

Current Affairs March-2024

Surrogacy (Regulation) Amendment Rules, 2024

Why in news? Recently, the Union Ministry of Health and Family Welfare amended the surrogacy Rules to allow couples to use donor eggs or donor sperm for surrogacy.

Why was it introduced?

- The amendment was introduced following several petitions and court cases challenging the previous rules.
- For instance, the Supreme Court received petitions across the country after it allowed a woman with **Mayer-Rokitansky-Kuster-Hauser (MRKH) Syndrome, a rare congenital disorder** that affects the reproductive system and can cause infertility, to avail surrogacy with a donor egg.
- Prior to this, surrogacy rules allowed the use of donor eggs, but not sperm.

Key Features and Associated Concerns:

- **Use of Donor Gametes:** The amendment allows the use of donor gametes (eggs or sperm) in cases where the **District Medical Board** certifies that either the husband or wife constituting the intending couple suffers from a medical condition necessitating the use of a donor gamete.
- However, the use of donor gametes has raised concerns about the **rights of the donors** and the **legal implications of using donor gametes**.
- **Single Women and Surrogacy:** The amendment stipulates that if a divorced or widowed woman opts for surrogacy, the egg has to come from the mother.
- However, it does **not allow a single, never-married woman** to use surrogacy for having children.

It seems as **discriminatory** and has been **challenged in the Supreme Court**.

Medical Conditions and Surrogacy: The amendment keeps **surrogacy open to older women** as well as those who cannot produce eggs because of certain medical conditions.

- However, the rule change is **not applicable for widowed or divorced women**.

- If a divorced or widowed woman opts for surrogacy, the egg has to come from the mother.
- It raised concerns about the health risks associated with surrogacy in older women and those with certain medical conditions

Surrogacy Laws in India:

- Surrogacy comes under the reproductive choices of women and it is included as a fundamental right under the purview of Article 21 of the Indian Constitution.

Surrogacy (Regulation) Act (2021):

It governs the practice and process of surrogacy in India.

It provided a gestation period of ten months from the date of coming into force to existing surrogate mothers' to protect their well being.

About IVF and Surrogacy:

In vitro fertilization is an advanced method where the fertilization of an egg and sperm occurs in the lab. An [*infertility specialist*](#) extract eggs and collect sperms from the respective partners. They then mix them and leave them to fertilise on their own. Once embryo is formed, it is transferred to the woman's uterus for implantation after **3 or 5 days of fertilization**.

- **Surrogacy** is a form of third-party reproduction in which a woman consents to carry a pregnancy for intended parent(s) who cannot conceive for medical reasons.
- The eggs are retrieved from the original mother and they are **fertilized with the father's sperm**. Once an embryo is formed it is transplanted into a surrogate's womb. If the male spouse is infertile, sperm from a *sperm donor* can be used.
- The surrogate mother bears the baby and accepts to deliver it to the real parents. The infant is genetically related to the parents, but the surrogate mother delivers the child.

Mayer-Rokitansky-Kuster-Hauser Syndrome (MRKH)

About Mayer-Rokitansky-Kuster-Hauser Syndrome (MRKH):

- A rare congenital disorder affecting the female reproductive system.
- Characterized by the underdevelopment or absence of the uterus and vagina, while external genitalia appear normal.
- Affects approximately 1 in 4,500 females.

What are the causes?

- Exact cause unknown, but believed to be related to abnormal development during fetal life.

Two main types:

- **MRKH Type 1 (Isolated MRKH):** No other organ abnormalities, often linked to genetic mutations or environmental factors.
- **MRKH Type 2 (MURCS Association):** Associated with other malformations, such as kidney or skeletal abnormalities, often associated with genetic mutations.

What are the symptoms?

- Primary amenorrhea (absence of menstrual periods) by age 16.
- Pain during intercourse (due to vaginal shortening or absence).
- Difficulty getting pregnant (due to absent or underdeveloped uterus).
- Other symptoms may include:
 - Absence of cervix or fallopian tubes
 - Kidney problems
 - Hearing loss

Facts for Prelims:

Edwards Syndrome (Trisomy 18)

- A condition that causes severe developmental delays due to an extra chromosome 18.
- A first-trimester screening that includes a **blood test and ultrasound** offers early information about a baby's risk of having it. A second trimester blood test called a **quad screen** can also detect it.
- Symptoms include low birth weight, small abnormally shaped head and birth defects in organs that are often life threatening.
- Edwards' syndrome has no treatment and is usually fatal before birth or within the first year of life.

District Development Index

Why in News? Recently, **Maharashtra** has initiated District Development Index. Initiatives like the District Development Index for Maharashtra can help plug the gap and help policymakers develop a targeted approach.

About the District Development Index:

India's diversity is embodied in its districts. To the policymaker, understanding the full scale of this diversity is key to crafting policies.

- In this context, a multidimensional and localised index like the **District Development Index for Maharashtra will prove invaluable.**
- The index captures a district's progress by giving equal weightage to its potential for socio-economic development and its existing levels of socio-economic development.
- In addition to providing an immediate picture of district performance, the index is also built for the **long term, so policymakers can tap into the potential presented** by various districts.

Key facts :

- The average district in India has nearly 1.86 million people, larger than the population of countries like Singapore (0.56 million) and UAE (0.94 million).
- Using NFHS-5 data, they reveal that the average level of the **mother's education** equals or exceeds that of the father's in as many as **195 districts (out of 707 districts studied)**. A generation previously, only 11 districts had more educated mothers than fathers.

Financial access:

- Over 15 per cent of districts have more than **90 per cent of women** who own and operate savings accounts.
- Similarly, health metrics also show visible improvements. For instance, over 91 per cent of districts have had more than **70 per cent of births** in the last five years in health facilities.

Disparities in the income concentration:

- Urban districts, which constitute 30 per cent of all districts in India, account for more than 55 per cent of all wages paid and close to **45 per cent of all jobs**.
- Similarly, the average wage in the top **70 prosperous districts** is three times higher than the average wage of the **bottom 305 districts**.

Top-down & Bottom-up policies:

- Top-down policies continue to help address socio-economic issues at the district level in areas such as improved sanitation and hygiene (**Swachh Bharat**), provision of healthcare services (**Ayushman Bharat**), reducing malnutrition (**POSHAN Abhiyaan**) and rural job guarantee (MGNREGS).
- For instance, the Swachh Bharat Mission has led to **75 per cent of villages** being defecation-free. **Bottom-up policies** are founded on three key pillars — data collection, best governance practices and incentivised collaboration between different departments.

Steps taken:

The Aspirational Districts Programme, launched in 2018:

- It has been instrumental in addressing critical gaps and fostering collaboration among diverse stakeholders to target efforts in the pockets of deprivation in crucial areas of health and nutrition, **education, agriculture and water resources**, etc.
- In the last six years, the programme has transformed the lives of about 25 crore people in 112 districts, with visible improvements in key indicators, such as **health, financial inclusion and education**, as tracked by NITI Aayog.
- Schemes such as the **One District One Product (ODOP)** have begun making amends for this situation. Since its launch in 2020, the programme has seen the development and promotion of **1,000-plus unique products, across 767 districts**, encompassing sectors such as textiles, agriculture, food processing and handicrafts.

Challenges & way forward:

- Going by American academic Michael Porter's theory of clusters, district-level productivity and value-creation can be catalysed by creating linked industries and institutions in proximity.
- Developing industrial clusters that leverage the district's geography, culture and institutional structure is a possible route to improve district-level value creation exponentially.
- To create districts that are clusters of growth, **a one-size-fits-all policy does not work**. For example, the healthcare and education priorities of Kerala and Tamil Nadu are vastly different from those of Uttar Pradesh and Bihar.
- The key to effective administration is realising that **India is composed of many Indias**, and a top-down approach alone will not work. While top-down policies can act as enablers, the critical thrust should be on tailored responses.
- This requires coordination across all levels of government, agency and autonomy at the local level and a pervasive presence of account-based accountability. Moreover, a significant gap in the **effective implementation of programmes** has been the limited availability of timely and high-quality data at the district level.

This limitation severely hampers **policymaking, particularly in identifying** the segments of the population that need immediate government assistance.

In such a scenario, initiatives such as the District Development Index prepared for Maharashtra bring about transparency and ensure accountability of stakeholders. They will go a long way in tracking and supporting the contemporary socio-economic and infrastructure development at the district level, ensuring that districts emerge as growth drivers of Viksit Bharat.

The Genome India project:

Why in News? The government's Genome India initiative recently announced successful sequencing of 10,000 whole genomes of healthy persons from across the country, creating a genetic map of the population.

- Researchers from 20 science institutes across the country helped in collecting the blood samples, sequencing the genome, developing a methodology, and storing the data.

- With each sequence requiring 80 Gb storage space, the huge dataset of 8 petabytes will be stored at the Indian Biological Data Centre in Faridabad.
- This data set will be made available to researchers as “digital public good.” The data can be utilised to develop new diagnostics, targeted therapies, identify new rare diseases, and cure existing ones.

About Genome India project:

- Genome India Project is an important initiative launched by the Government of India which aims to understand the genome information of Indian citizens in detail and use it for better decision making in healthcare, medicine and other fields. Under this project, efforts are made to group, **analyze and obtain information about the genome of Indian citizens.**
- The Genome India Project collects genomic data that covers various aspects of the genome of Indian citizens, such as their quality, disease resistance, and related information. Its main objective is to help prioritize the health and medical services of Indian citizens.
- Under the Genome India Project, protection, **privacy and security of genomic data** of Indian citizens is considered important, so that their privacy can be protected and their data remains secure.

Significance:

Understanding Genetic Diversity: India is known for its diverse population with various ethnicities, languages, and cultural backgrounds.

The Genome India project aims to capture this diversity by sequencing genomes from different regions and communities. This can provide valuable insights into the genetic makeup of the Indian population and help in understanding human evolution and migration patterns.

Healthcare Implications: By studying the genetic variations within the Indian population, researchers can identify genetic factors associated with various diseases and conditions.

This knowledge can lead to the development of personalized medicine and targeted therapies tailored to the genetic profiles of individuals, thereby improving healthcare outcomes.

Precision Medicine: Genomic data from the Genome India project can be used to develop personalized treatment strategies based on an individual's genetic makeup. This approach, known as precision medicine, has the potential to revolutionize healthcare by providing more effective and tailored treatments for various diseases.

Research Advancements: The genomic data generated by the project can be used for a wide range of research purposes, including understanding the genetic basis of complex traits, studying population genetics, and investigating the role of genetics in response to environmental factors.

Challenges:

Ethical and Privacy Concerns: Genome sequencing involves the collection of highly sensitive genetic information, raising concerns about privacy, data security, and potential misuse of genetic data. Ensuring that proper ethical and privacy safeguards are in place is crucial to address these concerns.

Data Management and Analysis: The massive amount of genomic data generated by the project presents significant challenges in terms of data storage, management, and analysis. Advanced computational tools and techniques are required to handle and analyze large-scale genomic datasets effectively.

Population Diversity and Representation: India is incredibly diverse, with thousands of distinct ethnic groups and linguistic communities. Ensuring adequate representation of this diversity in the Genome India project is essential to capture the full spectrum of genetic variation within the Indian population.

Resource Constraints: Genome sequencing is a resource-intensive process, requiring sophisticated laboratory equipment, skilled personnel, and substantial funding. Ensuring sustainable funding and infrastructure support for the project can be a significant challenge.

Community Engagement and Inclusivity: Engaging with local communities and gaining their trust and participation in the project is essential to its success. Addressing cultural sensitivities, providing education about genetics, and involving communities in decision-making processes are crucial for fostering inclusivity and ensuring the project's relevance and impact.

Overall, while the Genome India project holds immense promise for advancing our understanding of genetics and improving healthcare outcomes, addressing these challenges will be critical to its success.

New chairperson of the Lokpal:

Why in News? The retired Supreme Court judge, Justice AM Khanwilkar has recently been appointed as the chairperson of the anti-corruption ombudsman Lokpal.

Appointment of other members:

- The government has also appointed six members, including three judicial members, to the Lokpal. Former Himachal Pradesh HC CJ **Lingappa Narayana Swamy**, former Allahabad HC CJ **Sanjay Yadav** and former Karnataka HC CJ and Law Commission Chairperson **Ritu Raj Awasthi** are judicial members; non-judicial members include former CEC **Sushil Chandra**, former Chief Secretary of Gujarat **Pankaj Kumar** and former Rural Development Secretary **Ajay Tirkey**.

What are Lokpal and Lokayukta?

- Lokpal and Lokayukta are public institutions established in India to investigate and prosecute corruption among public officials.
- The Lokpal and Lokayukta handle complaints against ministers and top government officials.
- The Lokpal chairperson and the members are appointed for a **term of five years** or serve till they **are 70 years old**, whichever is earlier. The first Lokpal chairperson was former Supreme Court Justice **Pinaki Chandra Ghose**, who had assumed office in March 2019.

Background of Lokpal and Lokayukta in India:

- The concept of ombudsman originated in **1809 in Sweden**.
- In India, the former law minister **Ashok Kumar Sen** became the first Indian to propose the concept of a constitutional Ombudsman in Parliament in the early 1960s.
- Further, **Dr. L. M. Singhvi** coined the term **Lokpal and Lokayukta in 1963**. Later in the year 1966, the First Administrative Reform Commission passed recommendations regarding the setting up of two independent authorities at the central and at the state level.

- After the recommendations from the First Administrative Reform Commission, the Lokpal bill was passed in **Lok Sabha in 1968** but lapsed due to the dissolution of Lok Sabha. Since then, the bill was introduced many times in Lok Sabha but has lapsed.
- Later, in **2002**, the **National Commission for Review of the Working** of the Constitution (NCRWC) recommended the appointment of the Lokpal and Lokayuktas. In 2005, the **2nd Administrative Reform Commission(ARC)** also recommended the same.
- The Anna Hazare movement, also known as India Against Corruption (IAC) movement, was led by social activist Anna Hazare, who began a hunger strike in April 2011 to demand the creation of an independent, effective anti-corruption body known as the Lokpal.
- As a result of the movement, the Lokpal and Lokayukta Bill was introduced in the Indian parliament and passed into law in 2013.

Deglobalization" and "slowbalization

Deglobalization" and "slowbalization" are two related concepts that refer to shifts in the global economic landscape, particularly in terms of international trade and interconnectedness.

Deglobalization:

- This term typically refers to a trend or process where international economic integration, particularly through trade, investment, and movement of people, decreases or stagnates. Deglobalization can manifest in various ways, including the imposition of trade barriers such as tariffs and quotas, a reduction in multinational investment, increased protectionism, and a focus on national economic priorities over global cooperation.

Slowbalization:

- Slowbalization, on the other hand, is a concept that acknowledges a slowdown in the pace of globalization rather than an outright reversal.
- It suggests that while globalization is still occurring, it's happening at a slower rate compared to previous decades. This could be due to a variety of factors such as rising protectionism, geopolitical tensions, technological shifts, and changing consumer preferences. Slowbalization does not necessarily imply a complete halt or reversal of globalization but rather a deceleration in its momentum.

Both concepts reflect shifts in global economic dynamics and have implications for businesses, governments, and individuals worldwide. They highlight the complexities and challenges in managing global interdependence and navigating an increasingly interconnected yet sometimes fragmented world economy.

Mauritius, Maldives and India:

Why in News? The first team of Indian “technical personnel” recently reached the Maldives to take charge of one of the three aviation platforms stationed in the country. They will replace Indian military personnel whose first batch is required to leave the islands by March 10.

Prime Minister Narendra Modi and Prime Minister Pravind Jugnauth of Mauritius recently jointly inaugurated an airstrip and a jetty that India has built on **Agaléga, a two-island** Mauritian dependency 1,100 km to the north of Port Louis and 2,500 km southwest of Malé.



Recent development in Maldives :

- Soon after coming to power in November 2023, Mohamed Muizzu, the **pro-China President of the Maldives**, requested India to withdraw its military personnel from his country. Muizzu had defeated the incumbent Ibrahim Mohamed Solih in the presidential election on the “**India Out**” plank.
- The Indian Ministry of External Affairs had said that the two helicopters and a Dornier aircraft in the Maldives would be operated by “competent Indian technical personnel” who would replace the “present personnel”.

The Mauritius case:

- Following Prime Minister Modi’s visit to Mauritius in March 2015, India signed a Memorandum of Understanding for the “improvement in sea and air transportation facilities” at **Agaléga island**.
- The MoU, signed in the Mauritian capital Port Louis in the presence of Modi and then Prime Minister of Mauritius Anerood Jugnauth, provided for “**setting up and upgradation of infrastructure for improving sea and air connectivity** at the Outer Island of Mauritius .
- It will enhance the capabilities of the **Mauritian Defence Forces** in safeguarding their interests in the Outer Island.

The presence of India would lead to more effective monitoring of Mauritius’ vast 2.3 million sq km Exclusive Economic Zone, and equip it to better counter piracy, terrorism, narcotics and human trafficking, and illegal and unregulated fishing, Prime Minister Jugnauth said.

Challenges ahead & role of China:

- China sees great value in having a powerful presence in the Indian Ocean region. “Nine of China’s top 10 crude oil suppliers transit the Indian Ocean which is also the primary theatre of transit for China for engagements with Africa, Middle East, island nations, and littorals across the vast ocean.
- The Indian Ocean is “also the main trading route between China and Europe.
- China is the only nation with an embassy in each of the six islands in the Indian Ocean — Sri Lanka, Maldives, Mauritius, Seychelles, Madagascar, and Comoros”, and “none of the traditional players — the United States, the UK, India, or France have embassies on all six.
- Beijing had gone beyond diplomatic and trade partnerships in the region, and had begun to maintain a consistent military presence as well.
- In 2017, China opened its first overseas military facility in the **Indian Ocean in Djibouti on the Horn of Africa.**
- The Chinese second military facility will soon come up in the Indian Ocean — whether in **Pakistan, Myanmar, or the western Indian Ocean.**

India has deep strategic stakes in the Indian Ocean. New Delhi has to manage its diplomatic relationships with the governments of island nations in the region while continuously pursuing its strategic interests.

Nyerere National Park:

Why in News? Recently, Tanzania has switched on its first turbine of a Julius Nyerere Hydropower Plant in Selous Game Reserve, a UNESCO’s World Heritage Site.

About Selous Game Reserve (partially renamed as Nyerere National Park):

- It is one of the largest protected areas and is relatively undisturbed by human impact, located in southern Tanzania in Africa.
- It was designated a UNESCO World Heritage Site in 1982 due to its wildlife diversity and undisturbed nature.

About Tanzania

– It is an East African country situated just south of the Equator, and was formed as a sovereign state in 1964 through the union of the Tanganyika and Zanzibar.



- a. Mainland Tanganyika covers most of the area.
 - It is bounded by Uganda, Lake Victoria, and Kenya to the north, by the Indian Ocean to the east, by Mozambique, Lake Nyasa, Malawi, and Zambia to the south and southwest, and by Lake Tanganyika, Burundi, and Rwanda to the west.
 - Islands: Zanzibar, Pemba and Mafia Islands.
 - Capital: Dodoma;
 - a. Dar es Salaam is the largest city and port in the country.

Facts for prelims:

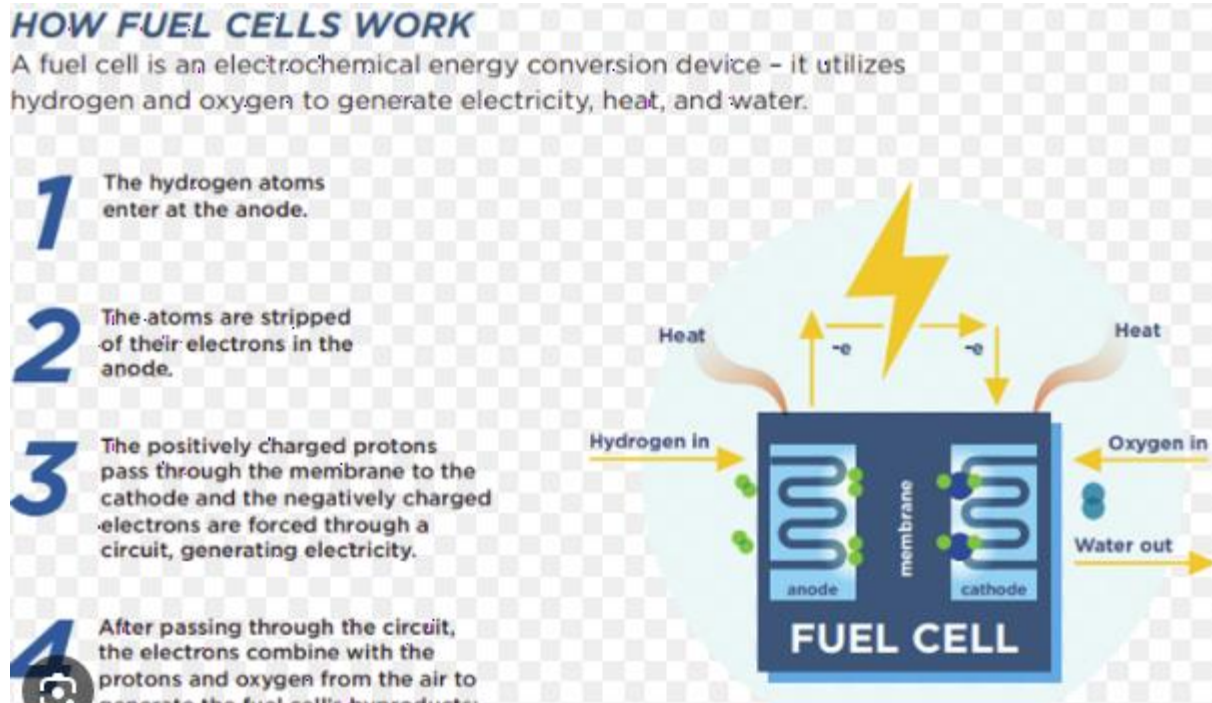
India’s first hydrogen fuel cell ferry

Prime Minister Narendra Modi Wednesday virtually launched India’s first indigenously developed hydrogen fuel cell ferry. The vessel, manufactured by Cochin Shipyard Limited (CSL), will be deployed for service at Varanasi in Uttar Pradesh.

About Hydrogen fuel cell vessels:

- Hydrogen fuel cell vessels do not use conventional batteries as the primary storage house of electrical energy. The vessels run on hydrogen fuel, which is stored in cylinders.

- This boat has five hydrogen cylinders that can carry 40kg of hydrogen and support eight hours of operations. The vessel is also fitted with a 3-kW solar panel.



Articles 105 & 194:

Why in News? The Supreme Court has recently ruled that lawmakers cannot claim immunity from prosecution in bribery cases. The court explained that the legal protection provided to MPs and MLAs under **Articles 105 and 194** of the Constitution does not shield them in cases of accepting bribes for votes or speeches in the House.

What has the court said ?

- An individual member of the legislature cannot assert a claim of privilege to seek immunity under Articles 105 and 194 from prosecution on a charge of bribery in connection with a vote or speech in the legislature
- "It (corruption and bribery) is destructive of the aspirations and deliberative ideals of the Constitution and creates a polity which deprives citizens of a responsible, responsive, and representative democracy."
- Bribery is not rendered immune under **Article 105(2)** and the corresponding provision of **Article 194** because a member engaging in bribery commits a crime which is not essential to the casting of the vote or the ability to decide on how the vote should be cast.

Article 105: This article deals with the powers and privileges of the Parliament of India and its members. It grants certain privileges to members of Parliament in order to maintain the independence and integrity of the parliamentary proceedings.

- These privileges include freedom of speech in the **Parliament, immunity** from legal action in respect of anything said or any vote cast in Parliament, and the right to regulate its own procedures.
- Article 105 also empowers Parliament to define its own privileges through legislation. However, these privileges are subject to the provisions of the Constitution and the laws made by Parliament.

Article 194: Similarly, Article 194 **pertains** to the powers, privileges, and immunities of the State Legislatures and their members. It grants similar privileges to the members of the State Legislature as those provided to **members of Parliament under Article 105**.

Like Parliament, the **State Legislatures** have the authority to define their own privileges through legislation, subject to the **Constitution and the laws** made by the respective State Legislature.

Grey Zone Warfare:

Why in News? On the last day of the 2024 **Raisina Dialogue**, **India's Chief of Defence Staff** General Anil Chauhan said that grey zone warfare is the latest in informal warfare.

During a discussion titled '**The New Wars: Policies, Practices, and Preparation**', he gave an example of the situation in the South China Sea.

About:

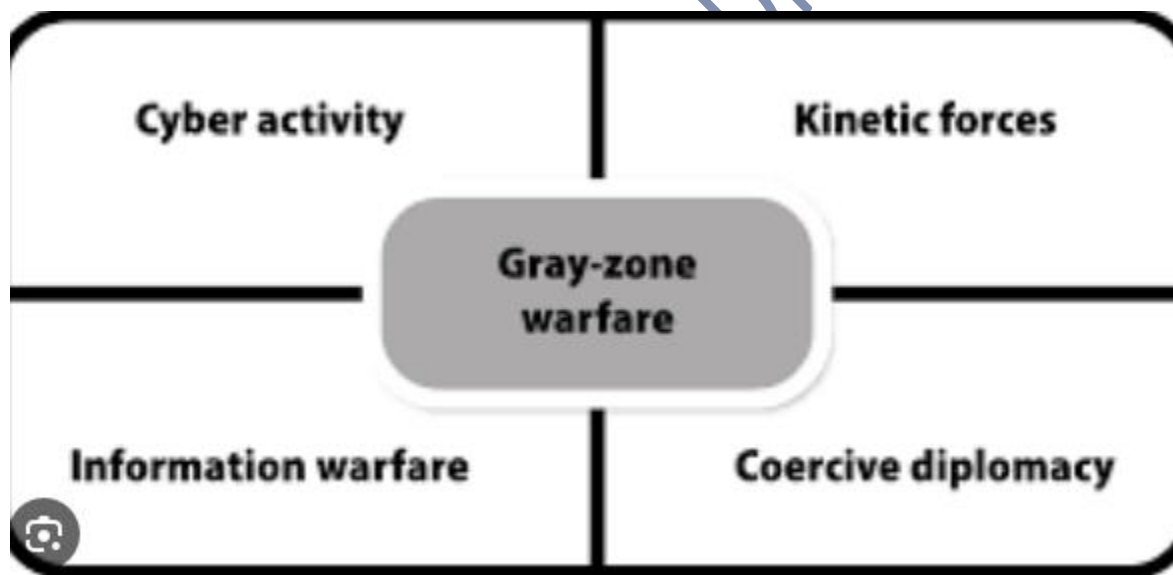
- Grey zone warfare generally means a middle, unclear space that exists between direct conflict and peace in international relations.

- Multitude of activities fall into this zone — from nefarious economic activities, influence operations, and cyberattacks to mercenary operations, assassinations, and disinformation campaigns.

Other experts include economic actions too, such as debt traps and economic sanctions.

Features:

- Activities in the grey zone have always been a feature of great-power competition.
- Proxy wars, destabilizing insurgencies, legal warfare (lawfare), and information warfare—by adversaries and allies alike—have been a feature of this conflict.
- Experts claim that such methods are often employed by parties who have not had access to massive resources or power, traditionally. Therefore, such tactics can help gain an advantage over a more technically well-equipped adversary that is more used to conventional warfare.



The UDGAM portal.

Why in News? The Reserve Bank of India has recently said that various banks are facilitating people to search their unclaimed deposits/accounts through UDGAM portal.

About UDGAM Portal:

- UDGAM refers to Unclaimed Deposits-Gateway to Access inforMation, which is an online portal developed by the Reserve Bank of India (RBI).
- It facilitates the registered users to search unclaimed deposits/accounts across multiple banks at one place in a centralised manner.
- There are 30 banks, which are part of UDGAM portal, and they cover around 90% of unclaimed deposits (in value terms) in Depositor Education and Awareness (DEA) Fund of RBI.
- All unclaimed deposits/accounts that are part of Depositor Education and Awareness (DEA) Fund of RBI.

Article 217 (2):

Why in News? Recently, the former Calcutta High Court judge, Abhijit Gangopadhyay formally joined a **political party, after resigning from his position** as judge of the Calcutta High Court, five months before his date of retirement.

Other judges who have joined political Parties:

- Earlier, there have been two noteworthy instances of active Supreme Court judges resigning their positions for a role in politics, including former **CJI Justice Subba Rao in 1966**, and more recently Justice **Baharul Islam in 1983**, who resigned his position to contest the **Lok Sabha polls in Assam**.
- Other judges such as **Justice Rama Jois** also joined political parties, but much after retirement.

What are constitutional provisions regarding this ?

- **Article 217(2)** lays down the eligibility for High Court judges as follows, it doesn't lay any restrictions on individuals with political affiliations from being appointed as judges.
- **Article 217 (2)** of the Constitution of India: "A person shall not be qualified for appointment as a **Judge of a High Court** unless he is a citizen of India and —(a) has for at least 10 years held a judicial office in the territory of India; or (b) has for at **least 10 years** been an advocate of a High Court or of two or more such courts in succession."

- While there **don't exist any norms or legislation to regulate** the entry of judges into politics or prevent them from accepting post-retirement benefits, the closest we have come to the same is perhaps through the **14th Law Commission Report (1958)** which recommended that **judges should be barred from accepting employment with the Union or the State.**

Article 20 Doesn't Prohibit Court From Imposing Lesser Punishment As Per New Law: Supreme Court:

Why in News? The Supreme Court has recently observed that **Article 20(1)** of the Constitution doesn't restrain the Courts from imposing a lesser punishment on the basis of a new law which came into force after the date of commission of the offence.

Article 20(1), which incorporates the principle that criminal laws cannot be given retrospective operation, states that a person cannot be punished or subjected to a higher penalty on the basis of a law which was not in force at the time of the offence.

The Judgment authored by **Justice Sudhanshu Dhulia** considered the question of whether the sentence imposed on the appellants under the Prevention of Food Adulteration Act, 1954 (“Old Act”) could be converted after the introduction of the Food Safety and Standards Act, 2006 (“New Act”).

“when an amendment is beneficial to the accused it can be applied even to cases pending in Courts where such a provision did not exist at the time of the commission of offence.”, the Supreme Court held in **T. Barai v. Henry Ah Hoe.**

Ex post facto law: Clause (1) of Article 20:

An ex-post-facto law is a law which imposes penalties retrospectively, i.e., on acts already done or which increases penalties for such acts.

- **Article 20(1)** imposes a limitation on the law-making power of the Legislature. Ordinarily, a Legislature can make prospective as well as retrospective laws but clause (1) of **Article 20 prohibits** the Legislature from making retrospective criminal laws. However. It does not prohibit imposition of civil liability retrospectively, i.e., with effect from a past date. So, a tax can be imposed retrospectively.

- The protection afforded by clause (1) is available only against conviction or sentence for a criminal offence under ex-post-facto law and not against the trial, civil laws or tax laws.
- The protection (immunity) of **clause (1) of Article 20** cannot be claimed in case of preventive detention, or demand of security from a person. The prohibition is just for conviction and sentence only and not for prosecution and trial under a retrospective law.



About the Retrospective & Prospective laws:

Retrospective laws, also known as retroactive laws or ex post facto laws, are laws that apply to events that occurred before the law was enacted. In other words, they change the legal consequences of actions that were committed before the law was established. Retroactive laws are generally disfavored in **legal systems** because they can be seen as unfair and violate principles of due process and legal certainty.

Prospective laws, on the other hand, are laws that apply to events that occur after the law is enacted. These are the typical form of legislation, where the law sets out rules and regulations for future conduct and actions. Prospective laws are considered the standard way of governing behavior within a legal system, as they provide predictability and clarity to individuals and organizations.

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Facts for prelims:

Green Jobs.

What are 'green jobs'?

'Green jobs' refer to a class of jobs that directly have a positive impact on the planet, and contribute to the overall environmental welfare. Jobs involving renewable energy, conservation of resources, ensuring energy efficient means are categorised under the same. In all, they're aimed at reducing the negative environmental impact of economic sectors and furthering the process of creating a low-carbon economy.

The International Labour Organisation, the International Trade Union Confederation, the United Nations Environment Programme and the International Employers Organisation collectively launched the Green Jobs Initiative in 2008, aimed at bettering placements, training and creating opportunities for individuals to work in 'green jobs'.

Arun Goel resign as Election Commissioner

Why in News? The Election Commissioner quit with only days left for the announcement of the Lok Sabha polls, especially when his tenure ends only on **December 5, 2027**. If he had not resigned, he would have become Chief Election Commissioner.

- With the retirement of **Anup Chandra Pandey** in February and Goel's resignation, the three-member Election Commission is now reduced to only one member, Chief Election Commissioner Rajiv Kumar.
- Other judges such as **Justice Rama Jois** also joined political parties, but much after retirement.
- Goel, a retired bureaucrat, served as a **1985-batch IAS officer** of the Punjab cadre. He joined the **Election Commission in November 2022**.

Appointment:

- The Chief Election Commissioner and the Election Commissioner are appointed by the President of India.
- If it is multi-member body, the **chief election commissioner shall act as the chairman** of the election commission.
- In case of difference of opinion amongst the Chief Election Commissioner and/or two other election commissioners, the matter is decided by the Commission by majority.
- The president may also appoint after consultation with the election commission such regional commissioners as he may consider necessary to assist the election commission.

Conditions of Service:

- The President fixes the service condition and tenures.
- They enjoy the same status and receive salary and **perks as available to Judges of the Supreme Court of India.**
- They have tenure of **six years, or up to the age of 65 years**, whichever is earlier.
- They can resign at any time by addressing the resignation letter to the president or can also be removed before the expiry of their term.

Procedure for Removal:

- He/she can be removed either on the ground of “proved misbehaviour or incapacity”.
- He/she can be removed by the president on the basis of a resolution passed to that effect by **both the Houses of Parliament with special majority**. majority of two-third members present and voting supported by more than **50% of the total strength** of the house.
- The Constitution **does not use the word ‘impeachment’**, for the removal of the Chief Election Commissioner. The term ‘Impeachment’ is only used for removing the President

Election Commissioners Bill 2023:

Key features of Bill?

- **Election Commission:** It will consist of a Chief Election Commissioner (CEC) and other Election Commissioners (ECs). The President will periodically fix the number of ECs.

- **Appointment of the Commission:** The Commission will be appointed by the President, upon the recommendation of the Selection Committee.

Mission Divyastra : MIRV Technology

Why in News? The DRDO has recently carried out the first flight test of Agni-5 missile with MIRV technology.

- It is the first flight test of indigenously developed **Agni-5 missile with Multiple Independently Targetable Re-entry Vehicle (MIRV)** technology.

What is Mission Divyastra?

- Mission Divyastra is the first flight test of an indigenously developed Agni-5 missile equipped with MIRV technology by India's Defense Research and Development Organization (DRDO).
- MIRV stands for Multiple Independently Targetable Re-entry Vehicle. This means a single **Agni-5 missile** can carry multiple warheads and deliver them to separate targets.

What is MIRV?

- MIRV stands for Multiple Independently targetable Re-entry Vehicle. It's a type of missile technology that allows a single missile to carry multiple nuclear warheads, each of which can be directed to a different target. This technology significantly increases the effectiveness and destructive capability of ballistic missiles.

Basics of MIRV:

- **Multiple Warheads:** Unlike older missile designs that carried a single nuclear warhead, a MIRV-equipped missile can carry several warheads, often up to a dozen or more. Each of these warheads can be assigned a different target.

Independently Targetable: The key feature of MIRV technology is that each warhead can be directed to a different target independently of the others. This is achieved through sophisticated guidance and delivery systems.

Re-entry Vehicle: After the missile is launched and reaches a certain point in its trajectory, the warheads are released. Each warhead is housed in its own re-entry vehicle, which protects it as it re-enters the Earth’s atmosphere. The re-entry vehicle is designed to withstand the intense heat and friction generated during re-entry.

India's MIRV punch

India has joined select group of nations that have Multiple Independently Targeted Re-entry Vehicle (MIRV) technology

Agni-5 missile uses a three-stage solid fuelled engine
5,000km range

USING MULTIPLE WARHEADS

- MIRVs can cause more destruction than missiles that carry single warhead.
- It will allow Agni-V to deliver multiple nuclear warheads against different targets across hundreds of kilometres.

India completed its nuclear trial in 2018 when nuclear-powered ballistic missile submarine, INS Arihant, completed its first deterrence patrol

India's nuclear doctrine, promulgated in 2003, commits to a 'no first use' posture, with weapons to be used only in retaliation against a nuclear attack

Proud of our DRDO scientists for Mission Divyastra, the first flight test of indigenously developed Agni-5 missile with Multiple Independently Targetable Re-entry Vehicle (MIRV) technology.
 —NARENDRA MODI, Prime Minister

T+0 trade settlement

Why in News? Markets regulator Securities and Exchange Board of India (SEBI) will begin the T+0 trade settlement cycle on an optional basis by March 28.

The Indian stock market follows the T+1 (trade plus one day) settlement cycle for all scripts at present.

About the Trade settlement cycle:

- The trade settlement cycle, often referred to in financial markets, determines the timeframe within which a trade must be settled, meaning the buyer must pay for the securities purchased, and the seller must deliver the securities sold.
- The most common settlement cycles are **T+0, T+1, T+2, and T+3**:

T+0: In this settlement cycle, the trade is settled on the same day as the trade date (T). This is a rare settlement cycle and is mostly used for certain types of trades in very liquid markets or for special arrangements.

T+1: The trade settles one business day after the trade date. For example, if a trade occurs on Monday (T), settlement would occur on **Tuesday (T+1)**.

T+2: The trade settles two business days after the trade date. For example, if a trade occurs on Monday (T), settlement would occur on **Wednesday (T+2)**.

T+3: The trade settles three business days after the trade date. For example, if a trade occurs on Monday (T), settlement would occur on **Thursday (T+3)**.

Uttar Pradesh Prohibition of Unlawful Conversion of Religion Act, 2021

Why in News? The Allahabad High court has recently said that reconversion is not only required for the purpose of marriage but it is also required in all relationships in the nature of marriage, and, therefore, the **Uttar Pradesh Prohibition of Unlawful Conversion of Religion Act, 2021** applies to marriages or live-in relationships.

Justice Renu Agarwal made the observation while rejecting an inter-religion couple's plea for police protection.

Key points of Prohibition of Unlawful Religious Conversion Act 2021:

- Under the act, if a person convicted of doing forceful conversions for the sake of marriage shall face imprisonment of between one-five years and the crime will be a **non-bailable offence**.

- The act mainly envisages that no person shall convert, either directly or indirectly from one religion to another by use or **practice of misrepresentation**, force, undue influence, coercion, allurement.
- or by any **fraudulent means or by marriage** nor shall any person abet, convince or conspire such conversion.
- If an individual wants to marry after converting to any other **religion**, they will need to take permission from the district magistrate two months before the wedding.

Violation of provisions of the law provides:

- Jail term of a minimum of 1 year, up to **5 years, or a fine of Rs 15,000** (in normal cases)
- Jail term of a minimum of **3 years and a maximum of 10 years**, and a fine of Rs 25,000 (if the girl is a minor or from the SC/ST community)
- Jail term of a minimum of **3 years, up to 10 years**, and a fine of Rs 50,000 (in case of mass religious conversion)

One Nation, One Election

Why in News? Recently Kovind panel has given top 10 recommendations for simultaneous elections to the Lok Sabha and state assemblies, followed by synchronised local body polls within 100 days.

The top ten recommendations are:

1. Government must develop a legally tenable mechanism in order to restore the cycle of simultaneous elections.
2. In the first stage, elections for the **Lok Sabha and all state legislative** assemblies can be held together.

3. In the second step, the elections to municipalities and **panchayats will be synchronised** with the Lok Sabha and state assemblies in such a way that elections to municipalities and panchayats are held within **100 days of the holding of parliamentary** and assembly polls.
4. For the purpose of synchronising Lok Sabha and assembly elections, the president shall notify the date of the first sitting of the Lok Sabha after a general election as the 'appointed date'.
5. The tenure of all state assemblies formed via polls after the 'appointed date' and before the expiry of the full term of the Lok Sabha, will be only for the period ending up to the subsequent parliamentary polls. After this one-time transitory measure, **all Lok Sabha and assembly polls will be held simultaneously.**
6. Fresh elections could be held to constitute a **new Lok Sabha in the event of a hung House or a no-confidence motion, or any such event.**
7. Where fresh elections are held for the House of the People (Lok Sabha), the tenure of the House will be 'only for the unexpired (remaining) term of the immediately preceding full term of the House.
8. When fresh elections are held for state legislative assemblies, then such new assemblies -- unless sooner dissolved -- shall continue up to the end of the full term of the Lok Sabha.
9. A single electoral roll and **Elector's Photo Identity Card (EPIC)** shall be prepared by the Election Commission of India in consultation with the State Election Commission and the same will substitute any other electoral roll prepared by ECI.
10. For making logistical arrangements for the conduct of simultaneous elections, the ECI may draw up a plan and estimate in advance for the procurement of equipment, such as **EVMs and VVPATs**, deployment of polling personnel and security forces and make other necessary arrangements.

Facts for prelims:

KIRTI Programme:

Why in News? The Union Youth Affairs and Sports Ministry has recently inaugurated a unique talent hunt event called KIRTI (**Khelo India Rising Talent Identification**) in Chandigarh.

Objectives of KIRTI:

- KIRTI will conduct **20 lakh assessments** across the country throughout the year to identify talent through notified Talent Assessment Centres.
- KIRTI will use **IT tools to identify talent from every corner** of the country and provide a common platform to showcase their abilities.
- KIRTI's fundamental aim is to establish a **hierarchical structure** that will help the grassroots level athletes to achieve excellence on the global stage.

Ice Cube Observations:

Why in News? Researchers at the IceCube Observatory have identified seven potential instances of elusive “**Ghost Particles**” or **astrophysical Tau Neutrinos** as they penetrated through Earth.

These neutrinos are pivotal for understanding the **cosmic exchanges between Earth and the vast universe**.

What are Neutrinos?

- Neutrinos, often referred to as “**ghost particles**,” are subatomic particles characterized by their nearly zero mass and lack of electric charge.
- They traverse through matter with minimal interaction, making their detection extremely challenging.
- Previously believed to be massless, evidence has **emerged indicating that neutrinos** possess a very small mass.

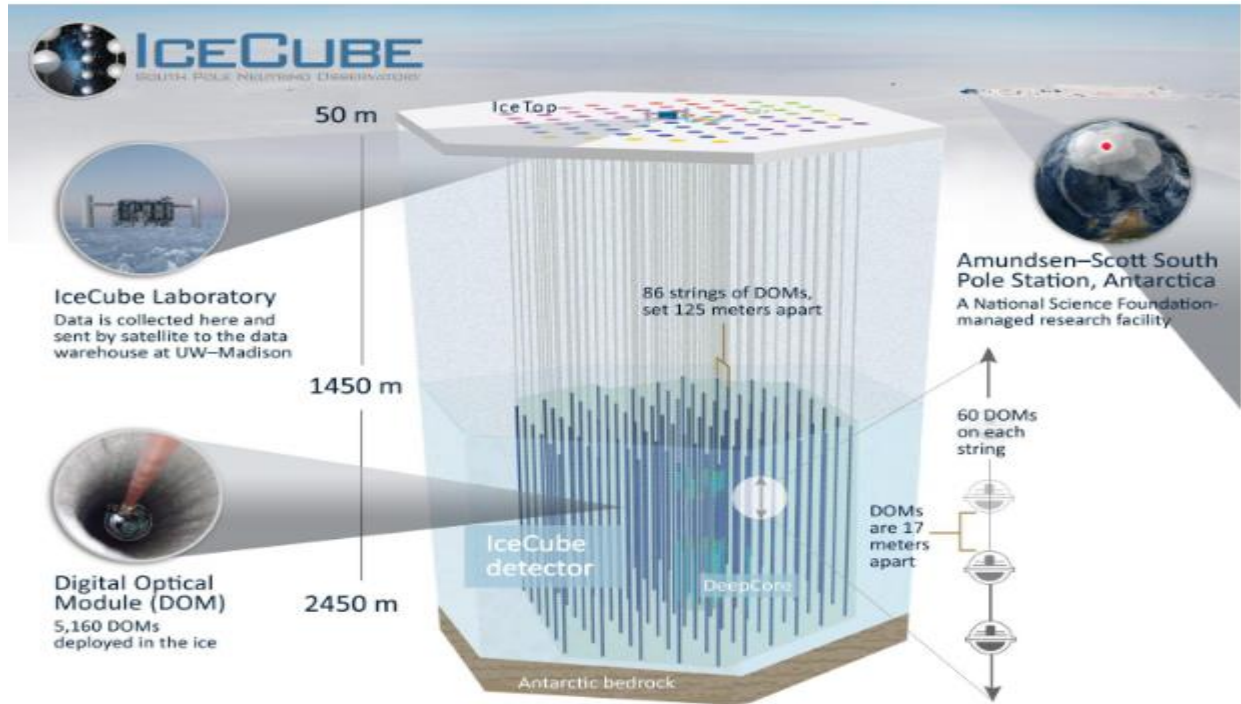
- Neutrinos rank among the most abundant particles in the universe.

Why Neutrinos are termed “Ghost Particles”?

- The weak charge and almost imperceptible mass of neutrinos render them exceedingly difficult for scientists’ to detect directly.
- Due to their rare interactions with other particles, tracking neutrinos proves nearly impossible.

About the IceCube Neutrino Observatory:

- The IceCube Neutrino Observatory is a scientific research facility located at the **South Pole**, operated by an **international collaboration** of scientists. It is designed to detect high-energy neutrinos, which are subatomic particles that rarely interact with matter and can travel through space almost unaffected by cosmic phenomena.
- IceCube consists of a **cubic-kilometer array of sensors** embedded deep within the Antarctic ice, extending from depths of 1,450 meters to 2,450 meters below the surface. These sensors, known as Digital Optical Modules (DOMs), are deployed on strings within the ice, spaced about **125 meters apart**.



HbA1C test:

Why in News? According to 2018 ICMR guidelines, everyone older than 30 years should be screened for diabetes.

Key Facts:

- India is estimated to have 10.13 crore people with diabetes, and another 13.6 crore people who are pre-diabetic, according to a nationwide study published in 2023.
- This apart, over **35% of Indians suffer from hypertension** and **nearly 40%** from abdominal obesity, both of which are risk factors for diabetes. India accounts for **17% of all diabetes patients in the world.**

About the HbA1c Test:

- It is also known as glycated hemoglobin test or simply A1C test, is a blood test used to measure the average blood sugar levels over the past 2 to 3 months.

- The test specifically measures the amount of glucose that is bound to hemoglobin, a protein found in red blood cells.

Facts for prelims:

Geo-heritage site:

Why in News? Recently, Pandavula Gutta has been officially recognised as the sole Geo-heritage site in Telangana.

About Pandavula Gutta :

- It is a geological marvel older than the Himalayan hills.
- It is located in Jayashankar Bhupalpally district in Telangana is home to many prehistoric habitation sites.
- This site was first discovered in the year 1990.
- It is rich in terms of number of paintings, rock shelters and its habitation, right from the mesolithic to medieval times.
- The paintings feature geometrical designs and impressions in green, red, yellow and white pigment colours.

What is Geo-heritage site?

- A Geo-heritage site refers to a location or area recognized for its geological significance and value.
- These sites are often designated and protected due to their unique geological features, such as rock formations, fossils, landforms, or other geological phenomena.
- Geo-heritage sites are important for understanding **Earth's history, processes, and evolution**, and they often hold scientific, educational, cultural, and aesthetic value.

B200 Blackwell chip:

Why in News? Nvidia has unveiled the 'B200 'Blackwell', its latest artificial intelligence (AI) chip that can do some computational tasks 30 times faster than its current blockbuster, the H100 'Hopper' .

- The H100 'Hoppe chip that has helped the company gain a 80% market share.

About Nvidia's new Blackwell chip:

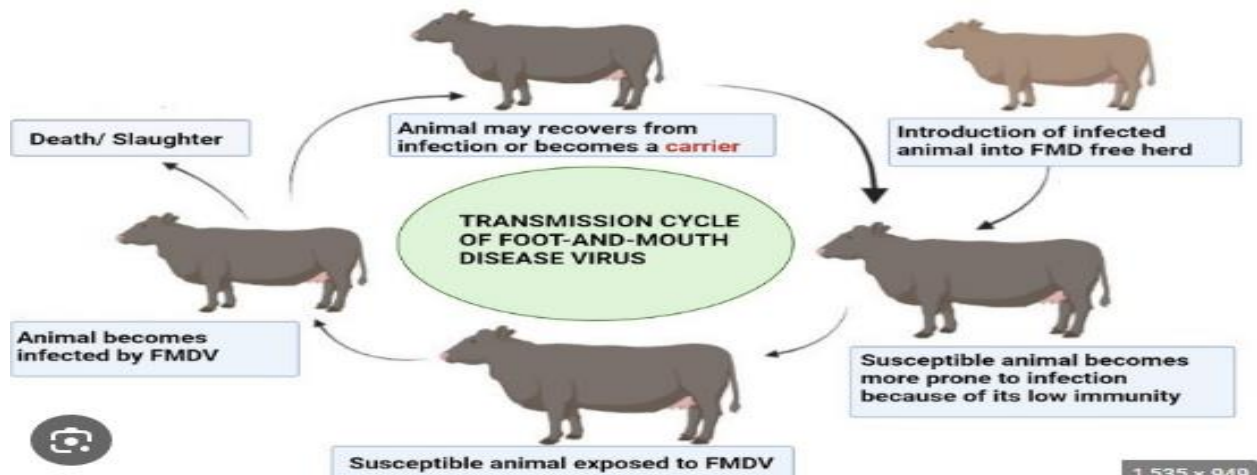
- The Blackwell graphic processing unit (GPU) has **208 billion transistors**, compared with the 80 billion in **the H100** that was launched last year, markedly increasing compute power.
- The new chip was “twice as powerful” when it came to training AI models, and had “five times their capability” in “inference” — the pace with which AI models such as Gemini or ChatGPT can generate responses.

About CPU & GPU:

- The CPU handles all the tasks required for all **software on the server** to run correctly.
- A GPU, **on the other hand**, supports the CPU to perform concurrent calculations.
- A GPU can complete **simple and repetitive tasks** much faster because it can break the task down **into smaller components and finish** them in parallel.

Foot and Mouth Disease (FMD):

Why in News? The foot-and-mouth disease (FMD) has affected around **60% of milch cattle** in **Pilibhit district**, Uttar Pradesh.



About Foot-and-Mouth Disease (FMD):

- It is a highly contagious viral disease of livestock that has a significant economic impact.
- The disease affects cattle, swine, sheep, goats, and other cloven-hoofed ruminants.
- It does not affect **horses, dogs, or cats**.
- Intensively reared animals are more susceptible to the disease than traditional breeds.
- It is a **transboundary animal disease** (TAD) that deeply affects the production of livestock and disrupts regional and **international trade** in animals and animal products.
- It is also not related to **hand, foot, and mouth disease**, which is a common childhood illness caused by a different virus.
- The organism which causes FMD is an **aphthovirus** of the family **Picornaviridae**.
- There are seven strains (**A, O, C, SAT1, SAT2, SAT3, and Asia1**) which are endemic in different countries worldwide.
- Immunity to one type does not protect an animal against other **types or subtypes**.
- FMD is characterised by fever and blister-like sores on the tongue and lips, in the mouth, on the teats, and between the hooves.

- The disease is rarely fatal in adult animals, but there is often **high mortality in young animals**.
- The disease causes severe production losses, and while the majority of affected animals recover, the disease often leaves them weakened and debilitated.
- It was the first disease for which the **World Organisation for Animal Health** (WOAH, founded as OIE) established official status recognition.

About the World Organisation for Animal Health (OIE):

- The World Organisation for Animal Health (OIE) is an intergovernmental organization responsible for improving animal health worldwide.
- It was established in **1924** and is headquartered in **Paris, France**.
- The organization's primary objective is to promote transparency and cooperation among its member countries to effectively prevent, control, and eradicate animal diseases.
- It provides technical assistance to member countries, **conducts training programs**, and **facilitates scientific research in the field of veterinary medicine**.

Facts for prelims:

Mission 414' campaign

- The Election Commission has launched the '**Mission 414' campaign** in **Himachal Pradesh** to increase voter turnout.
- The main aim of the campaign is to maximise voter turnout in **414 polling stations** which registered less than **60% voting** in the last **Lok Sabha polls**.
- Special invitation cards made by children would be given to prospective voters.
- The average voter turnout in Himachal Pradesh in the 2019 Loksabha election was 72.42%.

UP Madrasa Education Act, 2004:

Why in News? The Allahabad High Court has recently declared the Uttar Pradesh Board of Madarsa Education Act, 2004, “unconstitutional”.

Key Points:

- The petitioner had challenged the constitutionality of the UP Madarsa Board .
- It violates “the principle of secularism” as well as fundamental rights provided under **Article 14 of the Constitution**.
- It has failed in providing quality compulsory education up to the age of **14 years/Class-VIII** as is mandatorily under Article 21-A; and fails to provide universal and quality school education to all the children studying in madarasas.
- The madrasa Act is also “violative of **Section 22** of the University Grants Commission **Act, 1956**”.
- The petition also challenged vires of **Section 1(5) of the RTE Act** which excludes madrasas, vedic pathshalas and educational institutions primarily imparting religious instructions.
- The amici curiae submitted that the Act violates secularism and **Articles 14, 15, 16(5), 29(2), 30** and Article 51-A of the Constitution.

What is "Amici curiae" ?

- It is a Latin term meaning "friends of the court."
- In legal contexts, it refers to individuals or organizations who are not parties to a case but have a strong interest in the subject matter and offer information, expertise, or a perspective to assist the court in making its decision.

About UP Madrasa Education Act, 2004:

- The legislation was enacted in 2004 to streamline madrasa education, defining it as education in **Arabic, Urdu, Persian, Islamic studies, Tibb** (traditional medicine), philosophy and other specified branches.
- The board was then reconstituted, comprising a chairperson, director, principal of the state-run Oriental College in Rampur, a legislator each representing the **Sunni and Shia sects, an NCERT representative**, heads and teachers of **Sunni and Shia institutions, and a science or Tibb teacher**.

United Nations World Water Development Report 2024:

Why in News? UNESCO has recently published the United Nations World Water Development Report 2024.

Key Points:

- Today, 2.2 billion people still live without access to safely managed drinking water, and **3.5 billion lack access** to safely managed sanitation, according to a new report published by UNESCO.
- More than **1.4 billion** people were affected by drought between 2002 and 2021.
- By **2022, almost half of the world's** population faced severe water scarcity for at least part of the year.
- While one-quarter faced 'extremely high' levels of water stress, they were using more **than 80% of their annual renewable freshwater supply**.
- Worldwide, about **70% of freshwater withdrawals** come from **agriculture**, followed by industry (just under **20%**) and domestic (or **municipal use (about 12%)**).
- Groundwater supplies about **25% of the total water** used for irrigation and half of the freshwater is withdrawn for domestic purposes.

Challenges in Attaining SDG 6 (Water for All by 2030):

- Approximately **50% of the global population** faces severe water scarcity at least part of the year, underscoring the urgency of addressing this issue.
- Regions such as **Northwest India and North China** are identified as top hotspots for water-related risks to food production.
- **Lake Chad** has significantly diminished in size by **90% over the past 60** years, indicating the severity of water resource depletion.

Facts for prelims:

Project ANAGRANINF:

The Technology Development Board (TDB) has recently signed an agreement with M/s Peptris Technologies Pvt. Ltd and the Foundation for Neglected Disease Research (FNDR), Bengaluru .

The project "ANAGRANINF aims to Develop a **Novel Class of Antibiotics Against Gram-Negative Bacterial-Infections**.

Objectives:

- The project's primary objective is to develop a novel lead compound, particularly an antibiotic, adept at inhibiting the **FabI enzyme** and combating critical gram-negative pathogens.
- It aims to produce a series of compounds that not only exhibit enhanced efficacy but also align with the rigorous criteria laid out by the World Health Organization (WHO) for tackling **Antimicrobial Resistance (AMR) infections**.

USAID and Red Cross to organize virtual 'Global Summit on Extreme Heat :

Why in News? USAID has recently organised a virtual 'Global Summit on Extreme Heat' , along with the International Federation of Red Cross and Red Crescent Societies (IFRC).

Key Points:

- The year 2023 was the hottest on record. It coincided with deadly heat waves on nearly every continent, from Pakistan to Tunisia to Texas.
- The **Climate experts predict that extreme heat events will continue** to increase in frequency, resulting in more lives lost and an increase in risk of other climate disasters such as drought and wildfires.

Objectives of the summit:

- It will bring together leaders and change makers from across the world to discuss solutions and strategies to protect communities and workers from extreme heat.
- It will discuss how to lessen the impact of extreme heat events, increase climate preparedness, save lives and mitigate costs.

Key points of the report :

- South Asia is particularly vulnerable to extreme heat.
- The report showed that India recorded **280 heat wave days across 16 states** in 2022 — the most in a decade.
- The **'arid winter' in the Himalayas** will be followed by heatwaves in March and April.
- India can achieve **'sustainable cooling'** by fully utilizing knowledge of the **'cooling web'**.
- It lays emphasis on utilizing traditional knowledge used to cool Indian houses over generations.

About the USAID:

- USAID, or the United States Agency for International Development, is an independent agency of the United **States federal government** that is primarily responsible for administering civilian foreign aid and development assistance.
- It was established in **1961 by the Foreign Assistance Act**.
- USAID's mission is to promote sustainable development and humanitarian assistance in countries around the world.

About the IFRC

- The International Federation of **Red Cross and Red Crescent Societies (IFRC)** is a global humanitarian organization that coordinates and supports the work of **national Red Cross and Red Crescent Societies** in responding to disasters and crises around the world.
- It was founded in **1919 and is headquartered in Geneva, Switzerland**.

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