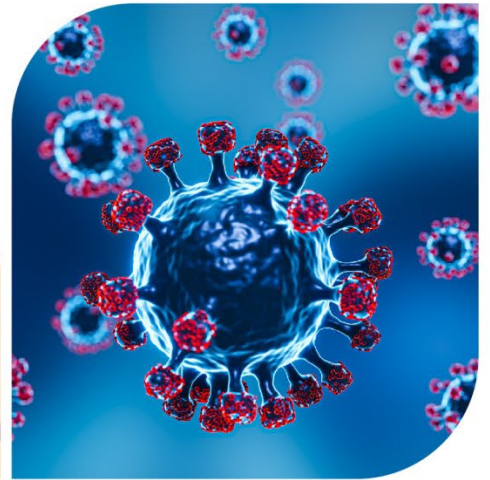


# CURRENT AFFAIRS MAGAZINE

## MAY 2022

- Stagflation
- Increasing dust storm
- China taiwan issue
- Un issue on taliban regime



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# Educrat IAS Mains DNA from The Hindu & The Indian Express

## 1. Literacy and delivery of services, not religion, influences fertility

**(Mains Paper 1: Population & Associated Issues)**

### What does NFHS-5 say about the Total Fertility Rate (TFR) in India?

- Total Fertility Rate (TFR): India's TFR has declined from 2.2 in 2015-16 to 2.0 in 2019-21.
- The TFR is the average number of children born to a woman in her lifetime. TFR of 2.1 is considered the replacement level fertility rate at which population stability is achieved.
- Regional Variations in TFR: There are wide inter-regional variations with five states namely Bihar (2.98), Meghalaya (2.91), Uttar Pradesh (2.35), Jharkhand (2.26) and Manipur (2.17) still not achieving a replacement level of fertility of 2.1.
- Religion wise TFR: All religious communities have shown a decline in fertility. But the fall has been sharpest in the Muslim community from 4.4 in NFHS 1(1992-93) to 2.3 in NFHS 5(2019-2021)

**Reason for Fertility gap between Communities:** The fertility gap between communities is narrowing. But high fertility is mostly a result of non-religious factors:

- Delivery of services: The figures would have been even better if all those who have been made aware of the benefits of family planning had received the services they desire.
- Male attitude towards family planning: They tend to put the onus for birth control on women. As many as 35 per cent men believe that using contraceptives is a woman's responsibility.
- Acceptance of family planning: Muslim acceptance of family planning has continued through the five surveys spread over three decades at a rate faster than all other communities.
- Education: Women who have not attended school have 2.8 TFR as against 1.8 for those who have completed class XII.
- Poverty: Similar gap of figure one is visible in the context of poverty with the poorest segment having higher TFR than the richest.

### Conclusion:

- The time has come to leave politics behind and work together for achieving the goals set by National Population Policy 2000. Instead of misleading narratives, we need to address the real determinants of fertility behaviour – literacy, income generation and improvement of health and family planning services.

## 2. Delhi HC gives split verdict on Marital Rape

**(Mains Paper 1: Role Of Women & Women Organization)**

- Marital rape is the act of sexual intercourse with one's spouse without her consent.
- One of the Judge struck down as unconstitutional the exception to Section 375 of the IPC, which says that sexual intercourse by a man with his wife aged 18 and above is not rape even if it is without her consent.
- However, another Judge said that issue requires consideration of social, cultural and legal aspects.

### What is Section 375 of the Indian Penal Code (IPC)?

- Section 375 of the IPC defines the acts that constitute rape by a man.
- The provision, however, lays down two exceptions as well.
- Apart from decriminalising marital rape, it mentions that medical procedures or interventions shall not constitute rape.
- Exception 2 of Section 375 states that "sexual intercourse or sexual acts by a man with his own wife, the wife not being under fifteen years of age, is not rape".

## What happens in a split verdict:

- In the event of a split verdict like this, the matter has to be referred to a third judge of the high court for a decision either way. The third judge goes through all the arguments made by both sides, the submissions of the amicus curiae, and then arrives at their decision.
- Till the third judge has delivered their verdict, there is no decision of the high court which can be appealed, as there is no majority decision either which way.
- Once the third judge delivers their opinion, the matter can then be appealed to Supreme court.

### PETITIONS SEEKING CRIMINALISATION OF MARITAL RAPE IN DELHI HIGH COURT: TIMELINE



#### Reasons for criminalising marital rape:

**Associated physical violence:** Rape by a spouse, partner or ex-partner is more often associated with physical violence.

**Mental harassment:** There is research showing that marital rape can be more emotionally and physically damaging than rape by a stranger.

**Compulsive relationship:** Marital rape may occur as part of an abusive relationship.

**Revengeful nature:** Furthermore, marital rape is rarely a one-time event, but a repeated if not frequent occurrence.

**Obligation on women:** In the case of marital rape the victim often has no choice but to continue living with their spouse.

Marital rape is considered as the **violation of FR guaranteed under Article 14** of the Indian constitution which guarantees the equal protection of laws to all persons.

By depriving married women of an effective penal remedy against forced sexual intercourse, it **violates their right to privacy and bodily integrity**, aspects of the **right to life and personal liberty under Article 21**.

#### Arguments against:

**Subjective:** It is very subjective and intricate to determine whether consent was acquired or not.

**Prone to Misuse:** If marital rape is criminalized without adequate safeguards it could be misused like the current dowry law by the dissatisfied wives to harass and torture their Husbands.

**Burden on Judiciary:** It will increase the burden of judiciary which otherwise may serve other more important causes.

**Forced sexual intercourse between a husband and wife cannot be treated as rape.** At worst, it can be treated as sexual abuse found in Section 3 of the Domestic Violence Act.

**Spousal intimacy:** In a marriage, conjugal expectation is a two-way street, where "consent is given as a part of spousal intimacy although the will to engage may be absent".

**Need for written agreement:** If every such case is treated as marital rape, then the only way partners in a marriage may survive would be by drawing up a detailed written agreement.

#### Way forward:

- Sanctioning marital rape is an acknowledgment of the woman's right to self-determination (i.e., control) of all matters relating to her body. Before giving a final interpretation, the judiciary must balance the rights and duties of both partners.

### 3. What is Onset of Monsoon?

#### **(Mains Paper 1: Geographical Features & Their Location)**

The monsoon is slated to make its earliest arrival in 13 years over Kerala, informs the India Meteorological Department (IMD).

#### **What does the "Onset of Monsoon" mean?**

- The onset of the monsoon over Kerala marks the beginning of the four-month, June to September southwest monsoon season over India.
- It brings more than 70 per cent of the country's annual rainfall.
- It marks a significant transition in the large-scale atmospheric and ocean circulations in the Indo-Pacific region.
- The IMD announces it only after certain newly defined and measurable parameters, adopted in 2016, are met.
- The onset is a significant day in India's economic calendar.

#### **Does an early onset foretell a good monsoon?**

- No, it does not — just as a delay does not foretell a poor monsoon.
- The onset is just an event that happens during the progress of the monsoon over the Indian subcontinent.
- A delay of a few days, or perhaps the monsoon arriving a few days early, has no bearing on the quality or amount of rainfall, or its regional distribution across the country.

### 4. The Debate on National Language

#### **(Mains Paper 2: Indian Constitution - historical underpinnings, evolution, features, amendments, significant provisions and basic structure)**

Recently, remarks by a Hindi actor that Hindi is the national language of India sparked a controversy over the status of the language under the Constitution

#### **What is the status of Hindi in India?**

- Under Article 343 of the Constitution, the official language of the Union shall be Hindi in the Devanagari script. The international form of Indian numerals will be used for official purposes.

#### **The debate**

- 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.
- Colonial footprints of English: Proponents of Hindi were insistent that English was the language of enslavement and that it should be eliminated as early as possible.
- Fear of Hindi 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.
- 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.

#### **Current position:**

- Ultimately, it was decided that the Constitution will only speak of an 'official language'. And that English would continue to be used for a period of 15 years. After 15 years, Parliament may by law decide on the use of English and the use of the Devanagari form of numbers for specified purposes.
- The Official Languages Act, 1963 was passed in anticipation of the expiry of the 15-year period during which the Constitution originally allowed the use of English for official purposes.
- The Act provided for the continuing use of English, notwithstanding the expiry of the 15-year period.
- The Eighth Schedule contains a list of 22 languages in the country. There is no description of the sort of languages that are included or will be included in the Eighth Schedule.

### **5. No one can be forced to get vaccinated: SC**

***(Mains Paper 2: Indian Constitution - historical underpinnings, evolution, features, amendments, significant provisions and basic structure)***

The Supreme Court has upheld the right of an individual against forcible vaccination and the government's COVID-19 vaccination policy to protect communitarian health.

#### **Right not to get vaccinated**

- The bench upheld the right to bodily integrity and personal autonomy of an individual in the light of vaccines and other public health measures.
- Bodily integrity is protected under Article 21 (right to life) of the Constitution and no individual can be forced to be vaccinated.
- The court struck a balance between individual right to bodily integrity and refuse treatment with the government's concern for public health.
- When the issue is extended to "communitarian health", the government was indeed "entitled to regulate issues".
- But its right to regulate by imposing limits to individual rights was open to judicial scrutiny.

#### **What is vaccine hesitancy:**

- The reluctance of people to receive safe and recommended available vaccines is known as 'vaccine hesitancy'.
- This was already a growing concern before the COVID-19 pandemic. Major reasons are:
- Fake news: The conspiracy theories on social media have brought negative publicity for vaccination. These seem to have created propaganda against the vaccines.
- Malfunctions: The sensational highlighting of vaccine fatalities event by the media is driving vaccine hesitancy to some extent.
- Myths and beliefs: In some places radical religious factors have driven vaccine hesitancy resulting in myth against vaccines. This is also a leading factor of prevalence of Polio in Pakistan and Afghanistan.
- Policy fluctuations: The frequent flip-flops by governments on the vaccination issue have resulted in a low trust among the general populace regarding vaccination.

#### **Way forward:**

- With no "one-size-fits-all" solution to vaccine hesitancy, contextualised and curated approaches are crucial.
- Dispelling misinformation: There is the need to dispel all misinformation – unscientific, incorrect and unsubstantiated.

- Counselling: WHO has put forth the BeSD (behavioural and social drivers) vaccination model, which emphasises “motivation” as the vanguard of human psychology during a vaccination drive.
- Standard safeguards: The fact that vaccines meet the necessary safety standards set by the various organizations needs to be highlighted.
- Vaccine equality: There is the need to ensure access of affordable, quality and timely vaccines to all.

## 6. India-Germany relations

**(Mains Paper 2: Bilateral, Regional and Global Groupings and agreements involving India)**

**Strategic and economic importance of India-German ties:**

- India and Germany have a “Strategic Partnership” since 2001, which has been further strengthened with the Inter-Governmental Consultations (IGC)
- The 5th IGC, was held in 2019 during which 21 MoUs/Agreements were signed in diverse areas of engagement including some of the new and emerging areas such as Artificial Intelligence, Space, Smart Cities, Urban Green Mobility etc.

**Political:**

- Both are part of G20 – Challenges to global economic stability and growth, G-4 – Reform of the UNSC, discussions towards initiation of text-based negotiations.
- Some States and Cities of India and Germany have entered into twinning arrangements. In January 2015, Maharashtra and Baden-Wurttemberg signed an MoU to establish a Sister State relationship.

**Trade:**

- Germany is India’s largest trading partner in Europe. Bilateral trade grew from Euro 15.96 billion to Euro 20.41 bn in 2018.
- Germany is the 7th largest foreign direct investor in India since April 2000.
- To facilitate the entry of German Mittelstand (Medium Sized Companies) in India, the Embassy of India, Berlin runs the Make in India Mittelstand (MIIM) Programme since September 2015.

**Opportunities:**

- Germany and India have a green partnership based on trade, investment, technology, functional collaboration, skill development, and sustainability.
- There are several initiatives like the Indo-German energy forum, environmental forum, partnership on urban mobility, skill development and science and technology.
- The biggest gain from the IGC has been the Joint Declaration of Intent (JDI) establishing the Green and Sustainable Development Partnership.
- Germany is reaching out with new and additional financing of €10 billion to fund green projects in India under public, private and PPP models.
- To support this, a ministerial segment is being introduced under the IGC.
- The IGC is the only such format that India has with any country.
- Another significant development is the JDI on Triangular Development Cooperation for projects in third countries. This will provide avenues to work together in the Indo-Pacific, Africa and beyond.
- The Indo-German Education Partnership, which the German Bundestag passed in 2016 as a New Passage to India, has borne fruit — from about 4,000 students in 2015, there are nearly 29,000 Indian students in Germany.

## 7. Absence of Roe v Wade won't just impact the US

**(Mains Paper 2: Comparison Of The Indian Constitutional Scheme With That Of Other Countries, Effect Of Policies & Politics Of World On India's Interests)**

According to a US media source, the US Supreme Court has decided to overturn *Roe v. Wade*, the court's historic 1973 decision that made abortion a constitutional right

- It protected a pregnant women's liberty to have an abortion without excessive government control.
- It struck down laws that made abortion illegal in many states, and allowed abortion upto the trimester.

### Implications of overturning *Roe v Wade*:

- It signals a dangerous trend of courts making long-standing determinations of legal rights based on transient political considerations.
- It would also mean legitimisation of state incursions into women's right to abort and consequently their right to bodily autonomy and liberty
- While the impact of *Roe's* absence would most profoundly be felt in the US, it is likely to embolden conservative anti-abortion voices across the world.
- It will inevitably also raise fundamental questions on the limits of judicial activism aimed at protecting the rights of persons and classes.

### Influence on India:

- In *KS Puttaswamy v Union of India*, Justice Chandrachud referred to *Roe* and Planned Parenthood while reading the right to privacy into the existing framework of constitutionally protected fundamental rights subject to "just, reasonable and fair" restrictions.
- In the Indian context, the overturning could be seen as a setback to the celebrated doctrine of transformative constitutionalism, which sees the Indian Constitution as a "living document" that moulds, adapts and responds to changing times and circumstances.
- In 2021, the abortion laws in India underwent substantial changes, the introduction of the Medical Termination for Pregnancy (Amendment) Act, increased the upper gestational limits within which pregnancies are legally terminable.
- The Act, however, carries ambiguities and leaves room for both judicial and executive interpretation.
- As cases of subjective determination arise, the Indian judiciary will be called upon to reconcile the right to privacy recognised in *Puttaswamy* with the permissible limits of abortion in the Act.

## 8. SC puts 'Colonial' Sediton Law on Hold

**(Mains Paper 2: Indian Constitution - historical underpinnings, evolution, features, amendments, significant provisions and basic structure)**

The Supreme Court suspended pending criminal trials and court proceedings under Section 124A (sediton) of the Indian Penal Code, while allowing the Union of India to reconsider the British-era law.

### The SC verdict:

- The interim order issued an absolute order staying all ongoing cases under Section 124A of the IPC where a charge sheet had been filed.
- However, adjudication of other sections of law (if any), would proceed if the court concerned found that the accused would not be prejudiced.
- The court further stated that it hopes and expects the Centre and States to refrain from filing FIRs, conducting investigations or taking coercive actions under Section 124A while the colonial law is being reconsidered.
- The court, however, did not set a timeline for the reconsideration process, recognising that it could include legislative action.

**36M WOMEN COULD LOSE ABORTION RIGHTS IN THE US**

Roe v. Wade 1973 ruling gave women in the US an absolute right to an abortion in the first 3 months of pregnancy, and limited rights in the second trimester. Nearly half of US women of reproductive age (18-49) – some 36 million – could lose abortion access if Roe is overruled.

**2021** | Nearly 600 abortion restrictions introduced nationwide in US, 90 enacted into law

**Would Abortion Become Illegal Everywhere? No. Individual states in the country would decide whether and when abortions would be legal.** Right now, abortion remains legal in every state

**24 States Likely To Ban Abortion**  
Alabama, Arizona, Arkansas, Georgia, Idaho, Indiana, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Nebraska, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, West Virginia and Wisconsin

**Without Roe, How Would US Compare With World**  
US would join a very small group of countries that has tightened abortion laws in recent years. Just three countries have done so since 1994: Poland, El Salvador and Nicaragua. In that period, 59 countries have expanded access, according to the Center for Reproductive Rights

**73m** Abortions occur worldwide annually (approximately), according to the WHO

**> 16 countries prohibit abortion**, including Egypt, Iraq, the Philippines, Laos, Senegal, Nicaragua, El Salvador, Honduras, Haiti and the Dominican Republic

**> 3 dozen countries allow abortion only to save the life of the mother**, a list that includes Nigeria, Brazil, Mexico, Venezuela, Iran, Afghanistan and Myanmar

Sources: Reuters, NYT



- Persons charged in new cases were free to approach courts, which would review their cases in light of the SC's judgement and the Union's clear position that the provision was abused and needed re-examination.

**Issues with the verdict:**

- The order does not have an effect of absolute stay as it states that if a fresh case is registered the accused would have the liberty to approach appropriate courts.
- It left to the discretion of the subordinate courts by noting that such courts are asked to investigate such instances after taking into account its order and the central government's position.
- The order may have left room open to the state and central governments to continue filing cases.
- The only consequence of not complying with the request would be that the accused would again be left to the mercy of the court to seek bail or stay of arrest.

<b>Should be removed:</b>	<b>Government argument:</b>
<p>Frequent use: In recent times, the resort to this section is seen as disturbingly frequent.</p>	<p>There are some tendencies exist even today who wish to overthrow the state apparatus and constitutional scheme of India.</p>
<p>Curbing dissent: Activists, cartoonists and intellectuals have been arrested under this section, drawing criticism from liberals that it is being used to suppress dissent and silence critics.</p>	<p>Undue exercise of free speech has led to overture of ordinary dissent into an anti-national insurrection or uprising.</p>
<p>Misuse for propaganda: Authorities and the police who invoke this section defend the measure as a necessary step to prevent public disorder and anti-national activities.</p>	<p>There are areas in the country that face hostile activities and insurgencies created by rebel groups, like the Maoists. There must be restrictions on expressing unnecessary contempt or ridiculing of the Government beyond certain limits.</p>
<p>Irrelevance: Many of them have also been detained under the National Security Act and UAPA.</p>	

**Way forward:**

- The definition of sedition should be narrowed down, to include only the issues pertaining to the territorial integrity of India as well as the sovereignty of the country.
- Section 124A should not be misused as a tool to curb free speech.

**9. Why are electric vehicles (EV) catching fire?**

*(Mains Paper 3: Awareness In The Fields Of It, Space, Computers, Robotics)*

The preliminary findings from the government-constituted probe committee on electric vehicle (EV) fires have found issues with battery cells/design in nearly all of the electric two-wheeler (2W) fire incidents in the country, which could put EV two-wheeler manufacturers in a tough spot.

**Lithium-ion batteries:**

- Every Li-ion battery consists of three active components:
- Anode: typically, graphite
- Cathode: based on a nickel, cobalt, and manganese-based oxide; and
- Electrolyte: A salt of lithium in an inorganic solvent

- Lithium-ion batteries use aqueous electrolyte solutions, where ions transfer to and fro between the anode (negative electrode) and cathode (positive electrode), triggering the recharge and discharge of electrons.

### Tech involved:

- Battery manufacturing is a complex operation involving forming sheets of the anode and cathode and assembling them into a sandwich structure held apart by a thin separator.
- Separators, about 15 microns in thickness — about a fifth of the thickness of the human hair — perform the critical function of preventing the anode and cathode from shorting.
- Safety features, such as thermal switches that turn off if the battery overheats, are added as the sandwich is packaged into a battery cell.

### Major cause of fire:

#### Reasons:

- Most modern batteries automatically switch off around 45-55°C. And even if these thermal-based safety precautions don't kick in, you won't see a thermal runaway (fire) because batteries cannot heat themselves up by a few hundred degrees Celsius under normal operations. 99% of battery fires are due to short circuits leading to uncontrolled current. This is the only scenario in which cells heat themselves up beyond 100°C.
- The reason why short circuits happen has also been attributed to poor cell quality, bad battery design, and poor battery management system, where cells aren't properly managed with the right software intelligence.
- Manufacturers are not spending enough time designing products, and testing standards prescribed by government bodies may be inadequate to test all real-life situations accurately.

### Alternatives:

#### Ways to minimise risks:

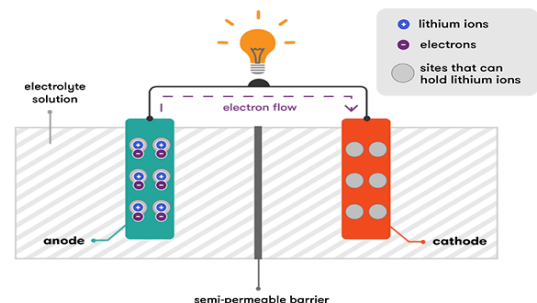
Import norms should be made stricter to ensure that only high-quality parts are brought into the country.

Avoid charging the EV battery immediately after the EV stops running since the li-ion cells contained in the battery remain hot for some time. Let the battery cool down and then put it on charge.

Inspect the battery periodically for damage before use and in case of any defect

Battery assemblers in the country should follow high standards – like those set for the automotive industry. A lot of relevant audits and certifications are needed.

- Typically, in Li-ion batteries the liquid electrolytes are organic solvents, which are highly flammable.
- The dendrites connect the anode and cathode through the separator, providing a low-resistance path for electron transport, resulting in high self-discharge currents to ignite the flammable electrolyte and leading to explosions. Therefore, dendrite growth is one of the most highlighted issues since it affects the safety of a battery.
- In contrast, batteries with solid electrolytes do not have the danger of dendrite growth. So, solid-state batteries are less prone to catching fire.
- Scientists say solid-state batteries can have an energy density. The absence of a liquid electrolyte in all-solid-state lithium batteries simplifies the packaging and reduces dead weight in the battery, resulting in improved energy density.
- Government think tank Niti Aayog came out with a draft battery swapping policy for electric vehicles and suggested incentives as well as a rigorous testing protocol for swappable batteries.



## 10. Recent woes of the jute industry in West Bengal:

**(Mains Paper 3: Effects Of Liberalization On The Economy, Changes In Industrial Policy and their effects on Industrial Growth)**

Member of Parliament (MP) from Barrackpore constituency in West Bengal met Textile Minister to apprise him about issues concerning jute farmers, workers and the overall jute industry

### **About jute:**

The jute plant needs a plain alluvial soil and standing water. Soft water is necessary for jute production.

- The jute plant needs a plain alluvial soil and standing water. Soft water is necessary for jute production.
- The suitable climate for growing jute (warm and wet) is offered by the monsoon climate, during the monsoon season.
- Temperatures from 20 to 40 °C (68–104 °F) and relative humidity of 70%–80% are favourable for successful cultivation. Jute requires 5–8 cm (2–3 in) of rainfall weekly, and more during the sowing time.

### **Significance of jute:**

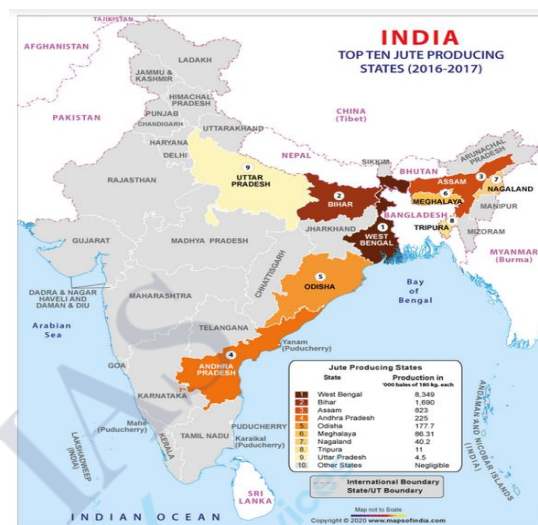
- Compared to rice, jute requires very little water and fertiliser and is largely pest-resistant
- Jute is the second most abundant natural fibre in the world.
- It has high tensile strength, acoustic and thermal insulation, breathability, low extensibility, ease of blending with both synthetic and natural fibres, and antistatic properties.
- Jute can be used: for insulation (replacing glass wool), geotextiles, activated carbon powder, wall coverings, flooring, garments, rugs, ropes, gunny bags, handicrafts, curtains, carpet backings, paper, sandals, carry bags, and furniture.

### **Issue now:**

- Mills are now procuring raw jute at prices higher than what they are selling them at after processing.
- Mills do not acquire their raw material directly from the farmers as the farmers are far-off from the mills locations and the procurement process is cumbersome.
- Mills would have to go to multiple farmers to acquire the requisite quantity as no single farmer produces enough to fulfil the requirements of the entire mill.
- The procurement now flows through middlemen or traders. As a standard practice, the middlemen charge mills for their services which has led to the situation.
- The occurrence of Cyclone Amphan in May 2020 and the subsequent rains in major jute producing States led to lower acreage, which in turn led to lower production and yield compared to previous years.
- This led to production of a lower quality of jute fibre in 2020-21 as water-logging in large fields resulted in farmers harvesting the crop prematurely.
- Acreage issues were accompanied by hoarding at all levels – right from the farmers to the traders.

### **Comparison with Bangladesh:**

- India is the largest producer of jute followed by Bangladesh and China.
- However, in terms of acreage and trade, Bangladesh takes the lead accounting for three-fourth of the global jute exports in comparison to India's 7%.
- Bangladesh is better in producing superior quality jute fibre due to less infrastructural constraints and varieties suitable for the country's agro-climate.
- Bangladesh provides cash subsidies for varied semi-finished and finished jute products.
- Hence, the competitiveness emerges as a challenge for India to explore export options in order to compensate for the domestic scenario.



## 11. With repo rate hike, RBI has done what's necessary

**(Mains Paper 3: Indian Economy)**

RBI has raised the repo rate by 40 basis points and the cash reserve ratio (CRR) by 50 basis points to fight inflation.

**Why?**

- Inflation has been rising for over two years: By law, the RBI is supposed to target retail inflation at 4%. Inflation constantly above 4% since last year.
- Inflation has not been “transitory”: The reasons for high inflation have tended to change over the months due to wide range of reasons like war, crude oil prices rise, taxes on fuels etc.
- The RBI has pointed to high crude oil prices in the wake of the Ukraine war, as one of the key reasons for high inflation in India.
- High core inflation: The core inflation which is essentially the inflation rate stripped of the effect of fuel and food prices has been rising up. This is more worrisome for RBI since it cannot be altered overnight.
- Monetary policy has lags. RBI waited too long: If the RBI wanted to contain inflation in May, it should have acted in February or at least in April. Raising rates right now may not bring down the inflation rate immediately.

**Impact:**

- Accommodative policy stance; The most interesting aspect of the rate hike today is the continuation of the accommodative policy stance.
- The hike in CRR will suck out Rs 87,000 crore from the banking system.
- Impounding bank reserves through the CRR (Rs 87,000 crore) could give some space to the central bank to conduct open market purchases of bonds from banks and thus inject concomitant liquidity sometime in the future if the need so arises.
- The CRR rate hike is thus an important tool to possibly manage G-sec yields.
- Repo Rate: It is expected to push up interest rates in the banking system. Equated Monthly instalments (EMIs) on home, vehicle and other personal and corporate loans are likely to go up.
- Deposit rates, mainly fixed term rates, are also set to rise.

## 12. How India's new VPN rules change the Status Quo?

**(Mains Paper 3: Cyber Security)**

Recently, the Indian Computer Emergency Response Team (Cert-In) issued new directives that require Virtual Private Network (VPN) providers to store user data for five years.

**What is VPN?**

- VPN describes the opportunity to establish a protected network connection when using public networks.
- It encrypts internet traffic and disguise a user's online identity.
- This makes it more difficult for third parties to track your activities online and steal data.
- The encryption takes place in real time.

**How does it work:**

- A VPN hides your IP address by letting the network redirect it through a specially configured remote server run by a VPN host.
- This means that if you surf online with a VPN, the VPN server becomes the source of your data.
- This means your Internet Service Provider (ISP) and other third parties cannot see which websites you visit or what data you send and receive online.
- A VPN works like a filter that turns all your data into “gibberish”. Even if someone were to get their hands on your data, it would be useless.

### What does the new CERT-IN directive say?

- VPN providers will need to store validated customer names, their physical addresses, email ids, phone numbers, and the reason they are using the service, along with the dates they use it and their “ownership pattern”.
- In addition, Cert is also asking VPN providers to keep a record of the IP and email addresses that the customer uses to register the service, along with the timestamp of registration.
- Most importantly, however, VPN providers will have to store all IP addresses issued to a customer and a list of IP addresses that its customers generally use.

### What does this mean for VPN providers?

- VPN services are in violation of Cert’s rules by simply operating in India.
- The Indian government has not banned VPNs yet, so they can still be used to access content that is blocked in an area, which is the most common usage of these services.
- However, journalists, activists, and others who use such services to hide their internet footprint will have to think twice about them.

### Way forward:

- Crime control: For law enforcement agencies, a move like this will make it easier to track criminals who use VPNs to hide their internet footprint.
- Curbing dark-net activities: Users these days are shifting towards the dark and deep web, which are much tougher to police than VPN services.

## 13. Direct seeding of rice:

Recently, The Punjab government has decided to bring one million hectares under the Direct Seeding of Rice (DSR) technique for the crop this year.

- Direct seeding is a method under which pre-germinated seeds are directly drilled into the field by a tractor-powered machine.
- There is no nursery preparation or transplantation involved in this method.
- In this water is replaced by real chemical herbicides and farmers have to only level their land and give one pre-sowing irrigation.
- Experts said that with DSR technique, which is called ‘far-wattar DSR’ (good soil moisture), farmers must sow paddy only after pre-sowing (rauni) irrigation and not in dry fields.
- Further, the field should be laser levelled.
- The Punjab Agricultural University (PAU) in Ludhiana has developed a ‘Lucky Seed Drill’ that can both sow seeds and simultaneously spray herbicides to control weeds.

Advantages	Limitations
<p>DSR can solve labour shortage problem because as like the traditional method it does not require a paddy nursery and transplantation of 30 days old paddy nursery into the main puddled field.</p> <p>With DSR, paddy seeds are sown directly with machine.</p> <p>DSR offers avenues for ground water recharge as it prevents the development of hard crust just beneath the plough layer due to puddled transplanting.</p>	<p>Suitability of soil is the most important factor as farmers must not sow it in the light-textured soil.</p> <p>This technique is suitable for medium to heavy textured soils including sandy loam, loam, clay loam, and silt loam which accounts for around 80% area of the state.</p> <p>It should not be cultivated in sandy and loamy sand as these soils suffer from severe iron deficiency, and there is higher weed problem in it.</p> <p>Also, avoid direct seeding of rice in fields which are under crops others than rice (like cotton, maize,</p>

It matures 7-10 days earlier than puddle transplanted crop, therefore giving more time for management of paddy straw.

Research trials indicated that yield, after DSR, are one to two quintals per acre higher than puddled transplanted rice.

sugarcane) in previous years as DSR in these soils is likely to suffer more from iron deficiency and weed problems.

## 14. Powering up after the power crisis shock

**(Mains Paper 3: Infrastructure: Energy, Ports, Roads, Airports, Railways Etc.)**

- Power shortages are being reported around the country as coal supplies hit their lowest pre-summer levels in nine years, causing blackouts.
- Concerns are growing over how India can manage with soaring electricity demand amid record-breaking temperatures this summer.
- With India having had its warmest March in 122 years, power demand is anticipated to soar at its quickest rate in at least 38 years, driven by the rising demand to water crops and operate air conditioners in households.

### Issues:

- Consumer demand
  - The nature of energy consumption is changing qualitatively, with growing daily and seasonal peaks.
  - The use of air conditioners and other electrical equipment has grown as a result of higher incomes and more hot days.
- Lack of planning
  - Discoms have failed to predict the demand for essential power supply, despite the fact that demand forecasting is inherently unreliable.
  - And State regulatory commissions have failed to scrutinize them. The regulatory procedure must make this a priority.
- Subsidies
  - Free energy to farmers has led to unsustainable use of power. The challenge is known as the energy-water-agriculture nexus, and has led to a crisis in all the three sectors involved.
- Over-reliance on coal
  - 85 of the 173 thermal power plants that use domestic coal have less than 25% stock, while 11 of the units that use imported coal have reached critical levels.

### Solutions:

- To bring immediate relief, there is an idle but costly generating capacity available.
- Around 15-20 GW of gas-based power plants that can run on imported liquefied natural gas and 6 GW-8 GW of thermal plants that can run on imported coal.
- Rationalising the power supply to farmers. Solar power may be encouraged in the medium term through subsidies and promotions. Wind power may also be used to create energy using windmills.
- Waste-to-energy treatment plants, which use garbage/liquid waste to generate steam to generate power, might also be an option. India produces over 150,000 tonnes of solid trash every day, ranking third in the world.
- As a result, long-term worries regarding the phase-out of coal-fired power plants. A national task force composed of officials from industry and academia, as well as community leaders, activists, and members of grassroots organisations, would make this effort simpler.

## 15. Highlights of State of the World's Birds Report

**(Mains Paper 3: Conservation, Environmental Pollution & Degradation.)**

The report has claimed that climate change is an important emerging driver of change in bird communities and a particular concern for tropical montane, polar, and migratory species.

### Key findings:

- The threat has been attributed to almost half of the 10,994 recognised extant species of birds to the expanding human footprint on the natural world and climate change.
- In India, of 140 species, nearly 80% are declining in numbers, and almost 50% plummeting strongly.
- Among the most threatened species were endemic species, birds of prey, and those living in forests and grasslands.

### Reasons for the Decline:

- The use of 37% of the surviving bird species as common or exotic pets and 14% as food are examples of direct overexploitation.
- Also, humans eat 14% of the world's surviving species of birds.
- The continued growth of human populations and of per capita rates of consumption lead directly to conversion and degradation of primary natural habitats.
- Deforestation has been driven by afforestation with plantations (often of non-native species) plus land abandonment in parts of the global North, with net loss in the tropics.

## 16. Depreciation of Indian Rupee:

**(Mains paper 3: fiscal policy, monetary policy, capital market)**

The Indian rupee fell to an all-time low of 77.44 against the U.S. Dollar.

### Impact:

#### Positive:

- Weaker rupee should theoretically give a boost to India's exports, but in an environment of uncertainty and weak global demand, a fall in the external value of rupee may not translate into higher exports.

#### Negative:

- It poses risk of imported inflation, and may make it difficult for the central bank to maintain interest rates at a record low for longer.
- India meets more than two-thirds of its domestic oil requirements through imports.
- India is also one of the top importers of edible oils. A weaker currency will further escalate imported edible oil prices and lead to a higher food inflation.

### Reasons for Current Depreciation of Indian Rupee:

- A sell-off in the global equity markets which was triggered by the hike in interest rates by the U.S. Federal Reserve (central bank), the war in Europe and growth concerns in China due to the Covid-19 surge, led to the rupee depreciation.

### State of the World's Birds

The report is published by the Manchester Metropolitan University.

It gives an overview of the changes in the knowledge of avian biodiversity and the extent to which it is imperilled.

The study draws from BirdLife International's latest assessment of all birds for the International Union for Conservation of Nature's Red List.

- The outflow of dollars is a result of high crude prices and the correction in equity markets is also causing adverse flow of dollars.
- Steps taken by RBI to tighten the monetary policy to counter rising inflation has also led to depreciation.

## 17. Ban on wheat exports:

**(Mains paper 3: effect of liberalisation, mobilisation of resources)**

The Government of India has banned the export of wheat with immediate effect, considering the need for the support of neighbouring countries to manage the country's overall food security. The government has placed the export of wheat in the "prohibited" category.

### Reasons:

- A rise in global prices for wheat was threatening the food security of India and neighbouring and vulnerable countries.
- A key aim is to control rising domestic prices. Global wheat prices have increased by more than 40% since the beginning of the year.
- At the same time, India's own wheat harvest has suffered a record-breaking heatwave that is stunting production.
- High consumption needs: Even though it is the world's second largest producer of wheat, India consumes most of the wheat it produces.
- India's vast stocks of wheat – a buffer against famine – have been strained by distribution of free grain during the pandemic to about 800 million people.

### Exceptions:

- India has allowed export on the basis of permission granted by it to other countries to meet their food security needs and based on the request of their governments.
- Another kind of shipments to be allowed are in cases where "irrevocable letter of credit has been issued on or before the date of this notification (May 13), subject to submission of documentary evidence".

### Impact:

- The government's decision to ban wheat exports will help in crushing attempts by certain foreign players to hoard Indian wheat for price manipulation in global markets
- This export ban is a pre-emptive step and may prevent local wheat prices from rising substantially due to supply availability in domestic market.
- If India's wheat ban leads to higher price of substitutes like rice, then there could be upward pressure on other food prices.

## 18. Floods:

**(GS 3: Disaster management)**

Floods and landslides have killed three persons and affected more than 56,000 people across eight districts of Assam since May 14.

- Flood is an overflow of a large amount of water beyond its normal limits, especially over what is normally dry land.
- NDRF Report: 40 million hectares (10% of the land mass) in India is prone to floods.

**Coastal Floods:** Coastal floods occur when strong winds or storms move towards the coast during high tide.

**Flash Floods:** Flash floods usually occur in hilly areas in limited space. Here the sudden heavy rainfall or snow thaws are the causes of flooding. The fast-moving torrent of Flash floods can sweep large objects such as cars, rocks and everything that comes in their path.

**River Floods:** River floods occur due to the inflow of water from heavy rainfall, snowmelt or powerful storms.

**Pluvial Floods:** Pluvial floods occur in areas that cannot hold rainwater and end up forming puddles and ponds. These types of floods are the event of rural areas.

**Urban Floods:** When the drainage system of urban areas fails to absorb rainwater, it creates urban floods.

### Causes:



<b>Meteorological Factors</b>	<b>Physical factors</b>	<b>Human factors</b>
<p>Heavy rainfall</p> <p>Cloudburst: Cloud Burst occurs due to intense precipitation in a short duration which can sometimes be accompanied by hail and storm and can cause a flood</p> <p>Cyclone: Cyclones occur in a low-pressure zone where winds rotate inwardly. Cyclones can be accompanied by a massive storm and lead to extreme weather conditions.</p>	<p>Insufficient Drainage Management: Improper planning of the drainage system of an area can cause excess water due to heavy rainfall to get stuck and lead to a flood.</p> <p>Catchment Area: Catchment area is an area from where the rainfall water flows into a river. This can be a lake or reservoir. During monsoon, when excess water exceeds the limit of holding capacity of the catchment area, it leads to floods.</p>	<p>Siltation: Siltation refers to the flow of silt and sediments in the riverbed. As particles remain suspended in the river and accumulated in the riverbed, it disrupts the flow of the river, causing a flood.</p> <p>Collapse of Dams: Dams are built to store water and provide water to people. As dams are human-made, these can be worn out and subsequently collapse causing floods.</p>

**Measures to control floods:**

<b><u>Structural measures:</u></b>	<b><u>Non-structural measures:</u></b>
<p>Embankments, flood walls, sea walls Dams and reservoirs Natural detention basins Channel improvement Drainage improvement Diversion of flood waters.</p>	<p>Flood forecasting and warning Floodplain zoning Flood fighting Flood proofing Flood insurance.</p>

**Other measures:**

- Flood-plain zoning measures aim at demarcating zones or areas likely to be affected by floods of different magnitude or frequencies and probability levels. It is hazard mapping to be precise.
- After demarcation it is important to specify the types of permissible developments/constructions in these zones, so that whenever floods actually occur, the damage can be minimized.
- The establishment and modernization of the flood forecasting network, including inflow forecast through automated data collection and transmission; use of satellite-based communication systems through very small aperture terminals; and improvement of forecast formulation techniques using computer-based catchment models.

**19. Focusing on public health engineering:**

**(GS2: health and education)**

Globally, around 80% of wastewater flows back into the ecosystem without being treated or reused, according to the United Nations. This can pose a significant environmental and health threat.

As we confront these public health challenges emerging out of environmental concerns, expanding the scope of public health/environmental engineering science becomes pivotal.

**Methods:**

- A specialised cadre of public health engineers, also known as sanitation engineers or environmental engineers, is best suited to provide the growing urban and rural water supply and to manage solid waste and wastewater.
- The availability of systemic information and programmes focusing on teaching, training, and capacity building for this specialty cadre is currently limited.
- Currently in India, civil engineering incorporates a course or two on environmental engineering for students to learn about wastewater management as a part of their pre-service and in-service training.
- However, the nexus between wastewater and solid waste management and public health issues is not brought out clearly.
- Most often, civil engineers do not have adequate skills to address public health problems. And public health professionals do not have adequate engineering skills.
- India aims to supply 55 litres of water per person per day by 2024 under its Jal Jeevan Mission to install functional household tap connections.
- In this regard, expansion of the pipeline network, identification of sustainable sources of water which have water available year-round, installation of online systems for monitoring the quantity and quality of supply, and collection and treatment of wastewater become increasingly important.
- Following international trends: In India, public health engineering is executed by the Public Works Department or by health officials. This differs from international trends. To manage a wastewater treatment plant in Europe, for example, a candidate must specialise in wastewater engineering.

#### Way forward:

- Public health engineering should be developed as an interdisciplinary field.
- Engineers can significantly contribute to public health in defining what is possible, identifying limitations, and shaping workable solutions with a problem-solving approach.

## 20. Places of worship act:

### (GS1: Communalism, Secularism, Regionalism)

The Supreme Court will hear a challenge to the order of a civil court in Varanasi directing a videographic survey of a temple- mosque complex upholding the Places of Worship (Special Provisions) Act, 1991.

#### What is the Places of Worship Act?

- It is an Act to prohibit conversion of any place of worship and to provide for the maintenance of the religious character of any place of worship.
- It holds places of worship as it existed on the 15th day of August, 1947, and for matters connected therewith or incidental thereto.
- The Act was brought in 1991 to provide the confidence to every religious community that their places of worship will be preserved and that their character will not be altered.

#### What are its provisions?

- 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.
- It declares that the religious character of a place of worship “shall continue to be the same as it existed” on August 15, 1947.
- 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.

#### Issues with the law

- The law has been challenged on the ground that it bars judicial review, which is a basic feature of the Constitution.
- It imposes an “arbitrary irrational retrospective cutoff date”, and abridges the right to religion of Hindus, Jains, Buddhists and Sikhs.

## What is the recent controversy?

- The temple-mosque complex in Varanasi clearly shows that the mosque stands over a rundown temple.
- Videography shows the presence of Hindu deities inside the mosque.
- Right-wing propagandists highlight the intention of Aurangzeb behind leaving remnants of the temple to keep reminding communities of their historical fate and to remind coming generations of rulers of their past glory and power.

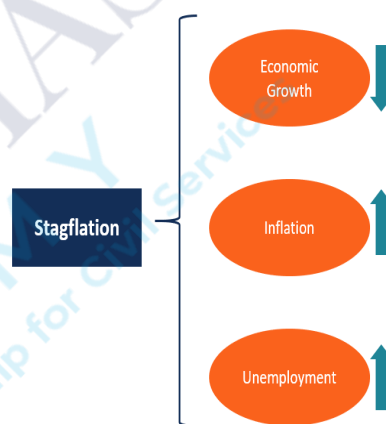
## 21. Stagflation:

(GS3: Economy)

- Stagflation or recession-inflation is a combination of stagnant economic growth, high unemployment, and high inflation.
- It presents a dilemma for economic policy, since actions intended to lower inflation may exacerbate unemployment. It's an unnatural situation because inflation is not supposed to occur in a weak economy.

### Causes of stagflation

- Oil price rise: Stagflation is often caused by a supply-side shock. For example, rising commodity prices, such as oil prices, will cause a rise in business costs (transport more expensive) and short-run aggregate supply will shift to the left. This causes a higher inflation rate and lower GDP.
- Powerful trade unions: If trade unions have strong bargaining power – they may be able to bargain for higher wages, even in periods of lower economic growth. Higher wages are a significant cause of inflation.
- Falling productivity: If an economy experiences falling productivity – workers becoming more inefficient; costs will rise and output fall.
- Rise in structural unemployment: If there is a decline in traditional industries, we may get more structural unemployment and lower output. Thus we can get higher unemployment – even if inflation is also increasing.



## 22. States have equal powers to make GST-related Laws: SC

(Mains Paper 3: Indian Economy)

The Supreme Court has held that Union and State legislatures have equal, simultaneous and unique powers to make laws on Goods and Services Tax (GST) and the recommendations of the GST Council are not binding on them.

### What is the case?

- The apex court's decision came while confirming a Gujarat High Court ruling that the Centre cannot levy Integrated Goods and Services Tax (IGST) on ocean freight from Indian importers.

### The Judgment

- The recommendations of the GST Council are the product of a collaborative dialogue involving the Union and the States.
- They are recommendatory in nature. They only have a persuasive value.

**THE HINDU**

**What next?**

**FOR BUSINESSES**

- Goods importers get some relief as they are no longer liable to pay GST on ocean freight charges; could seek refunds for past payments

**FOR THE CENTRE AND STATES**

- Finance Ministry believes SC order only

reiterates the spirit in which the GST Council is functioning

- "All but one decision of the Council has been reached by consensus so far"
- The Council may be summoned soon to discuss SC verdict's implications

**An administrative body created by the Constitution cannot have an overriding right on the legislature**

TARUN BAJAJ, Revenue Secretary

**The Centre had been arbitrarily imposing its decisions on States... We hope the verdict would pave the way for States to protect their rights**

K.N. BALAGOPAL, Kerala Finance Minister

- To regard them as binding would disrupt fiscal federalism when both the Union and the States are conferred equal power to legislate on GST.
- The court emphasised that Article 246A of the Constitution gives the States power to make laws with respect to GST.
- It treats the Union and the States as “equal units”.
- It confers a simultaneous power (on Union and States) for enacting laws on GST.
- Article 279A, in constituting the GST Council, envisions that neither the Centre nor the States are actually dependent on the other.

#### **246A: Special Provision for GST**

This Article was newly inserted to give power to the Parliament and the respective State/Union Legislatures to make laws on GST respectively imposed by each of them.

However, the Parliament of India is given the exclusive power to make laws with respect to inter-state supplies.  
The IGST Act deals with inter-state supplies.

Thus, the power to make laws under the IGST Act will rest exclusively with the Parliament.

#### **Article 279A: GST Council**

This Article gives power to the President to constitute a joint forum of the Centre and States called the GST Council.

The GST Council is an apex member committee to modify, reconcile or to procure any law or regulation based on the context of GST in India.

## 23. NATO Expansion & Russia

### ***(Mains Paper 2: Bilateral, Regional and Global Groupings and agreements involving India)***

After nearly three months of debate within the two countries, Finland and Sweden have formally applied for membership of the North Atlantic Treaty Organization (NATO).

#### **Changing geopolitics of Europe:**

- The admission of Finland and Sweden to NATO would bring about a transformation in the continent’s security map by giving NATO a contiguous long frontier in western Russia.
- Finland and Russia share a 1,300-km border — and doubling it from the present 1,200 km, parts of it in northern Norway, Latvia and Estonia, and Poland and Lithuania.
- In addition, Sweden’s island of Gotland in the middle of the Baltic Sea would give NATO a strategic advantage.
- Furthermore, when Sweden and Finland join NATO, the Baltic Sea — Russia’s gateway to the North Sea and the Atlantic Ocean — would be ringed entirely by NATO members.

#### **Hurdles for Finland, Sweden:**

- The expansion of military infrastructure into this territory will certainly provoke Russia’s response
- At the moment the main obstacle to their applications in Turkey, a member since 1952 and which has NATO’s second-largest army after the US.
- Turkish president Erdogan has objected to their applications on the ground that the two countries had provided safe haven to the leaders of the Kurdish group PKK.
- PKK is an armed movement fighting for a separate Kurdistan, comprising Kurdish areas in Turkey, Iraq, Iran and Syria.

#### **How does this affect Turkey’s image in the West?**

- Turkey is reinforcing an image that is blocking the alliance’s expansion for its own profit.
- It also risks damaging the credit it had earned by supplying Ukraine with the Bayraktar TB2 armed drones that became an effective weapon against Russian forces.

## 24. SC tests phones for Pegasus Spyware

(Mains Paper 3: Cyber Security)

The Supreme Court has said its technical committee had so far received and tested 29 mobile devices suspected to be infected by Pegasus malware.

### Pegasus:

- Pegasus is a spyware developed by NSO Group, an Israeli surveillance firm that helps spies hack into phones.
- It was alleged that the government used the Israel-based spyware to snoop on journalists, parliamentarians, prominent citizens and even court staff.

### Issues:

- The very existence of a surveillance system, whether under a provision of law or without it, impacts the right to privacy under Article 21 and the exercise of free speech under Article 19.
- Curbing Dissent: It reflects a disturbing trend with regard to the use of hacking software against dissidents and adversaries
- In the absence of privacy, the safety of journalists, especially those whose work criticizes the government, and the personal safety of their sources is jeopardised.
- State-sponsored mass surveillance: The spyware coupled with AI can manipulate digital content in users' smartphones. This in turn can polarize their opinion by the distant controllers.

### Issues over government involvement:

- In the absence of parliamentary or judicial oversight, electronic surveillance gives the executive the power to influence both the subject of surveillance and all classes of individuals, resulting in a chilling effect on free speech.
- For Pegasus-like spyware to be used lawfully, the government would have to invoke both the IT Act and the Telegraph Act. Communication surveillance in India takes place primarily under two laws:
- Telegraph Act, 1885: It deals with interception of calls.
- Information Technology Act, 2000: It was enacted to deal with surveillance of all electronic communication, following the Supreme Court's intervention in 1996.

### Way forward:

- Constituting an independent high-level inquiry with credible members and experts that can restore confidence and conduct its proceedings transparently.
- The need for judicial oversight over surveillance systems in general, and judicial investigation into the Pegasus hacking, in particular, is very essential.

## 25. RAISING MARRIAGE AGE FOR WOMEN

(GS1: social issues)

Several Child rights groups have opposed the union government's decision to raise the marriage age of women.

### Prohibition of Child Marriage (Amendment) Bill 2021:

- The Prohibition of Child Marriage (Amendment) Bill, 2021 seeks to increase the minimum age of marriage for females to 21 years.
- Under the 2006 Act, a person married below the minimum legal age (18 years) may apply for dissolution within two years of reaching majority (before 20 years of age).

THE HINDU

### Seeking answers

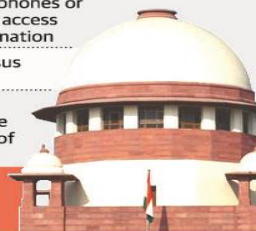
The Supreme Court, which ordered a probe last year into the allegations of **use of Israeli spyware Pegasus by government agencies for targeted surveillance of politicians, journalists and activists**, has asked its technical committee to unearth the following:

**1** Whether Pegasus was used on phones or other devices of the citizens to access data, eavesdrop & intercept information

**2** Details of the victims of Pegasus attack, if any

**3** The steps taken by the government after reports were published in 2019 about hacking of WhatsApp accounts of citizens

**4** If any government agency has used the Pegasus, then under what law



- The 2021 Bill is going to increase this to five years (23 years of age).

**Child Marriage:** is defined as a marriage of a girl or boy before the age of minimum legal age (18 years).

The reason behind Child Marriage

- It is a widely practised social custom.
- Poverty and Illiteracy of a Child's parents.
- Social and Economic Condition of the family including the Cultural values of the family and the Surrounding Society.
- Lack of awareness about the harmful effects Lack of easy access to Schooling.
- Political Patronage: Due to Social acceptance politicians find it difficult to oppose the practice of child marriage as it may mean losing votes and Support.
- Child marriage is also widely reported to be used to traffic girls from poor and tribal families for either Sex trade or as cheap labour.

<b><u>Points in support of the bill:</u></b>	<b><u>Arguments against:</u></b>
<p>Increasing the minimum age of marriage for females to 21 years, ensures gender equality, as the legal marriage age for males is already 21 years, different ages of marriage promote the Stereotype that wives must be younger than their husbands.</p> <p>Increasing the age of marriage will help in achieving various goals including improvement of maternal and infant mortality rates (IMR and MMR), nutrition levels, the sex ratio at birth (SRB), female labour force participation, and gender equality, and will lead to the empowerment of women.</p>	<p>About a quarter of 20-24-year-old women are married before the age of 18 years, despite that being the minimum age of marriage since 1978.</p> <p>The limited success of the current law raises the question of whether an increase in minimum age would have any significant impact on reducing the incidence of child marriage</p> <p>Increasing the legal age for marriage for women will increase the number of marriages performed underage and render young adults without legal protection.</p>

**Way forward:**

- The practise of child marriages is largely due to the overall social customs, tradition, illiteracy, poverty, low status of women in society, and lack of awareness. These issues cannot be tackled by legislative interventions alone.
- There is a need for improved access to education, skill training and employment opportunities, safety for women and strengthening maternal health services to reduce maternal and infant mortality rates.

## 26. Droughts:

**(GS 3: Disaster management)**

The recent, Drought in Numbers report by United Nations (UN) has revealed that many parts of India fall under the regions that are vulnerable to drought It also states that India's GDP reduced by 2 to 5% between 1998 and 2017 due to severe droughts in the country.

- Drought is a temporary reduction in water or moisture availability below the normal or expected amount for a specific period.
- The occurrence of substantially lower than average precipitation in a season that normally has ample precipitation in a season for the support of cereal and non-cereal crops is known as Drought.

## Impacts:

### Economic losses:

- It includes a decline in cultivated areas and a fall in agricultural production, which leads to the slowing down of secondary and tertiary activities and a decline in purchasing power.

### Environmental Impact:

- It leads to damages to plant and animal species, wildlife habitat, air and water quality, forest and range fires, degradation of landscape quality, and soil erosion.
- Soil moisture, surface run-off, and groundwater table get adversely affected.

### Impact on society:

- Migration of people from drought-hit areas to other areas in search of livelihood and food.
- Farmers tend to commit suicide. Maharashtra, Andhra Pradesh, and Karnataka are the states having maximum farmer suicides.
- Disruption of social institutions and increase in social crimes.
- Scarcity of drinking water, food grains and hence causes famine and starvation.
- Poor health and spread of diseases like diarrhoea, cholera, and other diseases associated with malnutrition, a hunger which sometimes causes death.

### NDMA guidelines for Drought Management

- In 2010, the NDMA issued guidelines for managing droughts that will act as a base for State governments and the Union Territories to minimise the hazard. Its key features are:
  - Drought monitoring cells DMCs to be created at the state level
  - Use of information and communication technology for real-time drought-related information
  - For comprehensive information, the ground-based information is to be collated and synchronised with the satellite-based information to have a broader picture about the onset, occurrence, and severity
  - Vulnerability maps must be prepared for each state by the respective state DMCs
  - Agricultural research institutes to research and develop drought-resistant varieties of crops
  - Promotion of crop diversification and use of drip and sprinkler irrigation systems
  - All productive animals must be provided with fodder to prevent the distressed sale of animals
  - If possible, corporate social responsibility (CSR) initiatives to be coupled with drought management strategies

### Drought Prevention and Mitigation

- The drought prone area Programme (DPAP) and Desert Development Programme (DDP) have been implemented by the Government of India since 1973-74 and 1977-78, respectively.
- These programmes aim at drought-proofing and reducing desertification of delicate areas. These areas are in the arid, semi-arid, and dry-sub humid regions and are frequently affected by severe drought situations and desertification.

## 27. PEACE WITH THE MAOISTS:

### (GS 3: security)

The Chief Minister of Chhattisgarh, Bhupesh Baghel, recently announced that the State government are ready for peace talks with the Maoists provided they laid down arms and expressed their faith in the Constitution of India.

### Concerns raised by Maoist:

- Demand to create a conducive atmosphere in which to hold peace talks.
- The Maoist criticized the State government for not implementing the Provisions of Panchayats (Extension to the Scheduled Areas) Act, 1996 or PESA in Chhattisgarh.
- Demand for the lifting of the ban on their party, the People's Liberation Guerilla Army (PLGA) and people's organisations.
- The government should adhere to the Constitution and end the illegal murders in the name of encounters, tortures and arrests.
- The withdrawal of security forces from the Maoist camps.
- Also, the release of jailed Maoist leaders to participate in the talks.

### Origin of Naxalism in India:

- The term “Naxalites” comes from Naxalbari, a small village in West Bengal where a section of the Communist Party of India (Marxist) (CPI-M) led by Charu Majumdar, Kanu Sanyal, and Jangal Santhal initiated a violent uprising in 1967.
- Chinese communist ideologue and leader Mao Zedong provided ideological leadership for the Naxalbari movement, advocating that Indian peasants and lower class tribals overthrow the government and upper classes by force.
- The objective of their fight was a redistribution of land to working peasants, which was controlled by landlords for generations.

**Cause of Naxalism:**

- Massive displacement of tribal population in the naxalism-affected states due to development projects, mining operations and other reasons.
- Absence of strong technical intelligence to fight with Naxalites.
- Even after the police take hold of a region, the administration fails to provide essential services to the people of that region.
- State governments considered Naxalism as the central government’s issue and thus are not taking any initiatives to fight it.

**Steps taken by the Government**

- Operation Green Hunt: It was started in 2010 and massive deployment of security forces was done in the naxal-affected areas.
- From 223 districts that were affected due to naxalism in the year 2010, the number has come down to 90 in nine years.
- The government even started ‘Relief and Rehabilitation Policy’ for bringing naxalites into mainstream.
- Aspirational Districts Programme: Launched in 2018, it aims to rapidly transform the districts that have shown relatively lesser progress in key social areas.



**Way forward:**

Soft approach:	Hard approach:
<p>Dialogues between the Naxal leaders, and the government officials can be a way work out a solution. The government should initiate sincere dialogue with Naxalites.</p> <p>mining grounds, irrigation areas, industries, etc., in the area without any provision for the resettlement of the displaced people has only added to the woes of the poor There needs to be more emphasis on rehabilitation of these affected population</p> <p>Weaker sections of the society, the schedule castes and schedule tribes still face discrimination from the upper class. These downtrodden sections don't enjoy equal participation in casting and contesting politically, making them soft targets of Naxals.</p>	<p>Central government must inroads into these disturbed states with their agencies well-equipped with modern artillery and assist the usually poorly-equipped agencies of the state.</p> <p>Local Police knows the language and topography of a region; it can fight naxalism better than the armed forces. Andhra Police rose 'Greyhounds'; special forces to deal with naxalism in the state.</p> <p>Unlawful Activities (Prevention) Act, 1967 has been amended to strengthen the punitive measures.</p> <p>Sanctioning of new Specialized India Reserve Battalions (SIRB).</p> <p>The government of Chhattisgarh started the Counter Terrorism and Jungle Warfare College in Kanker imparts training to counter</p>



National Rural Employment Guarantee Programme (NREGP) is being implemented in 330 districts affected by Naxalism so as to universalize the demand-driven programme for wage-employment.

the well trained and motivated guerrilla force of the Naxals, where police personnel are given rigorous training in guerrilla warfare and are made to live in the open and taught how to live off the land.

### Way Ahead:

Apart from plugging all the above mentioned loopholes in the present strategy of fighting naxalism in India, this needs to be recognised by the civil society and the media to build pressure on the Left Wing Extremists to eschew violence, join the mainstream and recognise the fact that the socio-economic and political dynamics and aspirations of 21st Century India are far removed from the Maoist world-view.

## 28. 250th birth anniversary of Raja Ram Mohan Roy

### (GS 1: Modern Indian History)

One of the most influential social and religious reformers of the 19th century, Ram Mohan Roy, born on May 22, 1772 in what was then Bengal Presidency's Radhanagar in Hooghly district, would have turned 250 years today. Born into a prosperous upper-caste Brahmin family, Roy grew up within the framework of orthodox caste practices of his time.

<p><b>Academics</b> Roy knew Bengali and Persian, but also Arabic, Sanskrit, and later, English.</p> <p>His exposure to the literature and culture of each of these languages bred in him a scepticism towards religious dogmas and social strictures.</p> <p>He spent considerable time studying the Vedas and the Upanishads, but also religious texts of Islam and Christianity.</p>	<p><b>Religious belief</b> He was particularly intrigued by the Unitarian faction of Christianity and was drawn by the precepts of monotheism that, he believed, lay at the core of all religious texts.</p> <p>Rammohun did not quite make a distinction between the religious and the secular. He believed religion to be the site of all fundamental changes</p>	<p><b>Institutions:</b> In 1814, he started the Atmiya Sabha (Society of Friends), to nurture philosophical discussions on the idea of monotheism in Vedanta.</p> <p>It aimed to campaign against idolatry, casteism, child marriage and other social ills.</p> <p>The Atmiya Sabha would make way for the Brahmo Sabha in 1828, set up with Debendranath Tagore, Rabindranath Tagore's father.</p>
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<p><b>Women:</b> His actions finally led to the abolition of Sati under the governor generalship of William Bentinck in 1829.</p> <p>Roy argued for the property rights of women, and petitioned the British for freedom of the press (in 1829 and 1830)</p>	<p><b>Education:</b> He campaigned for the modernisation of education, in particular the introduction of a Western curriculum, and started several educational institutions in the city.</p> <p>In 1817, he collaborated with Scottish philanthropist David Hare to set up the Hindu College (now, Presidency University).</p> <p>He followed it up with the Anglo-Hindu School in 1822</p>	<p><b>Perils of non-conformism</b> Roy, who was given the title of Raja by the Mughal emperor Akbar II, was no exception to the societal enmity.</p> <p>Roy was also often attacked by his own countrymen who felt threatened by his reformist agenda, and by British reformers and functionaries, whose views differed from his.</p>
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## 29. Increasing Dust Storms

**(GS 3: Environmental Pollution & Degradation, disaster management)**

Recently, over eight dust storms have hit Iraq, turning the skies orange and disrupting lives.

- The storms are usually driven by Shamal or northwesterly winds.
- The winds lift dust from the Tigris-Euphrates basin of Syria and Iraq and transport it to the Persian Gulf and Arabian Peninsula.
- Iraq, which sits at the top of the Persian Gulf, helps in channelling winds.

### Reasons:

**La nina:** They can influence hurricane season, increase the chance of drought in some regions and trigger intense dust storms over west Asia

. During La Nina, the soil loses moisture, too. Dry sand more readily lifts in the air, leading to dust storms.

• **Climate change:** Long-term changes in air temperature, rainfall, wind speed, soil moisture and relative humidity due to climate change may have had some part to play in fuelling the dust storms this year.

**human activities:** Dwindling water underground and poor water management are significant contributors, the expert highlighted.

• **Irrigation:** Water-intensive irrigation systems used along the Iranian-Iraqi border are a factor too.

• **Annual rainfall drop:** A drastic drop in the annual rainfall rate due to climate change can trigger sand and dust storms

### Impact:

#### Global impact:

Impacts on the environment and society:

**Impact on Heat Budget:** The dust can impact the atmospheric chemistry and radiative budget, which is the balance between incoming solar energy and outgoing heat.

**Pollution:** Dust storms are like slow poison as they can transport a range of pollutants: Pesticides, Heavy metals, Particulate matter (PM10 and PM2.5) etc.

Particles larger than 10 µm are not breathable, thus can only damage external organs – mostly causing skin and eye irritations, conjunctivitis and enhanced susceptibility to ocular infection.

Inhalable particles, those smaller than 10 µm, often get trapped in the nose, mouth and upper respiratory tract thus can be associated with respiratory disorders such as asthma, tracheitis, pneumonia, allergic rhinitis and silicosis.

#### Impact on India:

**Affects Western Parts:**

The Arabian Peninsula is one of India's major sources of dust storms. Dust from the Arabian Peninsula reaches over the western parts of India, in Rajasthan after passing through Iran, Iraq, Afghanistan and Pakistan

**Melting Ice of Himalayas:**

The dust touches the Himalayas and can reach the Indo-Gangetic plain too, depending on temperature, wind speed and other meteorological conditions. It can also blow over Assam and Bangladesh. The dust settles on the Himalayas, creating streaks of red and brown on the snow. As a result, it absorbs more sun, hastening its melting.

**Disturbing Monsoon:**

The ongoing westerly desert winds from the Arabian Peninsula also can cause heat waves during the summer season in India which can influence the country's monsoon.

### Sand and Dust storms

- Usually occur when strong winds lift large amounts of sand and dust from bare, dry soils into the atmosphere.
- They are common meteorological hazards in arid and semi-arid regions.
- They are usually caused by thunderstorms – or strong pressure gradients associated with cyclones – which increase wind speed over a wide area.
- These strong winds lift large amounts of sand and dust from bare, dry soils into the atmosphere, transporting them hundreds to thousands of kilometres away.

**Way forward:**

- Coalition on Combating Sand and Dust Storm (SDS): The United Nations Coalition on Combating SDS was launched at COP 14.

**The key objectives of the Coalition include :** Preparing a global response to SDS, including a strategy and action plan, which could result in development of a United Nations system-wide approach to addressing SDS.

### 30. Artificial Intelligence (AI) Chips

**(GS3: use of tech in everyday life)**

AI chips are built with specific architecture and have integrated AI acceleration to support deep learning-based applications.

- AI chips help turn data into information and then into knowledge.
- The Worldwide AI chip industry accounted for \$8.02 billion in 2020

**Difference from Traditional Chips:**

- When traditional chips, containing processor cores and memory, perform computational tasks, they continuously move commands and data between the two hardware components.
- These chips, however, are not ideal for AI applications as they would not be able to handle higher computational necessities of AI workloads which have huge volumes of data.
- Although, some of the higher-end traditional chips may be able to process certain AI applications.

**Deep Learning:** It is more commonly known as active neural network (ANN) or deep neural network (DNN), is a subset of machine learning and comes under the broader umbrella of AI.

Function:

It combines a series of computer commands or algorithms that stimulate activity and brain structure.

DNNs go through a training phase, learning new capabilities from existing data.

DNNs can then infer, by applying these capabilities learned during deep learning training to make predictions against previously unseen data.

**Applications:**

- Computer vision: Some of these chips support in-vehicle computers to run state-of-the-art AI applications more efficiently.
- Robotics: AI chips are also powering applications of computational imaging in wearable electronics, drones, and robots.
- Natural language processing (NLP): The use of AI chips for NLP applications has increased due to the rise in demand for chatbots and online channels such as Messenger, Slack, and others.

They use NLP to analyse user messages and conversational logic.

- Used for network security across a wide variety of sectors, including automotive, IT, healthcare, and retail.

## 31. India needs parliamentary supervision of trade pacts

**(Mains Paper 2: Executive & Judiciary, Parliament & State Legislatures)**

India is negotiating and signing several free trade agreements (FTAs) with countries like Australia, the UK, Israel, and the EU. While the economic benefits of these FTAs have been studied, there is very little discussion on the lack of parliamentary scrutiny of these treaties.

### Provisions in the Constitution

- In the Constitution, entry 14 of the Union list contains the following item — “entering into treaties and agreements with foreign countries and implementing of treaties, agreements and conventions with foreign countries”.
- According to Article 246, Parliament has the legislative competence on all matters given in the Union list.
- Thus, Parliament has the power to legislate on treaties.

### Lack of parliamentary oversight and its implications

- No law laying down the process: While Parliament in the last seven decades has passed many laws to implement international legal obligations imposed by different treaties, it is yet to enact a law laying down the processes that India needs to follow before assuming international treaty obligations.
- Given this legislative void, and under Article 73 (the powers of the Union executive are co-terminus with Parliament), the Centre has been not just negotiating and signing but also ratifying international treaties and assuming international law obligations without much parliamentary oversight.
- Arguably, Parliament exercises control over the executive’s treaty-making power at the stage of transforming a treaty into the domestic legal regime.
- However, this is a scenario of ex-post parliamentary control over the executive.
- In such a situation, Parliament does not debate whether India should or should not accept the international obligations; it only deliberates how the international law obligations, already accepted by the executive, should be implemented domestically.
- Against the practice in other liberal democracies: This practice is at variance with that of several other liberal democracies. EG: In the US, important treaties signed by the President have to be approved by the Senate.

### Way forward:

- Effective parliamentary supervision will increase the domestic acceptance and legitimacy of international treaties, especially economic agreements, which are often critiqued for imposing undue restraints on India’s economic sovereignty.

## 32. China-Taiwan Issue

**(GS 2: India & Foreign Relations)**

- Recently, a statement by the United States President suggested that any attempt by China to invade Taiwan would attract American military intervention.

### Historical background:

- Taiwan, earlier known as Formosa, a tiny island off the east coast of China.
- It is where Chinese republicans of the Kuomintang government retreated after the 1949 victory of the communists — and it has since continued as the Republic of China (ROC).
- Taiwan sees itself as a de jure sovereign state but it is largely unrecognised by other countries. Just 15 countries around the world recognise Taiwan. Most are very small, many are remote island nations.



- The RoC was declared on December 29, 1911 and it became the non-communist frontier against China during the Cold War.
- Since its founding in 1949, the PRC has believed that Taiwan must be reunified with the mainland, while the RoC has held out as an “independent” country.

#### **Cold war affiliations:**

- Meanwhile, the ROC retained its membership at the United Nations and its permanent seat at the UN Security Council (UNSC).
- The cross-strait relations became strained as a result of the Cold War, with the PRC allying itself with the Soviet Union (USSR) and ROC with the U.S.
- This resulted in the two Taiwan Strait crises of the 1950s.

#### **The US and One-China Principle**

- With the shifting geopolitics of the Cold War, the PRC and the U.S. were forced to come together in the 1970s to counter the growing influence of the USSR.
- This led to the US-China rapprochement demonstrated by the historic visit of then US President Richard Nixon to PRC in 1972.
- The same year, the PRC displaced ROC as the official representative of the Chinese nation at the UN.
- Diplomatic relations with the PRC became possible only if countries abided by its “One China Principle” — recognizing PRC and not the ROC as China.
- US stance: It maintained that there is one China and Taiwan is a part of China. However, the US also established unofficial relations with Taiwan through this communique in the name of the people of both the countries.

#### **Why is China so obsessed with Taiwan?**

- Taiwan is at China’s geostrategic calculus.
- Moreover, its reunification will formally bury the remaining ghosts of China’s “century of humiliation”.

### **33. Supreme Court’s ruling on GST deepens the churn in the tax regime**

#### **(Mains Paper 3: Indian Economy)**

Last week, the Supreme Court ruled that the decisions taken by the GST Council are merely recommendations with “persuasive value” and are not binding.

#### **GST as an advisory body:**

- The court has rejected the Centre’s contention that the entire structure of GST would crumble if the Council’s decisions were not treated as enforceable.
- In some ways, the verdict states the obvious.
- Article 246-A inserted after the 122nd constitutional amendment states, “Notwithstanding anything contained in articles 246 and 254, Parliament, and, subject to clause (2), the Legislature of every state, have the power to make laws with respect to the GST imposed by the Union or by such state.”
- Thus, the power to levy the central GST (CGST) vests with Parliament, the power to levy state GST (SGST) vests with state legislatures and Parliament has exclusive power to make laws with respect to the GST on items that are part of inter-state trade or commerce.
- Thus, the GST Council is only an advisory body and the actual decisions regarding model GST levies, will have to be taken by either Parliament in the case of CGST and IGST or the states in the case of SGST.

#### **Implications:**

- The judgment paves the way for more intensive bargaining and negotiations, placing states on an equal footing with the Centre in taking decisions on the structure and operations of the tax.

- At present, decisions get approved in the GST Council when passed by a majority of three-fourths of the weighted votes of the members present and voting, with the Centre having one-third weight and individual states (and UTs) having an equal share of the remaining two-thirds weight.
- However, in the past, all decisions in the Council have been taken by consensus (except in the case of determining the rate on lotteries), and the Supreme Court decision reinforces this convention.
- The immediate impact of this will be bargaining by states for extending the period of compensation for the loss of revenue.

#### **Way forward:**

- This has come at a time when reforms have to be set in motion and hopefully, the Court's decision will strengthen the cooperative spirit in reforming the domestic consumption tax system in the country.

### **34. Supreme Court recognizes Sex Work as a 'Profession'**

#### **(GS 1: Role of women, women's organisation, social empowerment)**

In a significant order recognising sex work as a "profession", the Supreme Court has directed that police should neither interfere nor take criminal action against adult and consenting sex workers.

#### **What did the Supreme Court say?**

- Sex Work is a profession whose practitioners are entitled to dignity and equal protection under law.
- It is clear that the sex worker is an adult and is participating with consent, the police must refrain from interfering or taking any criminal action.
- The Bench ordered that sex workers should not be "arrested or penalised or harassed or victimised" whenever there is a raid on any brothel.
- Since voluntary sex work is not illegal and only running the brothel is unlawful.
- A child of a sex worker should not be separated from the mother merely on the ground that she is in the sex trade, the court held.
- Further, if a minor is found living in a brothel or with sex workers, it should not be presumed that the child was trafficked.

#### **Sex work in India**

- According to the Indian Penal Code (IPC), prostitution in its broader sense is not really illegal per se.
- But there are certain activities which constitute a major part of prostitution that are punishable under certain provisions of the act, which are: Soliciting prostitution services in public places, Carrying out prostitution activities in hotels, etc.

#### **Reasons to decriminalize sex work**

- Respects Human Rights And Dignity: A cornerstone of contemporary human rights is that all people are born free and equal in dignity and rights.
- Decriminalization Helps Guard Against Violence And Abuse: Sex work is not inherently violent; it is criminalization that places sex workers at greatest risk.
- Challenges Police Abuse And Violence: Where sex work is criminalized, police wield power over sex workers. Police threaten sex workers with arrest, public humiliation, and extortion.
- Improves Access To Justice: Laws that criminalize sex work cause sex workers to feel unsafe reporting crimes—including violence crimes and other abuses—because they fear prosecution, police surveillance, stigma, and discrimination.
- Decriminalization Challenges The Consequences Of Having A Criminal Record: In many countries, harsh and biased application of criminal law ensures that a large proportion of sex workers will have criminal records. Criminal records are often a source of stigma, and can drastically limit one's future.
- Allows For Effective Responses To Trafficking: Trafficking is an egregious human rights violation involving coercion of individuals for sexual exploitation or forced labor. Sex workers can be natural

allies in the fight against trafficking, and may be well placed to refer trafficking victims to appropriate services.

### **Protection against forceful sex work**

- The Immoral Traffic (Prevention) Act, 1956 is an amendment of the original act.
- Article 23 of the Indian Constitution, amended in 2014, includes the following provisions: Prohibition of human trafficking and forced labour

## **35. Global Chip Shortage and Related Issues**

**(GS 3: Effects Of Liberalization On The Economy, Changes In Industrial Policy and their effects on Industrial Growth)**

### **Genesis of shortage:**

- After reaching its peak in 2011, the laptop market growth slowed down with the rise of alternatives such as smartphones and tablets.
- Then, the pandemic hit.
- People switched to work from home, children connected to schools through laptops, and get-togethers happened over video calls.
- This shift led to a surge in demand for laptops and tablets.

### **What led to the production anomaly?**

- Manufacturers produce them as 200mm or 300mm wafers. These are further split into lots of tiny chips.
- While the larger wafers are expensive and mostly used for advanced equipment, the devices that were in high demand needed smaller diameter wafers.
- But the manufacturing equipment needed to make them were in short supply even before the pandemic began.
- Industry is moving in the direction of 5G and advanced communication, which requires expensive wafers.
- High consumer demand for low-end products, coupled with large orders from tech firms choked chip makers whose factories were also closed during lockdowns.
- Separately, Russia's invasion of Ukraine has strained exports of essential commodities used to make chip sets. Moscow supplies rare materials like palladium, and Kyiv sells rare gases to make semiconductor fab lasers which is used to make chipsets.
- When the pandemic began, carmakers stopped requesting chips from suppliers due to low demand for new vehicles. And now, as they ramp up production to meet consumer demand, chip makers are down on supply because they have cut deals with other industries.

## **36. Data Localisation**

**(GS 2: Government policies)**

- Data localisation simply means restricting the flow of data from one country to another.
- The Personal Data Protection Bill requires companies to store a copy of certain sensitive personal data within India.
- Localisation will make it mandatory for companies collecting critical consumer data to store and process it in data centres present within India's borders.

### **Significance:**

- The main intent behind data localisation is to protect the personal and financial information of the country's citizens and residents from foreign surveillance.

- Data localisation is essential to national security. Storing data locally is expected to help law-enforcement agencies to access information that is needed for the detection of a crime or to gather evidence.
- It may also enable the better exercise of privacy rights by Indian citizens against any form of unauthorised access to data, including by foreign intelligence.
- The economic benefits will accrue to local industry in terms of creating local infrastructure, employment and contributions to the AI ecosystem.

#### **Issues:**

- **Cost issues:** According to Facebook's parent company Meta Platforms, requiring local storage and processing of data or similar requirements could increase the cost and complexity of delivering their services.
- **Global connect:** A big part of providing services to people in India, acc. to Meta, is to enable them to communicate globally.
- **State control of Data and its effectiveness:** Critics not only caution against state misuse and surveillance of personal data, but also argue that security and government access is not achieved by localisation. Even if the data is stored in the country, the encryption keys may still remain out of the reach of national agencies.
- **Trade Distortive:** Countries like the USA has criticised the policy of data localisation as a 'significant barrier to digital trade'.
- EU had said in its response to India's data protection draft bill that "data localisation requirements appear both unnecessary and potentially harmful as they would create unnecessary costs, difficulties and uncertainties that could hamper business and investment.

#### **Way forward:**

- In order for localisation-related norms to bear fruit, there has to be broader thinking at the policy level.
- This may include, for instance,
- Reforming surveillance related laws,
- Entering into more detailed and up-to-date mutual legal assistance treaties,
- Enabling the development of sufficient digital infrastructure,
- Creating appropriate data-sharing policies that preserve privacy and other third party rights, while enabling data to be used for socially useful purposes.

## **37. Allow Surrogacy For Single Men, Mothers: Delhi HC**

### **(Mains Paper 2: Health & Education)**

The Delhi High Court issued a notice to the Union government on a petition challenging some provisions of the Surrogacy (Regulation) Act and the Assisted Reproductive Technology (Regulation) Act.

#### **Issues raised by the petition**

- Currently, the laws does not allow single men to have child through surrogacy.
- Married women can only avail surrogacy services if they are unable to produce a child due to medical conditions.
- Otherwise, for women to avail of surrogacy services, they must be aged between 35 and 45 and widowed or divorced.

#### **Basis of the Petition**

- The personal decision of a single person about the birth of a baby through surrogacy, i.e., the right of reproductive autonomy is a facet of the right to privacy guaranteed under Article 21 of the Constitution.
- Thus, the right to privacy of every citizen or person affecting a decision to bear or beget a child through surrogacy cannot be taken away.



## Distinct features of the Surrogacy (Regulation) Act, 2021

- Definition of surrogacy: It defines surrogacy as a practice where a woman gives birth to a child for an intending couple with the intention to hand over the child after the birth to the intending couple.
- Regulation of surrogacy: It prohibits commercial surrogacy, but allows altruistic surrogacy which involves no monetary compensation to the surrogate mother other than the medical expenses and insurance.
- Purposes for which surrogacy is permitted: Surrogacy is permitted when it is: (i) for intending couples who suffer from proven infertility; (ii) altruistic; (iii) not for commercial purposes; (iv) not for producing children for sale, prostitution or other forms of exploitation; and (v) for any condition or disease specified through regulations.

## 38. Phytoremediation

(GS 3: *biotechnology*)

Scientists have planned to use hyperaccumulator plants to remove toxic metals from soil using the phytoremediation process.

### Phytoremediation:

- Phytoremediation is a bioremediation process that uses living organisms like plants, microalgae and seaweeds to remove toxic heavy metals from the soil.
- Hyperaccumulator plants are those that have an unusual ability to absorb hundreds or thousands of times greater amounts of toxic substances from the soil compared to other plants.
- They can remove metals like silver, cadmium, cobalt, chromium, copper, mercury, manganese, molybdenum, nickel, lead and zinc; metalloids such as arsenic and selenium; some radionuclides; and non-metallic components such as boron.

### Hyperaccumulator plants:

Advantages:	Disadvantages:
It is cost-effective compared with other remediation methods.	It is a very slow and time-consuming process.
The method is simple and doesn't require any new kinds of specialised technology.	Large economic cost due to the inability to grow crops on the remediation land.
No external energy source is required.	Hyperaccumulator plants chosen to conduct the rehabilitation could act as invasive species, growing out of control and disturbing the fragile ecological balance.
It enriches the soil with organic substances and microorganisms.	
Protect the soil from erosion due to wind and water.	

## Prelims Booster

2.5.2022

1) AQI:

- Launched in 2014 with outline 'One Number – One Colour -One Description' for the common man to judge the air quality within his vicinity.
- The measurement of air quality is based on eight pollutants, namely: Particulate Matter (PM10), Particulate Matter (PM2.5), Nitrogen Dioxide (NO2), Sulphur Dioxide (SO2), Carbon Monoxide (CO), Ozone (O3), Ammonia (NH3), and Lead (Pb).
- It has been developed by the CPCB in consultation with IIT-Kanpur

**CENTRAL POLLUTION CONTROL BOARD'S  
AIR QUALITY STANDARDS**

AIR QUALITY INDEX (AQI)	CATEGORY
0-50	Good
51-100	Satisfactory
101-200	Moderate
201-300	Poor
301-400	Very Poor
401-500	Severe

2) **Pay Attention:** India's first bridgital autism support network launched by Centre for Autism and Other Disabilities Rehabilitation Research and Education (CADRRE), a not-for-profit organization.

- The initiative shall pave the way for small towns and rural India to access specialised care and support and help create an auxiliary network of champions for the differently-abled.
- This platform shall also enable mentoring, skilling and meaningful livelihoods for people with autism.

3) **Autism Spectrum Disorder:** ASD refers to a range of conditions characterised by some degree of impaired social behaviour, communication and language, and a narrow range of interests and activities that are both unique to the individual and carried out repetitively.

- It is a complex brain development disability which makes itself visible during the first 3 years of a person's life.
- It is not mental retardation as people with autism may show excellent skills in spheres like art, music, writing etc.

4) **Enforcement Directorate:** It is a Multi Disciplinary Organization under Dept. of Revenue, mandated with the task of enforcing the provisions of two special fiscal laws:

- FEMA, a Civil Law having quasi judicial powers, for investigating suspected contraventions of the Exchange Control Laws and Regulations with the powers to impose penalties on those adjudged guilty.
- PMLA, a Criminal Law, whereby the Officers are empowered to conduct enquiries to locate, provisionally attach/confiscate assets derived from acts of Schedules Offences besides arresting and prosecuting the Money Launderers.

5) **Anabolic steroids:** Anabolic steroids are usually used by bodybuilders.

- They are essentially lab-made versions of the male hormone testosterone and have a similar effect of increasing muscle mass as the natural hormone does.
- It also increases male characteristics in a person, such as facial hair and a deeper voice.

### 3.5.22

1) **National Open Access Registry:** NOAR is a centralized online platform through which the short-term open access to the inter-state transmission system is being managed in India.

- It is an integrated platform accessible to all stakeholders in the power sector, including open access customers (both sellers and buyers), power traders, power exchanges, National/Regional/State LDCs and others.
- The platform provides automation in the workflow to achieve shorter turnaround time for the transactions. NOAR platform also has a payment gateway.

2) **Transnistria:** It lies between Moldova to its west and Ukraine towards its east.

- Transnistria is described as a "remnant of the Soviet Union", Transnistria declared independence like Moldova did soon after the break-up of the Soviet Union.

- However, most countries continue to see Transnistria as part of Moldova. It is not recognized as independent even by Russia.

3) **Press Freedom Index:** India has reached 150th position in the World Press Freedom Index, dropping further from its last year's 142nd rank out of 180 countries.

- The PFI is an annual ranking of countries compiled and published by Reporters Without Borders since 2002.
- It intends to reflect the degree of freedom that journalists, news organisations, and netizens have in each country, and the efforts made by authorities to respect this freedom.
- It does not measure the quality of journalism or human rights violation.

4) **P75I:** France has denounced its participation in the P-75 India (P-75I) project

- The Project 75I-class submarine is a follow-on of the Project 75 Kalvari-class submarine for the Indian Navy.
- Under this project, the Indian Navy intends to acquire six diesel-electric submarines, which will also feature advanced air-independent propulsion systems.
- This is for enabling them to stay submerged for longer duration and substantially increase their operational range.

5) **International space station (ISS):** Russia has decided to walk out of the International Space Station.

- The ISS was launched in 1998 as part of joint efforts by the U.S., Russia, Japan, Canada and Europe.
- It operates in low-earth orbit.

Since its inception, it has served as a laboratory suspended in space and has aided multiple scientific and technological developments.

#### **4.5.22**

1) **Trade deficit:** A trade deficit is an amount by which the cost of a country's imports exceeds its exports.

- The trade deficit in goods shows a rise of demand in the economy.
- It is a part of the Current Account Deficit.

2) **Operation Satark:**

Railway Protection Force has recently started "Operation Satark" with an objective of taking action against illicit liquor/FICN/illegal tobacco products/unaccounted gold and any other items being transported through railway networks for the purpose of tax evasion and smuggling.

3) **Advanced Towed Artillery Gun System (ATAGS):**

- The ATAGS is a 155-mm, 52-calibre artillery gun jointly developed by the DRDO in partnership with Bharat Forge of the Kalyani Group and the Tata Power SED.
- ATAGS has greater than 95% of indigenous content. It set a world record for the longest unassisted projectile range of 48 kilometres.
- It has an all-electric drive to ensure reliability and minimum maintenance over a long period of time.

4) **Repo rate:** Repo rate is the rate at which the central bank of a country (Reserve Bank of India in case of India) lends money to commercial banks in the event of any shortfall of funds.

- It is used by monetary authorities to control inflation.
- In the event of inflation, central banks increase repo rate as this acts as a disincentive for banks to borrow from the central bank. This reduces money supply.

5) **Lapsus\$:**

- It is a cyber-crime group said to be based in South America.
- The group is relatively new but has successfully breached major firms like Microsoft.
- Their hacking tactics include phone-based social engineering, SIM-swapping to facilitate account takeover, accessing personal email accounts of employees at target organisations etc.

### **5.5.22**

1) **Civil Registration System (CRS)**: CRS 2020 was released a month before schedule

- The CRS collates data on all births and deaths registered with local authorities across India.
- The CRS report is released by the Registrar-General of India.
- It releases its report around 18 months after a year ends.

2) **'Office of Profit'**: The office of profit has been interpreted as a position that brings to the office-holder some financial gain, remuneration or benefit. The amount of such profit is immaterial.

- The concept forbids members of the legislature from accepting an office of profit under the executive so as to maintain the autonomy of the legislature and preserve the separation of powers.
- The constitution does not explicitly define the phrase.

3) **Nordic countries**: It is a geographical and cultural region in Northern Europe and the North Atlantic.

- It includes the sovereign states of Denmark, Finland, Iceland, Norway and Sweden; the autonomous territories of the Faroe Islands and Greenland; and the autonomous region of Åland.
- The Indian Prime Minister participated in the 2nd India-Nordic Summit at Copenhagen in Denmark.



4) **FSSAI**: Established under Food Safety and Standards, 2006, the FSSAI handles food-related issues including ensuring the safe availability of food for human consumption.

- It is an autonomous body under the Ministry of Health and Family Welfare that is responsible for promoting and protecting public health through various regulations and supervisions of food safety.

5) **Coalition for Disaster Resilient Infrastructure (CDRI)**: India initiated CDRI as a global partnership of 27 countries. India officially launched the CDRI at the 2019 UN Climate Action Summit in New York on 23 September 2019.

- It is an international coalition of countries, UN agencies, multilateral development banks, the private sector, and academic institutions to promote disaster-resilient infrastructure.
- Headquarters: New Delhi, India (Interim Secretariat)

The World Bank and the Green Climate Fund also supported the launch.

### **6.5.22**

1) **CERT-IN**: CERT-IN is an office within the Ministry of Electronics and Information Technology.

- It is the nodal agency to deal with cyber security threats like hacking and phishing. It strengthens the security-related defense of the Indian Internet domain.
- It was formed in 2004 by the Government of India under the Information Technology Act, 2000 Section (70B).

2) **Delimitation Commission**: It is responsible for drawing up of boundaries of constituencies.

- It is a high-power body whose orders have the force of law. Its orders cannot be called in question before any court.

- These orders come into force on a date to be specified by the President of India
- The copies of its orders are laid before the House of the People and the State Legislative Assembly concerned, but no modifications are permissible therein by them.
- Article 82 and Article 170 provides for delimitation at National and state respectively.

3) **Collegium System:** It is a novel mechanism devised to ensure a democratic system of appointment and transfer of judges.

- It came into existence through Second and Third Judges Case judgments.
- There is no such law or constitutional provision that mentions or defines the collegium system.
- It is headed by the CJI and comprises 4 other senior-most judges of the court.
- High Court (HC) Collegium: An HC collegium is led by its Chief Justice (CJ) and four other senior-most judges of that court.

4) **World Food Programme:** WFP has launched the 2022 Global Report on Food Crises

- It was founded in 1961 by the Food and Agriculture Organization (FAO) and United Nations General Assembly (UNGA) with its headquarters in Rome, Italy.
- It is also a member of the United Nations Sustainable Development Group (UNSDG)
- The international community has committed to end hunger, achieve food security and improve nutrition by 2030.

5) **World food prize:** Nobel Prize laureate Norman Borlaug established the World Food Prize in 1986.

- It is a prestigious international award conceived as the “Nobel Prize for Food and Agriculture”.
- It is awarded for a specific, exceptionally significant, individual achievement that advances human development with a demonstrable increase in the quantity, quality, availability of, or access to food through creative interventions at any point within the full scope of the food system.

The first recipient of this prestigious award in 1987 was Indian agricultural scientist M.S. Swaminathan, the father of India’s Green Revolution.

### **7.5.22**

1) **National Family Health Survey:** The Total Fertility Rate (TFR), the average number of children per woman, has further declined from 2.2 to 2.0 at the national level between National Family Health Survey (NFHS) 4 and 5.

- The NFHS is a large-scale, multi-round survey conducted in a representative sample of households throughout India.
- The IIPS is the nodal agency, responsible for providing coordination and technical guidance for the NFHS.
- NFHS was funded by the United States Agency for International Development (USAID) and UNICEF. The First National Family Health Survey (NFHS-1) was conducted in 1992-93.

2) **Shukrayaan1:** Shukrayaan will be India’s first orbiter mission to Venus after sending similar missions to the Moon and Mars.

- The mission aims to study the surface of the hottest planet in our solar system and unravel the mysteries under the Sulphuric Acid clouds enveloping it.
- The orbiter is the third mission announced to the inferno world of Venus after NASA announced two probes followed by a spacecraft by the European Space Agency.

3) **UNSC:** Besides France, five Nordic countries have affirmed their support for India’s permanent seat at the United Nations Security Council (UNSC).

- It is one of the six principal organs of the United Nations. its primary responsibility is to work to maintain international peace and security.

- Apart from the five permanent members, the UNSC also includes 10 non-permanent members who are each chosen for a two-year term.
- India has been elected as a non-permanent member on seven occasions in the past and started its eighth stint on January 1 this year.

4) **Rakhigarhi:** It is a 5,000-year-old site that showcases continuity from the Harappan age to the present times. The village also has havelis that are a couple of hundred years old.

- The site is located in the Sarasvati river plain, some 27 km from the seasonal Ghaggar river.
- The Rakhigarhi site is one of the “five iconic sites” declared by the Central government in the Union budget 2020-21.
- DNA samples collected from two human skeletons unearthed at Rakhigarhi have been sent for scientific examination.

5) **Monkeypox:** It is an orthopoxvirus, which is a genus of viruses that also includes the variola virus, which causes smallpox, and vaccinia virus, which was used in the smallpox vaccine.

- Monkeypox is a zoonosis, that is, a disease that is transmitted from infected animals to humans.
- The monkeypox virus is an orthopoxvirus, which is a genus of viruses that also includes the variola virus, which causes smallpox, and vaccinia virus, which was used in the smallpox vaccine.

Monkeypox is a zoonosis, that is, a disease that is transmitted from infected animals to humans.

### **9.5.22**

1) **The National Film Heritage Mission:** It is an important initiative to preserve and conserve the country's cinematic heritage.

- It was launched by the Information & Broadcasting Ministry in the year 2016.
- National Film Archive of India (NFAI) is the nodal organization for the implementation of this project.

2) **Snow leopard:**

- Found in Cold High Mountains in 12 countries including China, Bhutan, Nepal, India, Pakistan, Afghanistan, Russia & Mongolia.
- China has the world's largest snow leopard population.
- IUCN: Vulnerable, Schedule I: Wildlife (Protection) Act, 1972

3) **La nina:** This year the La Nina is being blamed for worsening the longest spell of heatwaves from March to April in north, west and Central India.

- La Nina, the “cool phase” of ENSO, is a pattern that describes the unusual cooling of the tropical eastern Pacific.
- La Nina events may last between one and three years, unlike El Nino, which usually lasts no more than a year.
- Both el nino and la nina, tend to peak during the Northern Hemisphere winter.

4) **Shigella:** It is a bacterial infection produced by the Enterobacter family of bacteria and is one of the most common causes of diarrhoea worldwide. Shigellosis is the infection it causes.

- The disease is easily transmitted through direct or indirect contact with the patient’s waste.

5) **Wheat:** Wheat procurement by government agencies is set to dip to a 15-year low in the current marketing season, from an all-time high scale last year.

- This is the second most important cereal crop in India after rice.
- Wheat is a rabi crop that requires a cool growing season and bright sunshine at the time of ripening.
- Temperature: Between 10-15°C (Sowing time) and 21-26°C (Ripening & Harvesting) with bright sunlight.

- Rainfall: Around 75-100 cm.

Soil Type: Well-drained fertile loamy and clayey loamy (Ganga-Satluj plains and black soil region of the Deccan).

### **10.5.22**

1) **Tissue culture plants:** Plant tissue culture is defined as culturing plant seeds, organs, explants, tissues, cells, or protoplasts on a chemically defined synthetic nutrient media under sterile and controlled conditions of light, temperature, and humidity. Applications of Plant Tissue Culture:

- micropropagation using meristem and shoot culture to produce large numbers of identical individuals
- screening programmes of cells, rather than plants for advantageous characters
- crossing distantly related species by protoplast fusion and regeneration of the novel hybrid etc.

2) **APEDA:** The Government in 1986 had set up APEDA through an Act of Parliament under the Ministry of Commerce and Industry, Government of India. It is an apex-Export Trade Promotion Active body.

- The APEDA had been undertaking most of the activities as per its mandate and scope of work allocated spanning its 14 product categories which mainly includes the sector of fruits and vegetables, processed fruits and vegetables, animal, dairy and poultry products and cereals.
- It promotes exports of agricultural & processed food items (including GI products) by providing assistance to the exporters.

3) **Maharana Pratap:** Maharana Pratap hailed from the Sisodiya clan of Rajputs in Kumbhalgarh, Rajasthan. He was the 13th King of Mewar

- Battle of Haldighati was fought in the year 1576 between Maharana Pratap and Mughal forces led by Raja Man Singh of Amber (general of the Mughal emperor Akbar).
- Maharana Pratap bravely fought the war but eventually lost it.

4) **W bosons:** it is a fundamental particle.

- Together with the Z boson, it is responsible for the weak force, one of four fundamental forces that govern the behaviour of matter in our universe.
- The W boson, which is electrically charged, changes the very make up of particles.
- It switches protons into neutrons, and vice versa, through the weak force, triggering nuclear fusion and letting stars burn.

5) **Pantanal wetland:** The world's largest wetland, known as the Pantanal, in South America is at risk of collapse.

- This is due to a series of local and seemingly minor decisions that fail to account for their cumulative impact on one of Earth's most biodiverse ecosystems.
- It is also the world's largest flooded grasslands.

It is fed through the Paraguay River and tributaries.

### **11.5.22**

1) **Minorities:** The Constitution recognizes Religious minorities in India and Linguistic minorities in India through Article 29 and Article 30.

- But Minority is not defined in the Constitution.
- Currently, the Linguistic minorities in India are identified on a state-wise basis thus determined by the state government whereas Religious minorities in India are determined by the Central Government.
- The Parliament has the legislative powers and the Centre has the executive competence to notify a community as a minority under Section 2(c) of the National Commission for Minorities Act of 1992.

## 2) Integrated Battle Groups:

### For Greater Punch

**WHAT IS INTEGRATED BATTLE GROUP?**  
Between a brigade and division, it is a formation comprising existing elements of infantry, tank regiments, artillery, UAVs, engineers and signals

**Will have about six battalions of infantry, armoured and artillery, and placed directly under a Corps**


**Each IBG will be differentiated on the basis of threat, terrain and tasks**

**HOW IS IT DIFFERENT FROM EXISTING FORMATIONS?**  
IBGs ensure better integration and self-sufficiency as compared to the existing formations, allowing it to strike harder and quicker across the border

**A brigade during hostilities has to wait to be augmented by different types of units, which increases the time to mobilise**

**WHERE HAS IT BEEN TESTED?**  
Two configurations of IBG were tested for offensive roles (involving cross-border operations) and the other for defensive postures (to withstand an enemy onslaught)

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## 3) Living/non-living monument:

- If some activity, like any kind of worship, has been going on for years in the structure, then it is taken over as a living monument.
- But where no activity has taken place, say an abandoned building, then it is declared a dead monument.
- The latter is difficult to restore because it is generally covered by a lot of overgrowths.

## 4) Martand Sun Temple: It is a Hindu temple located near the city of Anantnag in the Kashmir Valley.

- It dates back to the eighth century AD and was dedicated to Surya, the chief solar deity.
- The temple was destroyed by Sikandar Shah Miri in a bid to undertake mass conversion and execution of Hindus in the valley.
- According to Kalhana, the Temple was commissioned by Lalitaditya Muktapida in the eighth century AD.
- The temple is built on top of a plateau from where one can view whole of the Kashmir Valley.
- From the ruins the visible architecture seems to be blended with the Gandharan, Gupta and Chinese forms of architecture.

## 5) Ethanol: Recently, the level of ethanol blending in petrol in India has reached 9.99 per cent.

- It is an organic chemical compound, a simple alcohol with the chemical formula  $C_2H_6O$ .
- It is a volatile, flammable, colourless liquid with a characteristic wine-like odour and pungent taste.
- Ethanol can be produced from crops that have high starch content like sugarcane, maize, wheat, etc. In India, ethanol is mainly produced from sugarcane molasses by the fermentation process.
- Ethanol can be mixed with gasoline to form different blends.
- As the ethanol molecule contains oxygen, it allows the engine to better combust the fuel and results in fewer emissions

Since ethanol is produced from plants that harness the power of the sun, ethanol is also considered a renewable fuel.

### 12.5.22

## 1) Green manure: Green manures are crops grown specifically for maintaining soil fertility and structure.

- It is done by leaving uprooted or sown crops parts, allowing them to wither onto the field and serve as mulch and soil fertilizers.
- They are normally incorporated back into the soil, either directly, or after removal and composting.
- There are three main varieties of green manure, including: Dhaincha, Cowpea, Sunhemp



2) **Split verdict** : In case of a split verdict, the case is heard by a larger Bench. This is why judges usually sit in Benches of odd numbers (three, five, seven, etc.) for important cases, even though two-judge Benches or Division Benches are not uncommon.

- The larger Bench to which a split verdict goes can be a three-judge Bench of the High Court, or an appeal can be preferred before the Supreme Court.

3) **Foreign Contribution (Regulation) Act (FCRA)**: The law seeks to regulate foreign donations to individuals and associations so that they functioned in a manner consistent with the values of a sovereign democratic republic.

- The Act prohibits the receipt of foreign funds by candidates for elections, journalists or newspaper and media broadcast companies, judges and government servants, members of legislature and political parties or their office-bearers, and organisations of a political nature.
- It is regulated by Ministry of Home Affairs.

4) **Marsquake**: Recently, NASA's InSight lander detected a quake on Mars, the largest ever observed on another planet.

On Earth, quakes are caused by shifts in tectonic plates. Mars, however, does not have tectonic plates, and its crust is a giant plate.

- Therefore, NASA notes, 'marsquakes' are caused due to stresses that cause rock fractures or faults in its crust.

5) **NASA's InSight**: It is a Mars lander designed to give the Red Planet its first thorough checkup since it formed 4.5 billion years ago. It is the first outer space robotic explorer to study in-depth the "inner space" of Mars: its crust, mantle, and core.



### 13.5.22

1) **Sagittarius 'A' star**: It refers to the believed location of the supermassive black hole in the centre of our galaxy.

2) **Event Horizon**:

Black holes are extraordinarily dense objects with gravity so strong that not even light can escape, making viewing them extremely challenging.

- A black hole's event horizon is the point of no return beyond which anything—stars, planets, gas, dust and all forms of electromagnetic radiation—gets dragged into oblivion.
- The closer someone came to a black hole, the greater the speed they would need to escape that massive gravity.
- The event horizon is the threshold around the black hole where the escape velocity surpasses the speed of light.

3) **ASEAN**: US President Joe Biden will host leaders and top officials of the Association of Southeast Asian Nations (ASEAN) in Washington DC.

- ASEAN is a political and economic union of 10 member states in Southeast Asia.
- It brings together ten Southeast Asian states – Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam – into one organisation.
- It was established on 8th August 1967 in Bangkok, Thailand with the signing of the Bangkok Declaration

4) **India Hypertension Control Initiative (IHCI):** Recognizing that hypertension is a serious, and growing, health issue in India, the Health Ministry, the ICMR, State Governments, and WHO-India began a five-year initiative to monitor and treat hypertension.

- The programme was launched in November 2017.
- India has committed to a “25 by 25” goal, which aims to reduce premature mortality due to non-communicable diseases (NCDs) by 25% by 2025.
- To achieve India’s target of a 25%, approximately 4.5 crore additional people with hypertension need to get their BP under control by 2025.

5) **Hypertension:** Hypertension is defined as having systolic blood pressure level greater than or equal to 140 mmHg or diastolic blood pressure level greater than or equal to 90 mmHg.

- The definition also assumes taking anti-hypertensive medication to lower his/her blood pressure.

There were an estimated 20 crore adults with hypertension in the country.

#### **14.5.22**

1) **Long Period Average (LPA):** The IMD predicts a “normal”, “below normal”, or “above normal” monsoon in relation to a benchmark “long period average” (LPA).

- The LPA of rainfall is the rainfall recorded over a particular region for a given interval (like month or season) average over a long period like 30 years, 50 years, etc.
- LPA refers to the average rainfall recorded from June to September for the entire country, the amount of rain that falls every year varies from region to region and from month to month.
- The IMD’s prediction of a normal monsoon is based on the LPA of the 1971-2020 period, during which India received 87 cm of rain for the entire country on average.
- It has in the past calculated the LPA at 88 cm for the 1961-2010 period, and at 89 cm for the period 1951-2000.

2) **NATO:** Earlier reluctant, Finland is now hurtling to join NATO.

- NATO is a military alliance established by the North Atlantic Treaty (also called the Washington Treaty) of April 4, 1949.
- It sought to create a counterweight to Soviet armies stationed in Central and Eastern Europe after World War II.
- Article 5 was a key part of the 1949 North Atlantic Treaty, or Washington Treaty, and was meant to offer a collective defence against a potential invasion of Western Europe.

3) **New Iron age:** Carbon dating of excavated finds in Tamil Nadu pushes evidence of iron being used in India back to 4,200 years ago

- Before this, the earliest evidence of iron use was from 1900-2000 BCE for the country, and from 1500 BCE for Tamil Nadu.
- The latest evidence dates the findings from Tamil Nadu to 2172 BCE! Much older.
- The Iron Age in the Indian subcontinent was the one succeeding the Late Harappan Culture. The period is known because of the material of tools used in the time frame.
- The era coincides with the Vedic Age in the historical timeline.
- Painted Grey Ware and the Northern Black Polished Ware were the prominent cultures of the era.

4) **Carbon dating:** Carbon Dating definition biology can be given as one of the mainstream methods of archaeology for dating organic objects up to 50,000 years old.

- This process is based on the radiative decay of Carbon-14 isotopes over thousands of years. Scientists have discovered through Physics that radioactive molecules decay at a particular rate dependent on the mass and the atomic number of the decaying atoms.
- This discovered constant is used to determine the approximate age of the decaying material through the radioactive isotopes ratio to the estimated initial concentration of these isotopes during the organism's death.

5) **HS200:** It is a 20-metre-long booster with a diameter of 3.2 metres and is the world's second largest operational booster using solid propellants.

- The control system used in the HS200 booster employs one of the world's most powerful electro-mechanical actuators with multiple redundancies and safety features.
- Designed and developed by: Vikram Sarabhai Space Centre (VSSC) in Thiruvananthapuram.
- The GSLV Mk-III rocket which will be used for the Gaganyaan mission will have two HS200 boosters which will supply the thrust for lift-off.

**16.05.22**

**1) Devashayam Pillae:**

- First Indian layman to be declared a saint by Pope Francis during a canonisation ceremony at the Vatican.
- Born in 1712, he was an official in the court of Travancore's Maharaja Marthanda Varma when he was instructed into the Catholic faith by a Dutch naval commander.
- "Lazarus" or "Devasahayam" in Malayalam, translates to "God is my help".

**2) Covid induced hepatitis:**

- Hepatitis is inflammation of liver usually caused by viral infection.
- Hepatitis A and E spread through food or water contamination.
- Hepatitis B and C spread by infected fluids or blood.
- Hepatitis D only infects people with hepatitis B.

**COVID-acquired hepatitis** | The first systematic investigation in India to quantify the scale of the syndrome in children, a condition reported globally, was held in Madhya Pradesh

■ 37 of the 475 children who tested COVID-positive from April to July in 2021 got hepatitis (CAH)

■ All of the 37 children recovered 'uneventfully', meaning that routine treatment for severe hepatitis was sufficient

■ Symptoms include nausea, loss of appetite, weakness, and mild fever

■ The typical causes of hepatitis, such as associated viruses, are absent



**3) Hema commission:**

- The Kerala government tasked the three-member commission headed by Justice Hema to investigate the problems faced by the women in the Malayalam film industry.
- This commission pointed out the glaring testimonies of sexual abuse faced by potential candidates and the presence of a casting couch.

**4) Thomas Cup:**

- The Thomas Cup, sometimes called the World Men's Team Championships, is an international badminton competition among teams representing member nations of the Badminton World Federation (BWF), the sport's global governing body.
- The championships have been conducted every two years since 1982.
- India won the first-ever Thomas Cup after 3-0 wins over Indonesia.

**5) Gupkar alliance:**

- People's Alliance for Gupkar Declaration (PAGD) was formerly known as Gupkar Declaration.
- It is a political alliance between the multiple mainstream regional political parties of Jammu and Kashmir aimed at safeguarding and restoring special status along with Article 35A of the erstwhile state of Jammu and Kashmir.

- Gupkar Declaration II: Gupkar Declaration II, signed on 22 August 2020 by the six political parties asserted that the signatories were bound by August 4, 2019 Gupkar declaration and parties would strive for restoration of Article 370 and Article 35a.

## **17.05.22**

**1) Protected mobility vehicles:** The Indian Army has floated a 'Request for information (RIF)' to purchase Protected Mobility Vehicles (PMV) for high-altitude areas and for deserts and plains.

- The PMV is essentially a wheeled armoured personnel carrier. It provides protection to the soldiers travelling inside the vehicle from mine blasts and sudden attack by small arms.
- Used by troop members of any quick reaction team heading to a point of conflict, or members of patrolling parties.
- PMVs have a ballistic protection and should be able to protect the vehicle from grenade and mine blasts. India has the capability of producing PMVs.

## **2) Digital rape:**

- It actually refers to the physical act of using fingers of a hand or foot, i.e. 'digits', for sexual assault of a woman.
- The offence of 'digital rape' was added to the Indian Penal Code through the 2013 Criminal Law amendment also known as the Nirbhaya Act.

**3) Endosulfan:** Continuous use of endosulfan is a cause of worry in Kerala.

- It is an organochlorine insecticide (cream- to brown-coloured solid that may appear in the form of crystals or flakes) and is commonly known by its trade name Thiodan.
- Sprayed on crops like cotton, cashew, fruits, tea, paddy, tobacco etc. for control of pests.
- The Supreme Court in India has banned the manufacture, sale, use, and export of endosulfan throughout the country in 2015.
- It is listed under both Rotterdam Convention and the Stockholm Convention on Persistent Organic Pollutants.

## **4) Buddha Purnima:**

- It is celebrated to mark the birth of Gautam Buddha, the founder of Buddhism. It is also known as Vesak
- It is considered a 'triple-blessed day' - as Tathagata Gautam Buddha's birth, enlightenment, and Maha Parnirvana. Buddha Purnima falls on a full moon night, usually between April and May, and it is a gazetted holiday in India.

## **5) Grey market:**

- Generally, when companies wish to raise funds to fuel their growth, they sell a part of their stock on the stock market. This process is called an initial public offering, or IPO.
- An IPO grey market is an unofficial market where IPO shares or applications are bought and sold before they become available for trading on the stock market. It is also termed a parallel market or an over-the-counter market.
- Since it's unofficial, inevitably, there are no regulations that govern it.

## **18.5.22**

### **1) Total factor productivity (TFP):**

- Productivity levels measure the relationship between total products or output, and inputs or factors of production employed.

- Labour productivity is a measure of total output divided by the units of labour employed in the process of production.
- However, TFP is a measure of total output divided by a weighted average of inputs; i.e., labour and capital.
- While total productivity measures all-inclusive productivity, TFP is a measure of production efficiency.

**2) World Forestry Congress:** The first World Forestry Congress first held in Rome in 1926. After that, it is held about every six years by the UN-FAO.

- In 1954, FAO was entrusted with supporting Congress preparations in close cooperation with the host country and proudly continues to do so today.
- It has been providing a forum for inclusive discussion on the key challenges and way forward for the forestry sector.

**3) Seoul forest declaration:** The participants from 141 countries at the 15th World Forestry Congress in Seoul, Republic of Korea adopted the Seoul Forest Declaration.

- The Declaration urges that responsibility for forests should be shared and integrated across institutions, sectors and stakeholders.
- Investment in forest and landscape restoration globally needs to triple by 2030 to meet internationally agreed commitments and targets on restoring degraded land.

**4) Urban Heat Island:** An urban heat island is a local and temporary phenomenon experienced when certain pockets within a city experience higher heat load than surrounding or neighbouring areas on the same day.

- The variations are mainly due to heat remaining trapped within locations that often resemble concrete jungles.
- The temperature variation can range between 3 to 5 degrees Celsius.

**5) Global Report on Assistive Technology:** World Health Organisation (WHO) and UNICEF published 'The Global Report on Assistive Technology'.

- It was developed in response to the World Health Assembly resolution (WHA71.8) on improving access to assistive technology adopted in May 2018.
- It presents a comprehensive dataset and analysis of current assistive technology access, drawing the attention of governments and civil society to the need for, and benefit of, assistive technology, including its return on investment.

## **19.5.22**

### **1) Art 142:**

Article 142 provides discretionary power to the Supreme Court.

- It states that the court in the exercise of its jurisdiction may pass such decree or make such order as is necessary for doing complete justice in any cause or matter pending before it.
- Such decree shall be enforceable throughout the territory of India in such manner as may be prescribed by or under any law made by Parliament.
- It is usually used in cases involving human rights and environmental protection.

### **2) Types of Droughts:**

- Meteorological drought is defined usually on the basis of the degree of dryness (in comparison to some "normal" or average amount) and the duration of the dry period.
- Agricultural drought should be able to account for the variable susceptibility of crops during different stages of crop development, from emergence to maturity.
- Hydrological drought is associated with the effects of periods of precipitation (including snowfall) shortfalls on surface or subsurface water supply (i.e. streamflow, reservoir and lake levels, and groundwater).

- Socioeconomic drought is associated with the supply and demand of some economic goods with elements of meteorological, hydrological, and agricultural drought.

**3) Stockholm +50:** It is an international environmental meeting hosted by the United Nations General Assembly to be held in Stockholm, Sweden from 2-3 June 2022.

- The theme of Stockholm+50 is “a healthy planet for the prosperity of all – our responsibility, our opportunity.
- In 1972, the UN Conference on the Environment in Stockholm was held, and it was essentially the first conference that managed to address environmental issues on the right level.
- Fifty years later, the United Nations is back in Stockholm to commemorate that important milestone.

**4) Sela Tunnel:** It is the longest bi-lane road tunnel in the world and located in Arunachal Pradesh

- The total length of the project, including the tunnels, the approach and the link roads, will be around 12 km.
- The tunnel is being constructed by the Border Roads Organisation at an altitude of 13,800ft near the Indo-China border.

**5) Sudden Infant Death Syndrome:** Also called ‘cot death’, refers to the sudden and unexpected death of an otherwise healthy infant under the age of one, generally while they are sleeping.

- According to the NHS website, parents can reduce the risk of SIDS by not smoking while pregnant or after the baby is born and ensuring that the baby is placed on their back when they sleep.
- Some health experts have said that it is associated with issues in the part of an infant’s brain that controls breathing and waking up.
- BChE (Butyrylcholinesterase) enzyme responsible: These enzymes are responsible for sending out signals that make a baby wake up, turn her head, or gasp for breath.

## **20.5.22**

**1) Indian Public Health Standards (IPHS):** These are a set of uniform standards envisaged to improve the quality of health care delivery in the country.

- The IPHS documents have been revised keeping in view the changing protocols of the existing programmes and introduction of new programmes especially for Non-Communicable Diseases.
- Flexibility is allowed to suit the diverse needs of the States and regions.

**2) Fostering Effective Energy Transition 2022’ report:** Released by World Economic Forum (WEF) has called for urgent action by both private and public sectors to ensure a resilient energy transition.

- Strengthening energy security is of paramount importance having dual diversification; in importing partners in the short-term and in fuel mix in the long-term thus improving resilience.
- The report addresses the challenges to environmental sustainability, energy security and energy justice and affordability.

**3) Energy Transition Index (ETI):** The Global Energy Transition Index (ETI) is published by World Economic Forum (WEF) to quantify the global change to renewable energy.

- It provides a numerical value for how well a country is doing in their transition to renewable energy and also helps in developing energy transition roadmaps.
- It was developed in 2018 to measure national energy transition progress.

**4) Stagflation:** It refers to an economic situation marked by stagnant economic output and high price inflation.

- It is characterised by slow economic growth and relatively high unemployment—or economic stagnation—which is at the same time accompanied by rising prices (i.e. inflation).

- It can be alternatively defined as a period of inflation combined with a decline in the gross domestic product (GDP).

**5) Surat:** It is the fourth Guided Missile Destroyer of P15B class, while 'Udaygiri' is the second Stealth Frigate of P17A class.

- Both warships have been designed in-house by the Directorate of Naval Design (DND) and built at MDL, Mumbai.
- The two warships will add might to the Indian Navy's arsenal and represent to the world India's strategic strength as well as the power of self-reliance.

### **21.5.22:**

#### **1) Project 15B and P17A Frigates:**

- The Project 15B class of ships are the next-generation stealth guided-missile destroyers of the Indian Navy, being built at the MDL, which are follow-on classes of the weapon intensive P15A (Kolkata Class) Destroyers.
- P17A Frigates are warships that are follow-on class of the P17 (Shivalik Class) Frigates with improved stealth features, advanced weapons & sensors and platform management systems.
- Seven P17A Frigates are under various stages of construction at MDL and Garden Reach Shipbuilders & Engineers (GRSE).

**2) FDI:** The foreign direct investment (FDI) in the financial year 2021-22 has touched a "highest-ever" figure of \$83.57 billion.

- An FDI is an investment in the form of a controlling ownership in a business in one country by an entity based in another country.
- It is thus distinguished from a foreign portfolio investment by a notion of direct control.

**3) GM Crops:** GM foods are derived from plants whose genes are artificially modified, usually by inserting genetic material from another organism, in order to give it a new property, such as increased yield, tolerance to a herbicide, resistance to disease or drought, or to improve its nutritional value.

- India has approved commercial cultivation of only one GM crop, Bt cotton.

**4) Site directed nucleases:** The genome edited plants derived from the use of genome editing techniques employing site-directed nucleases (SDNs) such as ZFNs, TALENs, CRISPR and other nucleases with similar functions are generally classified under three categories as

- Site-Directed Nuclease (SDN)-1, a site-directed mutagenesis without using a DNA sequence template;
- SDN-2, a site-directed mutagenesis using a DNA sequence template; and
- SDN-3, site-directed insertion of gene/large DNA sequence using a DNA sequence template.

**5) The project 'WARDEC':** It will be a first-of-its-kind simulation-based training centre in India that will use artificial intelligence (AI) to design virtual reality war-games.

- The Wargame Research and Development Centre will be used by the Army to train its soldiers and test their strategies through "metaverse-enabled gameplay".
- The wargame models will be designed to prepare for wars as well as counter-terror and counter-insurgency operations.

### **23.5.22:**

**1) SEBI:** The Securities and Exchange Board of India owned by the Government of India was established on 12th April 1992 under the Securities and Exchange Board of India Act, 1992 to protect the interests of the investors in securities

along with promoting and regulating the securities market. It is Headquartered in Mumbai and works under the administration of Finance Ministry.

**2) Asola-Bhatti Wildlife Sanctuary:** It covers 32.71 sq km area lies on the Southern Delhi Ridge of Aravalli hill range, one of the oldest mountain systems of the world, on Delhi-Haryana border.

- An area of 1km around the Asola Bhatti Wildlife Sanctuary in Gurugram and Faridabad is an Eco-sensitive zone.
- The Asola wildlife sanctuary has both floral and faunal diversity.

**3) Myopia:** Myopia or short-sightedness is turning out to be an epidemic across India, and indeed even more in Southeast Asia.

- Myopia occurs when the eyeball becomes longer, relative to the focusing power of the cornea and the lens; this leads to focus not on the surface of the retina, but at a point before it.
- Myopia (near-sightedness) is also a refractive error. Refractive error is when the eye does not bend (refract) light properly. Light does not focus correctly so images are not clear.
- In myopia, close objects look clear but distant objects appear blurred.

**4) Excise duty:** It is a form of tax imposed on goods for their production, licensing and sale.

- It is the opposite of Customs duty in sense that it applies to goods manufactured domestically in the country, while Customs is levied on those coming from outside of the country.
- Today, excise duty applies only on petroleum and liquor

**5) Indo Pacific Economic Framework:** IPEF is an economic framework for enhancing US involvement in Asia. It is to counter the influence of China in the region and fill the vacuum created by not being a partner to TPP and RCEP.

- The IPEF, unlike FTA, is more of a tailor-made mechanism that seeks the benefits of trade partnerships while insulating Americans from the downsides of trade liberalisation.
- Unlike FTAs, it does not include market access commitments such as lowering tariff barriers, as the agreement is more of an administrative arrangement.

#### **24.5.22**

**1) Deemed forest:** The concept of deemed forests has not been clearly defined in any law including the Forest Conservation Act of 1980.

- As per the SC, it covers all statutorily recognised forests, whether designated as reserved, protected or otherwise for the purpose of the Forest Conservation Act.
- According to Supreme Court, the provisions enacted in the Forest Conservation Act 1980 for the conservation of forest and the matters connected therewith should apply to all forest so understood irrespective of the ownership or classification thereof.
- But, An expert committee constituted by the Karnataka government after the Supreme Court order identified 'deemed forests' as "land having the characteristic of forests irrespective of the ownership'.

**2) F 18 Super hornet fighter jets:** It is the world's most lethal, advanced, combat-proven, multi-role frontline fighter-jet.

- The jet has been developed by US Aerospace Company, Boeing.
- Multi-role Superiority: Capable of tactical strikes, air reconnaissance, air defense, and maritime roles.
- Cutting-edge Technologies: Enhanced computing and data link, advanced cockpit system, signature improvements
- Lifecycle Affordability: Lowest cost per flight hour among all U.S. tactical fighters in production.

**3) Stablecoins:** They are cryptocurrencies without volatility.



- Stablecoins achieve their price stability via collateralization (backing) or through algorithmic mechanisms of buying and selling the reference asset or its derivatives.
- Stablecoins hold a bundle of assets in reserve, usually short-term securities such as cash, government debt or commercial paper to promise holders that every \$1 they put in will remain worth \$1.

4) **Dima Hasao (earlier North Cachar Hills):** It is one of the three hill districts of Assam.

- It is an administrative district that falls under the North Cachar Hills Autonomous Council one of the three autonomous councils set up under the provisions of the VI<sup>th</sup> Schedule of the Indian Constitution
- It is a tribal-majority district with tribals constituting about 71% of the total population along with a significant number of non-tribal groups like Bengali, Nepali and Assamese.
- The district has a long history of insurgency by Dimasa groups

5) **Storage gain in wheat:** Wheat, considered a 'living grain', tends to gain some weight during storage.

- This is known as 'storage gain' and it mostly happens due to absorption of moisture.
- The moisture is mostly absorbed by the endosperm (bulk of the kernel which contains minerals and vitamins).

## 25.5.22

1) **Shipping agreements:** Ships are classified into white (commercial ships), grey (military vessels), and black (illegal vessels).

- The white shipping information refers to an exchange of relevant advance information on the identity and movement of commercial non-military merchant vessels.
- "Dark ships" are vessels with their Automatic Identification System (AIS) - a transponder system - switched off so as not to be detectable. This crucial maritime pact between the Quad member countries will enhance the security apparatus of the Indo-Pacific region.

2) **Qutub Minar:** It is a five-storeyed red sandstone tower (72.5 m high) built by Mughals in the 13<sup>th</sup> century to commemorate their final triumph over the Rajput rulers of Delhi (Qutub means victory), while also serving as a tower from where muezzins (criers) call for prayer at the Quwwatu'l-Islam mosque nearby.

- Its construction was started by Qutub-ud-din Aibak (1206-1210) in 1193 and finished by Iltutmish (1211-1236).
- Qutub Minar and its monuments were declared a UNESCO World Heritage Site in 1993.

3) **Shree Jagannath Temple:** The temple is believed to be constructed in the 12th century by King Anantavarman Chodaganga Deva of the Eastern Ganga Dynasty.

- Jagannath Puri temple is called 'Yamanika Tirtha' where, according to the Hindu beliefs, the power of 'Yama', the god of death has been nullified in Puri due to the presence of Lord Jagannath.
- This temple was called the "White Pagoda" and is a part of Char Dham pilgrimages (Badrinath, Dwaraka, Puri, Rameswaram).

4) **Glass cliff:** The term "glass cliff" refers to a situation in which women are promoted to higher positions during times of crisis or duress, or during a recession when the chance of failure is more likely. Put simply, women in these situations are set up for failure.

5) **Hyperaccumulator plants:** Phytoremediation refers to the usage of "hyperaccumulator" plants to absorb the toxic materials present in the soil and accumulate in their living tissue.

- Most plants do sometimes accumulate toxic substances.
- Hyperaccumulators have the unusual ability to absorb hundreds or thousands of times greater amounts of these substances than is normal for most plants.

## 26.5.22

**1) Lone wolf attack:** A gunman killed 19 children in Texas.

- The term “lone wolf” is used by US law enforcement agencies and the media to refer to individuals undertaking violent acts of terrorism outside a command structure.
- A lone actor, lone-actor terrorist, or lone wolf is someone who prepares and commits violent acts alone, outside of any command structure and without material assistance from any group. They may be influenced or motivated by the ideology and beliefs of an external group and may act in support of such a group.

**2) National Investigation Agency (NIA):** The National Investigation Agency (NIA) was constituted under the National Investigation Agency (NIA) Act, 2008.

- It is a central agency to investigate and prosecute offences:
- affecting the sovereignty, security and integrity of India, security of State, friendly relations with foreign States, against atomic and nuclear facilities and smuggling in High-Quality Counterfeit Indian Currency.
- It acts as India’s central counter terrorism law enforcement agency under Ministry of Home affairs.

**3) Sticky bombs:** Sticky bomb is an improvised explosive device or IED with inbuilt magnets and timer. These can be stuck on vehicles and can be controlled using remote control device.

**4) Balkanization:** It is the division of a multinational state into smaller ethnically homogeneous entities. The term also is used to refer to ethnic conflict within multi-ethnic states.

- It was coined at the end of World War I to describe the ethnic and political fragmentation that followed the breakup of the Ottoman Empire, particularly in the Balkans.
- The term Balkanization is today invoked to explain the disintegration of some multiethnic states and their devolution into dictatorship, ethnic cleansing, and civil war.

**5) Palestine:** Today, Palestine theoretically includes the West Bank (a territory that sits between modern-day Israel and Jordan) and the Gaza Strip (which borders modern-day Israel and Egypt)

- The West Bank is sandwiched between Israel and Jordan. One of its major city is Ramallah, the de facto capital city of Palestine.
- Gaza strip is located between Israel and Egypt. Israel occupied it after 1967 but relinquished control and day to day administration under Oslo accord.



## 27.5.22

**1) Chardham project:** The project involves developing and widening 900-km of national highways connecting the holy Hindu pilgrimage sites of; Badrinath, Kedarnath, Gangotri, and Yamunotri at an estimated cost of Rs.12,000 crores.

- The highway will be called Char Dham Mahamarg(Char Dham Highway) and the highway construction project will be called Char Dham Mahamarg Vikas Pariyojana(Char Dham Highway Development Project).

**2) Lean diabetes:** People with this form of diabetes have a history of malnutrition *in utero* and continue to have a low BMI into adulthood.

- In individuals whose nutritional status improves after birth, it is likely they might seem thin, but, in reality, because of the programming *in utero*, they have actually accumulated more fat than planned for by the gene, leading to the ‘thin-fat’ phenomenon.

- However, LD individuals never catch up with nutritional requirements, continuing to remain nutritionally challenged as adults
- The results of a study demonstrate that the cardinal feature of LD is a defect in insulin secretion capacity versus insulin resistance, as was previously suggested.

**3) A policy of deliberate ambiguity:** Also known as a policy of strategic ambiguity, strategic uncertainty, is the practice by a government of being intentionally ambiguous on certain aspects of its foreign policy.

- EG: U.S. has declared that it will “maintain the ability to come to Taiwan’s defence” while not committing itself to do so.

**4) Xinjiang:** It lies in the north-west of China and is the country’s biggest region.

- Like Tibet, it is autonomous, meaning – in theory – it has some powers of self-governance. But in practice, both face major restrictions by the central government.
- It is a mostly desert region, producing about a fifth of the world’s cotton.
- It is also rich in oil and natural gas and because of its proximity to Central Asia and Europe is seen by Beijing as an important trade link.

**5) Diabetes mellitus:** It is a non-communicable but chronic disease that occurs when the pancreas gland of the body is not able to make insulin or when the body cannot make good use of the insulin produced. Insulin is the hormone that regulates blood sugar or glucose levels .

- TYPE 1 DIABETES: In this type, the body produces very little or no insulin.
- TYPE 2 DIABETES: In this type, the body is not able to use the insulin that it produces.

## **28.5.22**

**1) Ranajana Prakash Desai committee:** Appointed by Uttarakhand to examine ways for implementation of uniform civil code, including a review of laws of marriage, divorce, inheritance etc. Also, the head of the Delimitation commission

**2) Akruiti:** The programme AKRUTI-KRUTIK-FORCE: is an initiative from Bhabha Atomic Research Centre.

- The scheme aims to create structured and scalable network of technology nodes in rural areas providing easy access to modern technologies to all villagers in their own villages.’
- AKRUTI’ is an acronym for ‘Advance Knowledge and Rural Technology Implementation’ programme.

**3) Sela macaque:** A new species of old world monkey recorded from Arunachal Pradesh has been named after sela pass.

- The phylogenetic analysis revealed that the Sela macaque was geographically separated from the Arunachal macaque (*Macaca munzala*) of Tawang district by Sela. This mountain pass acted as a barrier by restricting the migration of individuals of these two species for approximately two million years
- Sela is situated between Dirang and Tawang towns in western Arunachal Pradesh.
- According to the villagers, the Sela macaque is a major cause of crop loss in the West Kameng district of the State.

**4) Rogan art:** The word Rogan means “Oil” in Persian. With origins in Persia, it came to Kutch around 300 years ago. This craft is practised by a lone Muslim family, the Khattris in Gujarat.

- Rogan is a form of textile painting which uses a rich, brightly coloured paint made from castor oil and natural colors.
- The ‘Tree of Life’ design is the most famous design in Rogan painting

- The castor paste is mixed with natural colours and then is drawn out into a fine 'thread' with a metal stylus or 'Kalam'. This metal rod never comes in contact with the fabric.
- The artisans then carefully twist the paint across the cloth into motifs and patterns.
- Next, the fabric is folded thereby printing its mirror image.



**5) Sanjhi art:** Sanjhi is a humble craft of making rangoli-like designs usually on a mud platform or on the floor using special hand-cut patterns akin to stencils. The paper patterns are called khakha that are filled with colour.

- Basically a temple art, it deals with mythological stories with special focus on Krishna's Leela.
- This ancient form is said to have originated 400 years ago in the temples of Mathura and Vrindavan. It is associated with the Vallabhacharya Sect of Vaishnavism.



### 30.5.22

**1) Masked Aadhar:** Masked Aadhaar numbers are created by substituting the first eight digits of the Aadhaar number with characters such as "xxxx-xxxx," leaving only the final four digits exposed.

- The Ministry of Electronics and Information Technology Sunday withdrew an advisory issued by the Aadhaar agency which cautioned people to not share a photocopy of the document with entities such as hotels and cinema halls owing to the possibility of "misuse"

**2) Anticipatory bail:** The provision of anticipatory bail under Section 438 was introduced when Criminal Procedure Code (CrPC) was amended in 1973.

- As opposed to ordinary bail, which is granted to a person who is under arrest, in anticipatory bail, a person is directed to be released on bail even before arrest made.
- The Supreme Court (SC) ruled that no time limit can be set while granting anticipatory Bail and it can continue even until the end of the trial.
- It is issued only by the Sessions Court and High Court.

**3) Passive funds:** It is an investment vehicle that tracks a market index, or a specific market segment, to determine what to invest in.

- Unlike with an active fund, the fund manager does not decide what securities the fund takes on.
- This normally makes passive funds cheaper to invest in than active funds, which require the fund manager to spend time researching and analysing opportunities to invest in.
- Tracker funds, such as ETFs (exchange traded funds) and index funds fall under the banner of passive funds.

**4) Nagorno-Karabakh:** It is part of Azerbaijan, but its population is majority Armenian.

- As the Soviet Union saw increasing tensions in its constituent republics in the 1980s, Nagorno-Karabakh voted to become part of Armenia – sparking a war which stopped with a ceasefire in 1994.
- Since then, Nagorno-Karabakh has remained part of Azerbaijan but is controlled by separatist ethnic Armenians backed by the Armenian government.



**5) System of Rice Intensification:** It involves cultivating rice with as much organic manure as possible, starting with young seedlings planted singly at wider spacing in a square pattern; and with intermittent irrigation that keeps the soil moist but not inundated, and frequent inter cultivation with weeder that actively aerates the soil.

- SRI is not a standardised, fixed technological method.
- It is rather a set of ideas, a methodology for comprehensively managing and conserving resources by changing the way that land, seeds, water, nutrients, and human labour are used to increase productivity from a small but well-tended number of seeds.

### 31.5.22

**1) Colour- Coded Weather Warning:** It is issued by the IMD whose objective is to alert people ahead of severe or hazardous weather which has the potential to cause damage, widespread disruption or danger to life.

No Severe Weather	Be Aware	Be Prepared	Take Action

**2) Kalamkari:** It is a type of hand-painted or block-printed cotton textile produced in Isfahan, Iran, and in the Indian state of Andhra Pradesh.

- Only natural dyes are used in Kalamkari, which involves twenty-three steps
- To create design contours, artists use a bamboo or date palm stick pointed at one end with a bundle of fine hair attached to this pointed end to serve as the brush or pen.
- There are two distinctive styles of Kalamkari art in India – Srikalahasti style and the Machilipatnam style.
- This style flourished in temples centered on creating unique religious identities, appearing on scrolls, temple hangings, chariot banners as well as depictions of deities and scenes taken from the Hindu epics

**3) Breach of separation:** DGCA suspends air traffic controller who approved IndiGo flights that came too close after take-off.

- The incident was called "breach of separation", which happens when two aircraft cross the minimum mandatory vertical or horizontal distance in the airspace.

**4) DGCA:** Directorate General of Civil Aviation

- It is an attached office of the Ministry of Civil Aviation.
- It is the regulatory body in the field of Civil Aviation primarily dealing with safety issues.
- It is responsible for regulation of air transport services to/from/within India and for enforcement of civil air regulations, air safety and airworthiness standards.
- It also co-ordinates all regulatory functions with the International Civil Aviation Organisation.

**5) West Nile virus:** It is a member of the flavivirus genus and belongs to the Japanese encephalitis antigenic complex of the family Flaviviridae.

- WNV is commonly found in Africa, Europe, the Middle East, North America and West Asia.
- WNV is an infectious disease spread by infected mosquitoes.
- It spreads from birds to humans with the bite of an infected Culex mosquito. It can lead to a fatal neurological disease in humans.
- There are no specific vaccines or treatments for human WNV disease.
- The best way to avoid WNV is to prevent mosquito bites.