the five nuclear-weapon-states parties to the NPT reiterated at the conference., the **1985 Reagan-Gorbachev declaration** that ‘**a nuclear war cannot be won and must never be fought**’.

Nuclear modernisation:

- **S.’s 30-year nuclear modernisation programme:** Intended to provide ‘credible deterrence against regional aggression.
- **Russia and China:** They are developing hypersonic delivery systems that evade missile defences as well as larger missiles that do not need to travel over the Arctic.
 - Also developing **nuclear torpedoes** and **new cruise missiles**.
- **Developments in space and cyber domains:** They are blurring the line between conventional and nuclear weapons, leading to nuclear entanglement and rendering command and control systems vulnerable.

12. Grievance Redressal Index 2022

- **Unique Identification Authority of India (UIDAI)** has topped among all Ministries/Departments for resolving Public Grievances in the ranking report published by the **Department of Administrative Reforms and Public Grievances (DARPG)**.
- UIDAI has been a top performer in the resolution of cases received through the **Centralized Public Grievance Redress and Monitoring System (CPGRAMS)**.

UIDAI:

- It is a **statutory authority** established in 2009.
- **Parent body:** Works under the jurisdiction of the **Ministry of Electronics and Information Technology**.
- **Mandate:** The UIDAI is mandated to assign a **12-digit unique identification (UID) number (Aadhaar)** to all the residents of India.

13. Govt proposes a new regulator for 'uniformity' in all board exams

Union government is working for create a new regulator called PARAKH to draw up a benchmark framework for standardized evaluation system for students at the secondary and higher secondary levels.

PARAKH

- PARAKH stands for **Performance Assessment, Review, and Analysis of Knowledge for Holistic Development**.
- It will act as a **constituent unit of the NCERT** (National Council of Educational Research and Training).
- It will be responsible for assessing the knowledge and skills of students.
- It will hold periodic learning outcome tests like the **National Achievement Survey (NAS) and State Achievement Surveys**.
- It will help in **developing strong intellect** in students.
- It will be established to **improve the overall evaluation system**.
- PARAKH will work to address the issue of some **state board students being at a disadvantage** when applying to colleges when compared to their peers in CBSE institutions.
- At all levels of academic study, it will create and put into practise "**technical standards for the design, conduct, analysis, and reporting**" of tests.
- PARAKH team will consist of leading assessment experts with a deep understanding of the education system in India and internationally.

About benchmark assessment framework

- It will seek to put an end to the emphasis on rote learning, as envisaged by the National Education Policy (NEP) 2020.

14. Untangling Kerala's Lokayukta Amendment Controversy

The Kerala Legislative Assembly passed the Kerala Lok Ayukta (Amendment) Bill on August 30, amid a boycott.

Lokpal-Lokayuktas

- The Lokpal-Lokayukta issue has always generated intense debate in the country.
- In fact, this term was **first used** in a report of the **Administrative Reforms Commission** headed by **Morarji Desai** as far back as in **1966**.

- Political corruption had become rampant by then and it was thought that a credible system of an ombudsman should be established to redress public grievances against the leaders and public officials.
- The **first Bill on Lokpal** was **introduced in the Lok Sabha in 1968** which **lapsed** with the dissolution of the House.
- **Anna Hazare's movement** and the active involvement of civil society generated a lot of moral pressure on the Government which ultimately led to the **passing of the Bill in 2013**.

Composition of Lokpal

- The Lokpal is no ordinary investigative body.
- It is headed by the incumbent Chief Justice of India or a retired judge.
- It has eight members, four of whom are judicial members.
- Thus the whole system is studded with judges or judicial men.
- The Lokpal has an inquiry wing and a prosecution wing to deal with investigation and prosecution, respectively.
- The director of prosecution files the case in the special court based on the findings of the Lokpal.

What is the Kerala controversy?

- In order to get a clearer perspective on the Kerala Lokayukta controversy, it is necessary to understand the scheme of the Lokpal and Lokayuktas Act enacted by Parliament.
- The long title of the Act says: "An Act to provide for the establishment of a body of Lokpal for the Union and Lokayukta for States to inquire into allegations of corruption against certain public functionaries...."
- Thus, the Lokpal is conceived of as a body which will inquire into allegations of corruption.
- It is basically an investigative body whose task is to conduct prompt and fair investigation and the prosecution of cases of corruption.

Legal and constitutional implications

Two important points need to be made here:

(A) Overpowering the Lokpal

- One, an investigative body does not have the legal authority to direct the public servant to resign his post on the basis of its findings.
- It can only submit its findings to the competent authority or, as is provided in the Lokpal Act, file a case in the special court.

- The Lokayukta is basically an investigative body with certain powers to carry out an investigation into cases relating to the Prevention of Corruption Act.
- The only special feature of this body is that it is headed by a retired judge of the Supreme Court or a retired Chief Justice of a High Court.
- But that does not alter the basic character of the Lokayukta as an investigative body.

(B) Compulsion on Governor

- The Chief Minister or a Minister holds office during the pleasure of the Governor (Article 164).
- The Constitution of India does not contemplate any external pressure on the Governor to withdraw his pleasure.
- The Sarkaria Commission had suggested that the Governor can dismiss a Chief Minister only when he loses his majority in the Assembly and refuses to step down.
- The Supreme Court has accepted this recommendation of the Sarkaria Commission.
- Another occasion when the Governor could withdraw his pleasure is on account of CM having been convicted in a criminal case and sentenced to not less than two years of imprisonment.
- In other words, a Chief Minister cannot be asked to resign when he enjoys a majority in the House.
- The Governor, being a high constitutional authority, cannot be compelled by a law to act in a particular manner so far as his constitutional duties and functions are concerned.

Other contentious provisions

(1) Undue burden on Political Parties

- There are some other provisions as well which may not stand legal scrutiny.
- For example, this law includes the office bearers of political parties within its definition of 'public servant'.
- Basically, the Prevention of Corruption Act deals with corruption in the government and allied agencies, statutory bodies, elected bodies, etc.
- The functionaries of political parties do not come within the mischief of this law. So, it is difficult to understand how they can be brought within the sweep of the Lokayukta Act.

(2) Reports of Lokayukta

- Another problematic provision in this law is the one which deals with the reports of Lokayukta (Section 12).

- It says that the Lokayukta shall, on the allegation of corruption being substantiated, send the findings along with recommendation of action to the competent authority who is required to take action as recommended by the Lokayukta.
- It further says that if the Lokayukta is satisfied by the action taken by the competent authority, he shall close the case.
- The question is how the Lokayukta can close a corruption case which is a criminal case and which invites imprisonment for three to seven years.
- The Lokpal files the case in the court after the investigation. There is no provision in the central law under which the Lokpal can close the case before it reaches the court.
- The Lokayukta not being a court does not have the legal capacity to close the corruption case under any circumstances.

Way forward

- The Kerala Lokayukta Act should be re-examined by a committee of the Assembly and should be brought on a par with the Lokpal Act.
- Legislation that seeks to punish corrupt functionaries should be placed above controversies.

15. Impact of Pandemic on Crimes and Suicides

Increase in violent crimes, suicides in NCRB's Crime in India report 2021 points to indirect consequences of pandemic.

NCRB

- **Origin-** The National Crime Records Bureau (NCRB) was established in 1986 with the aim of establishing a body to compile and keep records of data on crime.
- **Ministry-** It functions under the **Union Home Ministry**.
- **Functions-** Its functions include collection, coordination and exchange of information on inter-state and international criminals to the respective states.
- NCRB also acts as a national warehouse for the fingerprint records of Indian and foreign criminals, and assists in locating interstate criminals through fingerprint search.
- **Reports of NCR**
 - Crime in India
 - Accidental Deaths & Suicides in India (ADSI)

- Prison Statistics India
- Report on Missing Women and Children in India
- Fingerprint in India

Status of violent crimes in India in 2021

- Registration in violent crimes such as rape, kidnapping, atrocities against children, robberies and murders increased in 2021 in comparison to the drop in 2020.
- **Overall crime rate-** The overall crime rate (per 1 lakh people) decreased from 487.8 in 2020 to 445.9 in 2021.
- **Major crimes-** Cruelty by husband or his relatives constituted 31.8% of crimes against women.
- **Chargesheeting and conviction rate-** While violent crimes increased, the chargesheeting rate fell as did the conviction rate.
- **State wise data-** Assam (76.6 violent crimes per one lakh people), Delhi (57) and West Bengal (48.7) had the highest numbers.
- Gujarat, Andhra Pradesh and Tamil Nadu registered the lowest numbers.
- **Safest city-** Kolkata has emerged as the safest city in 2021 with the fewest cognisable offences recorded per lakh of its population.

What does the report signify?

- Domestic violence continues to be a major issue.
- The decrease in crime rate is largely due to a decrease in cases registered under disobedience to a public servant's order, relating to lockdowns.
- The decrease in chargesheeting rate and conviction rate signifies the poor response of law enforcement in a year with more violent crimes.
- The 5.9% jump in cases registered as cybercrimes over 2020 indicates the increasing use of digital devices and the related challenges.
- With India registering the highest excess deaths during the pandemic, according to the World Health Organization, these figures are not surprising.

16. U.N. Report on Uyghurs in Xinjiang

China has vehemently rejected the United Nations Human Rights Office report on human rights violations in the northwestern Xinjiang region.

Significance of the Xinjiang region

- **Xinjiang-** Located in the northwest China, Xinjiang covers one-sixth of China's territory.
- It is officially known as the Xinjiang Uyghur Autonomous Region (XUAR).
- Significance
 - Borders Russia, Afghanistan, India, Pakistan and other central Asian countries.
 - Contains a wealth of natural resources.
 - Part of the ancient Silk Road
- Xinjiang is sparsely populated with a population of 25 million, the majority of which belong to mostly Muslim ethnic groups.
- **Uyghurs-** The Uyghurs are mostly Muslims and they speak their own language which is similar to Turkish.
- They see themselves as culturally and ethnically close to Central Asian nations.
- When first census was done in 1953, around 75% of the total population included Uyghurs while ethnic Han Chinese accounted for 7%.
- The latest census shows that the Uyghur population has come down to 45% of the total in Xinjiang, while that of Han Chinese has increased to 42%.

What are the allegations against China?

- **Abuse against minorities-** In 2014, Chinese leader Xi Jinping ordered a massive crackdown following violence in the region.
- In the years that followed, Uyghurs and others were sent into re-education camps as part of the campaign.
- This was followed by a string of allegations of mass imprisonment, torture, compulsory sterilisation, sexual violence, destruction of Uyghur cultural and religious sites and forced labour.

What is the response of China?

- China has maintained that its crackdown in Xinjiang is aimed at containing the East Turkistan Islamic Movement (ETIM) which is allegedly linked to radical outfits.
- Beijing registered a strong opposition to the U.N. report and slandered the Western forces for using human rights as a political tool.
- China also maintained that Xinjiang enjoys social stability, economic development and religious harmony.

Age of Consent in POCSO

Older adolescents engaging in consensual and non-exploitative acts find themselves embroiled in the criminal justice system.

What about the Court judgements regarding the issue?

- In **Rama @ Bande Rama v. State of Karnataka**, the High Court quashed criminal proceedings under the IPC and Protection of Children from Sexual Offences (POCSO) Act.
- The case had been initiated based on a complaint of a 17-year-old girl's father against her 20-year-old partner.
- The girl stated in court that the acts were consensual and she had married the accused after she had turned 18 and a child was born to the couple.
- In **Vijaylakshmi v. State Rep (2021)**, the Madras High Court observed that punishing an adolescent boy who enters into a relationship with a minor girl by treating him as an offender, was never the objective of the POCSO Act.
- In **Raj Kumar v. State of Himachal Pradesh (2021)**, the Himachal Pradesh High Court allowed a petition filed by the minor girl's father for quashing the trial against his son-in-law.
- In **Skhemborlang Suting v. State of Meghalaya (2021)**, a couple got entangled under the POCSO Act as the wife was a minor.

What is the need of the hour?

- The high rate of acquittals shows that the law is not in sync with social realities of adolescent relationships.
- Blanket criminalisation of such consensual sexual acts involving older adolescents erodes their dignity, liberty, privacy, evolving autonomy, and development potential.
- It also impacts the delivery of justice as these cases constitute a large burden on our courts, and divert attention from investigation and prosecution of actual cases of child sexual abuse and exploitation.
- Merely creating awareness among children will not solve the issues arising out of consensual relationships between teenagers.
- There is a **need for law reform** to revise the age of consent and prevent the criminalisation of older adolescents engaging in consensual and non-exploitative acts.

17. Facebook's Settlement in Cambridge Analytica Lawsuit

Facebook has agreed to settle a lawsuit seeking damages for allowing Cambridge Analytica access to the private data of tens of millions of users.

Cambridge Analytica lawsuit

- It is primarily about the Facebook's role in the 2016 U.S. election.
- A probe revealed that a London-based data analytics firm, Cambridge Analytica, misused data from as many as 50 million Facebook users.
- The firm collected the personal data of many users without their consent to build psychographic profiles of voters.
- The potential voters' personality traits, ideology, and beliefs were then built.
- Former U.S. President Donald Trump's campaign is said to have used the services of Cambridge Analytica to influence voters by micro-targeting them.
- It was also accused by a whistleblower of pursuing voter suppression tactics targeting Black voters.

Role of Facebook in the scandal

- **Role in Cambridge Analytica Scandal**
 - Allowing unauthorised access to its users' data
 - Slow response to data breach and in informing the user community
 - Refuting the claims of Cambridge Analytica that they deleted the collected data after realising that it went against Facebook's terms
- **Other cases-** U.S. residents who used Facebook after 2015 alleged that the company tracked their location via their IP address despite them disabling the location service option.
- In 2019, Facebook paid a record 5 billion dollar to settle Federal Trade Commission (FTC) charges for deceiving users about their ability to control the privacy of their personal info.

What is the response of Facebook?

- It apologised for the breach of trust and admitted that the company didn't do enough to deal with it.
- Since the Cambridge Analytica scandal broke, Facebook has
 - Removed data access from thousands of apps suspected of abusing
 - Restricted the amount of information available to developers
 - Made it easier for users to calibrate restrictions on personal data sharing
- In 2019, Facebook agreed to pay a fine imposed by the U.K. for breaches of data protection law related to the Cambridge Analytica scandal.

18. Public health should be led by doctor alone

- Doctor shortages are creating hurdles in health emergency response

What is the crux of the article in simple words?

- Medical qualification and expertise is necessary to deliver quality health services by medical professionals unlike by general health care workers who lack competency.

Why there is need of qualification?

- **Lack of training:** Health workers have no training in public health; they are grassroots-level service providers. Asking them to be part of public health cadre trivialises the profession of public health.
- **Separate profession:** It is important to understand that public health is a separate profession with a specific set of competencies.

What are 4 pillars of public health?

- **Academics:** Academics refers to a good understanding of evidence generation and synthesis by having a good grounding in epidemiology and biostatistics. These competencies are also critical for monitoring and evaluating programmes, conducting surveillance, and interpreting data and routine reporting.
- **Activism:** Public health is inherently linked to 'social change' and an element of activism is core to public health. Public health requires social mobilisation at the grassroots level by understanding community needs, community organisation, etc. This requires grounding in social and behavioural sciences.
- **Administration:** Administration refers to administering health systems at different levels from a primary health centre to the district, State, and national level. This includes implementing and managing health programmes, addressing human resource issues, supply and logistical issues, etc. It includes microplanning of programme delivery, team building, leadership as well as financial management to some extent.
- **Advocacy:** In public health, there is little that one can do at an individual level; there must be communication with key stakeholders to change the status quo at different levels of government. This requires clear enunciation of the need, analysis of alternative set of actions and the cost of implementation or non-implementation. Good communication and negotiation skills are critical to perform this function. The related subjects are health policy, health economics, health advocacy and global health.

Current challenges faced by public healthcare in India

- **Deficiency:** The doctor-patient ratio of 1:1655 in India as against WHO norm of 1:1000 clearly shows the deficit of MBBS. While the government is working towards a solution and targeting to reach the required ratio, there is a need to relook at the overall medical education.
- **Post pandemic scenario:** The lag in formal medical education has come up evidently post-pandemic when the nation saw the medical fraternity struggling to fill the doctor deficit.
- **Limited government seats:** The number of seats available for medical education in India is far less than the number of aspirants who leave school with the dream of becoming doctors.
- **Lack of skills:** Though the institutes are managing to hire professors and lecturers, there is a lack of technical skills. Finding faculties in clinical and non-clinical disciplines is difficult and there are very few faculty development programs for upskilling the existing lot.

Conclusion

- By establishing new medical colleges, the government can increase student intake as well as enhance equitable access to public health as separate profession. This will attract the best and the brightest people into this discipline, which is very important for the nation's health. This is one lesson that we should learn from the pandemic.

19. Ban on Conversion Therapy for the LGBTQIA+ Community

The National Medical Commission (NMC), the apex regulatory body of medical professionals in India, has written to all State Medical Councils, banning sexual conversion therapy and calling it a “professional misconduct”.

- The NMC has empowered the **State bodies to take disciplinary action against medical professionals** who breach the guideline.
- The NMC was following a **Madras High Court directive** to issue an official notification listing conversion therapy as a wrong, under the Indian Medical Council (Professional Conduct, Etiquettes and Ethics) Regulations, 2002.

Sexual Conversion Therapy

- Conversion or reparative therapy is an **intervention aimed at changing the sexual orientation** or gender identity of an individual.

- It uses either **psychiatric treatment, drugs, exorcism and even violence**, with the aim being to make the individual a heterosexual.
- The conversion therapy umbrella also includes efforts to change the core identity of youth whose gender identity is incongruent with their sex anatomy.
- Often, the therapy is offered by quacks with little expertise in dealing with the issue.
- As late as 2018, medical books listed homosexuality and lesbianism as a “**perversion**”.

What is the role of the Madras High Court in the ban?

On June 7, 2021, Justice N. Anand Venkatesh of the Madras High Court gave a landmark ruling on a case he was hearing about the ordeal of a same-sex couple who sought police protection from their parents.

- Pending adequate legislation more protective of the community, Justice Venkatesh issued a slew of **interim guidelines**.
- It aimed for the **police, activists, Union and State Social Welfare Ministries**, and the National Medical Commission to ensure their safety and security to lead a life chosen by them.
- The ruling **prohibited any attempt to medically “cure”** or change the sexual orientation of LGBTQIA+ (lesbian, gay, bisexual, transgender, queer, intersex, asexual or of any other orientation) people.
- It urged the authorities to take **action against professionals** involving themselves in any form or method of conversion therapy,” which could include the withdrawal of licence to practice medicine.
- On July 8, 2022, the court gave an **order to the NMC directing** it to issue necessary official notification by enlisting ‘Conversion Therapy’ as a **professional misconduct**.

What were some of the other guidelines issued by the court?

- The court asked the Ministry of Social Justice & Empowerment to **draw up a list of NGOs and other groups which could handle the issues** faced by the community, and gave it a time of 8 weeks from the date of the order.
- The court said the **community should be provided with legal assistance** by the District Legal Services Authority in coordination with law enforcement agencies.
- It asked **agencies to follow** the Transgender Persons (Protection of Rights) Rules, 2020, and the Transgender Persons (Protection of Rights) Act, 2019, **in letter and spirit**.

- The court said it was imperative to **hold sensitisation programmes** for an all-out effort to understand the community and its needs.

Way forward

- **Schools and colleges** must effect changes in curricula for a better understanding of the community.
- People of a different sexual orientation or gender identity often narrate harrowing tales of bullying, **discrimination, stigma and ostracization**.
- **Gender-neutral restrooms** should be compulsory in educational institutes and other places.
- **Parents too need to be sensitised**, because the first point of misunderstanding and abuse often begins at home, with teenagers being forced to opt for “conversion” therapies.
- Health professionals point out that even adults opting for sex reassignment surgeries need to get proper **guidance like therapy pre and post operation**.

20. Sutlej-Yamuna Link (SYL) Canal

The Supreme Court drew an assurance from the State of Punjab that it will meet the Haryana counterpart within this month to discuss the construction of the Sutlej-Yamuna Link (SYL) Canal which has been languishing for two decades.

- The observations came after the Centre complained that Punjab had “refrained” from coming to the negotiating table to engage in talks with Haryana over the issue.
- The construction of Punjab’s portion of the canal had led to **militant attacks in the 1980s**.
- The issue had also been a political thorn for successive governments in Punjab, so much so that it led to the State’s unilateral enactment of the **controversial Punjab Termination of Water Agreements Act of 2004**.
- This law was, however, **struck down by a Constitution Bench in 2016**, dashing the hopes of Punjab’s farmers to reclaim lands acquired for the SYL canal project.

SYL canal issue

- At the time of reorganization of Punjab in 1966, the issue of sharing of river waters between both the states emerged.
- Punjab refused to share waters of Ravi and Beas with Haryana stating it was against the riparian principle.

- Before the reorganization, in 1955, out of 15.85 MAF of Ravi and Beas, the Centre had allocated 8 MAF to Rajasthan, 7.20 MAF to undivided Punjab, 0.65MAF to Jammu and Kashmir.
- Out of 7.20 MAF allocated, Punjab did not want to share any water with Haryana.
- In March 1976, when the Punjab Reorganization Act was implemented, the Centre notified fresh allocations, providing 3.5 MAF To Haryana.

Inception of the canal project

- Later, in 1981, the water flowing down Beas and Ravi was revised and pegged at 17.17 MAF, out of which 4.22 MAF was allocated to Punjab, 3.5 MAF to Haryana, and 8.6 MAF to Rajasthan.
- Finally, to provide this allocated share of water to southern parts of Haryana, a canal linking the Sutlej with the Yamuna, cutting across the state, was planned.
- Finally, the construction of 214-km SYL was started in April 1982, 122 km of which was to run through Punjab and the rest through Haryana.
- Haryana has completed its side of the canal, but work in Punjab has been hanging fire for over three decades.

Punjab's resentment with the project

- The dispute is based on the **bloody history around the SYL canal**. The trouble-torn days of terrorism in Punjab started in the early 1980s when work on the SYL started.
- Punjab feels it utilized its precious groundwater resources to grow the crop for the entire country and should not be forced to share its waters as it faces desertification.
- It is feared that once the construction of the canal restarts, the youth may start feeling that the state has been discriminated against.
- The **Punjab CM fears Pakistan and secessionist organisations could exploit this and foment trouble in the state.**

Punjab expects a new tribunal

- The state wants a tribunal seeking a fresh time-bound assessment of the water availability.
- The state has been saying that till date there has been no adjudication or scientific assessment of Punjab river waters.

21. Bangladesh favours early solution for Teesta Dispute

India and Bangladesh should resolve all bilateral issues, including the differences over the waters of the Teesta, at an early date, said Bangladesh PM on her visit to India.

- Bangladeshi PM is on a visit to India.
- Both ministers discussed the long-standing disputes over Teesta river water sharing.
- The two sides shared 54 rivers that required both nations to work together and share “environmental responsibility” in areas such as the Sundarbans.

About Teesta River

- Teesta River is a 315 km long river that rises in the eastern Himalayas, flows through the Indian states of Sikkim and West Bengal through Bangladesh and enters the Bay of Bengal.
- It is a tributary of the Brahmaputra (known as Jamuna in Bangladesh), flowing through India and Bangladesh.
- It originates in the Himalayas near Chunthang, Sikkim and flows to the south through West Bengal before entering Bangladesh.
- Originally, it continued southward to empty directly into the Padma River but around 1787 the river changed its course to flow eastward to join the Jamuna river.
- The Teesta Barrage dam helps to provide irrigation for the plains between the upper Padma and the Jamuna.

What is the dispute about?

- The point of contention between India and Bangladesh is mainly the lean season flow in the Teesta draining into Bangladesh.
- The river covers nearly the entire floodplains of Sikkim while draining 2,800 sq km of Bangladesh, governing the lives of hundreds of thousands of people.
- For West Bengal, Teesta is equally important, considered the lifeline of half-a-dozen districts in North Bengal.
- Bangladesh has sought an “equitable” distribution of Teesta waters from India, on the lines of the Ganga Water Treaty of 1996, but to no avail.
- The failure to ink a deal had its fallout on the country’s politics, putting the ruling party of PM Sheikh Hasina in a spot.

The deal

- Following a half-hearted deal in 1983, when a nearly equal division of water was proposed, the countries hit a roadblock. The transient agreement could not be implemented.
- Talks resumed after the Awami League returned to power in 2008 and the former Indian PM Manmohan Singh visited Dhaka in 2011.
- In 2015, PM Modi's visit to Dhaka generated more ebullient lines: deliberations were underway involving all the stakeholders to conclude the agreement as soon as possible.

Issues from the Indian side

- It remains an unfinished project and one of the key stakeholders – West Bengal CM is yet to endorse the deal.
- Her objection is connected to “global warming. Many of the glaciers on the Teesta basin have retreated.
- The importance of the flow and the seasonal variation of this river is felt during the lean season (from October to April/May) as the average flow is about 500 million cubic metres (MCM) per month.
- The CM opposed an arrangement in 2011, by which India would get 42.5% and Bangladesh 37.5% of the water during the lean season, and the plan was shelved.

22. SC asks Centre, States to allay EWS Quota concerns

A five-judge Constitution Bench led by CJI U.U. Lalit are hearing petitions challenging the 10% quota for the economically weaker sections (EWS) and an Andhra Pradesh law that grants reservation to Muslims.

- The five-judge Bench, led by CJI, is considering the validity of the 103rd Constitutional Amendment.
- The said amendment provides the 10% reservation to economically weaker sections (EWS) of society in government jobs and educational institutions.
- Economic reservation was introduced by amending Articles 15 and 16 and adding clauses empowering the State governments to provide reservation on the basis of economic backwardness.

Significance of the quota

- The Constitution initially allowed special provisions only for the socially and educationally backward classes.
- The Government introduced the concept of EWS for a new class of affirmative action program for those not covered by or eligible for the community-based quotas.

What are the court's questions about the criteria?

- **Reduction within general category:** The EWS quota remains a controversy as its critics say it reduces the size of the open category, besides breaching the 50% limit on the total reservation.
- **Arbitrariness over income limit:** The court has been intrigued by the income limit being fixed at ₹8 lakh per year. It is the same figure for excluding the 'creamy layer' from OBC reservation benefits.
- **Socio-economic backwardness:** A crucial difference is that those in the general category, to whom the EWS quota is applicable, do not suffer from social or educational backwardness, unlike those classified as the OBC.
- **Metropolitan criteria:** There are other questions as to whether any exercise was undertaken to derive the exceptions such as why the flat criterion does not differentiate between metropolitan and non-metropolitan areas.
- **OBC like criteria:** The question the court has raised is that when the OBC category is socially and educationally backward and, therefore, has additional impediments to overcome.
- **Not based on relevant data:** In line with the Supreme Court's known position that any reservation or norms for exclusion should be based on relevant data.
- **Breaches reservation cap:** There is a cap of 50% on reservation as ruled in the Indira Sawhney Case. The principle of balancing equality ordains reservation.

Practical issues with EWS Quota

The EWS quota will come in for judicial scrutiny soon. But it's not only a matter for the judiciary, India's Parliament should revisit the law too.

- **Hasty legislation:** This law was passed in haste. It was passed in both the houses within 48 hours, and got presidential approval the next day.
- **Minority appeasement:** It is widely argued that the law was passed to appease a certain section of upper-caste society and to suppress the demands for minority reservations.
- **Morality put to question:** Imagine! A constitutional amendment has been made with few hours of deliberation and without consultation of the targeted group. This is certainly against constitutional morality and propriety.

- **Substantial backing is missing:** This amendment is based on a wrong or unverified premise. This is at best a wild guess or a supposition because the government has not produced any data to back this point.
- **Under-reservation of Backward Classes:** The assertion is based on the fact that we have different data to prove the under-representation of SC, ST, OBCs. That implies that 'upper' castes are over-represented (with 100 minus reservation).
- **Rationale of 10%:** There is one more problem in this regard. The SC and ST quota is based on their total population. But the rationale for the 10 per cent quota was never discussed.
- **Principle of Equality:** Economic backwardness is quite a fluid identity. It has nothing to do with historic wrongdoings and liabilities caused to the Backward Classes.

Way forward

- **Preserving the merit:** We cannot rule out the sorry state of economic backwardness hampering merit in our country.
- **Rational criteria:** There has to be collective wisdom to define and measure the economic weakness of certain sections of the society in order to shape the concept of economic justice.
- **Judicial guidance:** Judicial interpretation will pave the wave forward for deciding the criterion for EWS Quota.
- **Targetted beneficiaries.** The centre needs to resort to more rational criteria for deciding the targeted beneficiary of this reservation system. Caste Census data can be useful in this regard.
- **Income study:** The per capita income or GDP or the difference in purchasing power in the rural and urban areas, should be taken into account while a single income limit was formulated for the whole country.

Conclusion

- Reservation is a constitutional scheme to ensure the participation of backward classes shoulder to shoulder with all citizens in the nation-building process.
- The EWS quota with above discussed ambiguities is the subversion of the constitutional scheme for reservation.

23. UN slams Sri Lanka's rights record

Linking Sri Lanka's past on human rights record to its current economic crisis, the UN Human Rights Chief on said "impunity" for human rights abuses, economic crimes, and corruption was the underlying reason for the country's collapse.

UNHRC report on Sri Lanka

- The UNHRC report warned that Sri Lanka's failure to address human rights violations and war crimes committed in the past had put the country on a "dangerous path".
- It rose that this could lead to a "recurrence" of policies and practices that gave rise to the earlier situation.
- It flagged the accelerating militarization of civilian governmental functions, a reversal of important constitutional safeguards, political obstruction of accountability, intimidation of civil society, and the use of anti-terrorism laws.
- The shrinking space for independent media and civil society and human rights organizations are also themes in the report.

The Resolution 30/1

- The resolution 30/1 launched in 2015 deals with promoting reconciliation, accountability and human rights in Sri Lanka.
- It extended an opportunity to make good on its promises for justice and offered extensive support to accomplish that objective.

Sri Lanka's intention

- It is more than Sri Lanka has failed to – and doesn't intend to – take the necessary, decisive, and sustainable steps necessary to achieve domestic justice and reconciliation.
- Sri Lanka has officially sought India's help to muster support against the resolution, which it has described as "unwanted interference by powerful countries".

Where India comes in

- The UNHRC is scheduled to hold an "interactive" session on Sri Lanka where the report was to be discussed, and member countries were to make statements.
- Country-specific resolutions against Sri Lanka have regularly come up at the UNHRC in the last decade.
- New Delhi voted against Sri Lanka in 2012 and abstained in 2014. It was spared the dilemma in 2015 when Sri Lanka joined resolution 30/1.
- With elections coming up in Tamil Nadu, and PM declaring on a recent visit that he was the first Indian leader to visit Jaffna, Sri Lanka has begun reading the tea leaves.

- Whichever way it goes, the resolution is likely to resonate in India-Sri Lanka Relations and for India internally, in the run-up to the Assembly elections in Tamil Nadu.

24. CSR needs positive reforms to support NGO'S

- The evolving role of CSR in funding NGOs
- A non-governmental organization is an organization that generally is formed independent from government. They are typically non-profit entities, and many of them are active in humanitarianism or the social sciences; they can also include clubs and associations that provide services to their members and others.

What is CSR?

- Corporate social responsibility CSR is a form of international private business self-regulation which aims to contribute to societal goals of a philanthropic, activist, or charitable nature by engaging in or supporting volunteering or ethically oriented practices.
- When COVID-19 spurred a nationwide lockdown in India in 2020, a grave need for localised social support emerged. Giving, both private and public, flowed to NGOs working towards combating pandemic-induced challenges such as loss of livelihood for vulnerable communities, food banks, and health and medical support.

Issues with CSR funding to NGO

- **No organization development:** CSR funders mostly contribute little or no money to organisational development and limit what they pay for indirect costs to a fixed rate often below 5%. 2020 primary research showed that NGOs' indirect costs range from 5% to 55%, depending on their mission and operating model, much as a corporate's sales and administration costs vary significantly by industry and product.
- **Regulatory framework:** These practices are partly a consequence of CSR funders' focus on regulatory compliance amendments to the CSR law in 2021 include substantial financial penalties for noncompliance.
- **Errors on safety:** Many CSRs make errors on safety with the unintended consequence of leaving an NGO with unpaid bills or worse still, drawing on its scarce core funding from other donors to pay for these essential costs.

How to improve CSR governance?

- **Increase transparency:** Transparency is the ultimate trust-builder, and should be considered a guiding principle for any socially responsible company. This concept should apply to goals, ongoing initiatives, and ultimate progress or results.
- **Focus on equity:** Equity is a vital lens through which to evaluate business practices and CSR strategy, at both a micro and macro level. Not only is ensuring that program furthers social and racial justice a cornerstone of the very essence of corporate responsibility, but study after study establishes that improved diversity and inclusion leads to better outcomes for everyone from increased innovation and competitiveness, to stronger ethics and team culture.
- **Deepen community connections:** Deepening your organization's connection to those on the other side of your CSR projects will have far-reaching benefits. These could likely include developing a more impactful program, as you strengthen your understanding of the needs of the community served.
- **Encourage creativity:** Creativity as a principle may feel out of place in a discussion of how to improve CSR. Yet it's a concept increasingly invoked in philanthropic thought leadership, and for good reason.

Conclusion

- The idea is to move beyond signing cheques to recognising that, ultimately, what's good for Indian society is also good for business.

25. Rajpath, Central Vista lawns renamed 'Kartavya Path'

Rajpath and Central Vista Lawns in the national capital will now be known as "Kartavya Path", the New Delhi Municipal Council (NDMC) announces.

Updating to Kartavya Path

- The entire stretch and the area from the Netaji statue under the Grand Canopy to the Rashtrapati Bhavan will be known as Kartavya Path.
- Kartavya Path, which will be opened to the public at the end of the official function, will exhibit landscapes, lawns with walkways, added green spaces, refurbished canals, amenity blocks, improved signages and vending kiosks.
- New pedestrian underpasses, improved parking spaces, new exhibition panels, and upgraded night lighting are some other features that will enhance the public experience.

- It also includes a number of sustainability features like solid waste management, storm-water management, recycling of used water, rainwater harvesting, water conservation and energy-efficient lighting systems, among others.

Kingsway to Rajpath

- Called Kingsway during British rule, the three-km stretch was built as a ceremonial boulevard by Edwin Lutyens and Herbert Baker, the architects of New Delhi, more than a hundred years ago.
- The capital of the Raj moved to New Delhi from Calcutta in 1911, and construction continued for several years thereafter.
- Lutyens conceptualised the modern imperial city centred on a “ceremonial axis”, which was named Kingsway in honour of the then Emperor of India, George V.
- He visited Delhi during the Durbar of 1911, where he formally proclaimed the decision to move the capital.
- The nomenclature followed that of the Kingsway in London, an arterial road built in 1905, which was named in honour of King Edward VII, the father of George V.
- Following Independence, the road was given its Hindi name, Rajpath, on which the Republic Day parades took place over the decades that followed.

Significance of all recent event

- The construction of the Central Vista Redevelopment Project began in February 2021, with the new Parliament building and redevelopment of the Central Vista Avenue in the first phase.
- The aim is to build an iconic avenue that truly befits the New India, the government has said about the Rs 608 crore Central Vista Avenue project.
- It symbolizes a shift from erstwhile Rajpath being an icon of power to Kartavya Path being an example of public ownership and empowerment.

26. Inking a Pact on Kushiara River Water Sharing

Prime Minister Narendra Modi and Bangladesh Prime Minister Sheikh Hasina have signed 7 MoUs on issues related to water sharing, railways, space, science and judiciary.

How has the bilateral relationship evolved over the years?

- **Trade-** Bangladesh is India's sixth largest trade partner while India is Bangladesh's second biggest trade partner, and its largest export market in Asia.
- Bangladesh imports critical industrial raw material from India on which its exports are reliant.
- Under South Asian Free Trade Area (SAFTA), Bangladesh extends preferential tariffs to Indian exports of products outside the sensitive list.
- **Connectivity-** The Bangladesh, Bhutan, India, and Nepal Motor Vehicle Agreement (BBIN-MVA) is a key development that can enhance the trade potential of India with Bangladesh.
- Home Minister Amit Shah recently reviewed the security arrangements in the Assam-Meghalaya-Bangladesh tri-junction, which used to be a smugglers' route.

What are the pending issues?

- **Regional geopolitics-** Bangladesh had successfully approached China for a mega project to enhance Teesta river water flow.
- Bangladesh also requires China's support in resolving the Rohingya refugee crisis.
- Bangladesh is the second biggest arms market for China after Pakistan.
- Although memories of 1971 remain, Bangladesh has expressed its interest in establishing peaceful relations with Pakistan.

What agreements were signed recently?

- India and Bangladesh signed seven agreements on various fields, including
- **Water resources-** An interim bilateral agreement on water sharing of the Kushiara river
- **Judiciary-** Capacity building of Courts
- **Railways-** To train personnel of Bangladesh Railways
- Other areas- Space technology, scientific and technological cooperation, TV broadcasting
- The two PMs also jointly inaugurated various projects, including a power plant, a railway bridge and several railway line projects.

What is the interim agreement on Kushiara water sharing?

- There were 54 rivers that pass through the Indo-Bangladesh border
- India and Bangladesh had signed the **Ganga water treaty in 1996** for sharing waters of Ganga for a period of 30 years.
- Bangladesh has sought the early conclusion of the Teesta water sharing agreement, which has been hanging since 2011 due to opposition from West Bengal.

- The current agreement will benefit southern parts of Assam state in India and the Sylhet region in Bangladesh.

27. Naga team continues talks on Constitution

The Government of India is ready to incorporate the Yehzabo, the Naga Constitution, into the Indian Constitution and has agreed for a civil and cultural flag for the Nagas.

- The term Naga was created by the British for administrative convenience to refer to a group of tribes with similar origins but distinct cultures, dialects, and customs.
- The Naga tribes are accumulated in Nagaland, Arunachal Pradesh, Manipur, and Myanmar. Naga separatists group has timely reiterated that the 'Naga National flag' and 'Yehzabo' (Constitution) are non-negotiable issues.

Has the GoI agreed to this?

- The Centre is clear that **there cannot be two Constitutions** and two flags in the country.
- The Yehzabo will be incorporated into the Indian Constitution by presenting a Bill in Parliament.
- As far as flag is concerned, it will only be used for civil and cultural functions, but not in any government function.

Why did the Naga insurgency begin?

- Residing in the Naga Hills of Assam during the advent of the British and the annexation of Assam in 1820, the Nagas did not consider themselves a part of British India.
- The British adopted a way of governance over the Nagas that involved keeping in place their traditional ways of life, customs, and laws while putting British administrators at the top.
- At the time of the withdrawal of the British, insecurity grew among the Naga tribes about the future of their cultural autonomy after India's independence.
- This was accompanied by the fear of the entry of "plains people" or "outsiders" into their territory.

Outcome of the then insurgency

- The Central Government sent the **armed forces into Naga areas** to curb the insurgency.

- It imposed the contentious **Armed Forces Special Powers Act (AFSPA)** which is still in place in parts of Nagaland.
- The Nagas, led by Mr. Phizo, demanding an independent state outside of India, **boycotted the 1952 and 1957 general elections** and armed clashes grew.
- Unlike other groups in the north east which were accepting some form of autonomy under the Constitution, Nagas rejected this in **favour of sovereignty**.

Again split in NSCN

- In 1988, after years of infighting and violent clashes along tribal lines and over the main cause of the movement, the NSCN split into two factions.
- One, led by Mr. Muiwah and Swu called the NSCN-IM and the other, led by Mr. Khaplang called the NSCN-K.
- The NSCN-IM demanded and continues to **demand for 'Greater Nagaland' or Nagalim**.
- It wants to **extend Nagaland's borders** by including Naga-dominated areas in the neighbouring States of Assam, Manipur and Arunachal Pradesh.
- The NSCN-IM has now grown to become the **most powerful insurgent group**, also playing a role in the creation of smaller groups in other States.

Issues of contention

- **Independence celebration:** Nagas across Nagaland, Manipur, Assam and Arunachal Pradesh celebrate August 14 as Independence Day. According to Naga historians, Gandhi agreed that the Nagas would celebrate their independence a day ahead of India, on August 14, 1947.
- **Naga flag:** In the Naga narrative, passed down generations by word of mouth, the Naga flag was not designed by a mortal but is of divine origin.
- **Secessionist tendencies:** A large section of the Nagas still holds dear the idea of the Naga identity and their tribal roots.

Way ahead

- The Naga struggle claimed thousands of lives over decades and devastated countless homes, all over the idea of a sovereign Naga nation.
- If the NSCN (I-M) accedes to economic and political packages alone, without a separate flag and constitution, it remains to be seen whether it will be seen as a solution, or as a defeat.

28. India- China disengage at LAC friction points in Ladakh

India and China have announced that their Armies have begun to disengage from Patrolling Point-15 in the Gogra-Hot springs area at LAC.

LAC- the Line of Actual Control

- The LAC is the demarcation that separates Indian-controlled territory from Chinese-controlled territory.
- India considers the LAC to be **3,488 km long**, while the Chinese consider it to be only around 2,000 km.
- It is divided into three sectors: the eastern sector which spans Arunachal Pradesh and Sikkim, the middle sector in Uttarakhand and Himachal Pradesh, and the western sector in Ladakh.
- The LAC is **only a concept** – it is **not agreed upon by the two countries, neither delineated on a map nor demarcated on the ground.**

What is the disagreement?

- The alignment of the LAC in the eastern sector is along the 1914 McMahon Line, and there are minor disputes about the positions on the ground as per the principle of the high Himalayan watershed.
- The major disagreements are in the western sector where the LAC emerged from two letters written by Chinese Prime Minister Zhou Enlai to PM Jawaharlal Nehru in 1959, after he had first mentioned such a 'line' in 1956.

When did India accept the LAC?

- The LAC was discussed during Chinese Premier Li Peng's **1991** visit to India, where **PM P V Narasimha Rao** and Li reached an understanding to maintain peace and tranquillity at the LAC.
- India formally accepted the concept of the LAC when Rao paid a return visit to Beijing in 1993 and the two sides signed the **Agreement to Maintain Peace and Tranquillity at the LAC.**
- The reference to the LAC was unqualified to make it clear that it was not referring to the LAC of 1959 or 1962 but to the **'LAC' at the time when the agreement was signed.**
- To reconcile the differences about some areas, the two countries agreed that the Joint Working Group on the border issue would take up the task of clarifying the alignment of the LAC.

Why sudden disengagement?

- The move comes **ahead of the Shanghai Cooperation Organisation (SCO) summit** in Uzbekistan next week.
- However, neither side has, so far, confirmed if the two leaders would hold bilateral talks on the sidelines of the summit.
- The leaders have not spoken to each other since a November 2019 meeting during the BRICS Summit in Brasilia and the beginning of the stand-off in April 2020.

Why did India change its stance on the Line of Actual Control?

- Indian and Chinese patrols were coming in more frequent contact during the mid-1980s.
- This was after the government formed a China Study Group in 1976 which revised the patrolling limits, rules of engagement and pattern of Indian presence along the border.

Why are these claim lines controversial in Ladakh?

- When the Shimla Agreement on the McMahon Line was signed by British India, Aksai Chin in Ladakh province of the princely state of **J&K was not part of British India**, although it was a part of the British Empire.
- Thus, the eastern boundary was well defined in 1914 but in the west in Ladakh, it was not.
- India, in July 1948, had two maps: one had **no boundary shown in the western sector**, only a partial colour wash; the second one extended the colour wash in yellow to the entire state of J&K, but mentioned “boundary undefined”.

Way forward

- The impasse in India-China relations **CANNOT be overcome by more talks** through diplomatic and military channels, and possibly require the intervention of the top leadership of both countries.
- Therefore, as Dr. Jaishankar put it, the management of the fissures within Asia will require **adherence to established laws, norms, and rules**.

29. To make the language of learning a choice that is made democratically

- English should be taught effectively not as the medium, but as a second language

What is the debate?

- Over the years, there has been a raging debate over the need for children to have their mother tongue as the medium of instruction in schools.
- While educationists have emphasised the importance of learning in the mother tongue to enhance a child's learning and overcome glaring inequities, there has been an equally steady demand for English-medium schools in several States.

Why mother tongue is important?

- **Suitability to child:** There is an almost-complete consensus among educationists, linguistic experts and psychologists that the mother tongue, or the language of the region where the child lives, is the only appropriate language of learning for the child.
- **Incomprehension:** A child can be taught any number of languages, particularly later in life, but the medium of learning should be the mother tongue. As a number of classrooms today are stalked by the curse of incomprehension.
- **Pressure of English language:** There are a growing number of schools, mostly private, that teach in English. Government schools too in States like Tamil Nadu, unable to bear the pressure from parents and to stop students from migrating to private schools, are switching to English medium.
- **Development in every way:** The mother tongue, home language or the first language educationally means the language which the child is using to connect to the world, to people, to nature, to the environment, and to make sense of everything that's going on. This is the language which helps the child to build, grow and develop in every way.
- **Inability to learn:** English medium education is a profound tragedy in Indian education today. Millions are languishing because of their inability to learn in English not English as a language but as a medium through which they acquire any knowledge of any subject.

Why English Should Be the Medium of Instruction in Schools, Colleges?

- **Connectivity with The Rest of the World:** To communicate and be on par with the world, the first language that stands common is English. With English, a student can remain on par with what is happening across the globe. Lack of English knowledge or alone mother tongue does not allow children to progress with the rest of the world.
- **Technologies Can Be Used Only With English Instruction:** Most of the modern technologies are invented, reinvented and modernized in foreign shores. The inventors keep the English language for the instruction manual of the technological gadget so that the gadget can be used worldwide.
- **Higher Education Emphasizes on The English language:** The main focus of teaching medium in higher secondary as well as in graduation and post-graduation colleges in India. There is no doubt that lecturers also teach in Hindi or other regional languages. However, question design comes in both English and regional language. But most of the classes are taught in English.

How multilingual approach helps

- Firstly, multilingualism gives equal status to all languages and there's enough work, history and research on this.
- Second, children come from different backgrounds, and in some cases, they are first-generation learners with not much support at home.
- The multilingual approach thus, is much more flexible, closer to the child, and inclusive. It is democratic, and it accepts that the teacher is not coming from a place of authority and is only correcting spellings and pronunciations.

Conclusion

- This myth must be broken that our education system is class and caste neutral. A powerful political movement will have to take place to make the language of learning a choice that is made democratically.

30. TB Mukh Bharat Abhiyan 'Ni-kshay 2.0' portal

President Draupadi Murmu recently launched the 'Pradhan Mantri TB Mukh Bharat Abhiyan' and the Nikshay 2.0 portal to eliminate TB by 2025 through a virtual event.

Key Facts

- Under this campaign, any person, any representative or organization can adopt TB patients and the adopted patients will be taken care of.

- More than 66 percent TB patients currently undergoing treatment in the country have given their consent for adoption under this campaign.
- Under this scheme, more than 62 lakh TB patients have received financial assistance of Rs 1,651 crore since 2018. This involves a direct transfer of Rs 500 to the patient's bank account.

Nikshay 2.0 Portal

- The NIKSHA 2.0 portal provides additional patient support to TB patients to take advantage of Corporate Social Responsibility (CSR) opportunities to improve treatment outcomes, enhance community participation and fulfill India's commitment to TB eradication by 2025.
- The people and institutions who come forward to take care of the patients will be called "Nikshay Mitras".
- The period of Nikshay Mitra support can be chosen from one year to three years. They can also choose the state, district, block, health facilities.
- Around 13.5 lakh TB patients are registered in the NIKSHA portal, out of which 8.9 lakh active TB patients have given their consent for adoption.
- The digital portal Nikshay will provide a platform for community support to TB patients.
- Under this initiative, individuals, organisations, corporates, cooperative organisations, elected leaders and NGOs can provide support to persons suffering from TB by adopting them. You can also login to Nikshay 2.0 Portal.
- As part of the programme, Union Health Minister Mansukh Mandaviya will adopt 15 of the 87 patients who have given their consent for adoption in his home town Palitana in Gujarat.
- According to official sources, out of the total 13,51,611 TB patients currently in the country, 8,95,119 had given their consent for adoption by September 7.

About TB Free India Campaign

The TB Free India Campaign was started by Prime Minister Narendra Modi to eliminate Tuberculosis in India. This campaign seeks to achieve the target of eliminating TB by 2025, as a part of sustainable development goals. However, goal of eliminating TB by 2025, is 5 years ahead of global target of eliminating TB by 2030.

31. UN High Commissioner for Human Rights

UN Secretary-General Antonio Guterres will propose the appointment of Austria's Volker Turk as the next High Commissioner for Human Rights. He will succeed Michelle Bachelet of Chile, whose term ended on August 31.

Highlights

- Traditionally, the UN chief consults with the permanent members of the UN Security Council – China, France, Russia, the United Kingdom and the United States – before selecting a High Commissioner.
- The appointment of Volker Turk must be approved by the United Nations General Assembly in New York.
- Other candidates for the position included career diplomat Federico Villegas from Argentina and Adama Dieng of Senegal.

Volker Turk

- Volker Turk holds a doctorate in international law from the University of Vienna and a Master of Law from the University of Linz, Austria.
- He is proficient in many languages. He has good command over English, French and German languages along with a working knowledge of Spanish.
- Turk has held several key positions during his career. He also served as Director of the Department for International Security from 2009 to 2015, including as the United Nations High Commissioner for the UNHCR Agency.
- Volker Turk currently works in the office of Antonio Guterres as Under-Secretary-General for Policy.
- Prior to this, Turk was the Assistant High Commissioner for Security at the United Nations Refugees, UNHCR in Geneva, where he played a key role in the development of the historic Global Compact on Refugees.

UN Human Rights High Commissioner

- The High Commissioner is the principle official who speaks out for human rights across the whole UN system. It strengthens human rights mechanisms, enhance equality & fight discrimination in all its forms. The Office was created in 1993.
- It also strengthens accountability & the rule of law and widens the democratic space & protecting the most vulnerable from all forms of human rights abuse.
- He/she is mandated to promote and protect the universal exercise and full realization of human rights, across the world, as established in UN Charter.

32. Spent nuclear fuel storage should be 'worked out': SC

The Supreme Court has said the problem of storing spent nuclear fuel from the Kudankulam nuclear power plant has to be “worked out”.

Key Highlights of SC rulings:

- It asked Tamil Nadu state govt. to come clear on the time schedule for the completion of public hearings by the State regarding the construction of an **Away From Reactor (AFR)** facility at the **Kudankulam plant**.
 - It is designed for **storing spent fuel discharged from reactors**.
 - AFR design is **specific to fuel type**.
 - **Example:** Spent fuel from at Kudankulam plant cannot be used for storing spent fuel from other reactors elsewhere in India whose design is different.
- It said that the concern of the public about the existence of spent nuclear fuel has to be understood by **Nuclear Power Corporation of India Ltd. (NPCIL)**.

Kudankulam nuclear power plant:

- It is located 650km south of Chennai, in the **Tirunelveli district of Tamil Nadu, India**.
- It is being **developed by** the Nuclear Power Corporation of India (NPCIL).
- **Two 1,000 megawatt (MW) pressurised water reactor (PWR)** units based on Russian technology were constructed in phase one of the project.
- It is **India's first nuclear plant to use imported Russian-developed PWR** technology.
 - The existing nuclear power plants in India use pressurised heavy water reactor or boiling water reactor technology.
- It uses **AES-92**, also called the **V-466 model**, which is the latest version of the **third generation VVER (water-water energy reactor)-1000**.

Spent nuclear fuel:

- Spent nuclear fuel is generated from the **operation of nuclear reactors** of all types and needs to be safely and securely managed following its removal from the reactor core.
- It is considered both as **waste or potential energy resource**.
- The **requirements for the storage** of spent fuel are the same as those for the storage of **radioactive waste**.
- It is stored in the reactor fuel storage pool for a period of time for cooling and then may be transferred to a **designated wet or dry storage facility**.

33. What is the G7 planning on Russian oil?

G7 plan to impose sanctions on Russian oil.

- The Finance Ministers of G7 countries have decided to implement a comprehensive prohibition on the services that ensure maritime

transportation of Russian crude oil and petroleum products. However, the plan doesn't cover the Russian gas, because of Europe's dependence on it.

- G7 countries include Canada, France, Germany, Italy, Japan, the U.S., and the U.K.
- The G7 group has proposed a price cap plan.

Price Cap Plan:

- It is the latest sanctions against Russia and Belarus that are proposed by Western countries. The sanctions are due to Russia's invasion of Ukraine and support of Belarus to Russia respectively.
- The aim is to reduce the price of oil, but not the quantity in order to control global inflation and hurt the Russian economy. The Russian ability to fund the war in Ukraine will also be considerably impacted.
- The U.S. and EU officials are trying to convince India, China, and Turkey to support the plan, as it is in the interests of all importers of Russian oil.
- This will give them the leverage to lower their crude oil purchase prices.
- Enforcement of the plan:
 - The countries that will join the coalition would not buy oil from Russia unless the price is reduced to that prescribed in the cap.
 - And the countries that don't join the coalition or trade at higher prices, will lose access to all services provided by the countries of the coalition like insurance services, currency payment facilities, and provisions like shipment clearances.

Russian Reaction to the proposal:

- The Russian President has severely reacted to the proposal. It has been warned that Russia would not supply anything if the Russian interests are contradicted.
- In the Eastern Economic Forum (EEF) in Vladivostok, Russia threatened to stop supplies of gas, oil, coal, heating oil, etc impacting Europe.
- Moreover, Russia also announced a halt of all supplies to Europe through the Nord Stream 1 pipeline citing maintenance issues as a reason. However, this was the consequence of the existing EU sanctions.

India's role in the current plan:

- The U.S. and EU are trying to bring India on board. They are trying to convince India on various fronts like:
 - Asking India to change its stance at the United Nations
 - Cut down oil imports from Russia

- Terminate its defence deal and cease the rupee-rouble payment mechanism that is aimed at circumventing the sanctions.
- India by far has not shown any inclination toward the plan because India's oil intake from Russia, is at its peak almost 50 times more prior to the war.
- The higher authorities have rejected any moral obligation of joining the price cap coalition. It was further argued that the only duty of India is to provide affordable oil to Indian consumers.
- Moreover, India is looking to strengthen its ties with Russia in the field of energy and boost India's \$16 billion investment in Russian oilfields, as highlighted in EEF.
- India is also about to participate in the Shanghai Cooperation Organisation summit in Uzbekistan, where the price cap issue will be countered because of Russian participation.

34. Risk from rabies

The death of a 12-year-old girl in Kerala from rabies

- Rabies is caused by a family of viruses known as lyssavirus, which is found in various mammals including cats and crocodiles. However, it is most likely to spread in humans through pets like infected dogs/cats.
- Rabies virus is known to target the central nervous system of the host and is about hundred percent fatal if the infection spreads.
- Despite being deadly, the rabies virus' spread is slow and can take several weeks before becoming fatal encephalitis. Therefore, administering a vaccine, even after being bitten by a rabid animal, is adequately effective.
 - A shot of rabies immunoglobulin and the consequent four-week course of anti-rabies vaccine guarantees prevention.
 - The detailed regimen is that the first dose should be given on the same day as the immunoglobulin vaccination. This should be followed by vaccinations on the third, seventh and fourteenth day.
 - There is no single-shot rabies vaccine that can offer permanent immunity against the disease.

Status of Rabies vaccine in India:

- At present, there are six types of rabies vaccines approved in India, as reported by the Health Ministry.
- They are made of inactivated viruses and are safe and efficacious.
- The Rabies vaccines are provided free of cost in government-run dispensaries.
- But it is often reported that hospitals lack vaccines. Moreover, the awareness about vaccines and treatment is not at the desired level in India.

- The shortage had been reported in multiple states like Karnataka, Punjab, Haryana, and West Bengal.
- The Government has reported that during the span of 2016 to 18, approximately 300 rabies deaths were reported in India.
- The WHO also suggests that India is endemic to rabies and accounts for nearly 36% of the world's deaths.
- According to an anonymous source, Rabies causes Twenty thousand deaths annually. Moreover, 30-60% of reported rabies cases and deaths belong to the age cohort of 0 to 15 years.

The future course of action:

- India has set the target of elimination by 2030.
- The elimination also requires the extensive vaccination of dogs as they are responsible for approximately 99% of all rabies infections.
- In its 'National Action for Plan – Rabies Elimination' government aims to vaccinate at least seventy percent of all dogs in specific geographical areas annually. This would continue for three years. At this rate of building herd immunity, it is expected to eliminate the infection in eight years.

35. New Adoption Rules

Recent changes in adoption rules have resulted in complications and delay in the adoption process in India.

- Nearly 3,500 adoptions are completed every year in India.
- In July 2021, Parliament of India passed the Juvenile Justice (Care and Protection of Children) Amendment Bill, 2021 which empowers District Magistrates to give adoption orders.

Issue with amended rules:

- The 2021 amendments include authorising District Magistrate including Additional District Magistrate to issue adoption orders under Section 61 of the JJ Act, in order to ensure speedy disposal of cases and enhance accountability.
- It has been made by the Central Adoption Resource Authority and has been notified by the Union Woman and Child Development Ministry.

- Amendments also stated that “all the cases pertaining to adoption matters pending before the Court shall stand transferred to the District Magistrate from the date of commencement of these rules.”
- The amendments came into effect from September 1, 2021.
- But the confusion over the implementation of these new rules that require transfer of adoption petitions from courts to District Magistrates could lead to further delays in a long and arduous procedure.

Other changes made in the Amendment:

- The District Magistrates have been further empowered to ensure its smooth implementation, as well as garner synergized efforts in favour of children in distress conditions.
- As per the amended provisions of the Act, any Child Care Institution shall be registered after considering the recommendations of the District Magistrate.
 - The DM shall independently evaluate the functioning of District Child Protection Units, Child Welfare Committees, Juvenile Justice Boards, Specialised Juvenile Police Units, Child Care Institutions, etc.
- The eligibility parameters for appointment of Child Welfare Committee (CWC) members have been redefined. Disqualification criteria for the same have also been introduced.
- It has been decided that offences where the maximum sentence is more than 7 years imprisonment but no minimum sentence has been prescribed or minimum sentence of less than 7 years is provided, shall be treated as serious offences within this Act.

36. PM SHRI Schools- The Laboratory of New Education Policy

On Teachers Day, PM Modi announced the Pradhan Mantri Schools for Rising India (PM-SHRI) Scheme to transform 14,500 schools into model institutions to achieve the objectives of National Education Policy, 2020.

What is the scheme?

- Under the scheme, a total of 14,500 schools across the country to **empower student with 21st century skills**.
- The scheme will provide high-quality education in an equitable, inclusive environment that takes care of the diverse background, multilingual needs and different academic abilities of children.
- These state-of-art schools will be the laboratory of the new education policy.

- It is a **centrally sponsored scheme**, in which the cost of implementation is mostly split in a 60:40 ratio between the Union government and the states/UTs.

Key features of the scheme

- Improvement of school infrastructure
- Early childhood care and education – Balvatika, foundational literacy and numeracy
- Development of **Green schools**
- Modern facilities including ICT
- Counselling focused on well-being and career
- Sports and arts for every child
- Appropriate infrastructure for girls and those with special needs
- Encourage mother tongue and local languages
- Adopting holistic, integrated and learner-centred methods by teachers
- A '**School Quality Assessment Framework**' to measure the progress and performance of these schools
- Connecting the schools with the local entrepreneurial ecosystem and higher education institutions

How will the PM SHRI scheme benefit schools and students?

- **Model schools-** Institutions developed under PM SHRI will become model schools and will encapsulate the full spirit of NEP.
- **Holistic nature-** Pedagogy adopted in these schools will be more experiential, holistic, integrated, toy-based, discovery-oriented, learner-centred, discussion-based and enjoyable.
- **Mentorship-** PM SHRI Schools will mentor other existing schools in respective regions to spread the NEP Policy at a larger level.
- **Tech driven-** The PM SHRI Schools will incorporate environment-friendly tools along with being technology driven.
- **Conceptual understanding-** Assessment for children will be based on conceptual understanding and application of knowledge to real life situations and will be competency-based in every grade.
- **Quality assessment-** A School Quality Assessment Framework (SQAF) will assess the resources available and their effectiveness.
- **Employment-** The PM SHRI scheme will cater for internships by collaborating with Sector Skill Councils and local industry thus providing better employment opportunities.

37. The Siddique Kappan Case

Nearly 2 years after his arrest under the draconian UAPA, Supreme Court has granted bail to journalist Siddique Kappan condemning the attack on media freedom.

What is the Siddique Kappan case about?

- Siddique Kappan is a reporter with the Malayalam news portal Azhimukham and secretary of the Delhi unit of Kerala Union of Working Journalists (KUWJ).
- **Hathras gangrape case-** He was arrested along with three others in Uttar Pradesh in October 2020 while on his way to Hathras to report on the gangrape and murder of a Dalit teenager.
- She was cremated in the middle of the night allegedly without her family's consent.
- The government also claimed that he was part of a conspiracy to provoke religious conflicts in the country.
- He was accused of being involved in the plot to defame the Uttar Pradesh government over the Hathras murder case.
- Kappan was charged for having alleged links with the Popular Front of India (PFI) under
 - **IPC Section 153A** - promoting enmity between different groups on ground of religion
 - **IPC Section 295A** - deliberate and malicious acts intended to outrage religious feelings
 - **Sections 65, 72 and 75** of the Information Technology Act
 - Sections 17 and 18 of Unlawful Activities Prevention Act (UAPA)

What are the criticisms against Kappan's arrest?

As per World Press Freedom Index 2022 by 'Reporters Without Borders', India's ranking dropped to 150th position from last year's 142nd rank.

- **Media freedom-** The prolonged incarceration of Kappan has attracted global condemnation and is often noted as a marker of India's declining press freedom.
- **UAPA-** Under the UAPA, 4,690 persons were arrested between 2018 and 2020, but only 3% were convicted.
- Under the UAPA, getting bail is tough, and so the accused spend most of the trial period inside prison.

What is the court's order with respect to the case?

- **Allahabad High Court-** Siddique Kappan applied for bail but the Lucknow bench of Allahabad High Court rejected the bail application.
- Kappan had challenged this order at the Supreme Court.
- **Supreme Court-**The CJI noted that statements of co-accused cannot be used as evidence.
- The court said that Kappan was eligible for bail on the basis of the length of the custody undergone and the peculiar facts and circumstances of the case.
- The court held that every person has a **right to free expression**.
- It also held that sometimes **protests are necessary** to highlight the deficiencies.

38. New adoption rules create confusion

There is confusion over the implementation of new adoption rules that require the transfer of adoption petitions from courts to District Magistrates (DMs).

- From September 1, DMs have been empowered to give adoption orders instead of courts.
- All cases pending before courts have to be now transferred.
- Hundreds of adoptive parents in the country are now concerned that the transfer process will further delay what is already a long and tedious process.
- There are questions whether an order passed by the executive will pass muster when an adopted child's entitlements on succession and inheritance are contested before a court.

Adoption in India: A backgrounder

- In 2015, the then Minister for Women and Child Development centralised the entire adoption system by empowering Central Adoption Resource Authority (CARA).
- It was empowered to maintain in various specialised adoption agencies, a registry of children, prospective adoptive parents as well as match them before adoption.
- This was aimed at checking rampant corruption and trafficking as child care institutions and NGOs could directly give children for adoption after obtaining a no-objection certificate from CARA.

DMs to issue Adoption Orders

- The Parliament passed the Juvenile Justice (Care and Protection of Children) Amendment Bill, 2021 in order to amend the Juvenile Justice Act (JJ Act), 2015.
- The key changes include authorising District Magistrates and Additional District Magistrates to issue adoption orders under Section 61 of the JJ Act by striking out the word “court”.
- This was done “in order to ensure speedy disposal of cases and enhance accountability,” according to a government statement.
- The DMs have also been empowered under the Act to inspect child care institutions as well as evaluate the functioning of district child protection units, child welfare committees, juvenile justice boards, specialised juvenile police units, child care institutions etc.

What is the adoption procedure in India?

- Adoptions in India are governed by two laws:
 1. **Hindu Adoption and Maintenance Act, 1956 (HAMA):** It is a parent-centric law that provides son to the son-less for reasons of succession, inheritance, continuance of family name and for funeral rights and later adoption of daughters was incorporated because kanyadaan is considered an important part of dharma in Hindu tradition.
 2. **Juvenile Justice Act, 2015:** It handles issues of children in conflict with law as well as those who are in need of care and protection and only has a small chapter on adoptions.
- Both laws have their separate eligibility criteria for adoptive parents.
- Those applying under the JJ Act have to register on CARA’s portal after which a specialised adoption agency carries out a home study report.
- After it finds the candidate eligible for adoption, a child declared legally free for adoption is referred to the applicant.
- Under HAMA, a “**dattaka hom**” ceremony or an adoption deed or a court order is sufficient to obtain irrevocable adoption rights.

Issues with child adoption in India

- **Parent-centrism:** The current adoption approach is very parent-centred, but parents must make it child-centred.
- **Age of child:** Most Indian parents also want a child between the ages of zero and two, believing that this is when the parent-child bond is formed.

- **Institutional issues:** Because the ratio of abandoned children to children in institutionalised care is lopsided, there are not enough children available for adoption.
- **Lineage discrimination:** Most Indians have a distorted view of adoption because they want their genes, blood, and lineage to be passed down to their children.
- **Red-tapism:** Child adoption is also not so easy task after the Juvenile Justice Rules of 2016 and the Adoption Regulations of 2017 were launched.

Practical issues in adoption

- There are **no rules for monitoring adoptions** and verifying sourcing of children and determining whether parents are fit to adopt.
- There are many problems with the adoption system under CARA but at the heart of it is the fact that **there are very few children in its registry.**
- According to the latest figures there are only 2,188 children in the adoption pool, while there are more than 31,000 parents waiting to adopt a child.

39. India raises Sri Lankan Tamil issue in UN

India voiced concern over the “lack of measurable progress” in Sri Lanka’s promised political solution to the long-pending Tamil national question.

Tamil Issue

- India has made an unexpected (for SL) reference to the crisis-hit island nation’s “debt-driven” economy in the context of its current crisis.
- Indian delegation noted the lack of measurable progress by Government of Sri Lanka on their commitments of a political solution to the ethnic issue.
- It sought for full implementation of the 13th Amendment of the Constitution, delegation of powers to Provincial Councils and holding of Provincial Council elections at the earliest.

Has India retreated from supporting Sri Lanka?

- India’s statement comes ahead of a resolution on Sri Lanka that will likely face a vote at the Council.
- Since 2009, India has voted thrice in favour of the UN resolution on Sri Lanka – two were critical – and abstained twice, in 2014 and 2021.
- Irrespective of its vote, India has consistently underscored the need for a political settlement within the framework of a united Sri Lanka, ensuring justice, peace, equality and dignity for the Tamils of Sri Lanka.

What is the Tamil issue in Sri Lanka?

- Violent persecution against the Tamil population erupted in the form of the 1956, 1958, 1977, 1981 and 1983 anti-Tamil pogroms in Sri Lanka.
- Over 13 years since the end of Sri Lanka's civil war, in which tens of thousands of civilians were killed and disappeared, survivors continue demanding justice and accountability for war-time crimes.
- In the post-war years, Sri Lanka's human rights defenders have frequently flagged concerns over persisting militarisation, especially in the Tamil-majority north and east; repression, and the shrinking space for dissent.

What is the 13th Amendment?

- It is an outcome of the Indo-Lanka Accord of **July 1987, signed by the then PM Rajiv Gandhi** and President J.R. Jayawardene, in an attempt to resolve the ethnic conflict and civil war.
- The 13th Amendment led to the creation of Provincial Councils and assured a power-sharing arrangement to enable all nine provinces in the country, including Sinhala majority areas, to self-govern.
- Subjects such as education, health, agriculture, housing, land and police are devolved to the provincial administrations.

Why is it significant?

- Till date, the Amendment represents the only **constitutional provision on the settlement of the long-pending Tamil question.**
- In addition to assuring a measure of devolution, it is considered part of the few significant gains since the 1980s, in the face of **growing Sinhala-Buddhist majoritarianism.**

40. SC Collegium approves names for appointments in three High Courts

The Supreme Court Collegium led by Chief Justice of India (CJI) U.U. Lalit has recommended eight names for appointment to the Bombay High Court.

Collegium System

- The Collegium of judges is the Indian Supreme Court's invention.
- It does not figure in the Constitution, which says judges of the Supreme Court and High Courts are appointed by the President and speaks of a process of consultation.
- In effect, it is a system under which judges are appointed by an institution comprising judges.

- After some judges were superseded in the appointment of the CJI in the 1970s, and attempts made subsequently to effect a mass transfer of High Court judges across the country.
- Hence there was a perception that the independence of the judiciary was under threat. This resulted in a series of cases over the years.

The procedure followed by the Collegium

Appointment of CJI

- The President of India appoints the CJI and the other SC judges.
- As far as the CJI is concerned, the outgoing CJI recommends his successor.
- In practice, it has been strictly by seniority ever since the supersession controversy of the 1970s.
- The Union Law Minister forwards the recommendation to the PM who, in turn, advises the President.

Other SC Judges

- For other judges of the top court, the proposal is initiated by the CJI.
- The CJI consults the rest of the Collegium members, as well as the senior-most judge of the court hailing from the High Court to which the recommended person belongs.
- The consultees must record their opinions in writing and it should form part of the file.
- The Collegium sends the recommendation to the Law Minister, who forwards it to the Prime Minister to advise the President.

For High Courts

- The CJs of High Courts are appointed as per the policy of having Chief Justices from outside the respective States. The Collegium takes the call on the elevation.
- High Court judges are recommended by a Collegium comprising the CJI and two senior-most judges.
- The proposal, however, is initiated by the Chief Justice of the High Court concerned in consultation with two senior-most colleagues.
- The recommendation is sent to the Chief Minister, who advises the Governor to send the proposal to the Union Law Minister.

Does the Collegium recommend transfers too?

- Yes, the Collegium also recommends the transfer of Chief Justices and other judges.

- Article 222 of the Constitution provides for the transfer of a judge from one High Court to another.
- When a CJ is transferred, a replacement must also be simultaneously found for the High Court concerned. There can be an acting CJ in a High Court for not more than a month.
- In matters of transfers, the opinion of the CJI “is determinative”, and the consent of the judge concerned is not required.
- However, the CJI should take into account the views of the CJ of the High Court concerned and the views of one or more SC judges who are in a position to do so.
- All transfers must be made in the public interest, that is, “for the betterment of the administration of justice”.

Loopholes in the Collegium system

- **Lack of Transparency:** Opaqueness and a lack of transparency, and the scope for nepotism are cited often.
- **Judges appointing Judge:** The attempt made to replace it with a ‘National Judicial Appointments Commission’ was struck down by the court in 2015 on the ground that it posed a threat to the independence of the judiciary.
- **Criteria:** Some do not believe in full disclosure of reasons for transfers, as it may make lawyers in the destination court chary of the transferred judge.

Way ahead

- In respect of appointments, there has been an acknowledgment that the “zone of consideration” must be expanded to avoid criticism that many appointees hail from families of retired judges.
- The status of a proposed new memorandum of procedure, to infuse greater accountability, is also unclear.
- Even the majority opinions admitted the need for transparency, now Collegiums’ resolutions are now posted online, but reasons are not given.

41. G20 summit will open pandora of opportunities

- India is going to be at the centre stage of geopolitical spectrum as India will be hosting G20 summit presidency from December 2022. As Harsh V. Shringla, India’s chief G20 coordinator and former Foreign Secretary, (Amitabh Kant is G20 Sherpa of India) recently said, “Our G20 Presidency would place India on the global stage, and provide an opportunity for India to place its priorities and narratives on the global agenda.”

G20 (Group of Twenty)

- **Composed of most of the world's largest economies:** 19 countries plus European Union, including both industrialized and developing nations. Together, its members represent more than 80% of the world's GDP, 75% of international trade and 60% of the world's population.
- **Role:** To address major issues related to the global economy such as international financial stability, climate change mitigation, and sustainable development.
- **It is an Intergovernmental forum.**
- **Strategic role:** The G20 holds a strategic role in securing global economic growth and prosperity.

India and the presidency of G20 summit

- In November this year, the 17th G20 Heads of State and Government Summit will take place in Bali.
- After Indonesia, India will assume the presidency of the G20 from December 1, 2022 to November 30, 2023.
- By hosting the summit of the G20, India will have the opportunity to assume centre stage in proposing and setting the global agenda and discourse.
- India can assert its political, economic and intellectual leadership while hosting the G20 presidency.
- Further it Provides India an opportunity to also champion the causes of developing and least developed countries.
- India could invite and engage countries from Africa and South America to ensure better and more balanced representation at the G20.

Challenges before India:

Global

- **World affected by the pandemic:** Uneven vaccine availability has been flagged by many countries. Vaccine issue upset some countries.
- **Ukraine conflict:** According to external affairs ministers Dr.S.Jaishankar due to Ukraine conflict world is divided and this poses the challenge for India to bring rival camp on same stage
- **Climate change:** Divergent view of developed and developing countries on climate change can be the bone of contention between west and the rest.
- **The rise of an assertive China:** To maintain the delicate balance between NATO, G7 on the one hand while Russia and China on the other (as India is part of both QUAD and SCO).

Domestic

- **Economic challenges:** Such as stagflation, unemployment, exchange rate, declining prospects for exports and rising trade deficit.
- **Terrorism:** Cross border terrorism emanating from Pakistan.

Indonesia has focused on three key pillars in its presidency of G20 presidency:

- **Global health architecture:** president of Indonesia Joko Widodo talked about a global contingency fund for medical supplies, building capacity in developing countries to manufacture vaccines and the creation of global health protocols and standards.
- **Sustainable energy transition:** as part of its roadmap to reach net zero by 2060, Indonesia had slashed the coverage area of forest fires sevenfold. The country has restored peatlands and rehabilitated 50,000 hectares of mangrove forests.
- **Digital transformation**

What India can address?

- **Issues of global concern:** Terrorism, climate change, stagflation etc.
- **Domestic and regional:** economic recovery, trade and investment, unemployment, patent waivers on diagnostics, therapeutics, vaccines etc.
- **Greater co-operation and co-ordination:** free trade agreements, supply chain resilience mechanism, stressing on green and digital transformations in the economy and its impact on societal well-being.
- **Other important Areas :** such as technology transfer, assistance towards green economy, greater access to trade for developing countries, addressing debt distress of countries by offering sustainable aid and loan programmes, tackling food and energy prices/security for vulnerable economies etc.

Why G20 summit presidency is an opportunity for India?

- India exchanged the G20 presidency with Indonesia and chose 2023 instead of 2022 to host the G20 countries.
- India wanted to showcase its prowess in its 75th year of independence as cornerstone of new emerging world order. As India is part of Quad and SCO BRICS -the warring factions at world stage, it's an opportunity in crisis to become the bridge of the divided world.
- India is hosting the summit in Kashmir. World media will be in the Kashmir. In the direct message to world India will again assert that Kashmir is an integral part of India.

Way ahead

- As India will be hosting G20 and SCO summits, India will be central in outlining key priority areas. India can assert its political, economic and intellectual leadership which will have to address issues that help in cement the Fault-line in the world order.
- India's leadership could define the coming years and decades of global discourse and avenues of cooperation.

42. Dr Renee Wegrzyn appointed as the director of ARPA-H

The US President Joe Biden appointed Dr Renee Wegrzyn as the inaugural director of the ARPA-H (Advanced Research Projects Agency for Health) and detailed her role during his speech on the 60th anniversary of President John F. Kennedy's moonshot speech in Rice University

- Dr Renee Wegrzyn, a biologist and former government scientist, was appointed as the first ever director of the newly created Advanced Research Projects Agency for Health (ARPA-H).
- The ARPA-H Director's tenure would last for five years.
- The purpose of the ARPA-H is to seek innovative solutions to biomedical problems.
- It would support highly risky but rewarding researches in the life sciences.
- It was established to emulate the US Defense Advanced Research Projects Agency (DARPA), which had played a key role in the rapid development of defence technologies by awarding contracts to risky projects, which can be withdrawn abruptly if the researchers do not meet the desired milestone.
- Dr Renee Wegrzyn served as the programme manager at the DARPA for more than 5 years, working in projects that used synthetic biology to counter infectious diseases and boost biosecurity.
- Though ARPA-H has a new director, the agency's foundational details are currently lacking.
- The US Congress had allocated ARAP-H just 1 billion USD for 2022. The Biden Administration had requested a budget of 6.5 billion USD.
- The agency also lacks a backing by the legislation specifically authorizing its creation.

60th Anniversary of President Kennedy's Moonshot Address

President Kennedy gave his famous Moonshot Speech on September 12, 1962 at Rice University, Houston. During his speech, the President recommitted the US' Moon landing goal that was proposed in May 1961 to land astronauts on the lunar surface before the end of the decade and returning them safely back to the Earth.

43. "Global Estimates of Modern Slavery" report

The 2021 Global Estimates for Modern Slavery, which was recently released by the International Labour Organization (ILO), revealed a spike in the instances of forced labour.

Highlights

- In 2021, 50 million people were living in modern slavery, of which 28 million were in forced labour and 22 million were trapped in forced marriage.
- The number of people in modern slavery has increased exponentially in the past five years.
- Compared to the 2016 global estimates, 10 million more people have been trapped by modern slavery.
- Women and children are disproportionately vulnerable to modern slavery.
- Modern slavery occurs in almost all countries across the world, regardless of differences in ethnicity, culture and religion.
- **Forced Labour:** 52 per cent of all forced labour are found in upper-middle or high-income countries. 86 per cent of forced labour are found in private sector. Forced labour in sectors other than commercial sexual exploitation accounts for 63 per cent of all forced labour.
- **Forced marriage:** An addition of 6.6 million people are victims of forced marriage in 2021 when compared to 2016 global estimates. More than 85 per cent of forced marriage is caused by family pressure. Its prevalence is highest in Arab states.
- **Migrant workers** are more than three times likely to be in forced labour than non-migrant adult workers. This is because of poorly governed migration or unethical recruitment practices.
- **Recommendations:** Improving and enforcing laws and labour inspections, ending state-imposed forced labour, social protection, and promoting fair and ethical recruitment and targeted support for women, girl and vulnerable communities.

ILO

The ILO is a UN agency involved in the promotion of social and economic justice by setting up international labour standards. It was founded in October 1919 under the League of Nations, the predecessor of the UN.

44. Decline in Per Capita Government Spending on Healthcare

According to the recently released National Health Accounts 2018-2019, public spending of health has declined to 1.28 per cent of India's Gross Domestic Product (GDP).

Key Facts

- The National Health Accounts 2018-2019 revealed that the public spending on healthcare has fallen from 1.35 per cent in 2017-18 to 1.28 per cent in 2018-19.
- This is significantly lesser than the goal set by the National Health Policy 2017, which sought to increase the government's healthcare spending to 2.5 per cent by 2025.
- The government spent Rs.1,815 per capita on health in 2018-19 as against Rs.2,155 per capita out-of-pocket spending during the same period.
- The total health expenditure in 2018-19 was Rs.5,96,440 crore. The government spending accounted for 40.61 per cent of this amount. This is 4.81 per cent of the General Government Expenditure during that period.
- The corresponding share of out-of-pocket expenditure is 48.2 per cent. This is nearly half of all health spending and higher than the government spending.
- Over 28.69 per cent of health expenditure was in private hospitals. This is higher than the health expenditure in government hospitals, which accounted for 17.34% in the health expenditure.
- Much of the spending went into inpatient curative care, which accounted for 34.55% of the expenditure.
- The latest figures are in line with the current trend of a decline in out-of-pocket expenditure as a share of total health expenditure. In 2013, it accounted for 64.2 per cent of the total health expenditure.
- However, the household out-of-pocket expenditure on health continues to dominate as it stood at Rs. 2,87,573 crore in 2018-19.
- The private health insurance expenditure accounts for just 6.57 per cent of the total health spending and has been stagnating for years.
- This is mainly because of the rigid conditions and inequities put by the private insurance firms.

45. Hindi not a competitor of regional languages: Home Minister

Union Home Minister has appealed to guardians to speak to children in their mother tongue to enable them to learn Hindi without much effort, on the Hindi Divas.

What did HM say on Hindi?

- He said it was time that **inferiority complex around Indian languages**, instilled by the British, was overthrown from people's conscience with the help of regional languages and Hindi.
- He also said that **Hindi was not a competitor but a "friend" of all the other regional languages** in the country and they were mutually dependent on each other for their growth.
- He said there was a concerted **disinformation campaign to pit Hindi against other languages** such as Marathi and Tamil, and underlined the need to strengthen local languages with Hindi.

Official, not national

- English would continue to be used for all official purposes for the next 15 years, to enable a smooth transition for non-Hindi speaking states.
- The deadline was 26 January 1965.
- Under Article 343 of the Constitution, the official language of the Union shall be Hindi in Devanagari script.
- The international form of Indian numerals will be used for official purposes.

Why has language become a sensitive issue?

- **Self-identification:** A strong identification with one's regional language and an underlying fear of homogenisation is at the heart of the national language question in India. An individual conceptualises and communicates his thoughts in a language, enabling him to be an active part of society.
- **Language defines primary group:** People identify with one another based on language, thus giving them a primary group. A nation is the largest primary group that once can address.
- **Learning abilities at stake:** The dangers of imposing a language are manifold. It can affect the learning ability of non-native speakers thereby affecting their self-confidence.
- **Threats to endangered languages:** It can also endanger other languages and dialects and reduce diversity.
- **Threats to diversity:** National integration cannot come at the cost of people's linguistic identities. Language is integral to culture and therefore privileging Hindi over all other languages spoken in India takes away from its diversity.
- **Promises made by Constituent Assembly:** Then PM Pt. Nehru had promised that Hindi would only serve as a linking language and it would not be imposed on non-Hindi speaking states as long as they were against it.

Issues with Hindi

- **Inherent opposition to Hindi:** The Constituent Assembly was bitterly divided on the question, with members from States that did not speak Hindi initially opposing the declaration of Hindi as a national language.
- **Fear of imposition:** Opponents were against English being done away with, fearing that it may lead to Hindi domination in regions that did not speak the language.
- **Symbol of identity politics:** The approach towards linguistic policy seems to be driven more by the politics of identity than values of aspiration or accommodation.
- **Favour for majoritarianism:** The primary argument in favour of Hindi has been reduced to assertions of slim majoritarianism.
- **Few speakers, still dominant:** Even then, there are concerns about the claim based on mere numerical strength, as only 25 per cent of Indians seem to recognise Hindi as their mother tongue (Census 2011).
- **Demographic barriers:** Today nearly 35% of people are migrating daily for work. In such a situation, we have to conceptualise a new form of language identity for our states.
- **Economic barriers:** Any idea of one link language, whether Hindi or English, will be economically disastrous for India. It will slow down migration and reduce the ease of capital flow.
- **Multiple dialects:** Only five states in India have Hindi as their 'native language'. However, in those states, too, the dialects of Hindi are associated with locals and their communities.

Why Hindi cannot be the national language?

- **Multiple dialects:** Hindi has largely been influenced by Persian – and then English, among other languages. Also, when the languages were enumerated, Hindi subsumed Bhojpuri, which is spoken by a little over five crore people.
- **Inefficacy of Sanskrit:** There were demands to make Sanskrit the official language, while some argued in favour of 'Hindustani'.
- **Issue over Script:** There were differences of opinion over the script too. When opinion veered towards accepting Hindi, proponents of the language wanted the 'Devanagari' script to be adopted both for words and numerals.

Why this issue needs a rational consideration?

- **Linguistic chauvinism:** Various policies on language have been framed both by the central and state governments that have been termed as forms of linguistic chauvinism. Ex. Obsession for Marathi in Mumbai

- **Secular fabric under threat:** The states' fear of the central government's ideology of monopolising faith, education, and language will adversely affect the Indian political system, which is based on pluralism and accommodation.
- **Monolingualism can prove disastrous:** If there is a mechanical and monolithic idea of unity followed by any entity, such an entity generally generates great hostility beyond its immediate borders. In neighbouring Bangladesh – then East Pakistan – the language movement against the imposition of Urdu on Bengali speakers was a key driver of Pakistan splitting into two nations.

Way forward

- **Language as a skill:** Language should be looked at as an important skill to operate in a world which is more connected today than at any other point in time.
- **Language not a cultural burden:** A united nation has to have space for diversity. India is united in its diversity. Diversity is a great philosophical idea and should never be seen as a cultural burden.
- **Linguistic heritage needs priority:** This is not to contend that our linguistic heritage should be neglected or trivialised. Our metropolises must be recognized as multilingual entities.

GS 3 : Economy, Science and Technology, Environment

1. Why are the fisherfolk protesting over Vizhinjam Port Project?

Vizhinjam near Thiruvananthapuram, is on the boil due to the under-construction Vizhinjam Port Project, from both sea and land.

Vizhinjam Port Project

- The Vizhinjam International Transhipment Deep-water Multipurpose Seaport is an ambitious project taken up by Government of Kerala.
- It is designed primarily to cater container transhipment besides multi-purpose and break bulk cargo.

- The port is being currently developed in landlord model with a Public Private Partnership component on a design, build, finance, operate and transfer (“DBFOT”) basis.

Why protests are erupted?

- The protestors have been opposing the construction work by the Adani Vizhinjam Port Private Limited.
- Adani group is developing the port on DBFOT basis.

What lies at the heart of the protest?

- According to fisherfolk, the port work has aggravated the coastal erosion along the coast of Thiruvananthapuram.
- A scientific study to assess the impact of the port work on the shoreline has to be conducted urgently by stopping the construction.
- Further, around 300 families along the coastline were shifted to relief camps after their houses were destroyed due to high-intensity coastal erosion.
- The protestors demand a **comprehensive rehabilitation package**, an **assured minimum wage** when the sea turns rough due to inclement weather and subsidised kerosene for boats.

Why the Vizhinjam project is considered important?

- The port is located on the southern tip of the Indian Peninsula, just 10 nautical miles from the major international sea route and east-west shipping axis.
- It has a natural water depth of more than 20 m within a nautical mile from the coast.
- The Vizhinjam port is likely to play a pivotal role in the maritime development of the country and Kerala.
- The commissioning of the port is expected to leverage the growth of 17 minor ports in the State along with creating thousands of employment opportunities.

2. Edible coating to prolong shelf life of fruits and vegetables

A team of researchers at the IIT – Guwahati has developed an edible coating using marine alga that coated on vegetables and fruits, substantially extends their shelf-life.

Dunaliella tertiolecta: The Edible coating

- The team used a mix of an extract of a marine microalga called *Dunaliella tertiolecta* and polysaccharides to produce it.
- The microalga is known for its antioxidant properties and has various bioactive compounds such as carotenoids and proteins.
- It is also used to produce algal oil, a non-animal source of omega-3 fatty acid and is considered a good source of biofuel.
- After the oil is extracted, the residue is usually discarded.
- The researchers used extracts from this residue in formulating their film, in combination with chitosan, which is a carbohydrate.
- It also has antimicrobial and antifungal properties and can be made into an edible film.

Why is it viable?

- The new coatings can be mass-produced.
- They are very stable to light, heat, and temperature up to 40C, edible, and can be safely eaten as part of the product formulation and do not add unfavourable properties to it.
- They retain texture, colour, appearance, flavour and nutritional value.
- The material can be either directly coated on the vegetables and fruits or made into a vegetable storage pouch.
- In both cases, the shelf-life of the vegetables can be extended.
- It is a simple dip coating technique with no significant cost added to the post-harvest processing.

Economic significance of Edible coating

- According to the Indian Council of Agricultural Research, between 4.6 and 15.9 per cent of fruits and vegetables go waste post-harvest, partly due to poor storage conditions.
- In fact, post-harvest loss in certain produce items like potato, onion, and tomato could even be as high as 19%, which results in high prices for this highly consumed commodity.

3. Effecting the Ban on Single-Use Plastics

Since July 1, 2022, India has banned the manufacture, import, stocking, distribution, sale, and use of single-use plastic items with low utility and high littering potential.

Why are single-use plastics harmful?

A 2018 U.N. Environment report defines single-use plastics as “plastic items intended to be used only once before they are thrown away or recycled.”

- **Aquatic ecosystem-** Seabirds, fishes, turtles and marine mammals are found to have fishing gear or plastic bags in their stomach.
- Currently, marine litter is 60-80% plastic, which ultimately means that many sea creatures are swallowing this seawater soup instilled with toxic chemicals from plastic decomposition.
- **Pacific trash vortex-** The North Pacific Ocean contains a gyre of marine litter, known as the Pacific Trash Vortex that has an exceptionally high concentration of single-use plastic.
- It has been estimated to be twice the size of Texas.
- **Greenhouse gases-** When plastic is exposed to sunlight, it produces methane and ethylene, which have a detrimental effect.
- It has been determined that greenhouse gas emissions from the plastic lifecycle account for 3.8% of global greenhouse gas emissions.
- **Health-** The toxic chemicals used to manufacture plastic gets transferred to animal tissue, eventually entering the human food chain.
- Women are at larger risk of health complications due to a higher aggregate of exposure to plastic products.
- **Water potability-** Plastic production is causing deforestation and contaminating potable water.

What does the amended rules say on single use plastics?

- **Plastic Waste Management Amendment Rules, 2021-** The amendment basically aims to prohibit identified single-use plastic items, having low utility and high littering potentials, by the year 2022.
- Thickness of plastic carry bags to be increased from 50 microns
 - to 75 microns from 30th September, 2021
 - to 120 microns from the 31st December, 2022
- **Plastic Waste Management Amendment Rules, 2022-** The guidelines provide a framework to
 - Strengthen the circular economy of plastic packaging waste,
 - Promote the development of new alternatives to plastic packaging
 - Provide the next steps for moving towards sustainable plastic packaging by businesses

Bangladesh became the first country to ban thin plastic bags in 2002.

What are the challenges?

- The ban will succeed only if all stakeholders participate enthusiastically and engage in effective engagement and concerted actions.
- Plastic or PET bottles, counted among the most recyclable types of plastic, have been left out of the scope of the ban.
- Almost 25 Indian States previously banned plastic at the state level but these bans had a very limited impact in reality.
- The challenge is to see how the local level authorities will enforce the ban in accordance with the guidelines.
- Banned items such as earbuds with plastic sticks, plastic sticks for balloons, etc., are non-branded items and it is difficult to find out who the manufacturer is and who is accountable for selling.

What is the need of the hour?

- **Media Awareness-** The consumer needs to be informed about the ban through advertisements, newspaper or TV commercials, or on social media.
- **Investment in R&D-** In order to find sustainable alternatives, companies need to invest in research and development.
- **Greener alternatives-** Greener alternatives such as compostable and biodegradable plastic may be considered as an option.
- **Responsibility-** The solution to the plastic pollution problem is not the responsibility of the government alone, but of industries, brands, manufacturers and most importantly consumers.

4. Cervavac: India's first indigenously developed Vaccine for Cervical Cancer

Union Minister of Science and Technology has announced the scientific completion of Cervavac, India's first indigenously developed quadrivalent human papillomavirus (qHPV) vaccine for the prevention of cervical cancer.

What is Cervavac?

- Cervavac was developed by the Pune-based Serum Institute of India in coordination with the Department of Biotechnology (DBT).
- The project to develop the vaccine was implemented by the then secretary of the DBT, Dr. M K Bhan in 2011.
- Since then, 30 meetings of scientific advisory groups and site visits conducted by DBT have helped review the scientific merit of the entire journey to develop the vaccine.
- Cervavac received market authorisation approval from the Drug Controller General of India on July 12 this year.

What is so unique about Cervavac?

- HPV vaccines are given in two doses and data has shown that the antibodies that develop after both are administered can last up to six or seven years.
- Unlike Covid vaccines, booster shots may not be required for the cervical cancer vaccine.
- Until now, the HPV vaccines available in India were produced by foreign manufacturers at an approximate cost of Rs 2,000 to Rs 3,500 per dose.
- Cervavac is likely to be significantly cheaper, slated to cost approximately Rs 200 to 400.
- It has also demonstrated a robust antibody response that is nearly 1,000 times higher than the baseline against all targeted HPV types and in all dose and age groups.

How common is cervical cancer in India?

- India accounts for about a fifth of the global burden of cervical cancer, with 1.23 lakh cases and around 67,000 deaths per year.
- Almost all cervical cancer cases are linked to certain strains of human papillomavirus (HPV), a common virus that is transmitted through sexual contact.
- The body's immune system usually gets rid of the HPV infection naturally within two years.
- However, in a small percentage of people, the virus can linger over time and turn some normal cells into abnormal cells and then cancer.

What are the challenges?

- The biggest task will be in allocating adequate resources and manpower for vaccinating the massive demographic of adolescent girls aged between 9 and 15, to ensure that they are protected from HPV early.
- There is a huge need for stepping up awareness about the disease and the vaccine in the community.
- Unlike Covid and the vaccination programme, there is very little awareness about cervical cancer.
- Overall awareness and screening are very low in the community and that is a concern.
- Since this is a preventable disease and hence a huge awareness programme is required

Way forward

- School-based vaccination programmes might work effectively.

- Currently, none exist and therefore planning will have to be done along those lines.
- Those accessing public health programmes will get the vaccine free of cost at government-aided schools.
- However concerted efforts will have to be made to ensure the involvement of private healthcare facilities and NGOs towards an effective rollout.

5. What causes Rainbow Clouds (Cloud Iridescence)?

Last week, pictures of an unusually-shaped rainbow cloud that appeared over China were widely shared on social media.

- The cloud in question resembles a pileus cloud.
- Such phenomenon of bright colours appearing on a cloud is called cloud iridescence.

Pileus Cloud

- A pileus cloud is usually formed over a **cumulus or cumulonimbus cloud**.
- It is formed when the base cloud pushes a moist current of air upwards and the water vapour from the current condenses to somewhat resemble wave-like crests, or umbrellas.
- In popular western culture, it is called as an “accessory cloud” that is “rather like a cloud haircut”.
- A pileus cloud is transient in nature and **lasts barely for a few minutes**, making it difficult, and at the same time, exciting, to spot.

What is cloud iridescence?

- Cloud iridescence or Irisation is an optical phenomenon that mostly occurs in wave-like clouds, including pileus and *Alto cumulus lenticularis*.
- Iridescence in clouds means the appearance of colours on clouds, which can either be in the form of parallel bands like in a rainbow, or mingled in patches.
- In ancient Greek mythology, Iris is the goddess of rainbow. “Irisation”, the phenomenon of rainbow-like colours in clouds, is derived from her name.

What causes cloud iridescence?

- In pileus clouds, **small water droplets or ice crystals**, usually of a similar size, **diffract the sunlight** falling on them.

- The thinness of the cloud ensures more exposure to sunlight for each water droplet or ice crystal.
- To ensure its wave crest-like appearance, water droplets or ice crystals in these clouds are always moving – droplets form at one side of the cloud and evaporate from the other end – and hence these clouds remain small and thin since the droplets have no way of combining and growing in size.
- In its International Cloud Atlas, the World Meteorological Organisation says that iridescence or Irisation is caused by diffraction within 10 degrees from the sun.
- Beyond ten degrees and up till about 40 degrees, interference of light is the main cause of iridescence.

6. Cybercrime needs immediate revamp in response

- There has been a steady spike in cases of cybercrime in the last five years.

Cybercrime

- Cybercrime is any criminal activity that involves a computer, networked device or a network. While most cybercrimes are carried out in order to generate profit for the cybercriminals, some cybercrimes are carried out against computers or devices directly to damage or disable them.

What data states?

- India reported 52,974 cases of cybercrime in 2021, an increase of over 5 per cent from 2020 (50,035 cases) and over 15 per cent from 2019 (44,735 cases), according to latest government data.

How many cyber criminals are caught in India?

In 2020, over 18.4 thousand people were arrested on account of cyber-crimes across India.

Who is responsible for cyber security centre or state?

- With 'police' and 'public order' being in the State List, the primary obligation to check crime and create the necessary cyberinfrastructure lies with States.
- At the same time, with the IT Act and major laws being central legislations, the central government is no less responsible to evolve uniform statutory procedures for the enforcement agencies.

Status of cyber investigation

- There is no separate procedural code for the investigation of cyber or computer-related offences.
- As electronic evidence is entirely different in nature when compared with evidence of traditional crime, laying down standard and uniform procedures to deal with electronic evidence is essential.

What are general guidelines for cyber investigation?

- The broad 'guidelines for the identification, collection, acquisition and preservation of digital evidence' are given in the Indian Standard IS/ISO/IEC 27037: 2012, issued by the Bureau of Indian Standards (BIS).
- This document is fairly comprehensive and easy to comprehend for both the first responder (who could be an authorised and trained police officer of a police station) as well as the specialist (who has specialised knowledge, skills and the abilities to handle a wide range of technical issues).
- The guidelines, if followed meticulously, may ensure that electronic evidence is neither tampered with nor subject to spoliation during investigation.

What is Indian evidence act?

- The Indian Evidence Act, originally passed in India by the Imperial Legislative Council in 1872, during the British Raj, contains a set of rules and allied issues governing admissibility of evidence in the Indian courts of law.

Judicial activism for cyber security

- A significant attempt has been made by the higher judiciary in this field also. As resolved in the Conference of the Chief Justices of the High Court in April 2016, a five judge committee was constituted in July 2018 to frame the draft rules which could serve as a model for the reception of digital evidence by courts.
- The committee, after extensive deliberations with experts, the police and investigation agencies, finalised its report in November 2018, but the suggested Draft Rules for the Reception, Retrieval, Authentication and Preservation of Electronic Records are yet to be given a statutory force.

What needs to be done?

- **Upgrade cyber labs:** The cyber forensic laboratories of States must be upgraded with the advent of new technologies.

- **Digital rupee:** Offences related to cryptocurrency remain under-reported as the capacity to solve such crimes remains limited. The central government has proposed launching a digital rupee using block-chain technology soon.
- **Empowering states:** State enforcement agencies need to be ready for new technologies. The Centre helps in upgrading the State laboratories by providing modernisation funds, though the corpus has gradually shrunk over the years.
- **Need for localisation of data:** Most cybercrimes are trans-national in nature with extra-territorial jurisdiction. The collection of evidence from foreign territories is not only a difficult but also a tardy process.

Conclusion

- Centre and States must not only work in tandem and frame statutory guidelines to facilitate investigation of cybercrime but also need to commit sufficient funds to develop much-awaited and required cyber infrastructure.

7. Millet crop is the best solution for climate smart agriculture

- Government push to coarse cereals as climate change affects wheat, paddy cultivation

What are millets crops?

- Millets are a group of highly variable small-seeded grasses, widely grown around the world as cereal crops or grains for human food and as fodder.

Features Millet crops in India

- **Big three:** The three major millet crops currently growing in India are jowar (sorghum), bajra (pearl millet) and ragi (finger millet).
- **Examples:** India also grows a rich array of bio-genetically diverse and indigenous varieties of “small millets” like kodo, kutki, chenna and sanwa.
- **Area of production:** Major producers include Rajasthan, Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Maharashtra, Gujarat and Haryana.

What are Advantages of millet cultivation?

- **Low input cost:** cereals are good for the soil, have shorter cultivation cycles and require less cost-intensive cultivation.
- **Climate resilience:** These unique features make millets suited for and resilient to India’s varied agro-climatic conditions.

- **Drought tolerance:** cereals are not water or input-intensive, making them a sustainable strategy for addressing climate change and building resilient agri-food systems.

Reduction in millet production

- **Effects of Green Revolution:** The Green Revolution succeeded in making India food sufficient, however, it also led to water-logging, soil erosion, groundwater depletion and the unsustainability of agriculture.
- **Deficit mind-set:** Current policies are still based on the “deficit” mind-set of the 1960s.
- **Biased policies:** The procurement, subsidies and water policies are biased towards rice and wheat.
- **Skewed cropping pattern:** Three crops (rice, wheat and sugarcane) corner 75 to 80 per cent of irrigated water.
- **Lack of diversification:** Diversification of cropping patterns towards cereals, pulses, oilseeds, horticulture is needed for more equal distribution of water, sustainable and climate-resilient agriculture.

What can be done to promote millets as nutri-cereals?

1) Rebranding the cereals as nutri-cereals

- The first strategy from a consumption and trade point of view was to re-brand coarse cereals/millets as nutri-cereals.
- As of 2018-19, millet production had been extended to over 112 districts across 14 states.

2) Incentive through hiking MSP

- Second, the government hiked the MSP of nutri-cereals, which came as a big price incentive for farmers.
- From 2014-15 to 2020 MSPs for ragi has jumped by 113 per cent, by 72 per cent for bajra and by 71 per cent for jowar.
- MSPs have been calculated so that the farmer is ensured at least a 50 per cent return on their cost of production.

3) Providing steady markets through inclusion in PDS

- To provide a steady market for the produce, the Modi government included millets in the public distribution system.

4) Increasing area, production and yield

- The Ministry of Agriculture & Farmers' Welfare is running a Rs 600-crore scheme to increase the area, production and yield of nutri-cereals.
- With a goal to match the cultivation of nutri-cereals with local topography and natural resources, the government is encouraging farmers to align their local cropping patterns to India's diverse 127 agro-climatic zones.
- Provision of seed kits and inputs to farmers, building value chains through Farmer Producer Organisations and supporting the marketability of nutri-cereals are some of the key interventions that have been put in place.

5) Intersection of agriculture and nutrition

- The Ministry of Women and Child Development has been working at the intersection of agriculture and nutrition by -1) setting up nutri-gardens, 2) promoting research on the interlinkages between crop diversity and dietary diversity 3) running a behaviour change campaign to generate consumer demand for nutri-cereals.

Conclusion

- India should aim for a food systems transformation, which can be inclusive and sustainable, ensure growing farm incomes and nutrition security. As the government sets to achieve its agenda of a malnutrition-free India and doubling of farmers' incomes, the promotion of the production and consumption of nutri-cereals seems to be a policy shift in the right direction.

8. India becomes world's fifth-largest economy

Recently, India has overtaken the UK to become the fifth largest economy in the world. India is now behind the US, China, Japan and Germany in terms of economy. A decade ago, India was ranked 11th among the world's largest economies, while the UK was firmly at number 5.

Key Points

- In the midst of the economic crisis, India has faced the challenges better. On the other hand, Britain is bearing the brunt of its slowness. These figures are given in dollars, and it is worth noting that the Indian rupee has outperformed the UK pound against the dollar.
- According to the report, the size of the Indian economy with respect to 'nominal' cash stood at USD 854.7 billion during the March quarter. In contrast, the same was USD 814 billion for the UK.

- India's currency was in a strong position against the pound in the quarter during the time period during which this calculation was done.
- On the other hand, the Indian economy is registering a growth of 7 per cent, while the UK economy is growing at less than 1 per cent. Due to these reasons, India grew rapidly but Britain could not perform like India and fell behind India in sixth place.

Significantly, India has also performed well in the agriculture and services sector. In the first quarter (April-June) of the current financial year, the country's GDP has been 13.5 percent. At the same time, comparing it with the April-June quarter of the last financial year (2021-22), the GDP growth rate at that time was 20.1 percent.

9. Additional safety requirements in battery standards

In April this year, cases of fire in electric two-wheelers of manufacturers such as Ola Electric, Okinawa Autotech and PureEV were reported. Following which the government constituted an expert committee under the chairmanship of Tata Narasimha Rao (Director, ARC, Hyderabad) to probe it.

This committee submitted its recommendation to the government recently. These new safety standards will come into effect from 1 October 2022. Ministry has also sought comments and suggestions from all stakeholders within a period of thirty days.

Key Points

- These new rules will be applicable to electric two-, three- and four-wheelers, passenger and goods vehicles. These modifications included specific requirements for L-class motor vehicles with electric power trains (engines) and requirements for M-class and N-class motor vehicles for electric power trains.
- Whereas, L class motor vehicles are those which have less than four wheels, whereas M category vehicles are those which have at least four wheels and are used for transporting passengers.
- These modifications include additional safety requirements relating to thermal diffusion due to fire from the battery cell, on-board charger, the design of the battery pack, and internal cell short circuits.

Mandatory to include 'Safety Fuse'

In this new amendment it has been made mandatory to include 'Safety Fuse'. This will blow the battery off the powertrain and immediately disconnect it in case of excessive heat generation or high current outflow.

Auto cut-off feature for charger

Electric vehicle chargers will be redesigned to include a charge voltage cut-off as well as a time-based charge cut-off function. This will help prevent overcharging the RES.

Audio-visual alerts for drivers

The EVs will have to be equipped with audio-visual alerts for early detection of thermal events or gases in case of thermal runaway of the cell.

10. Tejas Mark-2 Project

Recently the Cabinet Committee on Security (CCS) approved the project to develop a more capable and powerful version of the indigenous aircraft LCA Mark 2 multirole fighter jet.

- The Tejas Mark-2 is described as a 4.5-generation machine, which will not only have 70 per cent indigenization (as opposed to the Mark IA's 62 per cent), but will incorporate more advanced technologies to be manufactured in India. Tejas is a single-engine and highly maneuverable multi-role supersonic fighter aircraft manufactured by state-run Hindustan Aeronautics Limited (HAL).
- The jet will be fitted with the more powerful GE-414 engine, which will give it a longer combat range and more weapon-carrying capability than the existing Tejas Mark-1 (GE-404 engine).
- Also, the look of Tejas Mark-2 is of the 21st century. Next to the wings, a canard resembling those of contemporary fighters such as the Rafale, Eurofighter or Sukhoi-30MKI has been added.
- Apart from the weapon payload and engine, the interiors of the Tejas Mark-2 will be rearranged, to make it more accessible and maintenance-friendly.

- The fighter jet will be developed at a cost of over Rs 6,500 crore, in addition to the Rs 2,500 crore approved earlier.

Why is Tejas Mark-2 important?

The approval of Tejas Mark-2 is a big relief for the Indian Air Force. The IAF currently has 30 fighter squadrons against the sanctioned strength of 42, which is insufficient at a time when the country is facing threats from both China and Pakistan.

The LCA Mark-2 fighter jets will replace the Jaguar and Mirage 2000 fighters when they are phased out after 10 years. The new Tejas is a very formidable aircraft which will surely add more strength to the IAF list.

11. ISRO tests system recoverable rocket 'Inflatable Aerodynamic Decelerator (IAD)'

The Indian Space Research Organisation (ISRO) has successfully tested a technology that could aid the cost-effective recovery of spent rocket stages and safely land payloads on other planets.

IAD

- IAD is a technique used for an **atmospheric entry payload**.
- An **inflatable envelope and an inflatant** (anything that inflates the envelope, like air or helium) make up the inflatable aerodynamic decelerator.
- While entering the atmosphere, it **inflates like a balloon and decelerates the lander**.
- The inflatant is designed to fill the inflatable envelope to a condition such that it surrounds the payload meant to enter the atmosphere of a planet or satellite and causes aerodynamic forces to slow it down.
- In simpler words, IAD is designed to increase drag upon entering the atmosphere of any planetary body, like Earth, Mars, or even Moon.
- Its shape is maintained by a closed, gas-pressured body and the inflatant gas is also generated internally. Some versions also use ram air or both.

How significant is this IAD?

- Some space agencies, including NASA, have already successfully tested advanced versions of the technology, including the supersonic and hypersonic variants.
- However, for near future missions of ISRO, the current version that it tested is perfect.

- Its use was first proposed by NASA more than 50 years ago for planetary entries.

Minuscule of ISRO's IAD

- The IAD tested by ISRO was inflated at an **altitude of around 84 km** and the sounding rocket's cargo dropped through the atmosphere on it.
- It is fitted with a **booster motor**. It also has a **spin rocket** that is ejectable.
- The inflatable structure is made out of **Kevlar fabric**, which is a very strong synthetic fibre and also heat resistant to withstand atmospheric pressure and temperature changes.
- On top of it, it's coated with **polychloroprene**, an oil and wax resistant rubber, to **withstand extreme temperatures**.
- In the inflation system, it **uses compressed nitrogen** stored in a bottle.
- It has consistently **decreased the payload's velocity** through **aerodynamic drag** while maintaining the expected trajectory during the test flight.

Where does ISRO intend to use it?

- The IAD will help ISRO in performing many space tasks effectively including recovery of spent stages of rockets, for landing payloads on missions to other planetary bodies.
- This is the first instance where an IAD has been specially created for spent stage recovery.
- So inter-planetary missions are certainly one aspect that ISRO wishes to explore.

12. India's first Dark Sky Reserve to come up in Ladakh

In a first-of-its-kind initiative, the Department of Science & Technology (DST) has announced the setting up of India's first dark sky reserve at Hanle in Ladakh in the next three months.

Dark Sky Reserve

- A dark-sky reserve is an area, usually surrounding a park or observatory that is kept free of artificial light pollution.
- The purpose of a dark sky preserve is generally to promote astronomy.
- Because different national organizations have worked independently to create their programs, different terms have been used to describe the areas.

Dark Sky Reserve at Hanle

- Hanle, which is about 4,500 metres above sea level, hosts telescopes and is regarded as one of the world's most optimal sites for astronomical observations.
- However, ensuring that the site remains well-suited for astronomy implies keeping the night sky pristine, or ensuring minimal interference to the telescopes from artificial light sources such as electric lights and vehicular lights from the ground.
- The site will have activities to help in boosting local tourism and economy through interventions of science and technology.

Ideal conditions in India

- The Indian Astronomical Observatory, the high-altitude station of the IIA, is situated to the north of Western Himalayas, at an altitude of 4,500 metres above mean sea level.
- Located atop Mt. Saraswati in the Nilamkhul Plain in the Hanle Valley of Changthang, it is a dry, cold desert with sparse human population.
- The cloudless skies and low atmospheric water vapour make it one of the best sites in the world for optical, infrared, sub-millimetre, and millimetre wavelengths.

13. Gorbachev and Gandhian Economics

Mikhail Gorbachev, the last president of the Soviet Union, passed away recently.

Gorbachev

- Mikhail Gorbachev is a Russian politician belonging to Communist Party, great reformer and a liberator.
- Under his new policy of **Glasnost** (openness), freedom of expression, Press and broadcasting, etc. were expanded.
- Under Gorbachev's policy of **Perestroika** (restructuring),
 - The first modest attempts to democratize the Soviet political system were undertaken
 - Some limited free-market mechanisms began to be introduced
- In foreign affairs, Gorbachev from the beginning cultivated warmer relations and trade with the developed nations of both West and East.

How is the present Russia?

- **Geopolitical-** NATO is expanding eastwards and Russia has Ukraine as its battleground.
- **Political-** The return of authoritarianism under Vladimir Putin could be witnessed.
- **Economy-** Russia has not recovered from the shock it got from Boris Yeltsin's "big bang" capitalisation imposed by U.S. economists.
- Between the big bang capitalist reforms of the Russian economy in 1991 and 1994, life expectancy fell from 64 to 57 years.
- The Russian deaths were caused by the imposition of an economic ideology that claimed that everyone will be better off when the state is pushed back, the economy is deregulated, and capitalist spirits are let loose.

How did the ideological war affect Russia?

- The 20th century witnessed ideological battles among economists: communism, socialism, and capitalism.
- The capitalist model is founded the ideology of two fundamental ideas.
- **Property rights over human rights-** In capitalism, whoever owns something has the right to determine how it will be used; and must have a greater say.
- The democratic principle of human rights requires that every human being, black or white, billionaire or pauper, has an equal vote in governance.
- Global trade rules, national financial and trade regulations have made it easier for investors to enter and exit countries while stopping human migrants from searching for better opportunities across the borders.
- Ideologies of elected governments and free markets were the joint victors of the ideological war between the West and the Soviet Union.
- **Hardin's Tragedy of the Commons-** It says that communities cannot manage shared resources and therefore, common property must be privatised for its protection.
- When a public resource is privatised, those who already have wealth can buy it and become even wealthier.
- Thus, when capitalism is unleashed, inequalities will increase, as they have in Russia and around the world since the 1990s.

What is Gandhian economics?

- New models of cooperative governance are required to realise the promise of humanity's shared commons.
- Mahatma Gandhi's calculus is guided by the principles of
 - Human rights
 - Community management
 - Equity
 - Ethics

- Fair sharing of power and resources
- These principles aid in realising the promise of our commons, and provide Purna Swaraj to all citizens.

14. Sri Lanka's Agreement with IMF

Sri Lanka has reached a staff-level agreement (formal arrangement) with the IMF that promises access to 29 billion dollar over a 4-year period.

What is the case with Sri Lanka?

- **Sri Lanka's economic crisis-** Sri Lanka's economic situation has worsened with 51 billion dollars of external debt.
- So, the country has reached an agreement with IMF to access credit under IMF's Extended Finance Facility.
- **Conditions-** It comes with a host of conditions varying from
 - Raising fiscal revenue
 - Reducing corruption vulnerabilities
 - Safeguarding financial stability
 - Persuading the country's multiple creditors to restructure and reschedule past debt
- **Significance-** The agreement is a step towards convincing foreign creditors and investors to return to the country.
- **Steps taken-** The Central Bank has
 - Floated the rupee
 - Raised interest rates sharply
 - Increased electricity tariffs and fuel prices
 - Restored tax cuts

What are the challenges?

- The outstanding long-term debt had risen from 26.2 billion dollar from 2012 to 46 billion dollar in 2022.
- The share of private creditors had risen to 37%.
- The bondholders in private credit had risen to 84%.
- Private bondholders would be less willing to accept any deal that requires them to take some losses.
- Talks with International Sovereign Bond (ISB) holders is a more complex exercise, with geopolitical dimensions.

How can Sri Lanka's crisis be compared with other countries?

- **Similarities-** Private long-term external debt outstanding of countries identified by the World Bank belonging to the low and middle income category more than doubled from 2012 to 2020.
- The share of bondholders in that debt rose from 63% in 2013 to 80% in 2020.
- **Differences-** The variation is based on bond-based borrowing by government in the different regions.
- Overall, the share of governments in foreign currency bond issues across emerging market and developing economies (EMDEs) has fallen between 2002 and 2021.
 - The fall has been largely driven by declines in developing Europe and Latin America and the Caribbean.
- The share of government issuance has risen in Africa and the Middle East and in developing Asian and the Pacific.
- But foreign currency bonds may not be the best channel to mobilise resources as foreign borrowing requires debt service commitments to be covered in foreign currency.
- Increased dependence of less developed nations on sovereign bondholders has not only contributed to a debt crisis but made resolution near impossible.

15. Impact of Pandemic on Crimes and Suicides

Increase in violent crimes, suicides in NCRB's Crime in India report 2021 points to indirect consequences of pandemic.

What is NCRB ?

- **Origin-** The National Crime Records Bureau (NCRB) was established in 1986 with the aim of establishing a body to compile and keep records of data on crime.
- **Ministry-** It functions under the **Union Home Ministry**.
- **Functions-** Its functions include collection, coordination and exchange of information on inter-state and international criminals to the respective states.
- NCRB also acts as a national warehouse for the fingerprint records of Indian and foreign criminals, and assists in locating interstate criminals through fingerprint search.
- **Reports of NCR**
 - Crime in India
 - Accidental Deaths & Suicides in India (ADSI)
 - Prison Statistics India
 - Report on Missing Women and Children in India
 - Fingerprint in India

What is the status of violent crimes in India in 2021?

- Registration in violent crimes such as rape, kidnapping, atrocities against children, robberies and murders increased in 2021 in comparison to the drop in 2020.
- **Overall crime rate-** The overall crime rate (per 1 lakh people) decreased from 487.8 in 2020 to 445.9 in 2021.
- **Major crimes-** Cruelty by husband or his relatives constituted 31.8% of crimes against women.
- **Chargesheeting and conviction rate-** While violent crimes increased, the chargesheeting rate fell as did the conviction rate.
- **State wise data-** Assam (76.6 violent crimes per one lakh people), Delhi (57) and West Bengal (48.7) had the highest numbers.
- Gujarat, Andhra Pradesh and Tamil Nadu registered the lowest numbers.
- **Safest city-** Kolkata has emerged as the safest city in 2021 with the fewest cognisable offences recorded per lakh of its population.

What about the status of suicides?

- **Suicide rate-** The report revealed that the suicide rate in the population in 2021 – 12 per one lakh people was the highest in the last five years.
- **Main reasons-** Domestic problems (33.2%) and illnesses (18.6%).
- **Other causes-** Drug abuse/addiction, marriage-related issues, love affairs, bankruptcy or indebtedness.
- **Victims-** Most victims are daily wage earners (25.6%) and housewives (14.1%).
- **Region-** Delhi saw a massive 24% jump in suicides, followed by Chennai and Bengaluru.

What does the report signify?

- Domestic violence continues to be a major issue.
- The decrease in crime rate is largely due to a decrease in cases registered under disobedience to a public servant's order, relating to lockdowns.
- The decrease in chargesheeting rate and conviction rate signifies the poor response of law enforcement in a year with more violent crimes.
- The 5.9% jump in cases registered as cybercrimes over 2020 indicates the increasing use of digital devices and the related challenges.
- With India registering the highest excess deaths during the pandemic, according to the World Health Organization, these figures are not surprising.

16. Seven percent annual growth and the realities in India

The performance of the Indian economy is not fully normalised yet and would be consistent with a growth of 6.5% to 7%.

What is the composition of growth?

- Out of the eight Gross Value Added (GVA) sectors, the first quarter growth performance is higher than the average of 12.7% in
 - Public administration, defence and other services (26.3%)
 - Trade, hotels, transport et al. (25.7%)
 - Construction (16.8%)
 - Electricity, gas, water supply et al. (14.7%).
- **Agricultural growth** has remained robust, showing a growth of 4.5% in 1Q of 2022-23, which is the **highest growth over nine consecutive quarters**.
- Growth in **manufacturing**, at 4.8%, however, is much **below the overall average**.
- On the demand side, all major segments showed magnitudes in 1Q of 2022-23 that were higher than their corresponding levels in 1Q of 2019-20.
- The ratio of gross fixed capital formation to GDP at current prices is 29.2% in 1Q of 2022-23 which is 1% point higher than the investment rate of 28.2% in the corresponding quarter of the previous year.
- The contribution of net exports to real GDP growth is negative at minus 6.2% points in 1Q of 2022-23 since **import growth continues to exceed export growth** by a tangible margin.
- Such an adverse contribution of net exports to real GDP growth is an all-time high for the 2011-12 base series.

Will there be feasibility in the growth?

- The Indian economy may still show a 7% plus growth in 2022-23 provided it performs better in the subsequent quarters, particularly in the last two.
- It would be important to further increase the investment rate and to reduce the magnitude of negative contribution of net exports.
- Available high frequency indicators for the first four to five months of 2022-23 indicate continuing growth momentum.
- **Headline manufacturing Purchasing Manager's Index (PMI)** was at an eight-month high of 56.4 in July 2022.
- It remained high at 56.2 in August 2022. **PMI services** were at 55.5 in July 2022, indicating 12 consecutive months of expansion.
- **Outstanding bank credit by scheduled commercial banks (SCBs)** grew by 15.3% in the fortnight ending August 12, 2022.

- Gross Goods and Services Tax collections have remained high at Rs. 1.49 lakh crore and Rs. 1.43 lakh crore in July and August 2022.
- This may be due to the higher inflation levels of both Wholesale Price Index (WPI) and Consumer Price Index (CPI).
- GVA growth has been led by public administration, defence, and other services, with a growth of 26.3%.

What is the way forward?

- With buoyant tax revenue growth, fiscal policy may strongly support GDP growth without making any significant sacrifice on the budgeted fiscal deficit target.
- The key to growth lies in raising the investment rate.
- The capacity utilisation in industry helps to attract private investment if demand for goods continues to increase.
- India's growth path in the next few years must depend on domestic investment picking up.
- Sector-wise growth in investment must be the focus of policymakers in removing bottlenecks and creating a favourable climate.

17. Sustainable port development promises blue economy to bloom

- It is politically hard, but developmentally critical, to run port development projects with coastal management sustainably.
- A port is a maritime facility comprising one or more wharves or loading areas, where ships load and discharge cargo and passengers. Although usually situated on a sea coast or estuary, ports can also be found far inland, such as Hamburg, Manchester and Duluth; these access the sea via rivers or canals.

Port management

- A port management analysis involves an understanding of the port conditions, including intra-port distribution, and routes and hinterland connections outside the port.

What are concerns with port projects?

- **Displacement:** Some 350 families that have lost homes to coastal erosion last year, and those living in makeshift schools and camps are just a foretaste of things to come if coastal erosion and extreme cyclones continue unabated.

- **Ecological impact:** A further danger is an irreversibly destroyed ecology, triggering deadlier hazards of nature. Ports without adequate safeguards in a highly delicate ecology unleash destruction on marine life and the livelihoods of the local population.
- **Coastal erosion:** Visakhapatnam and Chennai show how siltation, coastal erosion and accretion can be exacerbated by deepening of harbour channels in ecologically sensitive areas.
- **Oil spills:** During the operation of ports, spillage or leakages from the loading and unloading of cargo and pollution from oil spills are common due to poor adherence to environmental laws and standards.
- **Ecosystem threat:** The water discharged during the cleaning of a ship and the discharge of ballast water is a threat to marine ecosystems
- **Impact on fisheries:** Dredging cause's environmental problems (increased sedimentation) affecting local productivity of the local waters and its fisheries

Steps to take

- **Compensation:** The first order of business, as in infrastructure projects worldwide, is that the project provides compensation to the displaced people and restores their rights.
- **Reversing marine damage:** Second, the gross neglect of the damage to invaluable marine biodiversity must be redressed with an acceptable EIA, including inputs from experts in biology, ecology, and oceanography.
- **Safeguard to place:** Third, there needs to be an independent assessment of safeguards that port authorities must put in place as a precondition for any further construction.
- **Blue Economy:** Blue Economy as a concept includes all the economic activities related to oceans, seas, and coastal areas and emerges from a need for integrated conservation and sustainability in the management of the maritime domain.

Way forward

- **Master plan:** Countries should adopt a National Long-term Master plan addressing the aspects of smarter, greener, safer sustainable port development and productivity improvement.
- **Planning:** Port development and investment should be driven by setting specific and realistic goals, such as building a stable infrastructure focused on reducing trade costs and contribute to achieving sustainable transport.
- **Cooperation of multiple sectors:** In order to establish a comprehensive port development master plan, cooperation with financial, environmental, technical, energy, transportation and urban development authorities is

essential and must reflect the needs of users, including shippers and shipping lines.

Conclusion

- To address existing challenges, we should provide research, analysis and technical assistance to help ports and the maritime transport sector especially in developing countries to improve operations and become more sustainable and resilient to crises, including climate change.

18. Mandatory requirements for Packaged Commodities

The Department of Consumer Affairs, Legal Metrology Division has notified a draft amendment to the Legal Metrology (Packaged Commodities) Rules 2011 making some compulsions.

Discrepancies over Packaged Commodities

- The Division has observed that many manufacturers/packagers/importers **do not clearly label necessary declarations or prime constituents** on the front of packaged commodities.
- It is common for consumers to assume that brands' claims are accurate, but such **claims are usually misleading**.
- Such disclosure are deemed essential in order to protect consumer rights.

What are the mandatory provisions under the Legal Metrology (Packaged Commodities) Rules, 2011?

- It is mandatory under the Rules, to ensure a number of declarations, such as the:
 1. Name and address of the manufacturer/packer/importer,
 2. Country of origin,
 3. Common or generic name of the commodity,
 4. Net quantity,
 5. Month and year of manufacture
 6. Maximum Retail Price (MRP) and
 7. Consumer care information.
- As a consumer-oriented policy, all pre-packaged commodities should also be inspected.
- Rule 9(1)(a) provides that the declaration on the package must be legible and prominent.

- The consumers' 'right to be informed' is violated when important declarations are not prominently displayed on the package.

What are the proposed amendments?

- As many **blended food and cosmetic products** are sold on the market, the **key constituents need to be mentioned** on the product packaging.
- Additionally, the front side of the package must contain the **percentage of the composition of the unique selling proposition (USP)**.
- Also, packages displaying key constituents must display a **percentage of the content** used to make the product.
- The new amendments has suggested that **at least two prime components should be declared on the package's front side** along with the brand name.
- Currently, manufacturers list the ingredients and nutritional information only on the **back of the packaging**.
- This declaration **must also include the percentage/quantity of the USPs of the product** in the same font size as the declaration of the USPs. However, mechanical or electrical commodities are excluded from this sub-rule.

19. Indian Army Chief conferred honorary rank of Nepal Army General

Recently, at a special ceremony at 'Sheetal Niwas', the official residence of the President in Nepal's capital Kathmandu, Indian Army Chief General Pande was conferred with the title of Honorary General of the Nepalese Army during his ongoing visit to the Himalayan nation.

Key Points

- Commander-in-Chief General KM Cariappa was the first Indian Army Chief to be awarded this title in 1950. In November last year, Nepal's Army Chief General Prabhu Ram Sharma was also conferred with the title of Honorary General of the Indian Army by President Ram Nath Kovind at a function held in New Delhi.
- The practice follows a seven-decade-old tradition of decorating army chiefs of each other's country with the honorary title.

About Lieutenant General Pande

He is an alumnus of the Indian Military Academy (IMA), Dehradun and the National Defence Academy (NDA), Khadakwasla. In 1982, he was commissioned into the Bombay Sappers after passing out from the IMA.

Lt General Pande held prestigious command and staff assignments in counter-insurgency and conventional operations in all types of terrain during his 39-year military career. In the Western theatre, he has commanded an engineer brigade. He has also commanded an infantry brigade along the Line of Control (LoC), in the Ladakh sector and a corps in the North-east region of the country.

Before taking over as the army's vice-chief, he has also served as the Eastern Army Commander. From June 2020 to May 2021, he served as the Andaman and Nicobar Command's commander-in-chief. After General Narvane retires, he will be the senior-most officer of the Army.

20. India ranks 132 in HDI as score drops

India ranks 132 out of 191 countries in the Human Development Index (HDI) 2021, after registering a decline in its score over two consecutive years for the first time in three decades.

Human Development Index (HDI)

- The HDI combines indicators of life expectancy, education or access to knowledge and income or standard of living, and captures the level and changes to the quality of life.
- The index initially launched as an alternative measure to the gross domestic product, is the making of two acclaimed economists from Pakistan and India, namely Mahbub ul Haq and Amartya Sen.
- It stresses the centrality of human development in the growth process and was first rolled out by the United Nations Development Programme in 1990.

Dimensions of the Human Development Index - HDI

- The idea that progress should be conceived as a process of enlarging people's choices and enhancing their capabilities is the central premise of the HDI.
- Since its launch, the HDI has been an important marker of attempts to broaden measures of progress.
- The HDI considers three main dimensions to evaluate the development of a country:

1. Long and healthy life
2. Education
3. Standard of living

Limitations of HDI

HDI has been always disputable and has caught the public-eye, whenever it was published. It has many reasons.

One of them is that the concept of human development is much deeper and richer than what can be caught in any index or set of indicators. Another argument is that its concept has not changed since 1990 when it was also defined in the first.

(1) An incomplete indicator

- Human development is incomplete without human freedom and that while the need for qualities judgement is clear; there is no simple quantitative measure available yet to capture the many aspects of human freedom.
- HDI also does not specifically reflect quality of life factors, such as empowerment movements or overall feelings of security or happiness.

(2) Limited idea of development

- The HDI is not reflecting the human development idea accurately.
- It is an index restricted to the socio-economic sphere of life; the political and civil spheres are in the most part kept separate.
- Hence there is a sub-estimation of inequality among countries, which means that this dimension is not being taken into consideration appropriately.

(3) A vague concept

- Concerning data quality and the exact construction of the index HDI is conceptually weak and empirically unsound.
- This strong critic comes from the idea that both components of HDI are problematic. The GNP in developing countries suffers from incomplete coverage, measurement errors and biases.
- The definition and measurement of literacy are different among countries and also, this data has not been available since 1970 in a significant number of countries.

(4) Data quality issues

- The HDI, as a combination of only four relatively simple indicators, doesn't only raise a questions what other indicators should be included, but also how to ensure quality and comparable input data.
- It is logical that the UNDP try to collect their data from international organizations concentrating in collecting data in specific fields.
- Quality and trustworthiness of those data is disputable, especially when we get the information from UN non-democratic members, as for example Cuba or China.

(5) A tool for mere comparison

- The concept of HDI was set up mainly for relative comparison of countries in one particular time.
- HDI is much better when distinguishing between countries with low and middle human development, instead of countries at the top of the ranking.
- Therefore, the original notion was not to set up an absolute ranking, but let's quite free hands in comparison of the results.

(6) Development has to be greener

- The human development approach has not adequately incorporated environmental conditions which may threaten long-term achievements on human development. The most pervasive failure was on environmental sustainability.
- However, for the first time in 2020, the UNDP introduced a new metric to reflect the impact caused by each country's per-capita carbon emissions and its material footprint.
- This is Planetary Pressures-adjusted HDI or PHDI. It measured the amount of fossil fuels, metals and other resources used to make the goods and services it consumes.

(7) Wealth can never equate welfare

- Higher national wealth does not indicate welfare. GNI may not necessarily increase economic welfare; it depends on how it is spent.
- For example, if a country spends more on military spending – this is reflected in higher GNI, but welfare could actually be lower.

Way forward

- Both sustainable development and poverty eradication are both long-term and urgent endeavours, requiring not only the gradual and substantial redirection of country policies but a rapid response to pressing problems.

- Ideally, sustainable development could provide an overarching framework within which all sub-goals (eg poverty eradication, social equality, ecosystem maintenance, climate compatibility) are framed.
- It is not a subset of development; it is development (in a modern world of resource limits).
- Environmental issues are not one factor among many but the meta-context within which poverty and other goals are sought.
- Investing more in public research could lead to technological solutions to poverty and sustainability problems becoming more rapidly and openly available.

21. Scope of Countertrade for India

Countertrade has the potential for India to secure critical raw materials, while supporting the borrower countries in infrastructure creation.

Types of Countertrade

- **Barter**- Barter is the direct exchange of goods and/or services between two parties without a cash transaction.
- **Counter purchase**- It is a reciprocal buying agreement as it involves simultaneous separate transactions between two parties.
- It occurs when a firm agrees to purchase a certain amount of materials back from a country to which a sale is made.
- **Offset**- The importer makes partial payment in hard currency, besides promising to source inputs from the importing country and also makes investment to facilitate production of such goods.
- **Switch or swap trading**- It is a trade practice in which one company sells to another its obligation to purchase something in a foreign country.
- **Compensation trade or buyback**- A Buyback occurs when a firm builds a plant or supplies technology, equipments, or other services to the country and agrees to accept a certain percentage of the plant's future output as a partial payment for the contract.

What potential does countertrade hold for India?

According to the IMF, nearly 60% of the low-income countries are under debt distress or at the risk of debt distress.

- Faced with scarce forex reserves, high inflation, rise in external debt burden and uncertainty over repayment capacity, low and middle income countries would have fewer resources for development.
- Amid such constraints, countertrade models would address the unmet financing needs.
- **RFI model-** Under resource-backed financing for infrastructure model, the borrowing country commits future revenues to be earned from exports of natural resources to pay for loans secured for infrastructure projects.
- Such a model can be adopted by India,
 - to promote mutually beneficial outcomes for both India and borrower countries
 - to finance infrastructure projects in developing countries under India's development partnership programmes
 - to help India secure supplies of critical raw materials for industrial processes
 - to help India secure these raw materials for its production processes
 - to help Indian companies expand the horizons of executing the infrastructure projects, as it can open opportunities in lesser explored geographies
- **G2G deals-** Countries are increasingly entering into government to government (G2G) deals for alleviating concerns over supply of important commodities.
- India may utilise its stockholding of wheat for countertrade with countries to secure supplies of essential commodities at mutually agreeable terms.
 - For example, countertrade for exports of wheat from India to Indonesia in exchange for uninterrupted supply.
- The RBI's recent circular on additional arrangement for invoicing, payment and settlement of trade in Indian rupee paves way for establishing clearing arrangements with countries such as Russia and Sri Lanka.

What are the challenges in the implementation?

- **Lack of policy-** There is no policy for countertrade in India, except in the case of defence imports.
- **Diplomatic issues-** Many overseas governments may be unwilling to accept countertrade for commodities of interest to India.
- **Resource-specific issues-** Commodities that the overseas government may be willing to trade may not have sufficient domestic demand.
- **Institutional issues-** G2G mechanism would depend critically on the strength and capability of public sector enterprises in borrower countries to engage in such transactions.

What is the way ahead?

- For designing a clear umbrella policy for countertrade, a task force may be set up with relevant stakeholders.
- Countertrade should be perceived as a mechanism to boost trade and investment and not as an aggressive measure to recover dues.
- To resolve resource-specific issues, switch trading may be explored.

22. Inflation is still a threat

Union Finance Minister has recently said that India's inflation battle was a concern but no longer a "red-lettered" word.

Inflation status in India

- Consumer inflation shows an 8-year high of 7.8% in April, 2022.
- The recent dip in commodity prices further deteriorate the situation.
- Though retail inflation of 6.71% in July 2022 was seen as a relief, it still remained above the 6% official tolerance threshold.
- Price rise in rural India has also been much sharper, averaging 7.6% in the first four months of 2022-23 and over 7% through 2022 so far.
- The overall average consumer inflation remains at 7.14% and 6.79% for the same two time-frames, respectively.
- The uneven monsoon so far could further weaken rural demand.
- A prolonged spell of high inflation is more deleterious for households' ability and tendency to spend.
- It dents the demand and growth impulses that may catalyse fresh investments from industry.

Why inflation is still a threat?

- It was reported that the Consumer Price Index for August due next week could take inflation closer to 7% again.
- It will be partly because of food price rise, that accounts for 45% of the CPI and had dipped to a 5-month low in July, may have resurged.
- The above data warns that the worst is behind and it is too early to let the guard down.
- Inflation may have moderated a bit, but remains a threat that warrants constant vigil.

What are the future aspirations?

- The monetary policy tools such as interest rate hikes alone cannot tame inflation.

- The union finance minister pushed the RBI to not be 'as synchronised' with its developed world counterparts when growth needs to be unrestricted.
- The emphasis should be on a multi-pronged approach to contain inflation, including better logistics, fiscal and trade policy moves.
- The Government must act expeditiously for a mechanism where the Centre and States work together to tackle price rise.
- It would ensure that inflation's immediate term moderation is durable and it can be re-activated.
- Thus, paving way for a quicker, sure-footed and cohesive future policy reactions.

23. India's Updated NDC

Union Cabinet has recently approved the India's Nationally Determined Contribution (NDC) to UNFCCC, which is an update to its first NDC that was submitted on October 2, 2015.

NDC

- It is a plan submitted by a country to work towards their climate goals.
- It is outlined in the Paris Agreement adopted in 2015.

Article 4, paragraph 2 of Paris Agreement says "Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions"

- NDCs are submitted every five years to the United Nations Framework Convention on Climate Change (UNFCCC) secretariat.
- In August 2022, India formally updated its NDC to the UNFCCC, which was approved by the Union Cabinet.
- The updated NDC is a step towards India's goal to reach net-zero emissions by 2070.

What is the document all about?

- It is a three-page document that outlines India's updated contribution towards its climate action plans and goals.
- This update to India's existing NDC translates the 'Panchamrit' announced at COP 26 into enhanced climate targets.
- **Emissions intensity** - It is the total amount of emissions emitted for every unit of GDP.
 - Target -

2015 Agreement	Updated NDC
Improving the emission intensity of its GDP by 33-35% below the 2005 level, by 2030.	Reducing the emission intensity of its GDP by 45% by 2030, compared to the 2005 level.

- The goal to reduce emissions intensity and improve energy efficiency was not sector specific.
- Status -India had already achieved 21% of its emissions intensity as a proportion of its GDP in line with its commitment.
- **Non fossil fuel-based energy** - To meet 50% of cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.
- **Power** - 500 GW of non-fossil fuel installed power generation capacity by 2030.
- **Absolute Emission** - Cutting absolute emissions by one billion tonnes, presumably from projected business-as-usual (BAU) 2030 levels.
- **Net-zero emissions** - To be achieved by 2070.
- **Other Highlights** -
 - Adopting a climate-friendly and cleaner path for economic development,
 - Creating an additional carbon sink - 2.5 to 3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030.

India's INDC Targets under Paris Agreement 2015

- To reduce the emissions intensity of its GDP by 33 to 35 % by 2030 from 2005 level.
- To achieve about 40 % cumulative electric power installed capacity from non-fossil fuel based energy resources by 2030.
- To create an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030.

How well India is performing?

- India is the only G20 country that is on track to achieve its climate goals under the Paris Agreement.
- Climate Change Performance Index - India ranked among the top 10 countries in 2019 and 2022.
- Its performance was rated high in the greenhouse gas emissions, energy use, and climate policy categories, and medium in the renewable energy category.

24. Vande Bharat production to begin in October: Minister

Indian Railways had successfully completed trials of the second generation Vande Bharat train that will come with enhanced passenger comfort and safety features.

Vande Bharat Express

- The Vande Bharat Express is a semi-high-speed train designed, developed, and built by the **Integral Coach Factory (ICF)**.
- Presently there are only **two Vande Bharat trains** that are running – Delhi to Varanasi and Delhi to Katra.

Key Features

- The current Vande Bharat trains have **seating only in two classes** – chair car and executive chair car. But Railways is planning to upgrade it.
- The trains have fully **sealed gangways for a dust-free environment**, modular bio-vacuum toilets, rotating seats in Executive Class, personalized reading lights, automatic entry/exit doors with sliding footsteps, diffused LED lighting, mini pantry, and sensor-based interconnecting doors in each coach.
- They are **self-propelled trains** that do not require an engine. This feature is called a **distributed traction power system**.

Benefits of Vande Bharat Trains

- Cuts Travel Time Drastically
- Energy Efficient
- Reduce Turnaround Time
- Faster Acceleration and Deceleration among others.

25. Holistic approach is the only way forward for urban floods mitigation

- Bengaluru floods are alarming us to go for robust disaster management strategies.
- Floods are the most frequent type of natural disaster and occur when an overflow of water submerges land that is usually dry. Floods are often caused by heavy rainfall, rapid snowmelt or a storm surge from a tropical cyclone or tsunami in coastal areas.

Causes of frequent urban floods

Natural

- **Meteorological Factors:** Heavy rainfall, cyclonic storms and thunderstorms causes water to flow quickly through paved urban areas and impound in low lying areas.
- **Hydrological Factors:** Overbank flow channel networks, occurrence of high tides impeding the drainage in coastal cities.
- **Climate Change:** Climate change due to various anthropogenic events has led to extreme weather events.

Anthropological

- **Unplanned Urbanization:** Unplanned Urbanization is the key cause of urban flooding. A major concern is blocking of natural drainage pathways through construction activity and encroachment on catchment areas, riverbeds and lakebeds.
- **Destruction of lakes:** A major issue in India cities. Lakes can store the excess water and regulate the flow of water. However, pollution of natural urban water bodies and converting them for development purposes has increased risk of floods.
- **Unauthorised colonies and excess construction:** Reduced infiltration due paving of surfaces which decreases ground absorption and increases the speed and amount of surface flow
- **Poor Solid Waste Management System:** Improper waste management system and clogging of storm-water drains because of silting, accumulation of non-biodegradable wastes and construction debris.
- **Drainage System:** Old and ill maintained drainage system is another factor making cities in India vulnerable to flooding.
- **Irresponsible steps:** Lack of attention to natural hydrological system and lack of flood control measures.

Solutions for effective flood management

- **Improved flood warning systems:** effective flood warning systems can help take timely action during natural calamities and can save lives. Pre-planning can significantly reduce the effects of floods, giving people time to migrate to safer locations and stock up essentials.
- **Building flood-resilient housing systems:** concreting floors can be very useful during floods. Houses should be water proofed and electric sockets should be placed at higher levels up the walls to reduce the chances of shocks.

- **Constructing buildings above flood levels:** buildings should be constructed a metre above from the ground to prevent flood damage and evacuation during floods.
- **Resilience to Climate change:** drastic climate changes have increased the frequency of natural disasters in many parts of the world. Governments should bring about environment-friendly policy level changes and eliminate the ones hazardous to the environment to tackle the problem of global warming.
- **Create wetlands and encourage reforestation:** creating more and more wetlands can help soak up excessive moisture since wetlands act as sponges. Wooded areas can also slow down heavy water flow, minimizing the effects of floods. Reforesting upstream regions can significantly reduce the effects of flood damage.

Way forward

- **Resilience of people:** The rapid transformation in rainfall characteristics and flooding patterns demand building people's resilience.
- **Reconsider projects:** Construction projects that impede the movement of water and sediment across the floodplain must be reconsidered.
- **Use of technology:** At the same time, climate-imposed exigencies demand new paradigms of early-warning and response systems and securing livelihoods and economies.

Conclusion

- We can learn to live with nature, we can regulate human conduct through the state and we can strategically design where we build. We need to urgently rebuild our cities such that they have the sponginess to absorb and release water without causing so much misery and so much damage to the most vulnerable of our citizens.

26. Export policy of broken rice amended

Export policy of broken rice amended by government to ensure adequate domestic availability.

Need for amendment:

Significant rise in export of broken rice:

- There has been a **rise in global demand for broken rice** due to geo-political scenario which has impacted price movement of commodities including those related to animal feed.

Meet domestic requirement under Ethanol Blending Programme:

- **Sugar based feed stocks** alone cannot meet the requirements of 1100 crore litres of ethanol for 20% ethanol blending by 2025.
- Since **Ethanol Season Year (ESY) 2018-19**, India has allowed grain-based ethanol and in ESY 2020-21 has also allowed Food Corporation of India to **sell rice to ethanol plants for fuel ethanol production**.
- However, in the current **ESY 2021-22**, against the contracted quantity of 36 crore litres, only about **16.36 crore litres have been supplied** by distilleries due to low availability of broken rice for ethanol production.

Contain impact on poultry sector due to rising prices:

- Domestic price of broken rice, has increased because of exports due to higher international prices.
- Poultry sector and animal husbandry farmers were **impacted the most due to price hike of feed ingredients as about 60-65%** inputs cost for poultry feed comes from broken Rice and any increase in prices will be reflected in poultry products like Milk, Egg, Meat etc.

Domestic production scenario of Rice:

- The likely shortfall in area and production of **Paddy for the Kharif season 2022** is 6% approx.
- The final area for **Kharif in 2021** was 403.58 lakh ha. So far, an area of 325.39 lakh ha has been covered.
- In domestic production **60-70 LMT** estimated production loss is anticipated but due to good Monsoon rains in some pockets, the production loss may reduce to 40-50 LMT, however, this would be at par with last year's production.

27. Desert Dust and Air Quality

Researchers at the Central University of Rajasthan (CUoR) have started studying the impact of desert dust and emissions by human activity on air quality and climate change, under a project funded by the Indian Space Research Organisation (ISRO).

- Central University of Rajasthan is the first academic institution to get a research grant from ISRO.
- The research falls within the domain of atmospheric chemistry.

- The objective of the research is to look for remedies to curb the menace of degrading air quality in the State by deploying new instruments and conducting field studies.

Desert Dust:

‘Desert dust’ is the mixture of particulate matter (PM) emitted from the surface of arid and semi-arid regions. Due to the arid nature of these regions, soils are poor, and therefore this PM is mostly made up of mineral matter. Increase of PM in the receptor regions during dust outbreaks might be due not only to desert dust itself but also to other anthropogenic and natural (e.g. sea salt) PM.

Key Details of the Project:

- The project involves measuring the atmospheric ‘trace gases’, present in small amounts, influenced by dominance of desert dust and natural and anthropogenic emissions.
- It studies the changes in atmospheric chemistry and recommends measures to improve the quality of air for both flora and fauna.

Significance of the study:

- The Indo-Gangetic Plains have high levels of anthropogenic emissions and the gases, smoke and fog travel long distances, including Rajasthan, influencing the air quality and health at far-off places.
- The study helps in comparing emissions brought in from Delhi and Indo-Gangetic Plain and the local emission of trace gases.
- Study also helps in identifying the reaction mechanisms as a result of loss of gases through deposition and interaction between gases and aerosols.

28. Our apple farmers should be supported enthusiastically

- The increasing cost of production and the increase in GST on apple cartons has triggered protests in Himachal Pradesh’s apple farmers.

What is the issue?

- The cost of production of agricultural items increased substantially, denying remunerative prices to the poor and marginal apple farmers.

Reason for crisis in apple farming

- **Increase in cost of production:** The input cost of fertilizers, insecticides, and fungicides has risen in the last decade by 300%, as per some estimates. The

cost of apple cartons and trays and packaging has also seen a dramatic rise. In the last decade, the cost of a carton, for instance, has risen from about ₹30 to ₹ The cost borne to market the Produce has also risen.

- **High taxation:** The increase in the Goods and Services Tax on cartons from 12% to 18%. This was done to ensure that farmers are forced to sell their produce to big buyers instead of selling it in the open market. Just as the three farm laws were designed on the pretext of getting rid of the middlemen, the argument here was that commission agents, who fleece the apple farmers, will be forced to exit the picture. But this leaves the apple growers at the mercy of large giants in procurement, who have precedence of even deciding the procurement price.
- **No MSP in Himachal:** Unlike in Jammu and Kashmir, where there is a minimum rate for procurement, there is no such law in Himachal. The government also does not seem prepared to bring in such a law. The farmers are demanding that legally guaranteed procurement at a Minimum Support Price (C2+50%) should be ensured to improve apple farmers condition.

How to address this issue?

- **Need for a regulator:** What is required is an independent body that is duly supported and trusted by the farmers. Such a body should have representatives of apple growers, market players, commission agents and the government. This must be a statutory body that is also given the task of conducting research in the apple economy.
- **Directional efforts:** Issues such as high input cost, lack of fair price and unavailability of infrastructure such as cold chains should be addressed.
- **Required research to support improvements in apple farming systems:** Over the past few decades, the priorities in research projects and government policies on apple production were focused on the improvement of tree productivity and product quality. This was important to enhance the net incomes and living standards of apple producers in India. This research should be further enhanced by introducing European varieties in India.

Conclusion

- Agriculture is dying, not as in the production of food but as a desirable profession. One bad yield, whether due to errant rains, pests, etc., and most farmers have no buffer available. The last point worth considering is that food and agriculture are not the same. Expenditures on food span the value-add, including processing, preparation, service in restaurants, etc. Farmers in India merely get paid for their product and not for the food we eat.

29. Taragiri: Third stealth frigate under Project 17A

Project 17A's third stealth frigate 'Taragiri' was recently launched by Mazagon Dock Shipbuilders Limited (MDL) in Mumbai.

- Taragiri is the third stealth warship to be built under Project 17A.
- The 149 m long and 17.8 m wide ship is powered by a combination of two gas turbines and two main diesel engines. They are designed to achieve speeds in excess of 28 knots at a displacement of 6,670 tonnes.
- The ship is expected to be delivered by August 2025.
- The ship is being launched with an estimated launch weight of 3,510 tonnes.
- The ship is designed by the Bureau of Naval Design, the in-house design organization of the Indian Navy.
- The ship was named by Charu Singh, President, Naval Wives Welfare Association (Western Zone) and Vice Admiral Ajendra Bahadur Singh, Flag Officer Commanding-in-Chief, Western Naval Command, wife of the Chief Guest.
- The steel used in the hull construction of the P17A frigate is indigenously developed DMR 249A, a low carbon micro-alloy grade steel manufactured by the Steel Authority of India Limited.

Project P17A

Under project P17A, first two ships were launched 2019 and 2020. First ship was launched at Mazagon Dock Shipbuilders Limited. On the other hand, second ship was launched at Garden Reach Shipbuilders and Engineers Limited. On May 17, 2022, the third ship named Udaygiri was launched at MDL and is expected to start sea trials during the second half of 2024. All the ships under project P17A have been designed in-house by Directorate of Naval Design (DND) of Indian Navy.

30. The Anti-Maoist Greyhound Force

Despite contributing to the shrinking red zone, the elite anti-Maoist Greyhounds force has no base and training centre in its own home – Andhra Pradesh.

How did the armed struggle begin in Andhra?

- **Telangana Rebellion-** The seed of the armed struggle was sown by the Telangana Rebellion of 1946 in the undivided Andhra Pradesh.
- The peasant movement led by communist leaders rebelled against the feudal lords of the Telangana region in the princely State of Hyderabad.
- The armed struggle ended in 1951, when the last of the guerilla squads was subdued by police force.

- **Srikakulam movement-** The Srikakulam movement that began in 1967 inspired leaders such as Kondapalli Seetharamaiah and K.G. Satyamurthi in the early 1980s.
- The movement grew in parts of Telangana due to oppression by feudal landlords and attempts by zamindars to take over lands from tribals.
- Andhra Pradesh is one of the red corridor states that is under the influence of Left Wing Extremists (LWE) or Maoists.

Greyhounds

Octopus (Organisation for Counter Terrorist Operations) is another elite counter terrorism unit of the Andhra Pradesh police.

- The Greyhounds is an elite anti-Maoist force raised in 1989 by IPS officer K.S. Vyas to combat the growing Maoist threat in Andhra Pradesh.
- The members are well-trained in guerilla and jungle warfare.
- Members of the force cannot be over 35 years.
- Once they cross 35, they are drafted into the civil police until retirement.
- This special police force became the root cause for the downfall of Left Wing Extremism in Andhra Pradesh.
- It also inspired to create other similar forces to fight the Maoists.

What is the issue now?

- The issue started after the bifurcation of Andhra Pradesh in 2014.
- As per the Andhra Pradesh Reorganisation Act, the men and material of Greyhounds were to be shared by Andhra Pradesh and Telangana.
- Since the training centres of the Greyhounds were located in Hyderabad, the Act specified that Andhra Pradesh would have to set up its own base and training centre.
- The Andhra Pradesh Cabinet gave its nod for the establishment of a full-fledged training centre-cum-residential facility but there is no progress due to rehabilitation and resettlement issues.

How can the issue be tackled?

- **Tribal empowerment-** Empowerment of tribal people and civil society activists to promote peace in these areas.
- **Utilizing the surrendered-** Surrendered LWE cadre should be used for intelligence collection to the maximum possible.
- **Extension of welfare measures-** The country's best weapon against ultras is extending the welfare state to areas it hasn't quite reached.

- **Retaining the faith in democracy-** The government must act continually in winning over the support of tribals and retain their faith in the liberal democratic institutions of the state.

31. Indian Army Exercise Parvat Prahar

Army Chief General Manoj Pande recently visited the Ladakh sector to review Exercise Parvat Prahar and was briefed about the operational preparedness on the ground by the commanders. The exercise saw the deployment of an all new major induction of the Army.

Key Points

- This exercise named Parvat Prahar is being conducted by the One Strike Corps of the Indian Army. ‘
- The strike corps means that if China or Pakistan act anywhere, they will first enter and eliminate it.
- Parvat Prahar is a 20-day long exercise of the Indian Army.
- The exercise comes as India and China are separating from the Gogra-Hot Springs (PP-15) in eastern Ladakh, as announced on September 8.
- This dissolution process follows the 16th round of talks between the Corps Commanders of India and China held at the Chushul Moldo meeting point on July 17, 2022.
- It is believed that from the above place the Indian Army may withdraw its forces towards Karam Singh Hill, while the Chinese Army may return to Chinese territory in the north.
- The exercise involved high altitude infantry personnel, T-90S and T-72 tanks, mechanized infantry, K-9 Vajra, Bofors and M-777 howitzers, helicopters and aircraft.
- Chinook heavy lift helicopters and all-terrain vehicles carried by K9-Vajra howitzers were used in the exercise.

Indian Army

Land based Indian Army is the largest component of the Indian Armed Forces. The President of India is the Supreme Commander of the Army. Indian Army is professionally headed by Chief of Army Staff (COAS), who is a four-star general. Indian Army in its current form was founded on February 26, 1950.

32. India stays out of 'trade pillar' at Indo-Pacific meet

Recently, India stayed out of the joint declaration on the trade pillar of the U.S.-led Indo-Pacific Economic Framework (IPEF) ministerial meet in USA.

- India had agreed to **three out of four pillars of trade relating to supply chains**: tax, anti-corruption and clean energy.
- However, India stayed out of 4th pillar which deals primarily with trade and commitments to the environment, labour, digital trade and public procurement.
 - IPEF gives flexibility to the 14 member countries to choose which pillar/s they want to be part of.

Reasons why India didn't Joined 4th pillar of data and privacy? :

- **India said that details of the framework had not emerged yet**, particularly on the kind of commitment each country would have to make on environment, labour, digital trade and public procurement.
- India would like to see **what benefits member countries will derive** and whether any conditionalities on aspects like environment may **discriminate against developing countries**, like India.

Indo-Pacific Economic Framework (IPEF): ★

- It is a U.S.-led **framework for participating countries**.
- **Aim**: To solidify their relationships and engage in crucial economic and trade matters that concern the region.
- It is not a **free trade agreement**, neither is it a security pact.
- The U.S. will be partnering with 12 initial countries which include **members of the Quad**: Australia, India and Japan.
- It also includes **seven ASEAN countries**: Brunei, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam, as well as South Korea and New Zealand.

Features:

- There will be **no binding commitments regarding market access** characteristic of trade deals like the **Regional Comprehensive Economic Partnership (RCEP)** or free trade agreements.
- IPEF will focus on increasing regulatory coherence between the member nations.

Four pillars of the IPEF:

- **Connected economy:** higher standards and rules for digital trade, such as cross-border data flows.
- **Resilient economy:** resilient supply chains that will withstand unexpected disruptions like the pandemic.
- **Clean economy:** targeting green energy commitments and projects.
- **Fair economy:** implementing fair trade, including rules targeting corruption and effective taxation.

Significance:

- It seeks to **strengthen economic partnership** among participating countries in the Indo-Pacific region.
- It will enhance resilience, sustainability, inclusiveness, economic growth, fairness, and competitiveness.
- The 14 IPEF partners represent **40% of global GDP and 28% of global goods and services trade**.
- About **60% of the world's population** reside in the Indo-Pacific.
- The region is expected to be the **biggest contributor to global growth** over the next three decades.
- The U.S. wants to restore its economic leadership in the region and is presenting Indo-Pacific countries an **alternative to China's approach**.

33. HDFC – first to issue electronic bank guarantee

The HDFC Bank, the largest private sector bank in India, became the first bank in the country to issue an Electronic Bank Guarantee (e-BG).

- The HDFC bank recently launched the first-ever Electronic Bank Guarantee (e-BG) in collaboration with the National E-Governance Services Limited (NeSL).
- e-BG removes the need for the paper-based time consuming process, which often takes 3 to 5 days for complete due to the need for physical pick up from the bank, delivery of courier to the beneficiary, stamping and reverification.
- e-BG boosts efficiency and security, while enabling the beneficiary to instantly view a bank guarantee on the NeSL portal.
- The e-BG would be issued on the NeSL portal through an API-based digital workflow.
- Digitisation of the overall bank guarantee process ensures ease of doing business for MSMEs, who are the major applicants for bank guarantees.

- The e-BG was developed in consultation with the NeSL, CVC-CBI committee and Indian Banks' Association (IBA).

NeSL

The National E-Governance Services Limited (NeSL) is India's first Information Utility. It is registered with the Insolvency and Bankruptcy Board of India (IBBI) under the aegis of the Insolvency and Bankruptcy Code, 2016. It was set up by leading banks and public institutions and is incorporated as a union government company. It serves as a repository of legal evidence having information about debt or claim submitted by the financial or operational creditor and verified by parties to the debt.

34. FAO/WFP Crop and Food Security Assessment Mission (CFSAM) report

Food and Agriculture Organization (FAO) and the World Food Programme (WFP) have jointly published a report titled "Crop and Food Security Assessment Mission (CFSAM) report".

Highlights

- **Food insecurity:** Around 6.3 million people in Sri Lanka are experiencing moderate to severe acute food insecurity. It is expected to worsen if required social aid and job opportunities are not provided.
- **Inflation:** The severe macroeconomic crisis has resulted in acute shortages and surging prices of essential goods such as food, agricultural inputs, fuel and medicine. In August 2022, the year-on-year food inflation rate was about 94 per cent.
- **Agricultural production:** Production of paddy rice, the main staple food, is estimated to be 3 million mt in 2022 – the lowest since the 2017 drought-affected harvest. The low yield is mainly because reduced application of fertilizers.
- **Animal husbandry:** The production of maize (used as animal feed) is some 40 per cent below the past 5-year average, causing adverse impact on poultry and livestock production
- **Causes:** Almost 50 per cent decline in production is due to two consecutive seasons of poor harvest. Significant foreign exchange constraints reduced imports of food grains.
- **Forecast:** Food insecurity is expected to worsen especially from October 2022 to February 2023 lean season because of poor harvests of staple foods and the on-going economic crisis.

- **Recommendations:** Provide immediate cash-based or food assistance to vulnerable people like pregnant and lactating mothers, women-headed households and persons with disabilities. Provide immediate assistance like agricultural inputs and promote home gardens by providing fuel, transportation and other facilities.

Sri Lanka's economic crisis

Sri Lanka currently owes USD 51 billion in foreign debt, more than half of which must be paid by 2027. The severe shortage of foreign reserves has caused a surge in prices of fuel, cooking gas and other essential commodities while power cuts and high food inflation worsened the financial burdens in households.

35. What is a Windfall Tax?

Finance Minister has defended the windfall tax imposed by the Centre on domestic crude oil producers, saying that it was not an ad hoc move but was done after full consultation with the industry.

Windfall Tax

- Windfall taxes are designed to tax the profits a company derives from an external, sometimes unprecedented event – for instance, the energy price-rise as a result of the Russia-Ukraine conflict.
- These are profits that cannot be attributed to something the firm actively did, like an investment strategy or an expansion of business.
- The US Congressional Research Service (CRS) defines a windfall as an “unearned, unanticipated gain in income through no additional effort or expense”.
- One area where such taxes have routinely been discussed is oil markets, where price fluctuation leads to volatile or erratic profits for the industry.

When did India introduce this?

- In July this year, India announced a windfall tax on domestic crude oil producers who it believed were reaping the benefits of the high oil prices.
- It also imposed an additional excise levy on diesel, petrol and air turbine fuel (ATF) exports.
- Also, India's case was different from other countries, as it was still importing discounted Russian oil.

Why govt. introduced windfall tax?

- There have been varying rationales for governments worldwide to introduce windfall taxes like:
 1. Redistribution of unexpected gains when high prices benefit producers at the expense of consumers,
 2. Funding social welfare schemes, and
 3. Supplementary revenue stream for the government

Why are countries levying windfall taxes now?

- Prices of oil, gas, and coal have seen **sharp increases** since last year and in the first two quarters of the current year, although they have reduced recently.
- **Pandemic recovery** and supply issues resulting from the Russia-Ukraine conflict **shored up energy demands**, which in turn have driven up global prices.
- The rising prices meant huge and record profits for energy companies while resulting in **hefty gas and electricity bills for households** in major and smaller economies.
- Since the gains stemmed partly from external change, multiple analysts have called them windfall profits.

Issues with imposing such taxes

- Companies are confident in investing in a sector if there is **certainty and stability in a tax regime**.
- Since windfall taxes are imposed retrospectively and are often influenced by unexpected events, they can brew **uncertainty in the market about future taxes**.
- IMF says that taxes in response to price surges **may suffer from design problems** – given their expedient and **political nature**.
- It added that introducing a temporary windfall profit tax **reduces future investment** because prospective investors will internalise the likelihood of potential taxes when making investment decisions.
- There is another argument about what exactly constitutes true windfall profits; how can it be determined and **what level of profit is normal or excessive**.
- Another issue is **who should be taxed** – only the big companies responsible for the bulk of high-priced sales or smaller companies as well – raising the question of whether producers with revenues or profits below a certain threshold should be exempt.

36. How to make robust patent system for a number 1 knowledge economy

- Increasing the efficiency of processing patent applications and wider academia-industry collaboration are crucial steps for patent system.

patent system

- A patent system is a type of intellectual property that gives its owner the legal right to exclude others from making, using, or selling an invention for a limited period of time in exchange for publishing an enabling disclosure of the invention.

Why are patents important?

- A patent is important because it can help safeguard our invention. It can protect any product, design or process that meets certain specifications according to its originality, practicality, suitability, and utility. In most cases, a patent can protect an invention for up to 20 years.

Terms of Patent

- Patents may be granted for inventions in any field of technology, from an everyday kitchen utensil to a nanotechnology chip.
- An invention can be a product – such as a chemical compound, or a process, for example – or a process for producing a specific chemical compound.
- Patent protection is granted for a limited period, generally 20 years from the filing date of the application.
- Patents are territorial rights. In general, the exclusive rights are only applicable in the country or region in which a patent has been filed and granted, in accordance with the law of that country or region.

How patents can support inventors and improve lives

- **Recognize and reward:** Patents recognize and reward inventors for their commercially-successful inventions. As such they serve as an incentive for inventors to invent. With a patent, an inventor or small business knows there is a good chance that they will get a return on the time, effort and money they invested in developing a technology. In sum, it means they can earn a living from their work.
- **Economic opportunity:** When a new technology comes onto the market, society as a whole stands to benefit – both directly, because it may enable us to do something that was previously not possible, and indirectly in terms of the economic opportunities (business development and employment) that can flow from it.

- **Research and development (R&D):** The revenues generated from commercially successful patent-protected technologies make it possible to finance further technological research and development (R&D), thereby improving the chances of even better technology becoming available in the future.
- **Opportunities for business growth:** A patent effectively turns an inventor's know-how into a commercially tradeable asset, opening up opportunities for business growth and job creation through licensing and joint ventures, for example.
- **Commercialization of a technology:** Holding a patent also makes a small business more attractive to investors who play a key role in enabling the commercialization of a technology.
- **Spark new ideas:** The technical information and business intelligence generated by the patenting process can spark new ideas and promote new inventions from which we can all benefit and which may, in turn, qualify for patent protection.
- **No freebies:** A patent can help stop unscrupulous third parties from free riding on the efforts of the inventor.

What is KAPILA Initiative?

- **Full form:** KAPILA is an acronym for Kalam Program for IP (Intellectual Property) Literacy and Awareness.
- **Guidelines for patent Filing:** Under this campaign, students pursuing education in higher educational institutions will get information about the correct system of the application process for patenting their invention and they will be aware of their rights.
- **Encouragement to students:** The program will facilitate the colleges and institutions to encourage more and more students to file patents.

Way ahead

- As the patent system is a critical aspect of the national innovation ecosystem, investing in the patent ecosystem will help in strengthening the innovation capability of India.
- The right interventions should be made for the promotion of the quality of patent applications and collaboration between academia and industry.

37. Selective Ban on Rice Exports

India's selective clampdown on rice exports has raised the eyebrows of both local traders and global commentators.

What is the Centre's ban about?

Broken or ground rice refers to the fragments of rice grain obtained by milling. Parboiled rice refers to the rice when the paddy is soaked in water, steamed and dried while retaining its outer husk.

- There are four categories of rice exports.
 1. Raw (white)
 2. Basmati rice
 3. Parboiled non-basmati rice
 4. Broken non-basmati rice
- The government has notified a 20% duty on exports of rice "other than parboiled and basmati rice".
- The government has also imposed a blanket ban on broken rice exports.
- **Reasons for selective ban**
 - Possibility of decline in rice production because of deficient monsoon rainfall.
 - Possibility in yield reduction due to a new virus that has caused "dwarfing" of paddy plants in Punjab and Haryana.
 - Low rice stocks could pose a threat on Pradhan Mantri Garib Kalyan Anna Yojana and the public distribution system (PDS).
 - To ward off the threat of a price spiral.
 - Broken rice can be used to boost India's ethanol production.

How important is India to the global rice trade?

India is the world's second-largest rice producer after China.

- The major rice producing states are West Bengal, Uttar Pradesh, Punjab, Tamil Nadu, Andhra Pradesh, Bihar, Chhattisgarh, Odisha, Assam, and Haryana.
- India has a 40% share of the world's total rice exports out of which non-basmati forms the bulk of it.
- More than 75% of basmati exports in 2021 were to Iran and Arabian Peninsula countries.
- In non-basmati rice, almost 55% went to African countries.
- India's non-basmati rice exports witnessed an astounding growth of 109 % in FY 2013-14 to FY 2021-22.

- China, Senegal, Vietnam, Djibouti and Indonesia were the top importers of broken rice exports in 2021-22.

What is promising about the selective ban of rice exports?

- The Centre has decided to ensure that the broken rice is available for its own poultry and other user industries.
- Shipments of rice to the nations in the East, have been curbed as these countries depend on cheaper Indian rice mainly for feed purposes.
- The Centre's indirect message is to import corn from us.
- Conserving domestic stocks of foodgrains in a populous country like India is definitely essential at a time of fears of a global food crisis precipitated by fertiliser shortages and droughts.

What is the way ahead?

- Minimum export price can be announced to prevent any under-invoicing.
- There should be regular checks to ensure premium non-Basmati and other types of rice are not get shipped as Basmati rice to escape the 20% tax by hawala traders.

38. The great Indian thirst: The story of India's water stress

- United Nations World Water Development Report of 2022 has expressed global concern over the sharp rise in freshwater withdrawal from streams, lakes, aquifers and human made reservoirs, significant water stress and also water scarcity being experienced in different parts of the world.
- The United Nations World Water Development Report (WWDR) is published by UNESCO, on behalf of UN-Water and its production is coordinated by the UNESCO World Water Assessment Program (WWAP).

What is the level of water stress in India?

- **The Global Drought Risk and Water Stress map (2019):** It shows that major parts of India, particularly west, central and parts of peninsular India are highly water stressed and experience water scarcity.
- **Composite Water Management Index (2018):** Released by Niti Aayog indicates that more than 600 million people are facing acute water stress.

- **India is the world's largest extractor of groundwater:** Accounting for 25 per cent of the total. 70 percent of our water sources are contaminated and our major rivers are dying because of pollution.

Why is Rural to Urban transfer of water becoming an issue in India?

- **Rising urban population:** According to Census 2011, the urban population in India accounted for 34% of total population. It is estimated that the urban population component in India will cross the 40% mark by 2030 and the 50% mark by 2050 according to World Urbanization Prospects, 2018.
- **Water use in the urban areas:** Water use in the urban sector has increased as more and more people shift to urban areas. Per capita use of water in these centers rises, which will continue to grow with improved standards of living.
- **Shifting of water source in Urban areas:** As the city grows and water management infrastructures develop, dependence shifts to surface water from groundwater. **For example:** In Ahmedabad, more than 80% of water supply used to be met from groundwater sources till the mid-1980s. Due to such overexploitation of groundwater the depth to groundwater level reached 67 meters in confined aquifers. The city now depends on the Narmada canal for the bulk of its water supply.
- **Dependence of urban areas on rural areas for water source and rural-urban disputes over water:** Cities largely depend on rural areas for raw water supply, which has the potential to ignite the rural-urban dispute. For example: Nagpur and Chennai face the problem of rural-urban water disputes.

Reasons for disputes

- **Diversion of resource:** Water is transported to urban areas at the expense of rural areas. Due to the high population in urban areas the water requirement for daily use is very high.
- **High demand of water for industrial purposes:** In urban areas the water is heavily used in industries creating water stress.
- **High Agriculture dependence:** In the rural areas water is used mainly for irrigation purposes and due to heavy dependence on agriculture the water is very essential in rural areas.
- **Water pollution:** In cities, most of this water is in the form of grey water with little recovery or reuse, eventually contributing to water pollution.
- **Bad governance:** Politicization of water for vote bank and skewed distribution of water particular regions For example: Andhra and Telangana.

Climate change exacerbate the rural-urban disputes

- **Affecting rainfall pattern:** Climate change affects the amount of rainfall in the region which is the prime source of both surface water and groundwater.
- **Increase rate of evaporation over surface water:** because of high temperature the surface waters of lakes, rivers, canals etc. face high evaporation water loss.
- **Melting of glaciers:** glaciers are the sources for perennial rivers of India. Due to global warming, glaciers are melting and hence affecting the perennial nature of rivers.
- **Frequent droughts:** It affects the groundwater recharge process and drying of surface waters which creates shortage of water. It exacerbate the rural-urban conflict.

Way forward

- A system perspective and catchment scale based approach are necessary to link reallocation of water with wider discussions on development, infrastructure investment, fostering an rural-urban partnership and adopting an integrated approach in water management.
- The government cannot manage the water crisis alone. It will take the combined efforts of civil society, the private sector including the public at large to meet the challenge.

Conclusion

- Rural and urban areas use water from the same stock, i.e., the water resources of the country. Therefore, it is important to strive for a win-win situation by securing the interests of both urban and rural areas. Good Governance is the key to achieve such a win-win situation.

39. China blocks listing of Lashkar 'commander' Sajid Mir at UNSC

For the third time in three months, China blocked a joint India-US attempt to put a Pakistan-based terrorist on the UN Security Council's 1267 list.

UNSC 1267 list

- The UNSC resolution 1267 was adopted unanimously on 15 October 1999.
- It came to force in 1999, and strengthened after the September, 2001 attacks.
- It is now known as the Da'esh and Al Qaeda Sanctions Committee.

UNSC 1267 committee

- It comprises all permanent and non-permanent members of the United Nations Security Council (UNSC).
- The 1267 list of terrorists is a global list, with a UNSC stamp.
- It is one of the most important and active UN subsidiary bodies working on efforts to combat terrorism, particularly in relation to Al Qaeda and the Islamic State group.
- It discusses UN efforts to limit the movement of terrorists, especially those related to travel bans, the freezing of assets and arms embargoes for terrorism.

How is the listing done?

(1) Submission of Proposal

- Any member state can submit a proposal for listing an individual, group, or entity.
- The proposal must include acts or activities indicating the proposed individual/group/entity had participated in the financing, planning, facilitating, preparing, or perpetrating of acts or activities linked to the said organizations.

(2) Actual decision

- Decisions on listing and de-listing are adopted by consensus.
- The proposal is sent to all the members, and if no member objects within five working days, the proposal is adopted.
- An “objection” means rejection for the proposal.

(3) Putting and resolving ‘Technical Holds’

- Any member of the Committee may also put a “technical hold” on the proposal and ask for more information from the proposing member state.
- During this time, other members may also place their own holds.
- The matter remains on the “pending” list of the Committee.
- Pending issues must be resolved in six months, but the member state that has placed the hold may ask for an additional three months.
- At the end of this period, if an objection is not placed, the matter is considered approved.

Why is India furious this time?

- Recently PM Modi and Xi Jinping attended the Shanghai Cooperation Organisation (SCO) summit in Samarkand.
- The grouping had agreed to take strong and consolidated action against terrorism in the region.
- Despite this, China has exposed its double standards on the issue of terrorism for consistently stopping the listing of Pakistan-based terrorists.
- This is again very surprising movement by China by putting a 'Technical Hold'.

Here is a timeline of how China disrupts the global efforts against terrorism:

- **2009:** After the 26/11 Mumbai attacks, India moved an independent terror designation proposal against Masood Azhar but China blocked the move.
- **2016:** After seven years, India proposes listing of Masood Azhar as a global terrorist and is supported by the US, the UK and France. China blocks the move again.
- **2017:** The trio moves a third proposal only to be blocked by China again.
- **2019:** After the attacks on the CRPF personnel in J-K's Pulwama, India calls 25 envoys of different countries to highlight the role Islamabad plays in funding, promoting and strengthening global terrorism. India moves the fourth proposal demanding Masood Azhar's listing. China lifted its technical hold.
- **June 2022:** China blocked a proposal by India and the US to list Pakistan-based terrorist Abdul Rehman Makki as a 'Global Terrorist'
- **August 2022:** China blocks India-US joint proposal to list Jaish-e-Mohammad (JeM) deputy chief Abdul Rauf Azhar as UNSC designated terrorist.

Conclusion

- China's actions expose its double speak and double standards when it comes to the international community's shared battle against terrorism.
- This clearly depicts its care for its vassal state Pakistan.

40. Significance of Ethereum's Merge for the future of cryptocurrencies

Ethereum's shift of its consensus algorithm from proof-of-work (PoW) to environment-friendly proof-of-stake (PoS) in an event called 'The Merge' recently took place.

Ethereum

- Ethereum is one of the most used platforms by developers to build decentralised apps (dApps), smart contracts, and even crypto tokens.
- The platform's currency, Ether is only second to Bitcoin (BTC) in terms of market capitalisation.
- The change in the way Ethereum builds the blockchain comes with not just environmental consequences, but also major cyber and financial security implications.

What is a Merge?

- The Merge is an upgrade to the way transactions are validated on the Ethereum blockchain.
- It moves the network proof-of-work (PoW) system to proof-of-stake (PoS) system, which is designed to be more environmentally sustainable and faster.

What does PoS and PoW refer to?

- PoS and PoW are consensus mechanisms through which transactions on blockchains are validated.
- PoW consumes more energy since it allows all miners on a network to try and validate a transaction.
- As a result, more computers attack a transaction and hence consume more energy.
- PoS removes miners from the equation, replacing them with entities called 'validators'.
- These validators put up a stake (at least 32ETH) in order to gain the right to validate transactions. Only the top stakeholders are rewarded for their work.
- Their stakes are held in a central wallet, and they are penalized for mistakes or frauds.
- Common centres for mining included China (before a near total crypto ban), the US, Russia, and Kazakhstan – countries with cheap electricity rates and colder climates.

Why is there a need for a new mechanism?

(1) Power Saving

- Decentralised transactions are processed on blockchains using consensus mechanisms.
- Ethereum's former method, 'proof-of-work', which is also used by Bitcoin, needs powerful mining hardware that consumes a lot of electricity and generates enormous amounts of heat.

- This energy is then used to process extremely difficult mathematical puzzles, the solution of which would let new transactions be added to the blockchain so as to reward the miners with crypto.
- Many environmentalists, policy makers, and regulators have strongly criticised the impact of Bitcoin mining on local communities.
- Ethereum's website admitted that their crypto's total annualised power consumption nearly matches that of Finland while its carbon footprint is comparable to Switzerland.

(2) Global Crackdown

- For some time, European countries even mulled a crypto mining ban, while China actually carried out a nationwide crackdown on crypto miners, sending them fleeing overseas.
- Probably as a response to the backlash, Ethereum has decided to switch to a 'proof-of-stake' consensus mechanism.
- The crypto owners will stake their own coins in order to serve as collateral and help process new blockchain transactions, in return for rewards.

Significance of the merge

- According to the Ethereum Foundation, the Merge will reduce overall energy consumption of the Ethereum network by 99.95%.
- Blockchains have a short history so far, but in that history, the Merge has become one of the most widely publicized and awaited events.
- It has been in the works for six years and 15 September marked the end of that build-up.

Which other cryptocurrencies are changing to proof-of-stake now?

- For now, no other top coin is planning an Ethereum-style Merge.
- After Bitcoin, Dogecoin [DOGE] is the largest proof-of-work based cryptocurrency.
- It was initially created as a joke by its founders. After that comes Ethereum Classic [ETC], formerly part of Ethereum before a community schism.
- Ethereum Classic has made it clear that it is loyal to the proof-of-work mechanism.

41. What is the PM PRANAM Scheme?

In order to reduce the use of chemical fertilisers by incentivising states, the Union government plans to introduce a new scheme – PM PRANAM, which stands for PM Promotion of Alternate Nutrients for Agriculture Management Yojana.

What is the PM PRANAM scheme?

- The proposed scheme intends to reduce the subsidy burden on chemical fertilisers.
- This burden if uneased, is expected to increase to Rs 2.25 lakh crore in 2022-2023, which is 39% higher than the previous year's figure of Rs 1.62 lakh crore.
- The scheme will not have a separate budget and will be financed by the "savings of existing fertiliser subsidy" under schemes run by the Department of fertilisers.

Subsidies under the PRANAM

- Further, 50% subsidy savings will be passed on as a grant to the state that saves the money and that 70% of the grant provided under the scheme can be used for asset creation related to technological adoption of alternate fertilisers.
- It would create alternate fertiliser production units at village, block and district levels.
- The remaining 30% grant money can be used for incentivising farmers, panchayats, farmer producer organisations and self-help groups that are involved in the reduction of fertiliser use and awareness generation.
- The government will compare a state's increase or reduction in urea in a year, to its average consumption of urea during the last three years.

How much fertiliser does India require?

- The kharif season (June-October) is critical for India's food security, accounting for nearly half the year's production of foodgrains, one-third of pulses and approximately two-thirds of oilseeds.
- A sizable amount of fertiliser is required for this season.
- The Department of Agriculture and Farmers Welfare assesses the requirement of fertilisers each year before the start of the cropping season, and informs the Ministry of Chemical and fertilisers to ensure the supply.
- The amount of fertiliser required varies each month according to demand, which is based on the time of crop sowing, which also varies from region to region.

- For example, the demand for urea peaks during June-August period, but is relatively low in March and April, and the government uses these two months to prepare for an adequate amount of fertiliser for the kharif season.

Why is the scheme being introduced?

- Due to **increased demand for fertiliser** in the country over the past 5 years, the overall expenditure by the government on subsidy has also increased.
- The final figure of **fertiliser subsidy** touched Rs 1.62 lakh crore in 2021-22.
- The total requirement of four fertilisers – Urea, DAP (Di-ammonium Phosphate), MOP (Muriate of potash), NPKS (Nitrogen, Phosphorus and Potassium) – increased by 21% between 2017-2018 and 2021-2022, from 528.86 lakh metric tonnes (LMT) to 640.27 LMT.
- PM PRANAM, which seeks to reduce the use of chemical fertiliser, will likely **reduce the burden on the exchequer**.
- The proposed scheme is also in line with the government's focus on promoting the **balanced use of fertilisers or alternative fertilisers** in the last few years.

42. Measures needed beyond the PLI Scheme

Production Linked Incentive Scheme (PLI) have been floated by the government to encourage capital investment for a higher output but the capital formation rate has moved rather sluggishly.

PLI Scheme

- In the Union Budget 2021-22, the government has committed nearly Rs.1.97 lakh crore to create manufacturing global champions for an Atma Nirbhar Bharat.
- **Aim-** To create national manufacturing champions and to create 60 lakh new jobs and an additional production of 30 lakh crore during next 5 years.
- For target segments, the scheme provides incentive of **4% to 6%** on incremental sales over the base year for goods manufactured in India.
- The incentive is a kind of subsidy provided to the sector based on the disadvantage or disability faced by the sector.
- **Objectives**
 - Make domestic manufacturing competitive and efficient
 - Create economies of scale
 - Make India part of global supply chain
 - Attract investment in core manufacturing and cutting edge technology
 - Competitive manufacturing would in turn lift the exports

What is the current issue?

- Despite promoting schemes such as PLI, the capital formation rate has moved rather sluggishly to 29.2%, which is well below levels of 36.1% seen in FY12.
- **Structure of capital formation in the economy**- It is essential to know which sector or institution provides the impetus.
- **Consumption**- Consumption needs to be increased to induce industry to invest more.

How about the investment pattern in India?

- **Household sector**- Private consumption accounts for 55% of all GDP and is the biggest engine of growth.
- In FY21, the biggest contributor was the household sector with a share of 39%.
- Of this, 25.4% was in houses and 13.4% was accounted for by plant and machinery.
- Therefore, it is necessary for individuals to buy more homes to drive investments.
- **SMEs**- The plant and machinery emanating from the household sector is the investment made by SMEs.
- Many Small and Medium Enterprises (SMEs) have been in the process of recovering and several units were closed down due to lockdowns.
- **Private non-financial corporate sector**- The investments made by businesses is the second biggest engine of GDP growth, accounting for 33% of all GDP.
- The main challenge here is that companies will invest provided there is demand.
- **Government expenditure**- Government contributes a share of around 16% mostly to the construction sector that gets reflected in roads and urban development.
- The challenge here is that the States are grappling with fiscal constraints that often lead to cut back on capex spending to ensure fiscal deficit targets are not breached.
- Several of the Public Sector Units (PSUs) are either in the distress of regulation (Oil) or under financial strain (Discoms) or just being unviable and waiting to be disinvested.
- **Economic sectors**- Looking from the point of view of economic sectors that contribute to investment, the dominant sector here is real estate followed by manufacturing.
- Hence, the PLI is just one segment of the economy.

What is the way forward?

- **Going beyond PLI-** The investment needs to go beyond the PLI which pertains to manufacturing to address challenges in terms of demand.
- When demand is stagnant, there is less inducement to invest as there is a cost of capital as well as cost of holding inventory involved.
- **Addressing the key issues-** The jobs have not been created commensurate with economic growth, which was an issue even before the pandemic.
- High inflation in some of the key consumption segments has militated against demand.
- For investment to increase on a large scale, consumption too should be rising at a smart pace.
- There is a need to look at all sectors when providing incentives, and not just manufacturing.

43. Role of Climate Change in Indian Monsoon

Research shows that Indian monsoon is likely to get much more dangerous as climate disruptions take a toll on the system in the subcontinent.

How about the picture of the current climate system?

- There is a complex mix of several factors which makes it difficult to understand the rainfall variability and how monsoon patterns have been behaving of late.
 - Persistence of intense La Nina conditions
 - Abnormal warming of East Indian Ocean
 - Negative Indian Ocean Dipole (IOD)
 - Southward movement of most of the monsoon depressions and lows
 - Pre-monsoon heating over the Himalayan region are melting glaciers
- **Change in monsoon pattern-** Since 1951, the monsoon circulation has weakened, especially in regions like the Western Ghats and the Indo-Gangetic plains.
- However, incidents of localised heavy rainfall have increased.
- The duration of dry spells between rainy days during the monsoon has also increased.

How climate change impacts summer monsoon rainfall?

- Alarming increase in floods and droughts provides direct evidence of how global warming has been impacting the Indian monsoon.
- **Changing area-** Most of the monsoon weather systems have been travelling across central parts of the country, changing the area of rainfall.
- **Excess and deficit-** Madhya Pradesh, Gujarat, Rajasthan and parts of Maharashtra have recorded excess rainfall this year.
- Back-to-back active monsoon systems in the Bay of Bengal in July led to excess rainfall to the tune of 8%.
- In contrast, West Bengal, Jharkhand and Bihar did not receive normal rains.
- **Variability-** While summer monsoon rainfall each year is unique, there has been a large regional and temporal variability in rainfall this year.
- **Role of GHG-** Climate models indicate that global warming is expected to increase monsoon rainfall by 14% by the end of the century if greenhouse gas (GHG) emissions remain high.
- **Rapid heating of global ocean-** The global ocean has absorbed 90% of the excess heat generated by man in the past 50 years due to which extreme rainfall events of the sort seen in Maharashtra would become very common.
- **Role of SST-** There is a strong relationship of the monsoon with sea surface temperature (SST).
- The weakening of the land-sea temperature gradient will result in drying of monsoon circulation.
- At the same time, there is a lot of moisture in the air because of an increase in SST.
- So even if the monsoon circulation is weak, in certain episodes, strong winds can bring in plenty of moisture from the Arabian Sea region which then falls over land in the form of extreme rainfall.
- **Case of South Asia-** Bangladesh, India and Pakistan have battled severe floods, while, China is reeling under massive drought conditions.

What are the impacts of change in monsoon?

- **Rice production-** Due to southward movement of majors, all main monsoon low pressure areas and depressions, rice producing States have been deficit by large margins.
- Bihar, West Bengal and Uttar Pradesh, which account for a third of the country's total rice production, have been highly deficit despite an active monsoon current in July and August.
- This would straight away have an impact on food security of the country.
- **Pest and disease incidence-** The uneven distribution rains along with increasing temperatures and humidity give rise to pest attacks and diseases.
- **Plant processes-** Very high temperatures (> 35°C) induce heat stress and affect plant physiological processes, leading to spikelet sterility, non-viable pollen and reduced grain quality.

- Drought reduces plant transpiration rates and may result in leaf rolling and drying, reduction in leaf expansion rates and plant biomass, immobilisation of solutes and increased heat stress of leaves.

44. Lumpy Skin Disease in India

The Mumbai Police have ordered the prohibition of cattle transportation in the city to prevent the spread of the lumpy skin disease (LSD).

Lumpy Skin Disease

- Lumpy skin disease is caused by the lumpy skin disease **virus** (LSDV), which belongs to the genus capripoxvirus, a part of the poxviridae family.
- Smallpox and monkeypox viruses are also a part of the same family.
- The LSDV shares antigenic similarities with the sheeppox virus (SPPV) and the goatpox virus (GTPV) or is similar in the immune response to those viruses.

How does it spread?

- It is **not a zoonotic virus**, meaning the disease **cannot spread to humans**.
- It is a **contagious vector-borne disease** spread by vectors like mosquitoes, some biting flies, and ticks and usually affects host animals like cows and water buffaloes.
- Infected animals shed the virus through oral and nasal secretions which may contaminate common feeding and water troughs.
- Thus, the disease **can either spread through direct contact** with the vectors or through contaminated fodder and water.
- Studies have also shown that it can spread through animal semen during artificial insemination.

How does it affect the animal?

- LSD affects the lymph nodes of the infected animal, causing the nodes to enlarge and appear like lumps on the skin, which is where it derives its name from.
- The cutaneous nodules, 2–5 cm in diameter, appear on the infected cattle's head, neck, limbs, udder, genitalia, and perineum.
- The nodules may later turn into ulcers and eventually develop scabs over the skin.

- The other symptoms include high fever, sharp drop in milk yield, discharge from the eyes and nose, salivation, loss of appetite, depression, damaged hides, wasting of animals, infertility and abortions.

Lumpy in India

- The spread in South Asia first affected Bangladesh in July 2019 and then reached India in August that year, with initial cases being detected in Odisha and West Bengal.
- The long porous borders between India, Nepal and Bangladesh allow for a significant amount of bilateral and informal animal trade, including cattle and buffaloes.
- This may have contributed to the spread of LSD in July-August 2019 between Bangladesh and India.
- While the 2019 outbreak later subsided, the recent spread in India began in June this year.

Economic implications of Lumpy on Dairy Sector

- **Milk reduction:** Lumpy leads to reduced milk production as the animal becomes weak and also loses appetite due to mouth ulceration.
- **Animal wasting:** The income losses can also be due to poor growth, reduced draught power capacity and reproductive problems associated with abortions, infertility and lack of semen for artificial insemination.
- **Impact of trade ban:** Movement and trade bans after infection also put an economic strain on the whole value chain.

Why India is at higher risk?

- India is the **world's largest milk producer** at about 210 million tonnes annually.
- India also has the **largest headcount of bovines**
- In Rajasthan, which is witnessing the worst impact of LSD, it has led to reduced milk production, which lessened by about three to six lakh litres a day.
- Reports indicate that milk production has also gone down in Punjab owing to the spread of the disease.
- According to FAO, the disease threatens the livelihoods of smaller poultry farmers significantly.
- Notably, farmers in Uttar Pradesh and Punjab have incurred losses due to cattle deaths and are seeking compensation from their State governments.

Way forward

The FAO has suggested a set of spread-control measures for LSD, which involves:

- Vaccination of susceptible populations with more than 80% coverage
- Movement control of bovine animals and quarantining
- Implementing biosecurity through vector control by sanitising sheds and spraying insecticides
- Strengthening active and passive surveillance
- Spreading awareness on risk mitigation among all stakeholders involved, and
- Creating large protection and surveillance zones and vaccination zones

45. Triple-Dip La Nina

Parts of the world are expected to experience severe weather for the rest of the year and into 2023, as part of a rare “triple dip La Nina” event, according to the World Meteorological Organization (WMO).

El Nino and La Nina

- While El Niño (Spanish for ‘little boy’), the more common expression, is the abnormal surface warming observed along the eastern and central regions of the Pacific Ocean (the region between Peru and Papua New Guinea).
- The La Niña (Spanish for ‘little girl’) is an abnormal cooling of these surface waters.
- Together, the El Niño (Warm Phase) and La Niña (Cool Phase) phenomena are termed as El Niño Southern Oscillation (ENSO).
- These are large-scale ocean phenomena which influence the global weather – winds, temperature and rainfall. They have the ability to trigger extreme weather events like droughts, floods, hot and cold conditions, globally.
- Each cycle can last anywhere between 9 to 12 months, at times extendable to 18 months – and re-occur after every three to five years.
- Meteorologists record the sea surface temperatures for four different regions, known as Niño regions, along this equatorial belt.
- Depending on the temperatures, they forecast either as an El Niño, an ENSO neutral phase, or a La Niña.

What is the “Triple-Dip” La Nina?

- A “triple-dip” La Nina is a **multiyear cooling of the surface temperature of the equatorial Pacific Ocean**, which can cause droughts, fierce winds and heavy rainfall.

- According to WMO, the current La Nina is projected to span three consecutive northern hemisphere winters. It began in September 2020.
- If it continues for the next six months, it will be the first “triple-dip” La Nina event of the 21st century, WMO says.

How rare is this triple-dip?

- It is exceptional to have three consecutive years with a la Nina event.
- Its cooling influence is temporarily slowing the rise in global temperatures – but it will not halt or reverse the long-term warming trend.
- La Nina’s are usually preceded by El Nino, a weather pattern that warms the surface of the eastern tropical Pacific Ocean.
- However, an El Nino event did not occur before the current La Nina.

Has it happened before? Will it happen again?

- La Nina’s occurred several times between 1903 to 2010 and 2010 to 2012.
- This would be the first “triple-dip” La Nina this century.
- However, it is not unprecedented for the weather pattern to last more than nine months to a year, which is typical for a La Nina.

Evaluating the likely impact

- In the Indian context, La Nina is associated with good rainfall during the monsoon season.
- This is the opposite of El Nino which is known to suppress monsoon rainfall.
- Thus, a continued spell of La Nina could lead to expectation of another year of good, or normal, rainfall during the monsoon.
- Until now, the monsoon season this year has produced 7% more rain compared to normal. Last year, the seasonal rainfall was almost 100%.
- But, even though powerful, ENSO condition is only one of the several factors affecting monsoon rainfall in India.

Differential impacts of this triple-dip event

- The continuance of La Nina further into 2023 is not bad news from the Indian standpoint. But it is not the same for many other regions where La Nina has very different impacts.
- In most parts of the **United States**, for example, La Nina is associated with **very dry winters**.
- In **Australia and Indonesia**, and generally in the tropical region, La Nina is expected to bring **more rainfall**.
- The **excessive rainfall in Pakistan**, which is experiencing its worst flooding disaster, can also be blamed in part on La Nina.

- It said that the persistence of La Nina was most likely to result in a worsening of the **drought in Africa**.

What is its climate change link?

- **Every unusual weather event these days is attributed to climate change**, but science is not conclusive right now.
- The occurrences of El Nino or La Nina are not very regular.
- Sometimes they emerge every two years, at other times there has been a gap of even seven years.
- Historical records do not go very far in the past.
- As a result, the natural variability of ENSO is not understood very clearly.
- And when the natural variability itself is not clear, the influence of global warming is difficult to quantify.
- But there is clearer evidence of another kind of linkage with global warming.
- During La Nina years, the colder surfaces allow the oceans to absorb more heat from the atmosphere.
- Consequently, the air temperatures tend to go down, producing a cooling effect.