


Monthly Current Affairs compilation PDF

November 2022



Nobel Prize in Physics



Alain Aspect (FRA, left), John Clauser (USA, centre) and Anton Zeilinger (AUT, right), share the Nobel Prize for advances in quantum mechanics on the behaviour of subatomic particles, enabling new technologies

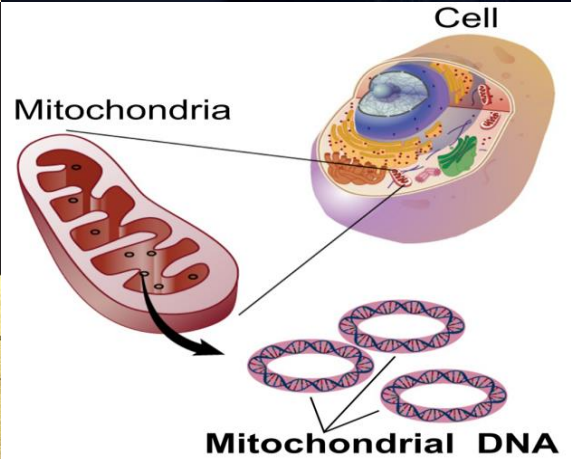
116 Nobel Prizes in Physics awarded from 1901 to 2022

25 Age of youngest laureate, Lawrence Bragg in 1915

96 Age of oldest laureate, Arthur Ashkin in 2018

4 Women laureates, including Marie Curie in 1903

Source: Nobelprize.org



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GES REPORTER

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PDF

By

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Code: SPLIVE

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Election in Brazil

- The electoral process in Brazil, in a broader sense, concerns the organizational phases of elections, also comprising a brief period thereafter.
- It is organized by the Electoral Court (EC), at the municipal, state, and federal level. At the federal level, the EC has the Superior Electoral Court (TSE), headquartered in Brasília, as its highest body.
- In each state of the Federation and in the Federal District there is a Regional Electoral Court (TRE), as well as judges and electoral boards.
- The Electoral Court organizes, supervises, and conducts elections by regulating the electoral process, examining the accounts of parties and candidates in campaigns, monitoring compliance with relevant legislation during electoral periods, and judging processes related to elections.
- Although the stages of voting, counting, and dissemination of results are the best known, the electoral process has other very important stages such as voter registration, the candidacy stage, financial reporting, and electoral logistics.
- There is also the post-election phase, which includes, among other activities, the inauguration of elected officials.
- Throughout the electoral process, there are mechanisms to ensure the normality of elections, voting security, and democratic freedom.
- By these criteria, Brazil has become a world reference in elections.
- Among these criteria, the use of the Brazilian electronic ballot box stands out, which has allowed, since 2000, elections to be fully computerized.
- In 2008, the biometric system for voter identification began to be adopted in some locations and, since then, the Electoral Court has been gradually providing for the biometric registration of the entire Brazilian electorate.
- Until July 2020, more than 119 million voters had their fingerprints registered through this system, representing another great step forward in guaranteeing the security of voting in Brazil.

THE HINDU

Fiscal deficit impact

- India's fiscal deficit in the first half of the financial year rose to ₹6.2 lakh crore, from ₹5.27 lakh crore a year earlier, though rising tax collections helped offset a higher subsidy bill.
- The Union government's spending bill is expected to rise by almost ₹2 lakh crore this fiscal, according to several economists' estimates, on

higher allocations for subsidies, stretching the fiscal deficit.

- However, a rise in goods and services tax receipts helped by a pick-up in urban demand and higher inflation could help to meet the budgeted fiscal deficit target

What is a Fiscal deficit?

- A fiscal deficit is defined as the difference between the total revenue and total expenditure of the government.
- It helps indicate the total borrowing that the government would need a particular financial year.

Why is fiscal deficit important for the economy?

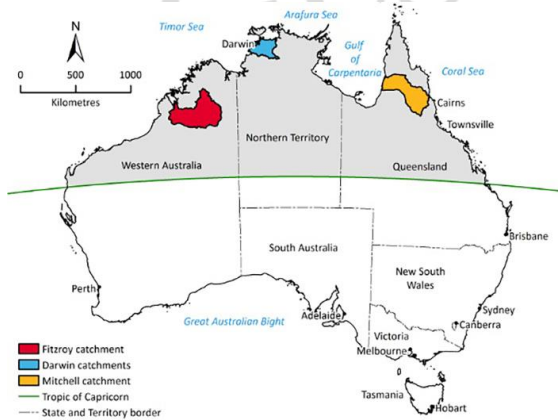
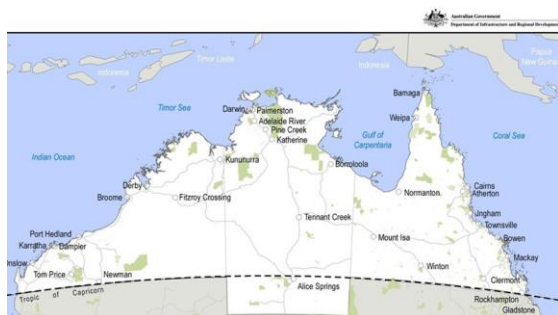
- When it comes to the impact of fiscal deficits, there are various opposing perspectives.
- On one hand, it is believed that fiscal deficits can boost a sluggish economy by increasing the spending power of people for investment.
- However, on the other hand, it is also believed that long-term deficits can negatively impact economic growth and stability.
- The fiscal deficit is keenly observed during the Union Budget presentation as it can impact various factors such as growth, stability of price, production costs, and inflation.

- If the fiscal deficit is large enough, it can also affect the country's ratings.
- For instance, when the government continues borrowing and stops printing currency notes, there is an upwards pressure on interest rates. Increased interest rates then result in increased production costs which lead to higher prices.
- However, the impact of fiscal deficit on inflation depends on the kind of expenditure undertaken by the government.
- For instance, if the government spends on productive investments that take care of both supply and demand, the impact might be reduced.
- Fiscal deficits can help a slow economy, especially if the money is spent on productive assets that create investment and job opportunities.
- Keynes advocated a countercyclical fiscal policy during periods of economic woe.
- During such times, the government should undertake deficit spending to make up for the decline in investment and boost consumer spending in order to stabilize aggregate demand.

THE HINDU

B52s to Australia

- The United States is planning to deploy up to six nuclear-capable B-52 bombers to an air base in northern Australia, amid heightened tensions with China.
- Dedicated facilities for the bombers will be set up at the Royal Australian Air Force's remote Tindal base, about 300 km south of Darwin, the capital of Australia's Northern Territory.



THE HINDU

Amendment to IT Rule 2021

- The Ministry of Electronics and IT (MeitY) has notified amendments to the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 (IT Rules, 2021) on October 28.

- The draft generated considerable discussion and comment on the regulation of social media in India.
- These proposed amendments can be broadly classified into two categories.
- The first category involved placing additional obligations on the SMIs to ensure better protection of user interests while the second category involved the institution of an appellate mechanism for grievance redressal.
- Both have been notified of the Rules.
- Currently, intermediaries are only required to inform users about not uploading certain categories of harmful/unlawful content.
- These amendments impose a legal obligation on intermediaries to take reasonable efforts to prevent users from uploading such content.
- The new provision will ensure that the intermediary's obligation is not a mere formality.
- The amendment requires intermediaries to respect the rights guaranteed to users under the Articles 14, 19, and 21 of the Indian Constitution, therefore, including a reasonable expectation of due diligence, privacy, and transparency.
- For effective communication of the rules and regulations of the intermediary, it is important that the communication is done in regional Indian languages as well.

THE HINDU

- Amendments to the Rule 3:
- The grounds in subclause 1 of rule 3 (rule 3(1)(b)(ii)) have been rationalized by removing the words 'defamatory' and 'libelous'.
- Whether any content is defamatory or libellous will be determined through judicial review.
- Some of the content categories in subclause 1 of rule 3 (rule 3(1)(b)) have been rephrased to deal particularly with misinformation, and content that could incite violence between different religious/caste groups.
- Establishment of Grievance Appellate Committee(s) Grievance Appellate Committee(s) will be established to allow users to appeal against the inaction of, or decisions taken by intermediaries on user complaints. However, users will always have the right to approach courts for any remedy.
- The amendments three-member institution of Grievance Appellate Committees (GAC).
- The committee is styled as a three member council out of which one member will be a government officer (holding the post ex officio) while the other two members will be independent representatives.
- The GAC is required to adopt an online dispute resolution mechanism which will make it more accessible to the users.

Purchasing Managers Index (PMI)

- The Purchasing Managers Index (PMI) is a measure of the prevailing direction of economic trends in manufacturing.
- The PMI is based on a monthly survey of supply chain managers across 19 industries, covering both upstream and downstream activity.
- The value and movements in the PMI and its components can provide useful insight to business decision-makers, market analysts, and investors, and is a leading indicator of overall economic activity.
- The headline PMI is a number from 0 to 100. A PMI above 50 represents an expansion when compared with the previous month.
- A PMI reading under 50 represents a contraction, and a reading at 50 indicates no change. The further away from 50 the greater the level of change.

The PMI is calculated as:

$$\text{PMI} = (P1 * 1) + (P2 * 0.5) + (P3 * 0)$$

Where:

- P1 = percentage of answers reporting an improvement
- P2 = percentage of answers reporting no change

- P3 = percentage of answers reporting a deterioration.

THE HINDU

Senna spectabilis and Mudumalai tiger reserve

- An invasive species, *Senna spectabilis*, an exotic tree, has taken over between 800 hectares and 1,200 hectares of the buffer zones of the Mudumalai Tiger Reserve (MTR) in the picturesque Nilgiris hill district.
- Introduced as an ornamental species and for use as firewood from South and Central America, the species has become highly invasive in the Sigur plateau in both the core and buffer zones of the MTR.
- The invasive weed has a negative effect on local biodiversity, crowding out native species and limiting food availability for wildlife.
- *Lantana camara*, the other major weed that poses a threat to biodiversity in both the core and buffer zones of the Tiger Reserve.
- *Senna spectabilis*, along with *Lantana camara*, is among five major invasive weeds that had taken over vast swathes of the Nilgiris, with wattle being the other major invasive species.
- Eucalyptus and pine, though exotic, do not spread as quickly as the other

species and are considered easier to manage.

About Mudumalai tiger reserve

- It is located in the Nilgiris District of Tamil Nadu state, at the tri-junction of three states, viz, Karnataka, Kerala, and Tamil Nadu.
- It has a common boundary with Wayanad Wildlife Sanctuary (Kerala) on the West, Bandipur Tiger Reserve (Karnataka) on the North, and the Nilgiris North Division on the South and East, and Gudalur Forest Division on the South West, together forming a large conservation landscape for flagship species such as Tiger and Asian Elephant.
- The climate of Mudumalai is moderate. It experiences cold weather during the month of December or the beginning of January and hot weather is experienced during the months of March and April.
- It has tall grasses, commonly referred to as “Elephant Grass”, Bamboo of the giant variety, and valuable timber species like Teak, Rosewood, etc.

THE HINDU

C-295 and India’s aircraft industry

- Prime Minister Narendra Modi laid the foundation stone for the C-295 transport aircraft manufacturing facility in Vadodara to be set up by Airbus Defence and Space and Tata Advanced Systems Limited (TASL).
- The C-295MW is a transport aircraft of 5-10 tonne capacity which will replace the legacy Avro aircraft in the Indian Air Force (IAF) procured in the 1960s.

How will this affect the domestic aircraft manufacturing ecosystem?

- Over the last two decades, Indian companies, both public and private, have steadily expanded their footprint in the global supply chains of major defense and aerospace manufacturers supplying a range of components, systems, and subsystems.
- For instance, Boeing’s sourcing from India stands at \$1 billion annually, of which over 60% is in manufacturing.
- Lockheed Martin has joint ventures with TASL in Hyderabad
- The U.S. simplifying its export regulations for India, through a series of measures, has added further impetus to this, experts noted.

- As U.S. and India pursue the Indo-Pacific strategy, India's strengths coupled with U.S. and European technology prowess can be a force for good in the world
- The domestic defense manufacturing ecosystem will get a boost with the C-295 project as it will lead to the development of a strong private industrial aerospace ecosystem not only in and around Vadodara but across the country.
- Bengaluru and Hyderabad already have developed such aerospace and defense domains over the years.
- The C-295 project is expected to create more than 15,000 skilled direct and indirect jobs across the aerospace ecosystem
- Another major growing area is Maintenance, Repair, and Overhaul (MRO) for which India can emerge as the regional hub.

THE HINDU

Limitation of State Pollution Control Boards (SPCBs)

- In the fight against air pollution in the Indo-Gangetic Plain,
- India's frontline environmental regulators, the State Pollution Control Boards (SPCBs), and the Pollution Control Committees (PCCs) in the Union Territories.
- Their primary role is to regulate emissions from point sources such as industries and power plants that contribute substantially to ambient air pollution in urban and rural areas.
- More recently, they have also been tasked with guiding cities in meeting targets under the National Clean Air Programme and spending Finance Commission grants for air quality improvements.

Is India's civil aviation sector growing?

- India has a much bigger footprint in civil aviation manufacturing than defense, in addition to being a major market itself.
- According to Airbus every commercial aircraft manufactured by them today is partly designed and made in India
- Today in India, we have the world's fastest-growing aviation sector and we are about to reach the top three countries in the world in terms of air traffic.

An enhanced mandate

- The SPCBs were initially constituted under the Water (Prevention and Control of Pollution) Act, of 1974.
- Under the Air (Prevention and Control of Pollution) Act, of 1981,

the SPCB mandate was expanded to include air quality management.

- Subsequently, several new environmental regulations were added to their roles and functions.
- Unfortunately, this enhanced mandate has not been matched with increased capacity and capability in the Boards.

Constraints

- First, the composition of SPCBs is a matter of serious concern as important stakeholders and those with crucial expertise are missing in most States
- Second, the SPCB leadership the chairperson, and the member secretary do not enjoy a long, stable, and full-time tenure.
- Third, the SPCBs are critically understaffed. At least 40% of all sanctioned posts are vacant across nine SPCBs/PCCs for which there is data.

THE HINDU

Disqualification of MLA

When does conviction attract disqualification?

- Section 8 of the Representation of the People Act (RPA), 1951, contains provisions aimed at decriminalizing electoral politics.
- There are two categories of criminal cases that attract disqualification upon conviction.
- In the first category are offenses that entail disqualification for a period of six years upon any conviction.
- If the punishment is a fine, the six-year period will run from the date of conviction, but if there is a prison sentence, the disqualification will begin on the date of conviction, and will continue up to the completion of six years after the date of release from jail.
- Major IPC offences are included under this head: making speeches that cause enmity between groups (Sec.153A) and doing so in a place of worship (Sec.505), bribery and personation during elections and other electoral offences, offences relating to rape and cruelty to women by husband and latter's relatives.
- Besides, serious provisions of special laws such as the Protection of Civil Rights Act, Customs Act, Unlawful Activities (Prevention) Act, etc are

among the category of offenses that entail disqualification regardless of the quantum of punishment.

- Laws for the prevention of Sati, corruption, terrorism, and insult to the national flag and national anthem, etc are also part of this group.
- All other criminal provisions form a separate category under which mere conviction will not entail disqualification
- A sentence of at least two years in prison is needed to incur such disqualification.

THE HINDU

DMH 11 -and hybrid variant

- The Genetic Engineering Appraisal Committee (GEAC), India's apex regulator of genetically modified plants and food products, has approved the environmental release of Dhara Mustard Hybrid-11 (DMH-11), a genetically-engineered variant of mustard.

What is DMH-11?

- DMH-11 is a hybrid variant of mustard developed by researchers at The Centre for Genetic Manipulation of Crop Plants, at the University of Delhi.
- While India has several mustard varieties, it is a self-pollinating plant and therefore a challenge for plant

breeders to cross different mustard varieties and induce desirable traits.

- Being able to turn off this self-pollinating trait to enable such crossings and then restoring the trait, to enable seed production, is how the mustard plant's genes are to be manipulated.
- DMH-11 is a result of a cross between two varieties: Varuna and Early Heera-2.
- Such a cross wouldn't have happened naturally and was done after introducing genes from two soil bacterium called barnase and barstar.
- Barnase in Varuna induces temporary sterility because of which it can't naturally self-pollinate.
- Barstar in Heera blocks the effect of barnase allowing seeds to be produced.
- The result is DMH-11 (where 11 refers to the number of generations after which desirable traits manifest) that not only has better yield but is also fertile.
- DMH-11 is a transgenic crop because it uses foreign genes from a different species.

Are hybrid mustard varieties better?

- DMH-11 has 28% higher yields than its parent Varuna and was 37% better than zonal checks, or local

varieties that are considered the best in different agro-climatic zones.

- Having better hybrids is necessary to meet India's rising edible-oil import bill.
- Mustard (*Brassica juncea*) is cultivated in 6-7 million hectares during the Rabi winter season predominantly in Rajasthan, Haryana, Punjab, and Madhya Pradesh.
- India imports anywhere from 55-60% of its domestic edible-oil requirement.
- In 2020-21, around 13.3 million tonnes of edible oil were imported at a cost of ₹1, 17,000 crore according to the National Academy of Agricultural Sciences.
- This is primarily due to low productivity of about 1-1.3 tonnes/hectare that has been stagnant for over two decades.
- On the other hand, hybrid mustard and rapeseed are the dominant form of oil seeds in Canada, China and Europe.

Why is it controversial?

- The use of genes that are foreign to the species is one and secondly, the preparation of mustard hybrids requires the use of another gene, called the bar gene, that makes it tolerant to an herbicide called glufosinate-ammonium.

- Activist groups allege that the GM mustard hasn't been evaluated as an herbicide-tolerant crop posing potential risks.
- Finally, they allege, GM mustard plants may dissuade bees from pollinating the plant and this could have knock-off environmental catastrophes.

THE HINDU

World Network of Biosphere Reserves (WNBR)

- On November 3 will be the first 'The International Day for Biosphere Reserves', to be celebrated beginning in 2022.
- The World Network of Biosphere Reserves (WNBR) was formed in 1971, as a backbone for biodiversity conservation, ecosystem restoration, and living in harmony with nature.
- There are now 738 properties in 134 countries, including 12 in India, four in Sri Lanka, and three in the Maldives.
- Bangladesh, Bhutan, and Nepal do not have biospheres as yet, but help is on its way: The 'South and Central Asia MAB Reserve' Networking Meeting (where MAB stands Man and the Biosphere) is planned for 2023, to advance biosphere reserve establishment, and management.

World Network of Biosphere Reserves

- The World Network of Biosphere Reserves of the MAB Programme consists of a dynamic and interactive network of sites of excellence.
- It fosters the harmonious integration of people and nature for sustainable development through participatory dialogue; knowledge sharing; poverty reduction and human well-being improvements; respect for cultural values and society's ability to cope with change - thus contributing to the 2030 Agenda and the Sustainable Development Goals (SDGs).
- Accordingly, the Network is one of the main international tools to develop and implement sustainable development approaches in a wide array of contexts.
- The World Network of Biosphere Reserves promotes North-South and South-South collaboration and represents a unique tool for international co-operation through sharing knowledge, exchanging experiences, building capacity, and promoting best practices.

Opportunities in South Asia

- In South Asia, over 30 biosphere reserves have been established.
- The first one was the Hurulu Biosphere Reserve, in Sri Lanka, with

25,500 hectares of tropical dry evergreen forest.

- In India, the first biosphere reserve was designated by UNESCO in 2000, namely, the blue mountains of the Nilgiris stretching over Tamil Nadu, Karnataka, and Kerala.
- Spain, with a landmass of 506,000 km², and a population of 47.4 million is one of the leading participating WNBR countries globally, with 53 properties.
- In a comparison with the surface size of Spain to India (ca. 3.3 million km²), and India's human population of ca. 1.4 billion people, it appears a good idea to carry out a potentiality analysis of biosphere reserves in India, with a focus on the seven sisters in north-east India.
- The existence of the new World Network of Mountain Biosphere Reserves provides a welcome opportunity for Bhutan and Nepal to establish their first biosphere reserves and participate in the world network.

THE HINDU

Rhino species

- The horns of rhinoceroses may have become smaller over time from the impact of hunting
- Five species face threat
- Rhinos have long been hunted for their horns.

- The five surviving rhino species are threatened by habitat loss and hunting.
- The study found that the rate of decline in horn length was highest in the critically endangered Sumatran rhino and lowest in the white rhino of Africa, the most commonly found species in the wild and in captivity.
- The Greater One-Horned Rhino is one among the five different species of Rhino. The other four are:
 - Black rhino: Smaller of the two African species.
 - White Rhino: Recently, researchers have created an embryo of the northern white rhino by using In-vitro Fertilization (IVF) process.
 - Javan Rhino: Critically endangered in IUCN Red List.
 - Sumatran Rhino: Recently gone extinct in Malaysia.
- There are three species of rhino in Asia Greater one-horned (*Rhinoceros unicornis*), Javan, and Sumatran.
- Only the Great One-Horned Rhino is found in India.

THE HINDU

Tokhü Emong and Amur falcon

- Nagaland is undertaking the first avian documentation exercise going beyond the Amur falcons, the migratory raptor that put the State on the world birding map.
- The four-day Tokhü Emong Bird Count (TEBC) from Friday has been timed with the post-harvest Tokhü Emong festival of the Lothas, the Naga community that dominates Wokha district.

Tokhü Emong

- Tokhü Emong is a village festival celebrated by the Lotha Nagas in Nagaland, India. The nine-day fall festival celebrates the end of the harvest season.
- Tokhü means feast (eating food and drinking). Emong means the Halt on the appointed time
- Tokhü Emong is celebrated in the first week of November every year and it lasts for nine days.
- This festival is associated with the harvesting of crops. It is also accompanied by folk dances and singing of folk songs.
- During Tokhü Emong, the adherents praise the gods for their blessings.
- Tokhü Emong is also a celebration of brotherhood, forgiveness, and oneness.

- It is celebrated through sharing of food, gifts, folklore narration and a community feast.

The Amur falcon

- The Amur falcon (*Falco amurensis*) is a small raptor of the falcon family.
- It breeds in south-eastern Siberia and Northern China before migrating in large flocks across India and over the Arabian Sea to winter in Southern and East Africa.



- Breeds in South-east Russia and northern China.
- Migrates west through India and across the Arabian Sea to Southern Africa
- Feeds on dragonflies that follow a similar migration path over Arabian Sea.
- 22,000 km journey (longest sea crossing of any raptor)
- Flyway: East-Asian Australasian and African Eurasian.

- The Amur Falcon exemplifies the threat of illegal trapping and killing during migration, which harms countless bird species each year.

Ministry of education report

- The number of children entering pre-primary classes in 2021-2022 saw a further decline, resulting in 30% fewer students in this school section as compared to pre-Covid as younger students with less access to remote learning continue to bear the biggest brunt of learning loss during the pandemic, according to a report released by the Ministry of Education.
- A total of 94.95 lakh students entered pre-primary classes in 2021-2022, registering a drop of 10% as compared to the previous year when 1.06 crore children enrolled in these classes.
- Enrolment in primary classes, which include classes 1 to 5, also saw a drop for the first time, falling from 12.20 lakh in 2020-2021 to 12.18 lakh in 2021-2022.
- However, the total number of students from primary to higher secondary increased by 19 lakh to 25.57 crore.
- Also for the first time since the pandemic, the report records a

decline in number of schools due to closures as well as a lack of teachers.

- There were 20,000 fewer schools in 2021-2022 as the total number of schools dropped from 15.09 lakh to 14.89 lakh.
- There were also 1.89 lakh or 1.98% fewer teachers as their number reduced from 96.96 lakh in 2020-2021 to 95.07 lakh in 2021-2022.
- Computer facilities were available in 44.75% of schools, while Internet access was available only in 33.9% of schools.

THE HINDU

The Alliance of Small Island States (AOSIS)

XCheck" system

XCheck" system

- Meta XCheck" system, an internal program that has exempted high-profile users from some or all of its rules.
- Under the program, some users are "whitelisted", or not subject to enforcement action, while others are allowed to post material that violates Facebook rules pending content reviews that often do not take place.

THE HINDU

RISAT and reconnaissance satellite

- ISRO's RISAT-2 satellite, launched in 2009, has made an uncontrolled re-entry into the Earth's atmosphere
- RISAT
- RISAT-2, or Radar Imaging Satellite-2 was an Indian radar imaging reconnaissance satellite that was part of India's RISAT programme.
- It was built by Indian Space Research Organisation (ISRO) and successfully launched aboard a PSLV-CA launch vehicle on 20 April 2009 from the Second Launch Pad at the Satish Dhawan Space Centre.
- The principal sensor of RISAT-2 was an X-band synthetic-aperture radar (SAR) from Israel Aerospace Industries (IAI).
- It is designed to monitor India's borders and as part of anti-infiltration and anti-terrorist operations.

Reconnaissance satellite

- A reconnaissance satellite or intelligence satellite (commonly, although unofficially, referred to as a spy satellite) is an Earth observation satellite or communications satellite deployed for military or intelligence applications.
- The first generation type took photographs, then ejected canisters

of photographic film which would descend back down into Earth's atmosphere.

- There are several major types of reconnaissance satellite.

Missile early warning

- Provides warning of an attack by detecting ballistic missile launches. Earliest known are Missile Defense Alarm System.
- Nuclear explosion detection
- Detects nuclear detonation from space. Vela is the earliest known.
- Electronic reconnaissance
- Signals intelligence, intercepts stray radio waves. SOLRAD is the earliest known.
- Optical imaging surveillance
- Earth imaging satellites. Satellite images can be a survey or close-look telephoto. Corona is the earliest known.
- Radar imaging surveillance
- Most space-based radars use synthetic-aperture radar. Can be used at night or through cloud cover

(Cor-AuNPs)

- M medicines may soon have traces of ultramicroscopic gold powered by a super mushroom for greater efficacy.
- Cordy gold nanoparticles (Cor-AuNPs), the outcome of a

collaborative experiment by scientists from four Indian institutions, has earned an international patent from Germany.

- These nanoparticles, derived from the synthesis of the extracts of *Cordyceps militaris* and gold salts, could make drug delivery in the human body faster and surer.
- *Cordyceps militaris* is a high-value parasitic fungus, lab-grown at the Department of Biotechnology's Technology Incubation Centre (TIC) in Bodoland University, one of the collaborators of the patented work. Gold salts are ionic chemical compounds of gold generally used in medicine.
- Penetration in the cells is more when the drug particles are smaller.
- *Cordyceps militaris*, called super mushroom for its tremendous medicinal properties, adds bioactive components to the synthesis of gold nanoparticles for better penetration,
- "Biosynthesised nanogold particles indicate a new application of nanoparticles in the development of therapeutic drugs that can be delivered as ointments, tablets, capsules, and in other forms.

THE HINDU

G7

- The Group of Seven rich nations and Australia have agreed to set a fixed price when they finalize a price cap on Russian oil

About G7

- The G7 is an informal forum of leading industrialized nations, which include Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.
- Representatives of the European Union are always present at the annual meeting of the heads of state and government of the G7.
- Germany holds the presidency of the G7 in 2022.
- The first “World Economic Summit”, which later became the G7, was launched in 1975 by former French President Valéry Giscard d’Estaing and then Federal Chancellor Helmut Schmidt.
- The heads of state and government of Germany, France, Great Britain, Italy, Japan, and the US a Group of Six met for a fireside chat at Rambouillet Castle in France.
- The participants exchanged ideas on the economic problems of the 1970s the first oil crisis and the collapse of the system of fixed exchange rates (Bretton Woods) and agreed on

international economic policy and initial measures to fight the global downturn.

- In 1976, Canada was added to the group, and the first G7 met in Puerto Rico.
- The first talks between the then-European Community and the G7 took place in London in 1977, and since the Ottawa Summit of 1981, the European Community (now European Union) has been part of all working sessions.
- In the 1980s, the interest of the G7 expanded to include foreign and security policy issues.
- Then Soviet General Secretary Mikhail Gorbachev was invited to talks on the sidelines of the London Summit in 1991.
- In 1998, the Group of Eight was constituted as Russia became a member. Russia was thrown out of the group after its violation of Ukraine’s sovereignty and territorial integrity in 2014.
- As of 2022, G7 countries make up 10% of the world’s population, 31% of global GDP, and 21% of global carbon dioxide emissions, according to the Summit website.
- China and India, the two most populous countries with among the largest GDP figures in the world, are not part of the grouping.

- In all G7 countries, annual public sector expenditure exceeded revenue in 2021. Most G7 countries also had a high level of gross debt, especially Japan (263% of GDP), Italy (151%), and the US (133%).

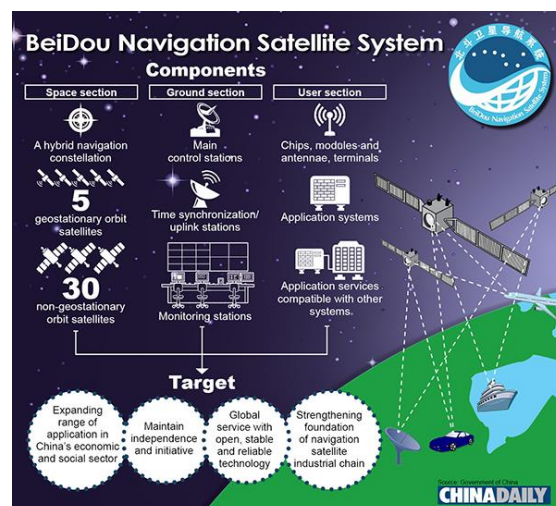
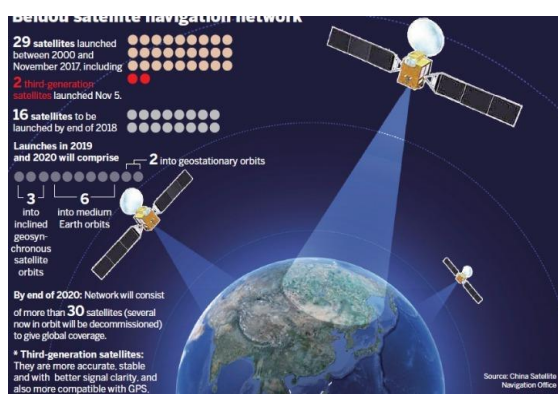
THE HINDU

Kherson

- Kherson is a port city in Ukraine that serves as the administrative centre of Kherson Oblast.
- Located on the Black Sea and on the Dnieper River, Kherson is the home of a major ship-building industry and is a regional economic center.



Beidou and china's Dominance



- China outlined plans to further expand the global reach of its home-grown Beidou satellite navigation system, billed as its alternative to the U.S.'s Global Positioning System (GPS).
- Beijing is “strengthening regional cooperation with organizations such as ASEAN, the African Union, the League of Arab States, and the Community of Latin American and Caribbean States”.
- Beijing has, since 2020, also made an outreach to South Asia and is already working, or in discussion with, a number of countries in the region, including Pakistan, Nepal, Bangladesh, and Sri Lanka, over adopting the Beidou satellite (BDS) navigation system. “The Belt and Road (BRI) countries are our priority.
- “Saudi Arabia is using Beidou in surveying and mapping, positioning people and vehicles in the desert,”

- “Tajikistan is using BDS to monitor dams and lakes with precision.
- Lebanon is using BDS at Beirut port for marine survey and construction.
- In Burkina Faso, it is being used for survey and construction of hospitals”.
- Pakistan and Russia are two significant Beidou hubs.
- Beidou set up the first of three Continuously Operating Reference Stations (CORS) for its network in Thailand in 2013, to serve as a hub for ASEAN.
- China and Sri Lanka also agreed plans to set up 10 COR.

THE HINDU

Energy inequality

- Global energy poverty is concentrated in developing countries.
- In 2021, 733 million people had no access to electricity and almost 2.6 billion people lacked access to clean fuels and technologies.
- The average per capita energy use of the richest 20 countries is 85 times higher than that of the 20 poorest countries.
- Addressing this stark energy poverty in developing countries is important because there is a strong correlation between energy supply and human development.
- The average annual per capita electricity consumption of sub-Saharan Africa is 487 kilowatt-hours (kWh), alongside an infant mortality rate of 73 per 1,000 live births; maternal mortality ratio of 534 per 1,00,000 live births, and per capita GDP of \$1,645.
- In 2022, these inequalities have been aggravated by soaring energy and food prices.
- Several countries face a severe rise in the cost of living and nearly 70 million additional people are estimated to fall below the poverty line of \$3.20 per person per day.
- Poor and vulnerable communities in the energy-importing countries of the global South suffer the most.
- Almost 90 million people in Asia and Africa, who gained access to electricity recently, cannot afford to pay their energy bills.

THE HINDU

- **SC on EPFO scheme**

THE HINDU
4 Pages

Extending the pension scheme

Some changes regarding EPS after the Supreme Court judgment

BEFORE:	AFTER:
<ul style="list-style-type: none"> ■ Pension coverage, extended in 2014 to employees drawing salary more than ₹15,000 per month, subject to 	<ul style="list-style-type: none"> ■ Requirement of additional contribution of 1.16% deemed incorrect. Implementation stayed for six months
<ul style="list-style-type: none"> i) members contributing at the rate of 1.16% on salary exceeding ₹15,000 per month ii) Employees should have exercised option within six months from September 1, 2014 	<ul style="list-style-type: none"> ■ Entitlement not limited to employees who had already exercised an option under un-amended EPS. If an employer and employee jointly opt for enhanced pension coverage – if they had not done so prior to the 2014 amendment – they can do so by four months from today



- The requirement to contribute 1.16% of the salary to the extent that such salary exceeds ₹15,000 per month as an additional contribution made under the amendment scheme is held to be ultra vires to the provisions of the Employees' Provident Funds and Miscellaneous Provisions Act, 1952,

-
- The Supreme Court upheld the Employees' Pension (Amendment) Scheme, 2014 of the Employees' Provident Fund Organisation as "legal and valid" while reading down certain provisions.
- Most important, the court used its extraordinary powers under Article 142 of the Constitution to allow eligible employees who had not opted for enhanced pension coverage prior to the 2014 amendments, to jointly do so with their employers within the next four months.
- The court struck down a requirement in the 2014 amendments that employees who go beyond the salary threshold (of ₹15,000 per month) should contribute monthly to the pension scheme at the rate of 1.16% of their salary.

Squamates

- A study in Nature finds a near-complete skeleton of an early reptile from the Middle Jurassic period of Scotland.
- The fossil may improve our understanding of the anatomical transformations that led to the establishment of the body plan of reptiles such as modern lizards.
- The skeleton is of *Bellairsia gracilis*, a primitive squamate.
- Squamates are a group of reptiles that includes more than 10,000 living species descended from a shared common ancestor that lived 240 MYA.
- Squamata is the largest order of reptiles, comprising lizards, snakes, and amphisbaenians, which are collectively known as Squamates or scaled reptiles.



THE HINDU

UNESCO on the glacier

- A third of the glaciers on the UNESCO World Heritage list are under threat, regardless of efforts to limit temperature increases, a study conducted by the UN body has found.
- However, the study said it was still possible to save the other two-thirds if the rise in global temperature did not exceed 1.5°C compared to the pre-industrial era.

- Importance of Glacier
- Half of humanity depends directly or indirectly on glaciers as their water source for domestic use, agriculture, and power.
- Glaciers are also pillars of biodiversity, feeding many ecosystems,
- “When glaciers melt rapidly, millions of people face water scarcity and the increased risk of natural disasters such as flooding, and millions more may be displaced by the resulting rise in sea level.
- The UNESCO study, in partnership with the International Union for Conservation of Nature (IUCN), showed that these glaciers have been retreating at an accelerated rate since 2000 due to CO₂ emissions, which are warming temperatures.
- They are currently losing 58 billion tonne of ice every year equivalent to the combined annual water use of France and Spain and are responsible for nearly 5% of observed global sea level rise.

THE HINDU

Baltal-Zojila region

- The first-ever recording of the snow leopard from the Baltal-Zojila region has renewed hopes for the elusive predator in the higher altitudes of Jammu and Kashmir and Ladakh.
- “It is the first record of snow leopard from the Baltal-Zojila area.
- Zoji La (sometimes Zojila Pass) is a high mountain pass in the Himalayas.
- It is in the Indian Union Territory of Ladakh, Kargil district, Kashmir. Located in the Drass, the pass connects the Kashmir Valley to its west, with the Drass and Suru

valleys to its northeast and the Indus valley further east.

- National Highway #1 running between Srinagar and Leh in the western section of the Himalayan mountain range, traverses the pass
- Baltal is a camping ground for pilgrims, north of Sonamarg on the Sind River at the base of Zojila pass.

THE HINDU

Falcon Heavy launch

- In November 1, Elon Musk-owned SpaceX launched the Falcon Heavy rocket into a geosynchronous Earth orbit from the Launch Complex 39A at the Kennedy Space Center in Florida, U.S.

What is its current mission?

- The rocket is carrying satellites to space for the U.S. military in a mission named as U.S. Space Force (USSF)-44.
- The mission deployed two spacecraft payloads, one of which is the TETRA 1 microsatellite created for various prototype missions in and around the geosynchronous earth orbit.
- The other payload is for national defence purposes.
- It will place the satellites for the Space Systems Command's Innovation and Prototyping.
- Space Systems Command (SSC) is the oldest military space organization in the United States Armed Forces.
- It is responsible for developing, acquiring, equipping, fielding, and sustaining lethal and resilient space capabilities.
- SSC mission capability areas include launch acquisition and operations,

communications and positioning, navigation and timing, space sensing, battle management command, control, and communications, and space domain awareness and combat power.

- The Falcon Heavy uses three boosters for added thrust and lift capacity.
- The center booster plunged into the ocean as planned and the two side boosters landed on ground pads at the Cape Canaveral Space Force Station.

What are the specifications of the Falcon Heavy rocket?

- SpaceX claims Falcon Heavy to be the most powerful rocket in the world today by a factor of two.
- With a lifting capacity of around 64 metric tonnes into orbit, Falcon Heavy can lift more than twice the payload of the next closest operational vehicle, the Delta IV Heavy.
- The rocket has a height of 70 m, a width of 12.2 m and a mass of 1,420,788 kg.
- Falcon Heavy has 27 Merlin engines which together generate more than five million pounds of thrust at lift-off, equalling around eighteen 747 aircraft at full power.
- This makes it the most capable rocket flying.
- Merlin is a family of rocket engines developed by SpaceX for use on its Falcon 1, Falcon 9, and Falcon Heavy launch vehicles.
- Merlin engines use RP-1 and liquid oxygen as rocket propellants in a gas-generator power cycle.

THE HINDU

Uniform civil code

What did the Constituent Assembly say about the UCC?

- Article 44 contained in part IV of the Constitution says that the state “shall endeavour to secure for the citizens a uniform civil code throughout the territory of India”.
- While there is no draft or model document yet for the UCC, the framers of the Constitution envisioned that it would be a uniform set of laws that would replace the distinct personal laws of each religion with regard to matters like marriage, divorce, adoption, and inheritance.
- Part IV of the Constitution outlines the Directive Principles of State Policy, which, while not enforceable or justiciable in a court of law, are fundamental to the country’s governance.
- Members of the Assembly took starkly contrasting stances on the UCC.
- Some also felt that India was too diverse a country for the UCC.
- Member Naziruddin Ahmad from Bengal argued that certain civil laws in all communities were “inseparably connected with religious beliefs and practices”.
- He felt the UCC would come in the way of Article 19 of the draft Constitution (now Article 25) which guarantees the right to freedom of religion subject to public order, morality, and health.
- Member K.M. Munshi however, rejected the notion that a UCC would be against the freedom of religion as the Constitution allowed the government to make laws covering secular activities related to

religious practices if they were intended for social reform.

- Dr. B.R. Ambedkar had more of an ambivalent stance toward the UCC. He felt that while desirable, the UCC should remain “purely voluntary” in the initial stages. He stated that the Article “merely” proposed that the state shall endeavour to secure a UCC, which means it would not impose it on all citizens.
- Supreme Court in 2019 hailed Goa as a “shining example” of an Indian State which has a functioning UCC, experts point out that the ground reality in Goa is more complex and that the Code has legal pluralities.

What has the Supreme Court said about the UCC?

- It’s *Mohd. Ahmed Khan vs Shah Bano Begum* judgment of 1985, where a divorced Muslim woman demanded maintenance from her former husband, the apex court while deciding whether to give prevalence to the CrPc or the Muslim personal law, called for the implementation of the UCC.
- The Court also called on the government to implement the UCC in the 1995 *Sarla Mudgal* judgment as well as in the *Paulo Coutinho vs Maria Luiza Valentina Pereira* case (2019).
- In 2018, the Law Commission submitted a 185-page consultation paper on the reform of family law.
- The paper stated that a unified nation did not necessarily need “uniformity”, adding that secularism could not contradict the plurality prevalent in the country.

- In fact, the term “secularism” had meaning only if it assured the expression of any form of difference, the Commission noted.
- While saying that a UCC “is neither necessary nor desirable at this stage”, the report recommended that discriminatory practices, prejudices, and stereotypes within a particular religion and its personal laws should be studied and amended.
- The Commission suggested certain measures in marriage and divorce that should be uniformly accepted in the personal laws of all religions.

THE HINDU

GES
REPORTER

Mastodon

- Twitter's new CEO Elon Musk's plans for the social media app have raised a series of concerns about paid verified accounts, increased spread of misinformation, and advertising on the platform for its users.
- As they search for alternatives, Mastodon, which claims to be the "largest decentralized social network on the Internet," stands out.
- Founded by developer Eugen Rochko, Mastodon was released in 2016.
- The social media platform's main appeal was that it was decentralized, open source, and represented a vision of what its founder wanted Twitter to be.
- Rather than being controlled by a CEO or a centralized moderation team, Mastodon users pick "servers" which host their data and let them access the same platform.

THE HINDU

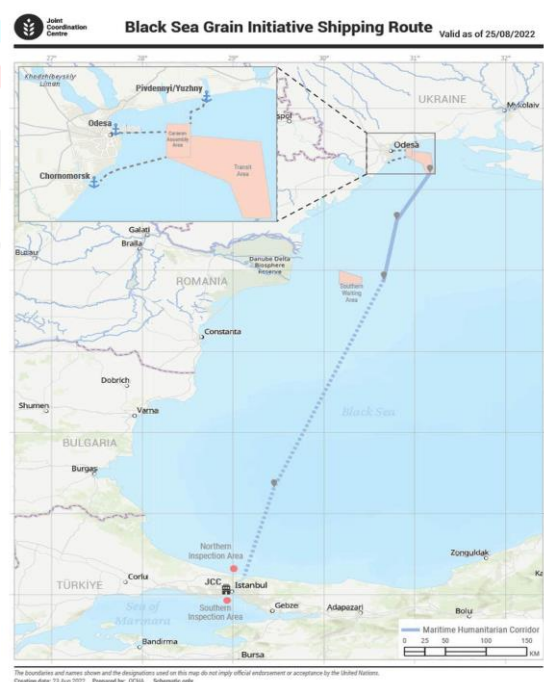
Black grain initiative

What is the Black Sea Grain Initiative?

- The Black Sea Grain deal endeavours to tackle escalating food prices emanating from supply chain

disruptions because of Russia's actions in the world's 'breadbasket'.

- The deal, brokered by the UN and Turkey, was signed in Istanbul on July 22 this year. Initially stipulated for a period of 120 days.



- The deal was to provide a safe maritime humanitarian corridor for Ukrainian exports (particularly for food grains) from three of its key ports, namely, Chornomorsk, Odesa, and Yuzhny/Pivdennyi.

- The central idea was to calm markets by ensuring an adequate supply of grains, thereby limiting food price inflation.
- Ukraine is among the largest exporters of wheat, maize, rapeseed, sunflower seeds, and sunflower oil, globally.
- Its access to the deep-sea ports in the Black Sea enables it to directly approach Russia and Europe along with grain importers from West Asia and North Africa.

Why is it important?

- As per the UN Office for Coordination of Humanitarian Affairs, approximately 10.1 million tonnes of grains have been shipped since the initiative commenced.
- About 44% of the shipments, which include corn, wheat, rapeseed, and sunflower oil among others, reached high-income countries (including Spain, Netherlands, and Italy among others), 28% reached low and lower-middle-income countries (Egypt, Iran, Sudan, and Kenya among others) and 27% reached upper-middle income countries (China and Bulgaria among others).

THE HINDU

G20 and food security

- India's presidency of the G20 offers a historical opportunity for the country to share its successful journey in moving from a food-deficit nation to a food-surplus nation, and address the growing challenges of food security for creating resilient and equitable food systems.
- In 2021, through the Matera Declaration, G20 ministers recognized that poverty alleviation, food security, and sustainable food systems are key to ending hunger.
- "The Matera Declaration reflects the Indian concern for the welfare of small & medium farmers, promoting local food cultures and recognizing agri-diversity.

Matera declaration

- The G20 a group of powerful and influential countries adopted the Matera Declaration on Food Security, Nutrition, and Food Systems as a measure to cope with the boundless challenges produced as an outcome of the ongoing raging pandemic.
- The clauses mentioned in the declaration revised the current production chains and further added how these existing institutions can

be used to deliver the necessities to the beneficiaries.

- The second clause further added, “The G20 is well-positioned to provide such leadership while promoting an inclusive approach with all stakeholders, private and public, and pursuing ambitious yet concrete and actionable programs.
- New and innovative policies and responsible investments in agriculture, territorial development, and sustainable and resilient food, soil, and water management systems, as well as acting 2 ahead of shocks to mitigate their impact, including in conflict situations, are needed to increase resilience and prevent future crises.
- The clauses promised to implement channels bringing a confluence of both bilateral and multilateral mechanisms to deliver food security cutting across the gender and class cleavages
- Investment in food supplies, production, and distribution needs to also align with the requirements of climate change. Sustainable methods are the need of the hour and that’s precisely what has been stated in clause 7 of the declaration.
- The significant takeaway from the declaration has to be the measures spelled out to strengthen the

international food trade open in compliance with the regulations of the World Trade Organization.

- The Matera Declaration ended with the leaders’ commitment to comply with the clauses adopted in action with several programs such as the Global Security Program, G20 Rural Youth Program, and the Global Network against Food Crisis to develop mechanisms for obtaining food security channels in the post-COVID world.
- The Matera Declaration reflects the Indian concern for the welfare of small & medium farmers, promoting local food cultures and recognizing agri-diversity.
- Livelihood, health, digital access, and climate action should now constitute the new developmental priorities.

India’s steps

- One of India’s greatest contributions to equity in food is the National Food Security Act, of 2013, which anchors the targeted public distribution system, the mid-day meal scheme, and the Integrated Child Development Services.
- The 1991-2015 period saw the diversification of agriculture with greater focus being given to the horticulture, dairy, animal husbandry, and fisheries sectors.

- The continued learning encompassed elements of nutritional health, food safety, sustainability, etc.
 - In the past three years, while responding to the pandemic, India has set a global example in alleviating hunger by bringing in the Pradhan Mantri Garib Kalyan Ann Yojana.
 - In the face of climate change and a sudden decline in wheat harvest and a decline in rice production, India formally announced an export ban on wheat and rice.
 - However, it maintained a flexible approach to help countries like Afghanistan with humanitarian aid and others such as Bangladesh, Egypt, and Yemen with commercial supplies, in collaboration with the respective governments.
- are on a single source of global food supply.
 - This vulnerability is linked with production being impacted by the changing weather and disruption in the availability of inputs.
 - It is important to note the vulnerability visible in foodgrain production and supply or in the availability with regards to exports will also raise the growing demand for India's wheat and rice.

THE HINDU

Five action points

- Ensure access to safe and nutritious food for all;
- Shift to sustainable consumption patterns;
- Boost nature-positive production;
- Advance equitable livelihoods, and build resilience to vulnerabilities, shocks, and stress.
- The war in Ukraine and the restriction on the export of wheat have shown how dependent nations

Early warning against disaster

- The National Geophysical Research Institute (NGRI) of the Council of Scientific and Industrial Research has begun field studies to put in place an early-warning system in the Himalayan States against major and sudden floods, rockslides, landslips, glacier lake bursts and avalanches and to prevent Chamoli kind of disasters in future.
- The scientists in the institute have identified a few locations in the higher reaches of Uttarakhand for “densification” of seismometers and river gauges to take the total number to 100 from 60.
- The objective is to closely monitor the river flows in specific areas along the catchment to detect any sudden rise in water levels or flooding threshold that can lead to a hazard.
- “A 5 cm of rainfall or a glacier melt may not be hazardous, but if there is a heavy rock fall or sudden lake burst, there could be massive flooding.
- Scientists have decided to take cognizance of the vibrations or “noise” recorded by the seismometers, which need not be due to earthquakes but can also be

because of vehicular traffic, animal movement, rain, river flows and so on.

- These instruments are crucial for the safety of large infrastructure projects and hydroelectric power plants in this region.
- Currently, scientists are able to detect and assess a sudden flow 30-40 km away since the seismic wave is faster than the flow, and hence, the advance warning comes at least half an hour before.
- “We are working on cost-effective measures. Although our instruments can withstand minus-20 degrees Celsius, they need fuel cells when there is no sunlight.

THE HINDU

Governor vs state government

- B.R. Ambedkar was clear that the Governor should only be a constitutional head and the executive power should vest entirely in the elected government, he promoted the idea of vesting certain discretionary powers in the Governor.
- In this respect, he was guided by the thinking that the State governments are in subordination to the Union government and, therefore, the

Governor should be given discretionary powers to ensure that they act so.

- So, ultimately, the Governor who emerged from the Constituent Assembly was one with certain discretionary powers prescribed by or under the Constitution unlike the President of India who has not been given any such powers.
- Further, Article 163 (Article 143 in the draft Constitution) became a 'blind reproduction of Section 50 of the Government of India Act 1935' (H.V. Kamath).
- This exact reproduction of the provision in the Act of 1935 has, to a great extent, introduced a vagueness about the actual powers of the Governor vis-à-vis the elected government in democratic India which was corrected only with the Supreme Court of India stating the law in unambiguous terms in *Shamsher Singh* (1974).
- From *Shamsher Singh* to *Nabam Rebia* (2016) the top court declared that the Governor can, in the exercise of executive power of the state, act only on the aid and advice of the Council of Ministers “.
- Constitution has not assigned any role to the Governor in the election of the Speaker under Article 178, which is exclusively the job of the House.
- It is only the House rule which says that the Governor shall fix the date.
- The date as such has no great significance. Under the procedure followed in all Assemblies, the government fixes the date and conveys it to the Secretary of the Assembly who forwards it to the office of the Governor for his signature.
- After the date is formally approved by the Governor which he is duty-bound to do the members are informed about it.
- Under the University Act, an incumbent Vice-Chancellor is eligible for reappointment.
- Since the Act does not lay down any specific procedure for reappointment, the Chancellor was right in accepting the suggestion or the recommendation made by the Government.
- In fact, he or she can accept suggestions from any person including the Leader of the Opposition in the Assembly.
- The point worth noting here is that the Governor as Chancellor is not required to act on the advice of the Council of Ministers in the matter of appointment of the Vice-Chancellor and others in the university.

- He can act absolutely independently. He could also have rejected the suggestion from the Government.
- The Kerala High Court has clarified this legal point in Gopalakrishnan vs Chancellor, University of Kerala.
- Pandit Thakur Das Bhargava, a conscientious member of the Assembly: “He (Governor) will be a man above party and he will look at the minister and government from a detached standpoint”.

THE HINDU

SC on PF

Why did the employees litigate?

- The litigation by employees arose because the Union Government amended EPS-1995 effective September 1, 2014, introducing, among other changes, a time limit of six months for the members, jointly with their employers, to opt for a higher pension based on their actual salary, and a further six months where the reasonable cause for delay existed.
- The time limit was, however, not known to the employees as there was no communication to them; subsequent applications for higher pension were rejected by the EPFO citing the cut-off date,

What is the impact of the order?

- The Supreme Court importantly upheld the amendments to the pension scheme made by the government in 2014, which restricts even membership of the scheme up to a wage ceiling of ₹15,000.
- But it provided some relief to employees.
- One section of current employees (and by extension members of the pension scheme who were contributing to the pension fund as of September 1, 2014) stand to benefit from the order.
- The SC bench directed that members of the scheme who did not exercise the option for higher pension as provided for in the scheme as it existed before the 2014 amendment, were entitled to exercise the option, jointly with their employers, even under the amended scheme.
- This right was upheld in the R.C. Gupta judgment, which said no cut-off date was envisaged in EPS-1995.
- The court said that all employees who did not exercise the option but were entitled to do so due to the interpretation of the cut-off date by authorities should get a further four months to do so from the date of the order.

- The implication is that those who were members of EPS-1995 as of September 1, 2014, and beyond could exercise the joint option.
- This means that serving employees can opt for a higher pension now, transferring the stipulated part of the employer's contribution to the pension fund.
- Other members who contributed to the fund beyond that date but retired, would have to remit the stipulated dues into the pension fund of the EPFO.

THE HINDU

UNSC-CTC

- India's decision to host the special session of the United Nations Security Council's Counter-Terrorism Committee (UNSC-CTC) last month held in Mumbai and New Delhi, it focused on new and emerging technologies.
- New Delhi will host the third edition of the "No Money for Terror" (NMFT) conference that will look at tackling future modes of terror financing.
- India will chair a special briefing on the "Global Counter-Terrorism Architecture", looking at the challenges ahead.
- The growing global polarisation over the Russia-Ukraine war is not only

shifting the focus from terrorism but is also blurring the lines on what constitutes terrorism.

- The CTC meeting in Delhi, for example, was disrupted over Russia's claims that the U.K. helped Ukraine launch drone attacks on Russia's naval fleet in Sevastopol.
- While each conference, including the CTC meeting in Delhi, makes passing the CCIT a goal, very little progress has been made on the actual issues such as the definition of terrorism, concerns over human rights law conflicts, and the old debate on 'freedom fighter vs terrorist'.

Use of technologies and terrorism

- The next challenge comes from emerging technologies and the weaponization of a number of different mechanisms for terrorism purposes.
- Drones are already being used to deliver funds, drugs, weapons, ammunition, and even improvised explosive devices.
- After the COVID-19 pandemic, worries have grown about the use of bio warfare, and Gain-of-Function (GoF) research to mutate viruses and vectors which could be released into targeted populations.
- In a future that is already here, the use of artificial intelligence (AI)

systems and robotic soldiers makes it even easier to perpetrate mass attacks while maintaining anonymity.

- Terror financing uses bitcoins and cryptocurrency, and terror communications use social media, the dark web, and even gaming centers.
- Unless there is global consensus on regulating the use of these emergent technologies by all responsible states, it will be hard to distinguish their use from those by designated terror entities, or state-sponsored terrorism.
- Pakistan, Iran, and North Korea are the most obvious examples of countries where the establishment has supported terrorist groups carrying out cross-border strikes, drone attacks, and cyber warfare.
- Terrorist acts of the future will grow more and more lethal, will need fewer people to carry out, and with their sponsors having more and more anonymity.
- India, as host of these counter-terrorism events, and of the Shanghai Cooperation Organization (SCO) and the next G-20, must stop fighting the “last war” on terrorism, and steer the global narrative towards preparing for the next ones.

THE HINDU

Vikram S

- India’s first privately developed rocket, Vikram-S, is poised to create history as it undergoes final preparations at the ISRO (Indian Space Research Organisation) Launchpad in Sriharikota for launch between November 12 and 16.
- It was developed by Hyderabad-based Skyroot Aerospace.
- The mission is named ‘Prarambh’ (the beginning) since it is the first mission for Skyroot.
- With this maiden mission, Skyroot is set to become the first private space company in India to launch a rocket into space.

THE HINDU

Sovereign green bond

- The government has excluded nuclear power and large hydropower projects exceeding 25 MW from the ambit of investments to be made through the issuance of sovereign green bonds,
- The Budget had announced a plan to issue green bonds as part of the government's overall market borrowings this year, with the proceeds to be deployed in public sector projects 'which help in reducing the carbon intensity of the economy.'

What is a sovereign green bond?

Green bonds debuted in 2007.

- Green bonds are like any other debt instrument except for the fact that the issuer of the green bond pledges to use its proceeds to finance projects that will have a positive impact on the climate and environment.
- Green bonds can be issued by countries, companies, and multilateral organizations to only fund projects that have positive impacts on the climate and environment and provide investors with fixed-income payments.

- The proceeds from the sovereign green bonds will be used in environment-friendly public sector projects, which will in turn help in decreasing the carbon intensity of the economy.
- These green bonds will also help in attaining ambitious targets decided by the government, for instance achieving 175 gigawatts of renewable energy capacity by the year 2022 and net zero carbon emissions by 2070.

THE HINDU

Internationalization of rupees

- The Centre has expanded the norms for incentives and export obligations under the Foreign Trade policy to cover foreign trade transactions settled in rupees.
- Given the rise in interest in internationalization of the Indian rupee, policy amendments have been undertaken to facilitate... international trade transactions in Indian rupees.

Internationalization of the rupee

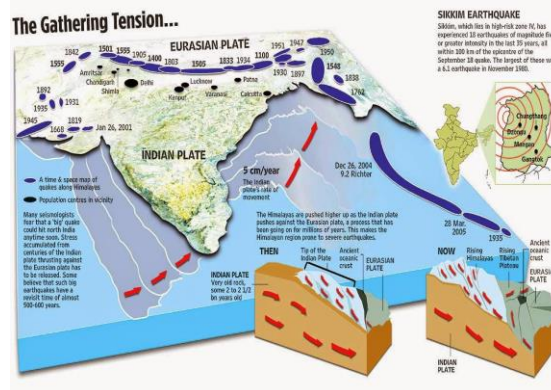
- Internationalization of the rupee is a process that involves increasing the use of the local currency in cross-border transactions.

- It involves promoting the rupee for import and export trade and then other current account transactions followed by its use in capital account transactions.
- Current and Capital accounts are the two components of the Balance of payments.
- While the current account deals mainly with the import and export of goods and services, the capital account is made up of the cross-border movement of capital by way of investments and loans.
- The use of the Rupee in cross-border transactions mitigates currency risk for Indian businesses.
- It reduces the need for holding foreign exchange reserves.
- Reducing dependence on foreign currency makes India less vulnerable to external shocks.

THE HINDU

Earthquake in Nepal

- Nepal is particularly prone to earthquakes. It sits on the boundary of two massive tectonic plates the Indo-Australian and Asian plates.
- It is the collision of these plates that has produced the Himalayan Mountains, and with them, earthquakes.



- Earthquakes occur when strain builds up in Earth's crust until it gives way, usually along old fault lines.
- In this case, the strain is built by the collision or convergence of two plates.

Layer of clay

- The heavily populated Kathmandu valley has a 300-meter-deep layer of clay beneath it.
- This reflects and focuses the seismic waves of an earthquake within the valley, resulting in what is known as soil liquefaction.
- This occurs when vibrations cause the solid ground to turn into something like quicksand.

THE HINDU

Report on groundwater extraction

- Groundwater extraction in India saw an 18-year decline, according to an assessment by the Central Ground Water Board (CGWB) made public on Wednesday.

- The total annual groundwater recharge for the entire country is 437.6 billion cubic meters (bcm) and the annual groundwater extraction for the entire country is 239.16 bcm.
- By comparison, an assessment in 2020 found that the annual groundwater recharge was 436 bcm and extraction 245 bcm.
- In 2017, recharge was 432 bcm, and extraction was 249 bcm.
- The 2022 assessment suggests that groundwater extraction is the lowest since 2004, when it was 231 bcm.
- Increase in ground water recharge which may mainly be attributed to an increase in recharge from canal seepage, return flow of irrigation water, and recharges from water bodies/ tanks & water conservation structures.
- Multiple studies over the years, including the Delhi Pollution Control Committee's (DPCC) 2019 report by IIT Delhi and Madras experts, found that the rapid growth in Delhi's population, industrialization, and urbanization, and increase in motorized private vehicle fleet led to the high concentration of air pollutants.
- One major argument for the failure to tackle Delhi's pollution problems is that a large proportion of these polluting sources are present all year round and high pollution levels are mainly witnessed in winter months due to unfavorable meteorological conditions, meaning stop-gap and seasonal measures often yield unsatisfactory outcomes.
- The daily waste generation rate in Delhi is over 10,000 tons, and the capacity of its already overflowing landfills to collect and manage garbage is under 6,000 tons. This leads to the practice of burning waste in residential areas.
- As for the burning of farm residue or stubble in Delhi's neighbouring States Haryana, Punjab, Uttar Pradesh, and Rajasthan researchers have emphasized the need for airshed management, along with improved machinery subsidies from

THE HINDU

Air pollution in Delhi

- The National Ambient Air Quality Standards were revised in 2009 to include 12 categories of pollutants including PM2.5 (that particulate matter with a diameter under 2.5 microns) a noxious pollutant that can penetrate deep into the lungs and even enter the bloodstream, resulting in cardiovascular and respiratory impacts.

the government and alternatives to crop burning.

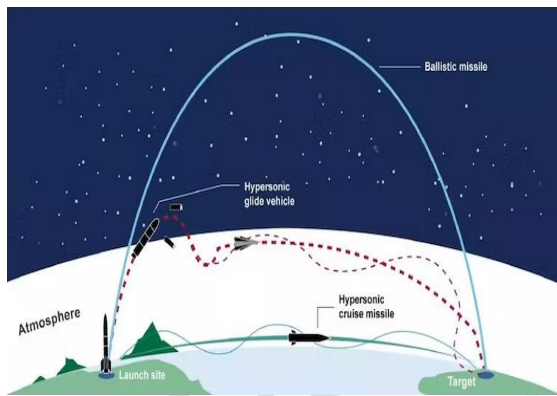
- An airshed is a common geographic area where pollutants get trapped.

THE HINDU

GES
REPORTER

Hypersonic missiles

- An Iranian Revolutionary Guards General claimed that the Islamic republic has developed a hypersonic missile capable of penetrating all defense systems,
- Hypersonic missiles, like traditional ballistic missiles which can deliver nuclear weapons, can fly more than five times the speed of sound.



- Describing a vehicle as hypersonic means that it flies much faster than the speed of sound, which is 761 miles per hour (1,225 kilometers per hour) at sea level and 663 mph (1,067 kph) at 35,000 feet (10,668 meters)

Three types of hypersonic missiles

- There are three different types of non-ICBM hypersonic weapons: aero-ballistic, glide vehicles and cruise missiles.
- A hypersonic aero-ballistic system is dropped from an aircraft, accelerated to hypersonic speed using a rocket, and then follows a

ballistic, meaning unpowered, trajectory.

- A hypersonic glide vehicle is boosted on a rocket to a high altitude and then glides to its target, manoeuvring along the way.
- A hypersonic cruise missile is boosted by a rocket to hypersonic speed and then uses an air-breathing engine called a scramjet to sustain that speed.
- Because they ingest air into their engines, hypersonic cruise missiles require smaller launch rockets than hypersonic glide vehicles, which means they can cost less and be launched from more places.

THE HINDU

CAD

- State Bank of India has pencilled in a lower current account deficit for India at 3% for this fiscal as against the minimum consensus of 3.5%, citing rising software exports, remittances, and a likely \$5-billion jump in forex reserves via swap deals
- Software exports have been rising with the share of offsite mode of exports by domestic IT services firms soaring to 88.8% in FY22 from 82.8% five years earlier.
- Current Account Deficit (CAD) is the shortfall between the money

received by selling products to other countries and the money spent to buy goods and services from other nations.

- If the value of goods and services we import exceeds the value of those we export, the country is said to be in a deficit, and the difference in the two values is CAD.
- The current account includes net income, including interest and dividends, and transfers, like foreign aid.
- India's current account position is largely on the deficit side because of the country's dependence on oil imports.

THE HINDU

FMCG industry

- The country's FMCG industry continued to witness consumption slowdown in the September quarter, with rural markets registering a higher decline in volumes consumers continued to prefer purchasing smaller packets amid companies hiking prices in response to broader inflationary pressures.

What are FMCG Goods?

- Fast-moving consumer goods, also known as consumer packaged

goods, are products that are sold quickly and at a relatively low cost.

- Examples include non-durable household goods such as packaged foods, beverages, toiletries, candies, cosmetics, over-the-counter drugs, dry goods, and other consumables.

THE HINDU

Kherson region

Where is Kherson and why is it important?

- Geographically, Kherson is a strategic location for Russia and Ukraine.
- Situated in the northwest of the Dnipro River, the province shares borders with Donetsk, Crimea, and the Black Sea.
- With Moscow capturing Crimea in 2014, the occupation of Kherson in March 2022 has benefited Russia in transferring its military from Crimea to counter Ukraine.



- It provides access to Odesa and Black Sea ports in the west and serves as

the main route to secure southern Ukraine.

- For Ukraine, regaining Kherson is significant to protect its population in Kalanchak and Chaplynka districts and also to recapture Crimea.
- Kherson is also an important region for its agricultural produce, with irrigation channels.

Why has Moscow announced its withdrawal from Kherson?

- There are three reasons behind the move. First is the mobilization failure.
- When Russia was advancing rapidly in capturing the southern and northern cities of Ukraine, its military personnel and weapon systems started to run thin.
- Secondly, the inability of Russia to govern Kherson
- Third, Ukraine's expanding counter-offensive

A layoff from a big tech firm

- Several large technology firms have already paused hiring and, in some cases, companies are laying off employees.
- Social media platforms like Meta and Snap have been hit by an update from Apple.

- The iPhone maker introduced an app tracking feature that lets users opt out of apps that track them.
- Higher inventory for chip makers, lower demand for handset manufacturers, loss in revenue from selling ad spaces for social platforms, and uncertain long-term bets like the metaverse have played a significant role in making large tech firms restructure their business practices.

THE HINDU

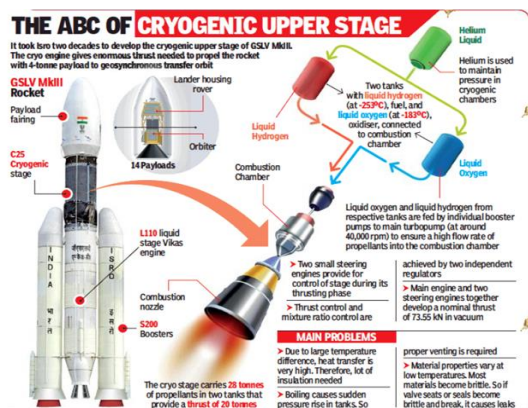
LVM3- Hot test vs cold test

- The Indian Space Research Organisation (ISRO) has successfully conducted the hot test of the CE20 cryogenic engine, which has been indigenously developed for Launch Vehicle Mark-3 (LVM3), previously called the GSLV-Mk3
- CE20 cryogenic engine is indigenously developed for LVM3.
- The LVM3 is the heaviest launch vehicle of ISRO.

Hot test vs cold test

- A hot test system is a 100% production test used to check all the engine operating parameters as they would function real time in an actual vehicle
- Whereas a cold test consists of a leak test, which includes the testing of all

cavities and systems that must not leak, such as oil, water, fuel, and air.



- Currently, SpaceX's non-human rated Falcon Heavy, a super-heavy lift vehicle, is the heaviest rocket that is operational, only surpassed by the retired Saturn V, which launched Apollo astronauts to the moon.
- The LVM3 also has the human-rated variant which will be used for Gaganyaan missions.

THE HINDU

About LVM3

- While the LVM3 was named the GSLV Mk III, it features a suite of improved systems and components over the GSLV Mk II.
- As a result, the rocket is considered to be in a league of its own, apart from the trusty Polar Satellite Launch Vehicle (PSLV) and the GSLV.
- The LVM3 is capable of lifting much heavier satellites than the GSLV Mk II with a bigger cryogenic upper stage and a larger first stage.
- Both GSLV Mk II and LVM3 are three-stage vehicles, while the PSLV, which launches to low earth polar orbits, is a four-stage vehicle.
- The GSLV Mk-II can place up to 2,500kg in geosynchronous orbits and up to 5,000kg to low earth orbits.
- By comparison, the LVM3 can lift 4,000kg to GTO and up to 8,000 kg to LEO.

Himalayan langur

- Differences in altitude make a primate species in the same Himalayan habitat choose between flowers and fruits as food options beyond their staple menu of leaves, a new study has revealed.
- The Himalayan Gray Langur or the Chamba Sacred Langur (*Semnopithecus Ajax*) is a colobine, meaning leaf eating monkey.
- It is considered an endangered species globally as its population is estimated to be less than 1,500 mature individuals in 15-20 groups.
- Himalayan Grey Langur (*Semnopithecus ajax*).
- Langurs are an important species as they occupy a key position in the food chains of many forest ecosystems. In India, most langurs comes under the genus *Semnopithecus*
- Ajax is an endangered species according to the International Union for Conservation of Nature Red List but after reassessment in 2004, it was re-designated as 'Critically Endangered'.
- It is considered endangered due to its restricted range habitat.
- These langurs come to agriculture fields during the harvesting of crops and move to the deep forest during other periods of the year.
- This tendency is more visible in the areas of Kala Top and Khajjiar.
- The major and common threats throughout the region are habitat loss and degradation through human encroachment, overgrazing, building roads through forests, lopping, deforestation, agriculture, and fire, unavailability of food, predation by carnivores (leopards and tigers) and attack of several viral and bacterial diseases.
- Present and future threats are mainly due to agriculture and development practices.
- At the ecosystem level, primates including Dark Eyed Himalayan Langurs exert a very important feedback control on the vegetation itself and are also essential to maintain homeostasis of the forest ecosystem, especially critical for forest regeneration and survival.
- Primates could also be projected as 'flagship' or 'umbrella' species in a forest ecosystem and by protecting a 'primate', a large number of species could be protected.
- A primate often performs ecological services that are important to maintaining tropical habitat such as seed disperser, pollinator, and seed

predator as well as food for the top predator.

- Two protected habitats of the species namely Machiara National Park and Dachigam National Park are located in politically disturbed areas. Machiara National park is in Pak-Occupied Kashmir.

○ **THE HINDU**

Why is the regulation of cryptocurrency ids difficult?

- Cryptocurrency is basically a collection of binary data.
- However, we have been conditioned to believe that money must be tangible, backed by something tangible or by the guarantee of a government or a Central bank.
- To accept an intangible computer code as money is a paradigm shift in our belief systems.
- The common investment instruments in stock markets and banking systems are tangible products and some have sovereign backing.
- But crypto-assets are not backed in the real world by assets or commodities.
- Till now, regulatory frameworks have not been crafted for anything purely intangible

- No one seems to understand how exactly the crypto market operates. What are the forces behind it
- The cryptocurrency market is always vulnerable to attacks.
- The sudden breakdown of the market cannot be ruled out.
- If that happens and all the electronic records in the distributed blockchain ledger simply evaporate, recovery mechanisms may not work

Lack of clarity on the basic nature of cryptocurrency

- Given that cryptocurrency isn't issued by a government or Central bank but is mined by individuals around the world, it isn't clear who exactly would have the authority to regulate it.

● **THE HINDU**

Articles 15 and 16

- The amendment, introduced in early 2019, altered Articles 15 and 16 of the Constitution, and granted to the state the power to provide for up to 10% reservation in government jobs and educational institutions for "economically weaker sections of citizens [EWS]".
- The change also mandated that the seats reserved for EWS would only apply to citizens other than the

classes that are already eligible for reservation.

ARTICLE 15 OF THE INDIAN CONSTITUTION

- Article 15 provides that discrimination on the basis of race, caste, religion, etc., shall be prohibited.
- The State is restrained from discriminating among its citizens on the basis of these factors.
- However, Article 15(3) and 15(4) provides that the State is permitted to make special provisions in the favour of women and children and in favor of other minority and backward or oppressed communities.
- Educationally and socially backward communities are provided an exemption under this Statute.
- The 93rd Constitutional Amendment introduced Article 15(5) to the Constitution. This is an enabling provision.
- The Right to education and several maternity schemes are based upon the concept of Article 15.

ARTICLE 16 OF THE INDIAN CONSTITUTION

- Similarly, Article 16 of the Constitution provides that every citizen is entitled to equal

opportunity and the State shall not discriminate when dealing with matters of public employment.

- Here too, the State is entitled to make special provisions in favor of the backward communities provided the State believes that these communities are not adequately represented in the public offices.
- *Indra Sawhney v. Union of India*, 1992 (Supp) 3 SCC 217, where the Court firstly emphasised on the intention of the Constitution makers behind the drafting of Articles 15 and 16 of the Constitution.
- The Court held that these Articles are aimed at promoting real equality in the society and to ensure such real equality, some degree of reasonable classification is essential.
- *K.C. Vasanth Kumar v. State of Karnataka* AIR 1985 SC 1495, the Court held that economic backwardness formed the primary indicator of backwardness.

THE HINDU

Topic- NEP and higher education autonomy

- Funded through the University Grants Commission (UGC), universities are all subject to a very

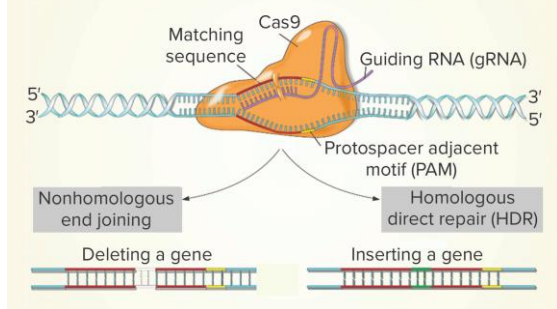
strict regulatory regime. Abiding by UGC regulations and AICTE guidelines, encompasses almost all aspects of their functioning be it faculty recruitment, student admission and the award of degrees.

- In many cases, they are micro-managed by the regulatory authorities.
- Therefore, most of them have become so comfortable with the practice that they rarely assert their autonomy.
- Central universities in the country are also ranked on the basis of their 'obedience' to regulatory compliances.
- The best universities in the world are continuously sensitized about the importance of their autonomy and are trained and enabled to make their own decisions.
- The European University Association (EUA), for example, prescribes a 'university autonomy tool' that lets each member university compare its level of autonomy vis-à-vis the other European higher education systems across all member countries.
- By focusing on four autonomy areas (organizational, financial, staffing, and academic) the EUA computes composite scores and ranks all the countries in Europe.

- National Education Policy 2020), has highlighted the need for higher education autonomy.
- The new education emphasizes to completely overhaul the higher education system, and to attain this objective, repeatedly emphasises the need for institutional autonomy.
- The NEP regards academic and administrative autonomy essential for making higher education multi-disciplinary, and that teacher and institutional autonomy are a sine qua non in promoting creativity and innovation.
- It argues for a 'light but tight' regulatory framework and insists that the new regulatory regime would foster a culture of empowerment
- Higher learning centres in ancient India enjoyed no less academic, administrative, and financial autonomy than the most autonomous universities in the world today.
- Forcing higher educational institutions to follow uniform standardized rules and regulations run counter to what the NEP provides for.

THE HINDU

CRISPR- PERSONALISED GENE EDITING



- Scientists have, for the first time, used the CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) technology to insert genes that allow immune cells to attack cancer cells, potentially leaving normal cells unharmed and increasing the effectiveness of immunotherapy.
- The CRISPR gene editing technique has been previously used in humans to remove specific genes to allow the immune system to be more activated against cancer
- The research, published in the journal Nature, used CRISPR to not only take out specific genes but also to insert new ones in immune cells efficiently redirecting them to

recognize mutations in the patient's own cancer cells.

- When infused back into patients, these CRISPR- engineered immune cells preferentially traffic to cancer and become the most represented immune cells there.

Cell therapy

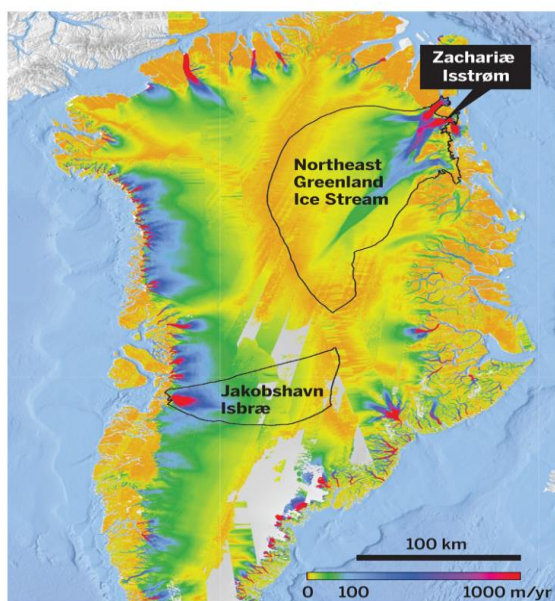
- The human immune system has specific receptors on immune cells that can specifically recognize cancer cells and differentiate them from normal cells.
- These are different for every patient, so finding an efficient way to isolate cancer cells and insert them back into immune cells to generate personalized cell therapy to treat cancer is key to making the approach feasible on a large scale.
- After isolation, the immune receptors are used to redirect immune cells to recognize cancer using CRISPR gene editing.
- "This is a leap forward in developing personalized treatment for cancer, where the isolation of immune receptors that specifically recognize mutations in the patient's own cancer is used to treat cancer.

THE HINDU

Green land ice stream

Draining Greenland

Large regions of the Greenland Ice Sheet drain through speedy Jakobshavn Isbræ and the Northeast Greenland Ice Stream, including the now-accelerating Zachariae Isstrøm. Fastest flow shown in red.



-
- Future ice loss from the Northeast Greenland Ice Stream, part of the Greenland ice sheet, could cause sea levels to rise by up to 15.5 mm by 2100, a study published in the journal, Nature, suggests.
- This rise is the equivalent of the entirety of the Greenland ice sheet's contribution to sea-level rise over the past 50 years.

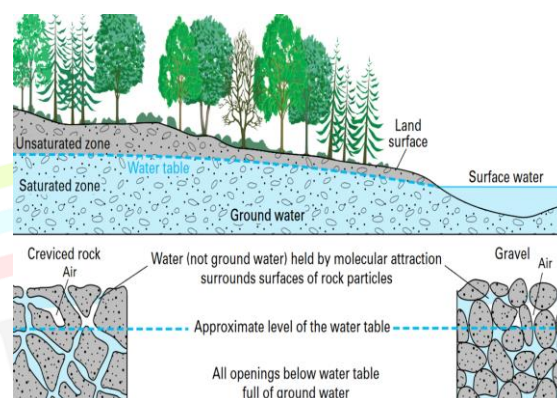
Land and sea use changes and biodiversity loss

- A new analysis of studies published since 2005 (Science Advances) concludes that land and sea use change has been the dominant anthropogenic driver of global biodiversity loss.

- Direct exploitation of natural resources is the second most dominant driver on land, but the most important one for the oceans.
- This new analysis can help in designing policies to halt biodiversity loss under the framework of the UN Sustainable Development Goals.

THE HINDU

Recharging groundwater



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- The water table defines the depth at which cracks and pores in rocks are saturated with water.
- Such water, stored in subterranean spaces, is called groundwater and the water-bearing rock strata are called aquifers.
- Groundwater is a critical resource. It is the principal water source for a fourth of the world's population.
- India is the world's largest groundwater user; nearly 250 cubic kilometers was taken out in 2017.
- About 90% of this was used for irrigation, the rest went to towns and villages.

- The agrarian economy of the Indo-Gangetic plains is sustained by groundwater.
- But there are fears that the Indo-Gangetic basin aquifer may soon be incapable of supporting so much irrigation.
- The lowering of the water table forces farmers to use high-powered submersible pumps, which has worsened the situation.
- Raising the water table Aquifers are recharged with water from rainfall and rivers. Post -Independence, India saw an increase in the construction of canals for distributing water.
- These canals leak water, which also augments groundwater levels.
- An important factor contributing to the good health of aquifers in some parts of our country is community-based movements to recharge groundwater.
- A good example is seen in the semi-arid regions of Saurashtra.
- Here, thousands of small and large check dams have been built across seasonal rivers and streams.
- These slow the flow of water and contribute to groundwater recharge as well as to check soil erosion.
- Another part of the country facing a marked decline in groundwater levels is a region overlapping Tamil Nadu and Karnataka, where the aquifers are located in crystalline bedrock.
- In such rocks, water is found only in cracks and fissures as the rock itself is not porous. Under these circumstances, tanks and ponds do not contribute much to groundwater recharge.
- In rural areas of this region, recharge is mostly affected by rainfall and irrigation- related recycling.
- Interestingly, the major source of groundwater recharge in an urban area (Bengaluru) leaks in water distribution pipes.

• **THE HINDU**

Vaccine equity

- The Global Dashboard for Vaccine Equity, a joint effort by the United Nations Development Programme (UNDP), the World Health Organization (WHO), and the University of Oxford with cooperation across the UN system,
- It has put out recent data that justifies the vexatious core of the vaccine distribution program: Only one in four people has been vaccinated with at least one dose in low and middle-income countries as of November 9, 2022.

- In comparison, in high-income countries, three in four people have gotten at least one dose of the vaccine.

What is the Global Dashboard?

- The Global Dashboard for Vaccine Equity combines the latest data on the global roll-out of COVID-19 vaccines with the “most recent socio- economic information to illustrate why accelerating vaccine equity is not only critical to saving lives but also to driving a faster and fairer recovery from the pandemic with benefits for all.”

What is vaccine equity?

- Simply put, everyone in the world has the same access to vaccines.
- While the availability of drugs across the world continues to remain inequitable, disadvantaging large swathes of people in low and middle-income countries, it was hoped that the urgency of a pandemic might erase these differences, offering equal access to all. But that was not to be

Were efforts taken to reduce vaccine inequity?

- It was reported that during the height of the pandemic, efforts were initiated to waive the intellectual

property protection for the COVID-19 range of therapeutics and vaccines, in order to ensure that affordability alone doesn't determine availability.

- A waiver in the TRIPS agreement was proposed as a radical way to overcome the anticipated shortfalls. However, that did not come through.
- What did come through was The COVID-19 Vaccine Delivery Partnership (COVAX), a collective international effort with ‘One Country Team’, ‘One Plan’, and ‘One Budget’ which was launched by WHO, UNICEF, and Gavi and the World Bank, to intensify country readiness and delivery support.
- It aimed at accelerating COVID-19 vaccination coverage in 34 low-coverage countries, along with their governments.
- While COVAX has helped many countries access vaccines.

THE HINDU

Climate finance

- Developed countries have insisted upon two points on the issue of climate finance.
- First, they maintain that their commitment to reaching the target of \$100 billion in climate finance a year for developing countries, first promised in 2009, is close to being met.
- Second, they view the mobilization of private finance as a critical component of climate finance.
- The UNFCCC Standing Committee on Finance (SCF) released a report on the progress made by developed countries toward achieving the goal of mobilizing \$100 billion per year.
- The report makes two things clear while estimates vary, it is widely accepted that the \$100 billion goal has not been achieved in 2020, and an earlier effort to mobilize private finance by the developed countries has met with comprehensive failure.
- The SCF report relied mainly on the Organisation for Economic Co-operation and Development (OECD) and Oxfam reports for aggregate climate finance trends.
- The OECD report claims that developed countries have mobilized \$83.3 billion in climate finance in 2020 (\$68.3 billion in public finance, \$13.1 billion in mobilized private finance, and \$1.9 billion in export credits)
- A challenge for low -income countries Developing countries have for a long time insisted that a significant portion of climate finance should come from public funds as private finance will not address their needs and priorities especially related to adaptation.
- Climate finance already remains skewed towards mitigation and flows towards bankable projects with clear revenue streams.
- Adaptation is unlikely to offer commercially profitable opportunities for private financiers.
- Vulnerable, debt -ridden, and low-income countries with poor credit ratings needing adaptation finance the most, find it challenging to access private finance.
- Following the dismal failure to meet the \$100 billion goal, developed countries pushed the target year for achieving it to 2025 from 2020.
- Last year, at COP26 (Glasgow), developed countries came up with a Climate Finance Delivery Plan (CFDP) to meet the goal.

THE HINDU

Changes in Ph.D. course

- The UGC on November 7, 2022, notified the University Grants Commission (Minimum Standards and Procedures for Award of Ph.D. Degree) Regulations, 2022
- One of the notable changes it made was to the evaluation and assessment criteria for the award of the degree, where it has waived the need to mandatorily publish a research paper in a peer-reviewed journal.
- This is accompanied by completely abolishing MPhil, which has been a gateway for Ph.D. programmes, in line with the recommendation in the National Education Policy 2020.
- The eligibility criteria for admissions too have been revised, and a candidate can register after completing a one-year (or two semester) master's degree program after a four-year (or 8-semester) bachelor's degree program or a two-year (or four-semester) master's degree program after a three-year bachelor's degree program with at least 55% marks or its equivalent grade.
- There are also important changes to course work.
- Earlier, the description of course work candidates needed to finish was more detailed, with at least four

credits assigned to courses on research methodology. Candidates were also required to finish this either in the first semester, or by the second semester.

- Only candidates who were awarded MPhil or had completed their MPhil were exempted open-ended new regulations Ph.D.ve it more open-ended and says that all Ph.D. scholars "shall be required to train in teaching/ education/ pedagogy/ writing related to their chosen PhD subject."
- They can also now be assigned 4-6 hours per week of teaching/research assistantship for conducting tutorials, or laboratory work and evaluation.

THE HINDU

Operation Barkhane

- On November 9, French President Emmanuel Macron announced the end of the decade-long Operation Barkhane in Africa.

What is Operation Barkhane?

- France began its military operations in the Sahel in January 2013.
- Titled Operation Serval, it was linked to al-Qaida and took control of northern Mali.
- However, in 2014, the mission was scaled up, renamed Operation

Barkhane, and was aimed at counter-terrorism.

- The objective was to assist local armed forces to prevent the resurgence of non-state armed groups across the Sahel region.
- Around 4,500 French personnel were deployed with the local joint counter-terrorism force.

Has France achieved its objectives?

- French operations had two objectives in the Sahel.
- First, to liberate Mali from the insurgency in the north and second, to see through counter-terrorism operations in West Africa, including the neutralization of key terrorists.
- In its major successes, France regained Mali's northern regions from the extremists in 2014 through Operation Serval.
- . However, Operation Barkhane saw a series of failures.
- First affiliated, despite the organization stressed the growth of new groups affiliated to terrorist organizations, including the Islamic State.
- Second, the failure of the operation led to a humanitarian crisis.

Why did Mr. Macron pull out?

- First, France's relations with the military rulers grew hostile after a

series of coups in Mali, Burkina Faso, and Guinea.

- Relations between France and Mali soured after the latter expelled the French ambassador when he disagreed with the junta's decision to remain in power until 2025.
- In addition, France was contemptuous of Malian authorities negotiating a peace deal with insurgent groups.
- Secondly, since Operation Barkhane was widely perceived as a failure, anti-French sentiments and questions over France's intentions flared up, with a further demand for France's withdrawal from the region.
- Finally, France and other Western countries claim that the Wagner Group, a private military company close to the Kremlin, is playing a major role in fuelling the insurgency and discrediting French withdrawal.

THE HINDU

Data regulation

- The United Nations Conference on Trade and Development in their Digital Economy Report found that businesses using the internet for global trade have a higher survival rate than those who do not.
- Therefore, cross-border is essential for economies [especially growing

economies] to protect data during cross-border transfers.

- Countries mandate data that are created within their borders to remain stored within its territorial boundaries.
- This process of storing data locally is referred to as data localization.
- The need for data localization
- The requirement of data localization strengthens the protection of personal data, as all of us while using the internet are sending data in some manner or form.
- For instance, obligations under the European Union's General Data Protection Regulation (GDPR), obligate businesses in the EU to keep the data secured within the boundaries of the EU.
- Governments need to be re-assessed to see if there tends to be a uniformity in the nature of data that different businesses operate and exploit.
- India is one of the most powerful markets in terms of data creation and use, the need for data localization is essential.
- In a similar pattern, due to the increasing number of digital payments in the country, the Reserve Bank of India has also mandated payment system data information to be stored in India for better monitoring and safety.
- Imposing restrictions on the free flow of data can not only create an impact on the global economy but also become a hindrance for local markets.
- If governments look at data localization from the point of security and counter data breaches, it can, due to the forced localization of data, make data security more vulnerable as the data no longer undergoes sharding.
- This is particularly true of countries with poor IT infrastructure.
- Moreover, developed countries may use sophisticated tools for data surveillance which can simply forfeit the purpose of achieving data security through relocation.
- There can also be an increased risk of local surveillance through the implementation of stringent data localization laws.
- A lot of countries prohibit the transfer of data on the account of 'national interest' which is a very broad term and could encompass various situations.
- Such variations can foster a varied set of challenges in different settings and the nature of businesses.

- Further, the mandate of data localization increases the operational costs of the businesses.
- Another downside of this could be the promotion of monopoly and eradication of small and mid-size businesses from the market

A multiple-stakeholder approach

- Data is the enabler of businesses and digitization has been essential for growth and innovation.
- In this age of rapid technological growth, governments should shift to alternate standards (such as encryption) rather than enforcing strict measures on data localization that could restrict trade and innovation.
- One should also reflect on how far we can go with a sovereignty- based model in a digitally connected world.
- It has become increasingly troublesome to solve jurisdictional issues in case of cybercrimes and online defamation which rely heavily on international cooperation multiple-stakeholder making it difficult and expensive for prosecutors to act.
- Therefore, a way forward could be to move with a multiple stakeholder approach which can not only help in looking at data localisation alone,

but also other issues such as privacy and governance.

- The 'globalization' approach is one such method in the digital space, wherein laws can be harmonized globally, but by paying attention to local interests.

THE HINDU

Chinese vessels in the Indian Ocean region/maritime security

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THE HINDU



India's net zero plan

- At the United Nations Conference of Parties (COP) in Sharm el-Sheikh, India on Monday announced its long-term strategy to transition to a “low emissions” pathway, which is premised on expanding its nuclear power capacity by at least threefold in the next decade, apart from becoming an international hub for producing green hydrogen and increasing the proportion of ethanol in petrol.
- These steps were consonant with India’s “five-decade journey” to net zero or being carbon neutral by 2070.
- “The LTLEDS (Long Term Low Emission Development Strategy) has been prepared in the framework of India’s right to an equitable and fair share of the global carbon budget.
- The strategy emphasizes energy security, energy access, and employment while keeping the focus on our vision of Atmanirbhar Bharat.
- India “aspires” to maximize the use of electric vehicles, with ethanol blending to reach 20% by 2025 (it is currently 10%) and a “strong shift” to public transport for passenger and freight traffic.
- India will also focus on improving energy efficiency through the Perform, Achieve, and Trade (PAT) scheme, the National Hydrogen Mission, increasing electrification, enhancing material efficiency, and recycling and ways to reduce emissions.
- India’s forest and tree cover is a net carbon sink absorbing 15% of carbon dioxide emissions in 2016, and the country is on track to fulfilling its Nationally Determined Contributions (NDC) commitment of 2.5 to 3 billion tonnes of additional carbon sequestration in forest and tree cover by 2030, the document notes.
- The NDCs are voluntary commitments by countries to reduce emissions by a fixed number relative to a date in the long-term to achieve the long-term goal of climate agreements of preventing global temperature rising beyond 1.5 or 2 degrees Celsius by the end of the century.
- Thus, India’s most updated NDC commits to ensuring half its electricity is derived from non-fossil fuel sources by 2030 and reducing the emissions intensity by 45% below 2005 levels by 2030.
- The LT-LEDS are qualitative in nature and are a requirement emanating

from the 2015 Paris Agreement whereby countries must explain how they will transition their economies beyond achieving near-term NDC targets and work towards the larger climate objective of cutting emissions by 45% by 2030 and achieve net zero around 2050.

- Varying across studies, they all fall generally in the range of trillions of dollars by 2050. The provision of climate finance by developed countries will play a very significant role and needs to be considerably enhanced, in the form of grants and concessional loans, ensuring scale, scope, and speed, predominantly from public sources.

THE HINDU

INDIA and US

- “The United States and India share an interest in strengthening our supply chains in a world where certain governments wield trade as a geopolitical weapon”.
- The U.S. was particularly keen to minimize its vulnerability to supply chain disruptions and was therefore pursuing a strategy of ‘friend shoring’, with India, a key element in the plan to cut its reliance on ‘countries that present geopolitical

and security risks to the supply chain.

- Citing the Ukraine invasion and asserting that Moscow had ‘weaponized’ its supply of natural gas to Europe, as well as the challenges of China’s dominance in the production of products such as solar panels,
- Washington’s keenness to nurture local partners in developing countries to help mitigate over-concentration on select suppliers.
- The Trump administration’s antagonistic decisions on trade including the withdrawal of duty-free access to Indian exporters under the Generalized System of Preferences (GSP) as well as a 2020 decision to put India back on the U.S. Treasury’s ‘Monitoring List’ over its currency practices.
- With India set to take up the reins of the G-20 presidency, New Delhi has a chance to steer the global economic and trade agenda toward greater equity, including on climate change.

THE HINDU

Bali g20

What is the agenda of this summit?

- The motto for this G-20 is Recover Together, Recover Stronger. President Jokowi has made recovering from the pandemic a major focus despite geopolitical tensions overshadowing the summit.
- The leaders will engage in discussions over three sessions: on Food and Energy Security, Health Partnership for Global Infrastructure and Investment, and Digital Transformation.
- In addition, to highlight the concerns over climate change issues, Mr. Jokowi will lead his guests to the Indonesian mangroves of Taman Hutan Raya, which have been restored over a 30-year project covering nearly 700 acres.

Why was the G-20 created?

- Created in 1999 as an acceptable medium between the more “elitist” G-7 (then the G-8), and the more unwieldy 38-member Organisation for Economic Co-operation and Development (OECD),
- G-20 has been seen as a more representative and egalitarian grouping of global leadership, and was particularly useful in steering the global economy after the global

financing crisis and banking collapse of 2008.

- Significantly, next year the “Troika” of G-20 will be made up of emerging economies for the first time with India, Indonesia, and Brazil an indicator of the shift in the global economic agenda towards the Global South.

THE HINDU

Eklavya Model Residential Schools (EMRS)

- The Narendra Modi-led government is pushing to set up 740 Eklavya Model Residential Schools (EMRS) for tribal students one each in every sub-district that has at least a 20,000-odd Scheduled Tribe population, which must be 50% of the total population in that area.
- The EMRS model was first introduced in 1997-98 to provide quality education to tribal students with residential facilities in remote corners.
- The aim was to build schools at par with the Jawahar Navodaya Vidyalayas and Kendriya Vidyalayas
- In 2018-19, at the bidding of Mr. Modi, the Cabinet approved the revamping of the EMRS scheme. The new guidelines gave the Union

government more power to sanction schools and manage them.

- The new guidelines set a target of setting up an EMRS in every tribal sub-district and introduced “population criteria” for setting them up.
- The new guidelines also reduced the minimum land requirement from 20 acres to 15 acres.

THE HINDU

Persian language in Kashmir

- “The Mughal rule in Kashmir from 1589 saw the Persian language reaching its zenith.
- Eminent Iranian poets visited Kashmir in the 17th century including Sa’ib Tabrizi, Abu Talib Kaleem Kashani, Muhammad Jan Qudsi Mashhadi, and Mir Ilahi.
- From the 14th to 19th century, the Persian language emerged both as the language of administration and all kinds of writing
- Being the official language of courts and commerce in Jammu and Kashmir, Persian adorned verbal transactions in the Valley up until 1889, when Urdu replaced it under Maharaja Partap Singh, the third Dogra ruler.
- Now, an exhibition of Persian manuscripts by Khwaja Muhammad

Amin Darab, poet and chronogram writer, here puts a spotlight on the fast-fading language in Kashmir.

- The exhibition is an attempt to revive the language in the Union Territory.

THE HINDU

Small fishing vessels and maritime security

- A delayed project to install transponders on small fishing vessels, under 20 meters in length, as part of coastal security measures instituted after the 26/11 Mumbai attacks is making progress, with a project underway in Tamil Nadu.
- In a related development, the third edition of the ‘pan India’ coastal defense Exercise ‘Sea Vigil-22’ is scheduled to be held on November 15 and 16,
- To allay the concerns of fishermen, the transponders with positioning navigation systems have been modified into a two-way communication system
- An Automatic Identification System (AIS) was made compulsory for all vessels above 20 meters.
- Verification and monitoring of a large number of fishing vessels in India has been greatly eased by the creation of the online ReALCraft

(Registration and Licensing of Fishing Craft)

- The exercise will be undertaken along the entire 7,516- km coastline and Exclusive Economic Zone of India and will involve all the coastal States and Union Territories along with other maritime stakeholders, including the fishing and coastal communities.

THE HINDU

GES
REPORTER

State autonomy

- The States of the Union does not want to be mere appendages of the Centre.
- They seek a decisive say in determining the architecture of economic growth and development.
- The one-size-fits-all approach, often inherent in central planning, has the potential of creating needless tensions and undermining the harmony needed for national effort”.
- One of the main mandates of NITI Aayog is to foster cooperative federalism through structured support initiatives and mechanisms with the States on a continuous basis, recognizing that strong States make a strong nation.
- It has been a well-established tradition to treat all the recommendations of the Finance Commissions relating to transfers to States as an award and a package.
- This tradition was broken for the first time while dealing with the recommendations of the Fifteenth Finance Commission.
- The Fifteenth Finance Commission, in its first report, had recommended a special grant to three States amounting to ₹6,764 crores to ensure that the tax devolution in 2020-21 in absolute terms should not be less than the amount of devolution.
- This recommendation was not accepted by the Union Government.
- Similarly, the recommendation relating to grants for nutrition amounting to ₹7,735 crores was not accepted.
- The decision to treat off Budget borrowings from 2021-22 onwards serviced from the State budgets as States’ borrowings and adjusting them against borrowing limits under Fiscal Responsibility and Budget Management (FRBM) in 2022-23 and following years is against all norms.
- This is the first time that the Government of India is proposing to treat off Budget borrowings as government borrowings retrospectively from 2021-22.
- The government has been resorting to the levy of cesses and surcharges, as these are not shareable with the States under the Constitution.
- The share of cesses and surcharges in the gross tax revenue of the Centre increased from 13.5% in 2014-15 to 20% in the Budget estimates for 2022-23.

THE HINDU

Health and air pollution policy

- Health and epidemiological evidence will drive our determination to achieve substantial health benefits from clean air targets.
- The only effort to date in India, which has viewed air pollution through this lens, is the Ministry of Health's Steering Committee on Air Pollution, which took an exposure-centered view to policy.
- It did this by prioritizing interventions that contributed the most to reducing exposure and thereby providing health benefits.
- It also brought to light the local and global epidemiological evidence on the harmful effects of air pollution and defined policy measures aligned with that science (for example, focusing on household cook stove smoke).
- Whether it is stubble burning (a by-product of ill-thought out water conservation laws) or thermal power plant emissions (where more stringent standards have been delayed for over five years), decisions are made without any consideration of their potential second and third order effects, especially on health.

Public functionaries' speech

- There was an inherent constitutional restriction on persons holding responsible offices to follow a certain code of conduct.
- Such self-imposed restraint was irrespective of the "reasonable restriction" on free speech.
- "For any person holding a public office or is a public servant, there is an unwritten rule, and it is part of our constitutional culture, that we impose a self-- restriction when we hold offices of responsibility and not blabber things which are very disparaging or insulting to our countrymen.
- "There may be no right against the state when an individual makes a statement, but on account of a public functionary making a statement, if a section of population or individuals are affected, there is always a civil remedy available,"

THE HINDU

No money for terror forum

- The use of crowdfunding platforms to finance terrorist activities and weak control mechanisms of social media platforms is one of the four main topics to be discussed at the third No Money for Terror (NMFT)

conference to be hosted by India this week. The conference is to be held in New Delhi.

- Global trends in terrorism and terrorist financing; use of formal and informal channels for terrorism; emerging technologies and terrorist financing; and international cooperation to address challenges in combating terrorist financing.
- Humanitarian forces of the world and India will have to fight unitedly to defeat the menace of terrorism.”
- “Terrorists and extremists have improvised on technologies like cryptocurrency and crowdfunding by customizing them to suit their requirements.
- The dark web brings together professional hackers and terrorists seeking to transfer or crowd-source funds, and the anonymous, decentralized, and often untraceable nature of terror financing through various means poses a serious challenge.
- “The world still lacks a universal consensus on laws and norms regarding cybercrimes.
- The weak control mechanisms of social media platforms and their misuse by terrorist and extremist groups to raise funds have been regularly highlighted.

- An effective multilateral and multistakeholder approach can help in the identification and mitigation of threats of emerging terror financing mechanisms.
- An effective legislative framework can help ensure that internet service providers/social media platforms work towards effective, proportionate, and dissuasive self-regulation.

THE HINDU

Israel and Iran

- With a continuing nuclear program, support for militant groups in the region such as Hezbollah and direct military assistance for Russia in the Ukraine war as Iran continues to flex its muscles, both in West Asia and beyond, Israel sees a “survival challenge”, say diplomatic and military officials.
- Of these groups, Israeli officials say, Hezbollah, which possesses more than 1,00,000 rockets, poses the strongest threat
- If Hezbollah has already established a strong military presence along Israel’s northern border with Lebanon, the Syrian civil war has brought pro-Iran forces closer to its Syrian border.

- Hezbollah and other Iran-trained Shia militias fought alongside the regime forces of President Bashar al-Assad under the air cover of Russia in the civil war.
- In recent years, Israel has carried out multiple airstrikes inside Syria, targeting Iran-backed groups and Iranian supplies. Israel's goal is to roll back Iran's influence from its border region with Syria.
- But it also meant that Israel has to maintain a sound relationship with Russia, which practically controls Syria's airspace.

THE HINDU

Vostro and Nostro account

- Russia is the only country to engage with India's rupee-based trade offer for now, and nine Russian banks have been permitted to open special Vostro accounts to pave the way for such export-import transactions.
- "Nostro" and "Vostro" are two different terms used to describe the same bank account. The terms are used when one bank has another bank's money on deposit, typically in relation to international trading or other financial transactions.
- Both banks in the venture must record the amount of money being stored by one bank on behalf of the

other bank. The terms Nostro and Vostro are used to differentiate between the two sets of accounting records kept by each bank.

- Nostro comes from the Latin word for "ours," as in "our money that is on deposit at your bank."
- Vostro comes from the Latin word for "yours," as in "your money that is on deposit at our bank."

THE HINDU

Carbon border tax

- The European Union has proposed a policy called the Carbon Border Adjustment Mechanism to tax products such as cement and steel, which are extremely carbon intensive, with effect from 2026.
- BASIC, a group comprising Brazil, India, South Africa and China, large economies that are significantly dependent on coal, has for several years voiced common concerns and reiterated their right to use fossil fuels during their transition to clean energy.

THE HINDU

Article 254 and Centre vs state

- In the first case, *Gambhirdan K. Gadhvi vs The State Of Gujarat* (March 3, 2022), from Sardar Patel University, Gujarat, the Court (Justices M.R. Shah and B.V. Nagarathna) quashed the appointment of the incumbent Vice-Chancellor on the ground that the search committee did not form a panel for the appointment of VC, and, therefore, was not in accordance with the UGC Regulations of 2018.
- It was held that since the State law was repugnant to the UGC

regulations, the latter would prevail and the appointment under the State law had become void ab initio.

- In the second case, from Kerala, i.e., *Professor (Dr) Sreejith P.S vs Dr. Rajasree M.S.* (October 21, 2022), – The Court quashed the appointment of the VC on the ground that the provision relating to the search committee in the University Act is repugnant to the UGC Regulations, and was therefore void.
- A VC is appointed by the Chancellor under the relevant University Act, but the Supreme Court has brought in Article 254 of the Constitution to rule that if provisions of the State law are repugnant to the provisions of the Union law, the State law will become void.
- In the cases mentioned above, the top court found that the search committee recommended only one name for the appointment of VC which violates the UGC Regulations which require three to five names, and, therefore, the provision of the State law is void.

Analysis of Article 254

- First, a careful reading of Article 254 would show that the repugnancy under this Article relates to State law and a substantive law made by Parliament.

- It impliedly excludes rules, regulations, etc. Rules and regulations are made by subordinate authorities in this case, the UGC whereas the substantive law is made by the superior authority, namely Parliament. Article 254(2) says “... the law so made by the Legislature of such State shall if it has been reserved for the consideration of the President....”
- Here the term ‘law’ denotes the Bill passed by the legislature and reserved for the consideration of the President which does not contain rules, regulations, etc.
- Identical words such as “any provisions of a law made by Parliament” are used in this Article in the context of Parliament.
- So, it can only mean the substantive law and not the subordinate law.
- Thus, it becomes clear that the repugnancy can arise only between the provisions of the University Acts and the UGC Act, and not the regulations of the UGC.
- Second, the rules and regulations made by the subordinate authority, though laid in Parliament, do not go through the same process as a law. Normally these do not require the approval of Parliament.
- The rules and regulations have an inferior status as compared to an Act.
- The Constitution cannot be assumed to equate the Act with the rules.
- Third, the Constitution does not, in general terms, define the term law.
- The inclusive definition of law given in Article 13(2) is applicable only to that Article.
- It has no application to other Articles, which means the term law does not include the rules, regulations, etc. for the purpose of Article 254.
- Fourth, the regulations made by a subordinate authority of the Union overriding a law made by a State legislature will amount to a violation of federal principles and a negation of the concurrent legislative power granted to the State by the Constitution.
- Finally, the UGC Regulations on the appointment of VCs are outside the scope of the main provisions of the UGC Act as none of its provisions refers to the appointment of VCs.
- Supreme Court held in *S. Satyapal Reddy vs Govt. Of A.P. (1994)* that “the court has to make every attempt to reconcile the provisions of the apparently conflicting laws and the court would endeavour to give harmonious construction... The

proper test would be whether the effect can be given to the provisions of both the laws and whether both the laws can stand together”.

THE HINDU

FTA negotiation – executive vs parliament

- To achieve the export target of \$2 trillion by 2030, India is going the whole hog on free trade agreements (FTAs). India is negotiating FTAs with countries such as the European Union, Canada, the U.K., and Israel.
- These FTAs cover a wide array of topics such as tariff reduction impacting the entire manufacturing and the agricultural sector; rules on services trade; digital issues such as data localization; intellectual property rights that may have an impact on the accessibility of drugs; and investment promotion, facilitation, and protection. Consequently, an FTA has a far-reaching impact on the economy and society.
- In India, there is no mechanism for such parliamentary scrutiny of the executive’s actions during the FTA negotiations.
- India’s parliamentary system allows for department-related parliamentary committees that discuss various topics of importance and offer recommendations.
- However, the Scrutinizes Standing Committee on Commerce (PSCC) rarely scrutinizes the Indian government’s objectives behind negotiating and signing an FTA.
- In India, there is no mechanism for any role of Parliament in the ratification of treaties including FTAs.
- Entering into treaties and matters incidental to it such as negotiations, signing, and ratification is within the constitutional competence of Parliament.
- But, Parliament in the last seven-plus decades has not exercised its power on this issue, thus giving the executive unfettered freedom in negotiating, signing, and ratifying treaties including FTAs.
- India should take a leaf out of the U.K. book and develop a law on entering treaties including FTAs. This law should have the following parts.
- First, the executive should make a clear economic case outlining its strategic objectives publicly for entering into negotiations for a treaty such as an FTA.
- Second, the executive should be under an obligation to consult all stakeholders, respond to their

concerns and make this information publicly available.

- Third, the Indian Parliament should constitute a committee on the lines of the U.K.'s IAC that will scrutinize the strategic objectives behind entering into an FTA.
- Fourth, the executive should place the FTA on the floor of Parliament for a certain duration, allowing Parliament to debate it, before ratifying it.

Who will pay for climate damage?

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

Why is compensation critical?

- Between 1900 and now, developed countries have benefitted from industrial development, which also led to greenhouse gas (GHG) emissions.
- Developing countries were relatively late in starting economic development

- Between 1751 and 2017, 47% of the CO2 emissions came from the U.S. and the EU-28. In total, just 29 countries.

How badly do their emissions hurt?

- A paper published by Springer Link under the Climate Change umbrella earlier this year shows that emissions attributable to the U.S. over 1990- 2014 caused losses that are concentrated around 1–2% of per capita GDP across nations in South America, Africa, and South and Southeast Asia, where temperature changes have likely impacted labor productivity and agricultural yields.
- But emissions may have also helped a few countries, such as those in Northern Europe and Canada. Moody's Analytics estimates that by the middle of the century, Canada would see a rise in GDP of 0.3% (about \$9 billion a year) as warmer climates spur agriculture and labor productivity.
- But emissions may have also helped a few countries, such as those in Northern Europe and Canada. Moody's Analytics estimates that by the middle of the century, Canada would see a rise in GDP of 0.3% (about \$9 billion a year) as warmer

climates spur agriculture and labour productivity.

Where about India's emissions?

- The report says that India is among the top seven emitters (others being China, the EU-27, Indonesia, Brazil, the Russian Federation, and the U.S.).
- These seven, plus international transport, accounted for 55% of global GHG emissions in 2020.
- Collectively, G-20 members are responsible for 75% of global GHG emissions.
- If we seek economic development, some GHG emissions are unavoidable.
- But, put in the context of India's population, its emissions are far lesser per head, than for others.
- World average per capita GHG emissions were 6.3 tonnes of CO₂ equivalent (tCO₂e) in 2020.
- The U.S. is way above this level at 14, followed by 13 in the Russian Federation and 9.7 in China. India remains far below the world average at 2.4.
- In addition to last year's pledge of net zero emissions by 2070, India has also committed to generating 500 GW of renewable energy capacity by 2030, bringing down the emission

intensity of GDP, as also raising forest cover.

- Last year, India was responsible for the wording of the agreement on coal.
- It was changed from "phase-out" to "phase-down" of coal which reflects the country's ground realities of large energy requirements, met predominantly by thermal power, to spur economic development.

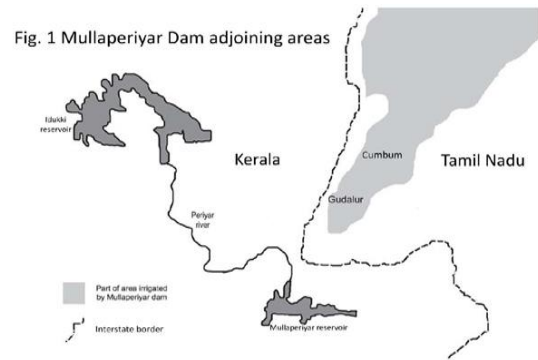
THE HINDU

Mullaperiyar dam

- Amid widespread rain in the catchment areas, the water level in the Mullaperiyar reservoir touched 138 feet (maximum permissible level 142 feet).
- The Supreme Court on October 25 directed the Supervisory Committee to take an immediate and firm decision on the maximum water level that can be maintained at the Mullaperiyar dam, amid torrential rain in Kerala.
- Kerala said the water level should not go above 139 feet, the same as what the court had ordered on August 24, 2018, when the State was hit by floods.

About Mullaperiyar dam

- The Mullaperiyar dam is located on the confluence of the Mullayar and Periyar rivers in Kerala's Idukki district.
- It is operated and maintained by Tamil Nadu for meeting the drinking water and irrigation requirements of five of its southern districts.



- According to a 999-year lease agreement made during British rule the operational rights were handed over to Tamil Nadu.
- The tension between the two states over the issue has persisted since the 1960s, with Kerala citing concerns regarding the dam's safety and arguing for the reduction of the dam's water levels.
- But with the water from the dam being diverted to five districts in Tamil Nadu and its importance in the state's irrigation and power production practices, Tamil Nadu has consistently opposed this.

THE HINDU

Political Finance

- The nature of political finance is an important determinant of the structure of political competition
- . One, the degree of transparency of political funding informs the efficacy of institutional safeguards.
- Second, the extent to which political funding is centralized within a party determines whether power in the

party is drawn from organizational structures or exercised in a personalistic manner.

- Within two years of its introduction, electoral bonds were said to cover 52% of the total income of national parties and 53% of the total income of regional parties, according to an analysis by the Association for Democratic Reforms (ADR).
- There are two salient features of electoral bonds we must consider to gauge its impact on political competition.

THE HINDU

Moscow format

- The Moscow Format of Consultations on Afghanistan held in the Russian capital on Wednesday called for respect for all Afghan ethnic groups and minorities in a bid to create national reconciliation in the war-torn country.
- A joint statement issued after the meeting stressed upon ending all terrorist infrastructure in Afghanistan, and said placing of military infrastructure facilities of “third countries” in Afghanistan “and in adjacent states is unacceptable”
- . The representatives at the talks also called for “complete unfreezing” of Afghanistan’s assets by Washington.

- Participating countries in the talks included Russia, India, China, Pakistan, Iran, Turkmenistan, Kazakhstan, Uzbekistan, Kyrgyzstan, and Tajikistan called upon the Taliban to “fulfill its commitments to eradicate terrorism and drug trafficking”

THE HINDU

Rhino horn

- In terms of weight, there has been an increase in the seizure of rhino horns after 2017, despite an overall reduction in poaching, says a global threat assessment report
- The report said six countries and territories have dominated the rhino horn trafficking routes from the source to the destination locations, though more than 50 countries and territories were implicated in the transnational crime.
- These countries were South Africa, Mozambique, Malaysia, Hong Kong Special Administrative Region, Vietnam, and China.
- “Prolific Vietnamese and Chinese criminal networks are driving the trafficking throughout the supply chain.
- Although Vietnam is known to be the primary destination for rhino horn.

THE HINDU

Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)

- The free food grain scheme or the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) was introduced by the government during the first nationwide lockdown due to Covid-19 in March 2020.
- Under this scheme, the center provides 5kg of free food grains per month to the poor.
- This is in addition to the subsidized (Rs 2-3 per kg) ration provided under the National Food Security Act (NFSA) to families covered under the Public Distribution System (PDS).
- PMGKAY caters free food grain, either rice or wheat, to over 80 crore beneficiaries of NSFA.
- The scheme which can be availed through the One Nation One Ration Card (ONORC) plan was first introduced from April to June 2020 during the stringent lockdown in India and has been extended six times ever since.
- The latest extension was announced on 26 March and the scheme has been extended up to September 2022 at a cost of Rs 80,000 crore.
- The latest extension requires the center to allocate 24.4 million tonnes of wheat and rice for

PMGKAY in addition to the usual allocation for NFSA.

THE HINDU

EC

- An Election Commissioner can be proficient, competent, completely honest, and armed with an outstanding record of service, but he may have a definite political leaning which may end up displaying itself in office, a Constitution Bench of the Supreme Court.
- Justice K.M. Joseph, leading a five-judge Bench, referred to how the 10th Chief Election Commissioner T.N. Seshan had managed to clean up the electoral system.
- Justice Joseph said that Mr. Seshan merely had put in place a set of rules which reduced human discretion to the minimum.
- In such a scenario, Election Commissioners hardly need to fear pressure from any political party or government.
- Further, the Election Commission, as an institution, would maintain functional independence and institutional integrity, whatever the political leaning or competence of individual Commissioners may be.
- “The Election Commission of India is the envy of the world.

THE HINDU

National Investment and Infrastructure Fund (NIIF)

- National Investment and Infrastructure Fund (NIIF) is India's first infrastructure-specific investment fund or a sovereign wealth fund that was set up by the Government of India in February 2015.
- The objective behind creating this fund was to maximize economic impact mainly through infrastructure investment in commercially viable projects, both Greenfield and brownfield.
- In Union Budget 2015-16, India's Finance Minister, Arun Jaitley announced the creation of the National Investment and Infrastructure Fund
- It was proposed to be established as an Alternative Investment Fund to provide long-tenor capital for infrastructure projects with an inflow of ₹20,000 crores from the Government of India.
- NIIF was approved in August 2015 by the Department of Economic Affairs.
- NIIF manages three funds: Master Fund, Fund of Funds, and Strategic Fund.

- The funds were set up to make investments in India by raising capital from domestic and international institutional investors.

Master Fund

- The Master Fund is an infrastructure fund with the objective of primarily investing in operating assets in the core infrastructure sectors such as roads, ports, airports, power, etc.

Fund of Funds

- The Fund of Funds anchor and/or investment in funds are managed by fund managers who have good track records in infrastructure and associated sectors in India.
- Some of the sectors of focus include Green Infrastructure, Mid-Income & Affordable Housing, Infrastructure services and allied sectors.

Strategic Opportunities Fund

- Strategic Opportunities Fund is registered as an Alternative Investment Fund II under SEBI in India.
- The objective of National Investment and Infrastructure Fund II ("Strategic Opportunities Fund") is to invest largely in equity and equity-linked instruments.
- The Strategic Opportunities Fund has been established with the

objective to provide long-term capital to strategic and growth-oriented sectors in the country with the aim to build domestic leaders.

THE HINDU

STOP MOTION EFFECT

- Stop motion is an animated filmmaking technique in which objects are physically manipulated in small increments between individually photographed frames so that they will appear to exhibit independent motion or change when the series of frames is played back.
- Any kind of object can thus be animated, but puppets with movable joints (puppet animation) or plasticine figures (clay animation or Claymation) are most commonly used.
- Plasticine is a putty-like modelling material made from calcium salts, and petroleum jelly.
- Puppets, models, or clay figures built around an armature are used in model animation. Stop motion with live actors is often referred to as pixelation.
- Stop motion of flat materials such as paper, fabrics or photographs is usually called cutout animation.

THE HINDU

Draft protection bill

- Draft Bill on personal data protection proposes a hefty increase in penalty amounts up to ₹500 crore, while also easing rules on cross border data flows, in a big relief for large tech firms.
- The revised draft now called The Digital Personal Data Protection Bill, 2022 comes just over three months after its earlier avatar was withdrawn from Parliament.
- Narrows down the scope of the data protection regime to personal data protection, leaving out non-personal data from its ambit a move welcomed by the industry.
- The Bill proposes to impose a penalty of ₹10,000 on individuals providing unverifiable or false information while applying for any document, service, proof of identity or address, or registering a false or frivolous complaint with a Data Fiduciary (who collects and processes the data) or with the Board.
- The government, which is hopeful of introducing the Bill in the Budget session in February 2023, has introduced the concept of 'Consent Managers' in the Bill.
- Pointing out that it is not always possible to keep track of the instances in which one has given consent to the processing of personal data, the government said that a consent manager platform will enable an individual to have a comprehensive view of her interactions with Data Fiduciaries and the consent given to them.
- The Bill requires the consent of the individual to be the basis for the processing of their personal data, except in certain circumstances where seeking the consent of the Data Principal is "impracticable or inadvisable due to pressing concerns".
- Every request for consent will need to be presented to the Data Principal in clear and plain language, and an option to access such a request for consent in English or any language specified in the Eighth Schedule to the Constitution of India.
- The Data Principal shall have the right to withdraw her consent at any time, the Bill stated.
- Data Fiduciaries collecting personal data from individuals will need to provide "itemised notice" in clear and plain language containing a description of personal data sought and the purpose of processing of such personal data.
- The Bill also gives the power to the government to offer exemption from its provisions "in the interests of

sovereignty and integrity of India” and to maintain public order.

- While the earlier version of the draft Bill had recommended that a Data Protection Authority be set up to prevent the misuse of personal information, the revised Bill has proposed a Data Protection Board of India, which will be notified by the Central government.
- The draft Digital Personal Data Protection Bill, 2022, released on Friday, has used the pronouns ‘she’ and ‘her’ to refer to all individuals, as against the use of ‘he’, ‘him’, and ‘his’.

THE HINDU

Vikram s

- Vikram, India’s first privately-developed rocket
- Developed by Hyderabad-based Startup Skyroot Aerospace Private Limited, the six-metre-tall vehicle hit a peak altitude of 89.5 km and then splashed into the Bay of Bengal about five minutes after the launch.
- This mission was titled Prarambh.
- The rocket Vikram -S is a single- stage solid fuelled, sub-orbital rocket developed over two years by incorporating advanced technologies including carbon composite structures and 3D -printed components.

- Equipped with a gross lift off mass of 545kg, and payload mass of 80 kg, Vikram carried with it three customer payloads, which will map the measurement and validation of certain flight parameters and payload integration processes.
- This was a technology demonstration flight to showcase the capabilities of the company.
- Founded by Pawan Kumar Chandana and Naga Bharath Daka in June 2018 Skyroot Aerospace is a two-time national award-winning space Startup.

THE HINDU

Rat floods

- A study spanning 13 years has shed interesting light on flowering in *Melocanna baccifera*, a tropical bamboo species that has long fascinated researchers for its association with the occurrence of ‘bamboo death,’ ‘rat floods’ and famines in northeast India.
- Among other things, researchers detected a correlation between the sugar content in the fruit of *Melocanna baccifera* and the frenzied feeding and population boom in rats during ‘Mautam’, the cyclical, mass bamboo flowering that occurs once in 48 years.

- Called 'Muli' in northeast India, *Melocanna baccifera* is the largest fruit-producing bamboo and is native to the northeast India Myanmar region.
- During this period, they also multiply rapidly, a phenomenon dubbed 'rat floods.'
- Once the fruits are gone, they start devouring standing crops, causing famines that have claimed thousands of human lives.
- Earlier, it was presumed that 'high protein in fruits/ seeds' was attracting the rats.
- However, a JNTBGRI study in 2016 found that the fruit actually contains very little protein.
- The predation is mainly due to the high content of sugar.
- Artificial intelligence and machine learning are being refined to mimic human cognitive abilities and intuition
- The roles and missions of the IAF would have to be re-assessed since space will be a major, if not a central, player in future conflicts.
- The weaponization of space must be accepted, the Outer Space Treaty notwithstanding.
- Emphasis on unmanned platforms and space assets, including a capability for satellites on call would be necessary.
- A call on how air power, with its niche strike, Airborne Intelligence, Surveillance and Reconnaissance (ISR), and precision attack capabilities would be merged in the drive towards jointness would be an imperative.

THE HINDU

Indian Air force doctrine

- It is time that the doctrine of the Indian Air Force (IAF) it is of 2012 vintage is reviewed and made public to guide the future development and application of India's air power.
- Doctrine drives technology and given the ongoing advancements, the IAF doctrine would have to spell out the following to meet the challenges of the mid-century. Technology has progressed exponentially.
- While the Department of Military Affairs and the institution of the Chief of Defence Staff (CDS) is new, the IAF's future 'flight plan' would need a doctrinal foundation; this should not be confused with the ongoing clamour for theaterisation.
- Given the two front threat (China and Pakistan) that India faces, would we be forced into a coalition?
- While this would be a political call, 'joint operations with friendly nations' could certainly be

addressed, including commitments in partnerships such as the Quad.

- It is a fact of history that when a nation's economy improves, it has to look for raw materials beyond its borders to fuel its advancement, putting it in an adversarial mode against other powers which would be doing the same.

New technology, stress, and human resource

- The world has already graduated to multi-domain operations where cyber, space, electromagnetic spectrum, influence operations et al. have been activated together or in stages to get a whole-of-government approach towards meeting national objectives.
- The IAF's new doctrine must accept this, even as it acknowledges that new technology would result in an information overload that actually accentuates stress in human resources.
- The IAF doctrine must underscore that 'national defense' is a national endeavour and should not be filtered through a prism of the political dispensation at the helm.
- This is vital. An air force is not about fighter aircraft alone.
- Combat enablers such as aerial refuellers, Airborne Warning and

Control Systems, transport and helicopter fleets, radars, communication systems, etc. are vital in operations.

- Their obsolescence in the coming years would land them in the same state as the fighter aircraft inventory now (30 squadrons).

THE HINDU

Debate on constitution

- Article 153 provides a Governor for each State, and by virtue of Article 154, the executive power of the State shall be vested in the Governor ("Shall be exercised by him directly or through officers subordinate to him in accordance with this Constitution").
- However, Article 154(2)(a) prohibits the Governor from exercising any function "conferred by existing law on any other Authority".
- Article 163 categorically provides that "there shall be a council of ministers with the Chief Minister at the head to aid and advise the Governor... except in so far as he is by or under this Constitution required to exercise his function or any of them in his discretion"
- The Supreme Court, in *Shamsher Singh vs State of Punjab and Anr.*, decided on this issue in 1974: The

Governor exercises “all his powers and functions” by making rules for the convenient transactions of the business of the government of the State in accordance with Article 166 of the Constitution.

- These are called Rules of Business. The Court however amplified that “wherever the constitution requires satisfaction of the President or the Governor for the exercise of any power or function by the President or the Governor, as the case may be, as for example in Articles 123, 213, 311(2) proviso (c), 317, 352(1), 356 and 360.
- The satisfaction required by the Constitution is the satisfaction of the President or of the Governor in the Constitutional sense under the Cabinet system of the Government”.
- The Court went on to hold that “the discretion conferred on the Governor means that as the Constitutional or the formal head of the State, the power is vested in him”
- and that it is only in the exercise of the power under Article 356 that the Governor will be justified in exercising his discretion even against the aid and advice of his council of ministers as per his discretionary power but, in all other matters where the Governor acts in his

discretion, he will act in harmony with his Council of Ministers.

- The Constitution does not aim at providing a parallel administration basic philosophy is that in a democracy, the elected Ministers must accept responsibility for every executive act and that the Council of Ministers alone represents a responsible form of government in the States.

THE HINDU

Debates in the past

- The Constituent Assembly debates are a clear pointer.
- In 1949, Prof. K.T. Shah debating Article 130 (now Article 154) said: “... the Constitution should make it imperative upon the Governor to use its power in accordance with the Constitution and the Law, that is to say, on the advice of his Ministers as provided for in the subsequent clauses and in other parts of the Constitution.”
- It was hotly debated whether the Governor should be appointed by the President of India or should be elected.
- Fearing that this would create a parallel State leadership, the Assembly instead adopted appointment by the President.

- B.G. Kher said: "... a Governor can do a great deal of good if he is a good Governor and he can do a great deal of mischief, if he is a bad Governor, in spite of the very little power given to him under the Constitution....."
- P.K. Sen said, "... The question is whether by interfering, the Governor would be upholding the democratic idea or subverting it. It would really be a surrender of democracy... We have decided that the Governor should be a constitutional head... he would be the person really to lubricate the machinery and to see to it that all the wheels are going well by reason not of his interference, but his friendly intervention."
- Viswanathan Das said, "I have my bitter experiences in this regard. I was the Prime Minister of a province and I know how the Governor of my province was out to break my party... You cannot have democracy and autocracy functioning together."
- K.M. Munshi said, "... All things considered, it would be better to have a Governor nominated by the Centre, who is free from the passions and jealousies of local party politics."
- B.R. Ambedkar said, "The Drafting Committee felt as everybody in this House knows, that the Governor is not to have any kind of functions to use a familiar phraseology, no functions which he is required to discharge either in his discretion or in his individual judgment. ... According to the principles of the New Constitution, he is required to follow the advice of his ministry in all matters..."
- Therefore... the real issue before the House is not nomination or election, but what powers you propose to give to your Governor.
- If the Governor is a purely constitutional Governor with no more powers than what we contemplate expressly to give him in the Act... I personally do not see any very fundamental objection to the principle of nomination."
- While debating Article 143 (now Article 163) on June 1, 1949, Prof. K.T. Shah said, "Whatever may be the procedure or convention within the Cabinet itself, however, the decisions of the Cabinet may be taken, so far as the Governor is concerned, I take it that the responsibility would be of the Chief Minister who will advise also about the appointment of his colleagues or their removal if it should be necessary."
- Defending the discretionary power given to the Governor under this Article, B.R. Ambedkar amply

clarified the position by saying, “The clause is a very limited clause. It says: ‘except in so far as he is by or under this Constitution’.

- Therefore, Article 143 will have to be read in conjunction with such other articles which specifically reserve the power to the Governor.
- It is not a general clause giving the Governor power to disregard the advice of his ministers in any matter in which he finds he ought to disregard.”
- Repealing the doubts of a Member on the powers of the Governor (Article 147, now Article 167) B.R. Ambedkar said, “I cannot see what sort of interference that would constitute in the administration of the affairs of the Government... All that the Article does is to place the Governor in a position to enable him to perform what I say ... but the duties which every good Governor ought to discharge.”
- T.T. Krishnamachari, the member of the drafting Committee said, “... If my honourable friend understands that the Governor cannot act on his own, he can only act on the advice of the Ministry, then the whole picture will fall clearly in its proper place before him...”
- **THE HINDU**

Great knot

- Unveiling yet another mystery of avian migrations, a great knot from Russia, belonging to the endangered *Calidris tenuirostris* (Horsfield, 1821), has found its way to Kerala's coast, flying over 9,000 km for a winter sojourn.



- The migratory bird that traversed the Central Asian Flyway (CAF) is only one of the two the others has been sighted at Jamnagar in Gujarat great knots to be re-sighted in India among the nearly thousand ones tagged with MOSKVA rings in the Kamchatka peninsula in eastern Russia.

THE HINDU

Loss and damage fund

What is "loss and damage"?

The phrase refers to costs already being incurred from climate-fuelled weather extremes or impacts, like rising sea levels

- Climate funding so far has focused on cutting CO2 emissions, while a third of it went towards helping communities adapt to future impacts

- Loss and damage funding is expected to cover the cost of damage that countries cannot avoid or adapt to

- A report by 55 vulnerable countries estimated that their combined climate-linked losses in the last two decades totalled



- \$525 billion, or 20% of their collective GDP. This could go upto \$580 billion per year by 2030

- Vulnerable countries and campaigners argue that rich countries that caused the bulk of climate change with their historical greenhouse gas emissions should pay

Source: Reuters

COP-27 sets up loss and damage fund

Jacob Koshy
NEW DELHI

Delegates at the UN's climate conference in Sharm el-Sheikh, Egypt thrashed out an agreement on Sunday to establish a loss and damage (L&D) fund to compensate the most vulnerable countries from climate-linked disasters.

Crucial questions – such as who will manage this

fund, whether contributions are expected from large developing countries and what the fair share of contributors will be – have been left to a "transitional committee" that will make recommendations for the adoption of the fund.

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INDIA HAILS FUND
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- Delegates at the UN's climate conference in Sharm el-Sheikh, Egypt thrashed out an agreement on Sunday to establish a loss and damage (L&D) fund to compensate the most vulnerable countries from climate linked disasters.
- The 27th edition of the United Nations Conference of the Parties was projected to be an 'implementation' COP that would have decisively resolved questions on how developed countries, responsible for the bulk of historical emissions, would make good on an old promise to provide developing countries \$100 billion annually by 2020.

- And whether the world would commit to ending all categories of fossil fuel, and not just coal
- Despite hours of negotiations, these deadlocks remain. COP-27 will certainly be remembered as the COP of Loss and Damages (L&D).
- A nearly three-decade old movement, first initiated by the island nation of Vanuatu and the Alliance of Small Island States, has come to partial fruition.
- There will now be a dedicated fund to compensate the most vulnerable developing countries that are already bearing the brunt of climate change-linked natural disasters.
- L&D refers to impacts of climate change that cannot be avoided either by mitigation (cutting greenhouse gas emissions) or adaptation (modifying practices to buffer against climate change impacts).
- They also include not only economic damage to property but also loss of livelihoods, and the destruction of biodiversity and sites that have cultural importance.
- This broadens the scope for affected nations to claim compensation.
- The text approved at Sharm el-Sheikh only commits to a fund being created and leaves discussions for how it is to be set up and, most

importantly, who will pay how much to it, for future COP negotiations.

THE HINDU

16 days of activism

- The 16 Days of Activism against Gender-Based Violence is an annual campaign that begins on 25 November, the International Day for the Elimination of Violence against Women, and runs through International Human Rights Day on 10 December.
- Led by civil society, the campaign is supported by the United Nations through the Secretary General's UNiTE by 2030 to End Violence against Women initiative.
- This year, the UN marks 16 Days under the theme "UNiTE! Activism to end violence against women and girls"
- More than 1 in 3 women experience gender-based violence during their lifetime
- In 2021, nearly 1 in 5 women aged 20-24 were married before turning 18.
- Less than 40 percent of women who experience violence seek help of any sort.
- Violence against women and girls remains the most pervasive human rights violation around the world.

- Already heightened by the COVID-19 pandemic, its prevalence is now being further increased by the intersecting crises of climate change, global conflict, and economic instability.
- There are over 2,12,000 refugees in India including those supported by the Government of India, more than half of whom are women and girls.
- India ensures that refugees can access protection services that are on a par with their fellow Indian hosts.
- For those refugees registered directly by the Government such as those from Sri Lanka, they are entitled to Aadhaar cards and PAN cards to enable their economic and financial inclusion;
- They can have access to national welfare schemes and contribute effectively to the Indian economy.
- India needs to absorb the new technologies that have emerged, and that will emerge.
- Its development strategy must be multi-dimensional. India needs a strong export sector.
- It is a test of efficiency. At the same time, India needs a strong manufacturing sector.
- The organized segment of this sector must also increase.
- As output and income increase, India must also strengthen the system of social safety nets. Growth without equity is not sustainable.
- The rapid pace of globalisation which India saw since the beginning of the 1990s will slow down for a variety of reasons. Some countries which were champions of globalization are making a retreat.
- Some countries feel that dependence on other countries for certain key inputs such as crude oil or chips may land them in difficulties at times.
- The Russia-Ukraine war has exposed this problem starkly.
- An open economy with some limitations is still the best route to follow.
- India today is the fifth largest economy. This is an impressive achievement.

THE HINDU

Present economic approach

- A proper investment climate must be created and sustained.
- While public investment should also rise, the major component of investment is private investment, both corporate and non-corporate.
- It is this which depends on a stable financial and fiscal system.

- However, in relation to per capita income, it is a different story. In 2020, India's rank was 142 out of 197 countries.
- This only shows the distance we have to travel.
- The external environment is not going to be conducive.
- First, it weakens the principle of federalism by dismantling the role of State governments in the governance of agricultural universities.
- Second, it raises an existential threat for the facilitator and coordinator of agricultural education the ICAR by creating a false equivalence between the university system under the UGC and the agricultural university system under the State governments.

THE HINDU

Federalism and agriculture education

- The Kerala High Court recently annulled the appointment of the Vice-chancellor of the Kerala University of Fisheries and Ocean Studies (KUFOS).
- The court said that the appointment violated the University Grants Commission (UGC) Regulations of 2018.
- It listed two specific violations:
 - The search committee recommended a single name and not a panel; and
 - In the search committee, the State government included the Director-general of the Indian Council of Agricultural Research (ICAR) instead of a UGC nominee.
- Given the history of agricultural education in India, the judgment is worrying.
- The evolution of agricultural education has dovetailed the exclusive role bestowed by the Constitution to the States in managing agriculture.
- Agriculture was included as an occupied field in List II (State List) in the Seventh Schedule.
- Agricultural education was detached from other streams of higher education and attached to agriculture in List II itself.
- Entry 14 of List II reads: "Agriculture, including agricultural education and research...". Indeed, education is in List III (Concurrent List).
- Entry 25 of List III reads: "Education, including technical education, medical education and universities, subject to the provisions of entries 63, 64, 65 and 66 of List I...". But

there is no mention of agricultural education in Entry 25 of List III.

THE HINDU

Draft digital data protection bill

- The bill aims to outline the rights and duties of 'digital nagriks' (digital citizens) and lay out the process and rules for data collection for companies.
- The bill imposes heavy penalties for violations of any provisions of the legislation to be decided by the Data Protection Board of India, which will be established by the new law.
- However, the board's orders can be challenged in a high court.

Seven principles

- The bill is based on seven principles.
- While the first says that usage of personal data by organizations must be done in a manner that is lawful, fair to the individuals concerned, and transparent to individuals, the second principle is that personal data must be used only for the purposes for which it was collected.
- This third principle talks of data minimization, while the fourth emphasizes on data accuracy during collection.
- The fifth principle clarifies that the collected personal data cannot be

“stored perpetually by default”, and that storage should be limited to a fixed duration.

- According to the sixth principle, there should be reasonable safeguards to ensure there is “no unauthorized collection or processing of personal data.”
- And, the seventh principle says that “the person who decides the purpose and means of the processing of personal data should be accountable for such processing.”

The nomenclature

- The individual whose data is being collected will be termed “data principal” and the term “data fiduciary” is for the entity that decides the “purpose and means of the processing of an individual’s personal data.”
- In the case of children – those under the age of 18, as per the draft bill – their parents or lawful guardians will be considered their ‘data principals.’
- Under the law, personal data is “any data by which or in relation to which an individual can be identified.”
- Processing means “the entire cycle of operations that can be carried out in respect of personal data.”
- The bill also makes it clear that individual needs to give consent before their data is processed and

that “every individual should know what items of personal data a data fiduciary wants to collect and the purpose of such collection and further processing.”

- Individuals also have the right to withdraw consent from a data fiduciary.

Significant data fiduciaries

- ‘Significant data fiduciaries’ will deal with a high volume of personal data.
- The Central government will define who is designated under this category based on a number of factors the volume of personal data processed, risk of harm to the potential impact on the sovereignty and integrity of India, etc. e.
- ‘Significant data fiduciaries’ will have to appoint a ‘data protection officer’, who will be the point of contact for grievance redressal, and an independent ‘data auditor’, who shall evaluate their compliance with the act.

Granted rights

- Data principals will have the right to demand the erasure and correction of data collected by the data fiduciary. They will also have the right to nominate an individual who will exercise these rights in the event

of death or incapacity of the data principal.

- The bill also gives consumers the right to file a complaint against a ‘data fiduciary’ with the Data Protection Board in case they do not get a satisfactory response from the company.

Cross-border storage

- The bill also allows for cross-border storage and transfer of data to “certain notified countries and territories.” However, “an assessment of relevant factors by the Central Government would precede such a notification,”
- The draft also proposes to impose significant penalties on businesses that undergo data breaches or fail to notify users when breaches happen.
- Entities that fail to take “reasonable security safeguards” to prevent personal data breaches will be fined an amount as high as Rs 250 crore.
- The government could also exempt certain businesses from adhering to provisions of the bill on the basis of the number of users and the volume of personal data processed by the entity.
- This has been done keeping in mind start-ups of the country who had complained that the previous

version of the bill was too
“compliance intensive”.

THE HINDU

GES
REPORTER

Fireproofing of India

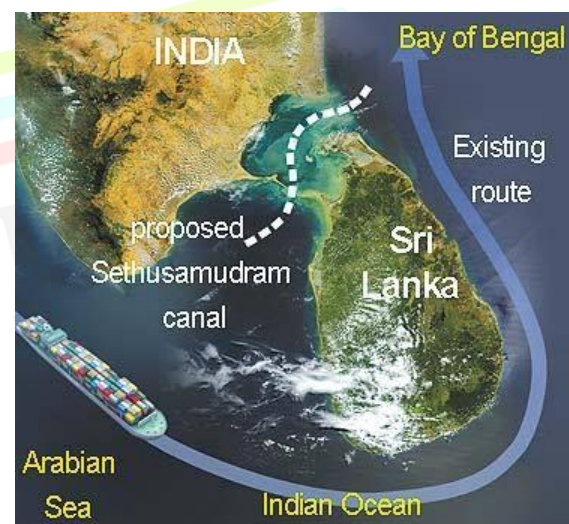
- While strategic autonomy in a multi-polar world may be an aspirational outcome, with balancing and hedging emerging as key Indian diplomatic strategies.
- The limits of Indian national power in the face of an exponential rise in China's national power cannot be hard to perceive.
- Fireproofing of the economy in the medium term must concentrate on poverty alleviation on a war footing;
- Universal education and health care; creation of jobs and raising the other parameters of the human development index.
- This is where India's economic insulation lies.
- Globalization to heightened securitization is where the world is headed.
- Deterrence has always been at the heart of India's fireproofing against both internal and external threats since Independence.
- Notwithstanding the resilience of the Indian people, significant fireproofing is needed within Indian society and the information domain to stand firm in the face of multiple fissiparous vulnerabilities.
- Evolving societies are subject to periodic churn, and in India's case,

this churn has coincided with several events on the global stage such as the weaponization of the information domain and social media.

- With its large and ethnically diverse population, and multi-religious, multi-cultural, and multi-lingual demographic profile, staying cohesive will present the biggest challenge to India's leaders.

THE HINDU

Ram setu



- Sethusamudram Ship Channel Project (SSCP) proposed creating a channel to link the Palk Strait with the Gulf of Mannar, it was only in 2005 that the project was inaugurated. Separating the shallow sea consisting of the Gulf of Mannar in the south and Palk Bay in the north is a somewhat linear coral ridge called Adam's Bridge or Ram Setu.

- This runs between Rameswaram in Tamil Nadu and Talaimannar in Sri Lanka.
 - The SSCP, if completed, is expected to considerably reduce the navigation time between the east and west coasts of India.
 - . Computer models suggest that the central, eastern, and north-eastern parts of Palk Bay may be impacted by waves of higher energy.
 - This means that these areas also receive more sediment, rendering them more turbid
 - The area is also vulnerable to cyclonic storms.
 - Emissions from ships traversing the narrow channel will pollute the air and water
 - The coral reef platforms between Thoothukudi and Rameswaram in the Gulf of Mannar were notified as a marine biosphere reserve in 1989.
 - More than 36,000 species of flora and fauna reportedly live there, flanked by mangroves and sandy shores which are considered conducive for turtles to nest.
- greater transparency in political funding.
 - However, the concurrent introduction of electoral bonds brought a new form of anonymity to thousands of crores of donations.
 - It drastically reduced public and legislative oversight.
 - Only the ruling party via the State Bank of India (SBI) has a full account of all donations being made via electoral bonds, to itself and to Opposition parties
 - In March 2021, the Supreme Court refused to stay the sale of electoral bonds before the West Bengal elections.
 - Instead, the judgment listed several documents which supposedly establish a paper trail on donations “all that is required is a little more effort to cull out such information from both sides (purchaser of bond and political party) and do some ‘match the following’.
 - The Finance Bill of 2017 amended Section 182 of the Companies Act of 2013 to remove the requirement for declaring disaggregated donations to political parties.
 - At best, company statements might have a total aggregate amount of all donations, including philanthropic ones.

THE HINDU

Electoral Bonds

- In 2017, the then Finance Minister said anonymous cash donations to political parties would be reduced from ₹20,000 to ₹2,000 to ensure

- Political parties do not need to disclose their electoral bond donors.

THE HINDU

The standard for e commerce review

- The Centre is bringing out a standard for publishing product reviews on e-commerce platform the framework was meant to safeguard and protect consumer interest from fake and deceptive reviews on e-commerce platforms.
- If made mandatory, the violation of the standard, titled “Indian Standard (IS) 19000:2022 Online Consumer Reviews Principles and Requirements for their Collection, Moderation and Publication”, can invite punishment for unfair trade practice or violation of consumer rights.
- Once made mandatory, a consumer may submit grievances to the National Consumer Helpline, consumer commission or the CCPA, against misleading reviews.
- The guiding principles of the standard are integrity, accuracy, privacy, security, transparency, accessibility and responsiveness.
- “The standard prescribes specific responsibilities for the review author and the review administrator.

- For the former, these include confirming acceptance of terms and conditions, and providing contact information, and for review administrators, these include safeguarding personal information and training of staff,”
- The standard also provides for methods for verification of the review author to check the traceability and genuineness of the review author.
- “The standard is expected to benefit all stakeholders in the e-commerce ecosystem that is, consumers, e-commerce platforms, sellers, etc.
- It will help usher in confidence among consumers to purchase goods online and help them take better purchase decisions,”

THE HINDU

First suicide policy

- The Ministry of Health and Family Welfare on Monday announce a time-bound Suicide Prevention Strategy, the first of its kind in the country, with time-bound action plans and multi-sectoral collaborations to achieve a reduction in suicide mortality by 10% by 2030.
- The strategy broadly seeks to establish effective surveillance mechanisms for suicide within the

next three years, establish psychiatric outpatient departments that will provide suicide prevention services through the District Mental Health Programme in all districts within the next five years, and to integrate a mental well-being curriculum in all educational institutions within the next eight years.

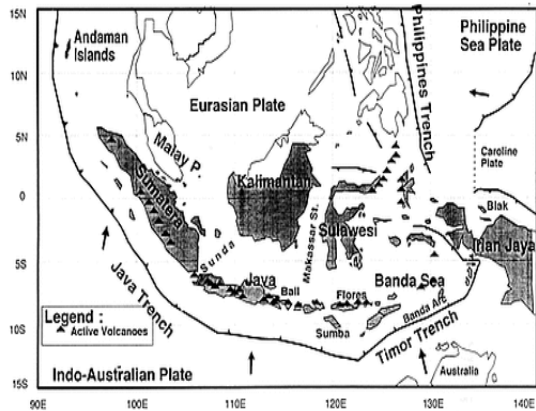
- It envisages developing guidelines for responsible media reporting of suicides, and restricting access to means of suicide.
- The stress is on developing community resilience and societal support for suicide prevention.
- While the strategy is in line with the WHO's South East Asia Region Strategy for suicide prevention, it says it will remain true to India's cultural and social milieu.
- In India, more than one lakh lives are lost every year to suicide, and it is the top killer in the 15-29 year's category.
- In the past three years, the suicide rate has increased from 10.2 to 11.3 per 1,00,000 population, the document records.
- The most common reasons for suicide include family problems and illnesses, which account for 34% and 18% of all suicide related deaths.

World's longest gas pipeline deal

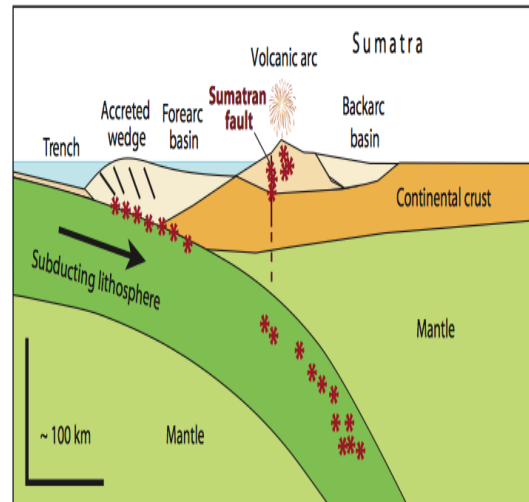
- Qatar Energy announced a 27-year natural gas supply deal with China,, calling it the "longest" ever seen as it strengthened ties with Asia at a time when Europe is scrambling for alternative sources.
- The state energy company will send four million tonnes of liquefied natural gas annually from its new North Field East project to China Petroleum and Chemical Corporation (Sinopec).
- The deal "marks the longest gas supply agreement in the history of the LNG industry.
- Asian countries led by China, Japan, and South Korea are the main market for Qatar's gas, which is increasingly being sought by European countries since Russia's invasion of Ukraine.
- North Field is at the center of Qatar's expansion of its liquefied natural gas production by more than 60% to 126 million tonnes a year by 2027.
- China is the first country to seal a deal for North Field East.

THE HINDU

Why an earthquake in JAVA?



- The Indo-Australian Plate, which underlies the Indian Ocean to the west of Sumatra, is being subducted beneath the Sunda Plate, a breakaway part of the Eurasian Plate which underlies Sumatra and neighboring Java, along the Sunda Trench, passing under Sumatra, where friction between the two plates can cause Earthquakes.
- As the Indo-Australian Plate sinks further into the Earth it is partially melted and some of the melted material rises through the overlying Sunda Plate as magma, fueling the volcanoes of Sumatra.

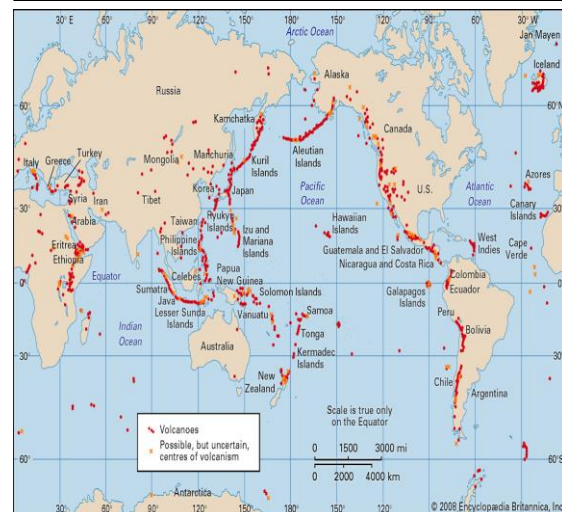
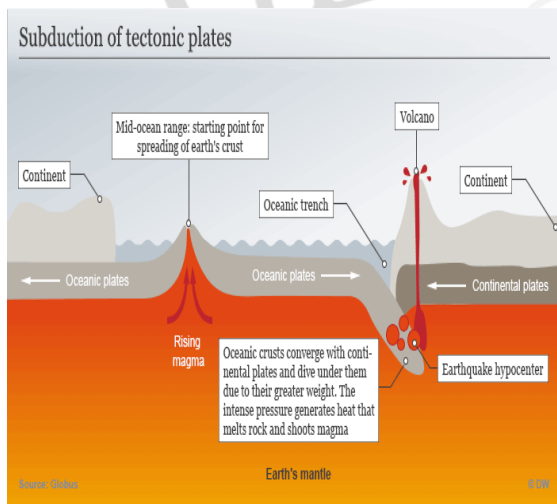
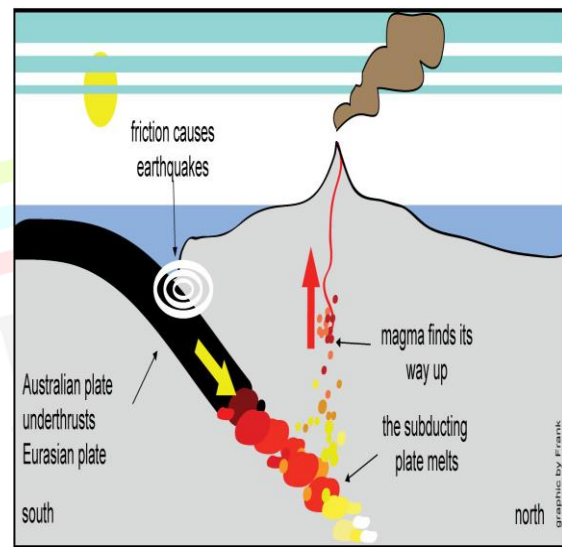
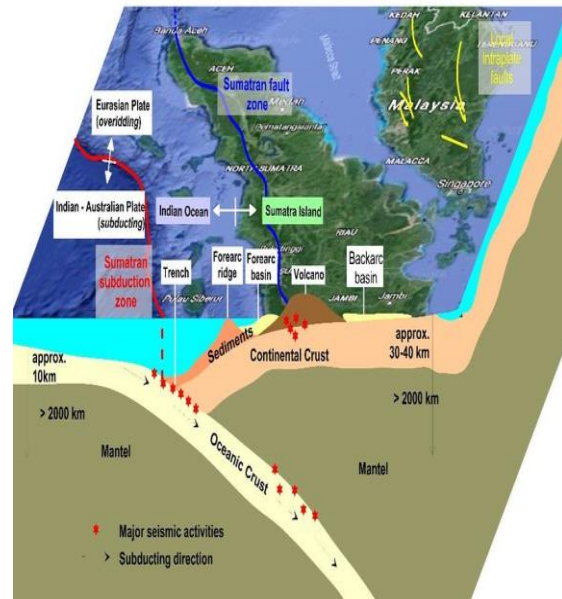


* Major source of earthquake activity



What is subduction?

- Subduction happens when tectonic plates shift, and one plate is shoved under another.
- This movement of the ocean floor produces a "mineral transmutation," which leads to the melting and solidification of magma - that is, the formation of volcanoes.
- Basically, when a "down going" oceanic plate is shoved into a hotter mantle plate, it heats up, volatile elements mix, and this produces magma.
- The magma then rises up through the overlying plate and spurts out at the surface.





SC ON CEC

- The Supreme Court on Tuesday said the government pays mere “lip service” to the independence of the Election Commissioners and this is evident from the way the tenures of Chief Election Commissioners (CECs) have “slid” down from over eight years in the 1950s to just about a few hundred days after 2004.
- “Their (CECs) tenure is highly truncated and known from the very beginning... In this way, this so-called independence that you pay lip- service to, I am sorry to say is completely destroyed by getting this kind.
- After 2004, have “picked” people whom it knew would “never ever” get close to the full term of six years prescribed under the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act of 1991.
- Section 4 of the 1991 Act says the term of a CEC and Election Commissioner is six years or till the age of 65.
- Under Article 324, like removal through impeachment, available under the Constitution to the CECs would only be of any use if he or she had a full term.

Climate change and local government

- If India has to achieve the set of goals enunciated in the ‘Panchamrit’ resolution of the COP26 climate summit in Glasgow 2021, it is necessary that Panchayati raj institutions, the third tier of government which are closest to the people are involved.
- In recent years, many panchayats have come forward with the concept of carbon neutrality, a prominent example being the Meenangadi gram panchayat in Kerala’s Wayanad district, which serves as a model to emulate.
- In 2016, the panchayat envisaged a project called ‘Carbon neutral Meenangadi’, the aim being to transform Meenangadi into a state of carbon neutrality.
- There is also the example of Palli gram panchayat in Jammu and Kashmir that has followed the same people, -centric model, with specific local activities.
- The panchayat has prepared a climate- resilient plan where villagers have been made aware of climate change.
- In Seechewal gram panchayat, the Kali Bein River was rejuvenated with people’s involvement.
- Odanthurai panchayat in Tamil Nadu has its own windmill (350 KW).

- Tikekarwadi gram panchayat in Maharashtra is well known for its extensive use of biogas plants and green energy production.
 - Chapparapadavu gram panchayat in Kerala has several green islands that have been nurtured by the community.
 - The Ministry of Panchayati Raj has focused its attention on localizing the Sustainable Development Goals (SDGs) on a thematic basis.
 - 'Clean and Green Village' has been identified as the fifth theme where panchayats can take up activities on natural resource management, biodiversity protection, waste management, and afforestation activities.
 - According to the latest data, 1,09,135-gram panchayats have prioritized 'Clean & Green Village' as one of their focus areas for 2022-23.
- India, however, has a different view of itself as a pole.
 - It has not actively sought to dominate the South Asian regional subsystem even when it could (even though it occasionally and reluctantly intervened, but often with disastrous consequences);
 - Its balancing behavior has been subpar, it has refused to build alliances in the classical sense of the term, or sought camp followers or allegiances.
 - As a matter of fact, even its occasional balancing behavior (for instance, the 1971 India- Soviet Treaty during the Bangladesh war) was contingent on emergencies.
 - For one, and to be fair, it does believe it has a strategic periphery in South Asia where it has a natural claim to primacy.
 - Two, it discourages interference by other powers in that space.
 - Three, it often tends to speak for 'underprivileged collectives', physical (South Asia) or otherwise (NAM, developing nations, global south, etc. in varying degrees); and it welcomes the rule of law and regional order.
 - India's historical focus on the region has been more of a provider of common goods than as a rule setter or/of demander of allegiance.

THE HINDU

India as pole

What does being a pole mean for India?

- The classical view of polarity is one of domination of the international system by the great powers, the balances of power by them, and alliance building based on ideology or distribution of power for the purposes of such balancing.

THE HINDU

Criticism of data protection law

- The surveillance architecture in India comprises mainly of Section 5(2) of the Indian Telegraph Act, 1885;
- Section 69 of the Information Technology Act, 2000; and the procedural rules promulgated under them.
- But this architecture does not meaningfully define the grounds under which or the manner in which, surveillance may be conducted.
- Clause 18(2) of the 2022 Bill allows the Union government to provide blanket exemptions for selected government agencies.
- However, this Bill is more egregious than previous iterations as it permits exemption to private sector entities that may include individual companies or a class of them, by assessing the volume and nature of personal data under Clause 18(3).

THE HINDU

Assam Meghalaya

WHY ASSAM-MEGHALAYA BORDER IS IN DISPUTE?

- Assam and Meghalaya share an 885-km-long border. As of now, there are 12 points of dispute along their borders.
- The Assam-Meghalaya border dispute are the areas of Upper

Tarabari, Gazang reserve forest, Hahim, Langpih, Borduar, Boklapara, Nongwah, Matamur, Khanapara-Pilangkata, Deshdemoreah Block I and Block II, Khanduli and Retacherra.

- Meghalaya was carved out of Assam under the Assam Reorganisation Act, of 1971, a law that it challenged, leading to disputes.



- A major point of contention between Assam and Meghalaya is the district of Langpih in West Garo Hills bordering the Kamrup district of Assam.
- Langpih was part of the Kamrup district during the British colonial period but post-Independence, it became part of the Garo Hills and Meghalaya.
- Assam considers it to be part of the Mikir Hills in Assam.
- Meghalaya has questioned Blocks I and II of the Mikir Hills -now Karbi Anglong region - being part of Assam.

- Meghalaya says these were parts of erstwhile United Khasi and Jaintia Hills districts.
- Both Assam and Meghalaya have constituted border dispute settlement committees.
- They are historical facts, ethnicity, administrative convenience, mood and sentiments of the people concerned, and the contiguity of the land.

THE HINDU

RBI's concern on deposits

- Thus, monetary policies across the globe, especially in advanced economies, are being tightened, spurring concerns about financial stability risk in emerging and developing economies.

Why have banks been asked to remain "watchful"?

- Global headwinds at present are emanating from three sources;
- Russian actions in Ukraine impacting energy supplies and prices (especially in Europe),
- The economic slowdown in China because of frequent lockdowns due to its zero-COVID policy, and the increased cost-of-living because of resulting inflationary pressures.

The 'drag' occurs in two broad ways.

- Firstly, lower external demand drives down export demand obligating economic growth to be solely driven by domestic demand which might not be sufficiently strong.
- Second, higher global inflation and interest rates impact the flow of capital into the economy, putting downward pressure on the domestic currency and in certain circumstances, higher imported inflation.
- To this effect, the regulator stated in its November bulletin, "The (domestic) macroeconomic outlook can be best characterized as resilient but sensitive to formidable global headwinds."

What about deposit growth vis-a-vis credit growth?

- Important to note, banks' credit-disbursing bandwidth is determined by their in-house reserves. More importantly, demand for credit increases with greater economic activity.
- As per the RBI bulletin, aggregate demand domestically bears an "uneven profile" at present.
- Urban demand appears robust and rural demand which was muted has

also started acquiring some strength recently.

- Commercial bank credit growth too has been surging, led by services, personal loans, agriculture, and industry, in that order.
- This reflects the growing preference for bank credit for meeting working capital requirements.

THE HINDU

I2U2

- India and the UAE are going ahead with food security cooperation under the I2U2, a new West Asian quadrilateral that includes Israel and the U.S.
- The I2U2 leaders' summit in July decided to harness private capital among the member countries for projects on agriculture, infrastructure, digital connectivity, water, energy, and transportation
- The two sides took note that bilateral ties witnessed an "appreciable" growth since the conclusion of the Comprehensive Economic Partnership Agreement (CEPA).
- "India's exports to the UAE between April and -September 2022 were about USD 16 billion which was an increase of 24% year to year while India's imports increased 38% to reach USD 28.4 billion in the same time period,".

- Apart from bilateral trade, the two sides also discussed, energy, healthcare, defense, space, climate change, skills, fintech, and Startup.

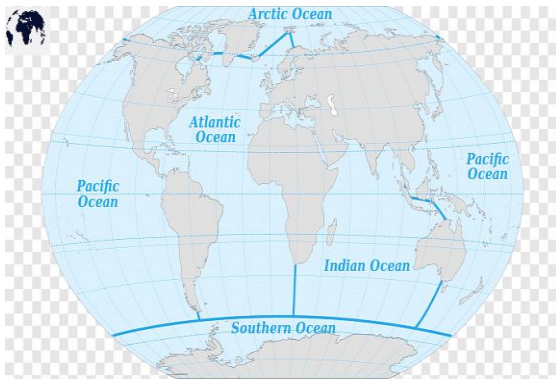
What does I2U2 stand for?

- I2U2 stands for India, Israel, the UAE, and the US, and was also referred to as the 'West Asian Quad'

What is the aim of I2U2 grouping?

- Its stated aim is to discuss "common areas of mutual interest, to strengthen the economic partnership in trade and investment in our respective regions and beyond".
- The grouping also points to India's growing engagement with countries in West Asia including Israel, with whom India has developed closer ties.
- Six areas of cooperation have been identified by the countries mutually, and the aim is to encourage joint investments in water, energy, transportation, space, health, and food security.
- The press release added that with the help of "private sector capital and expertise", the countries will look to modernize infrastructure, explore low-carbon development avenues for industries, improve public health, and promote the development of critical emerging and green technologies.

Russia as arctic power



- President Vladimir Putin on Tuesday touted Russia’s Arctic power at a flag-raising ceremony and dock launch for two nuclear-powered icebreakers that will ensure year-round navigation in the Western Arctic.
- “Both icebreakers were laid down as part of a large serial project and are part of our large -scale, systematic work to re-equip and replenish the domestic icebreaker fleet, to strengthen Russia’s status as a great Arctic power,”
- The Arctic is taking on greater strategic significance due to climate change, as a shrinking ice cap opens up new sea lanes.
- Vast oil and gas resources lie in Russia’s Arctic regions, including a liquefied natural gas plant on the Yamal Peninsula.

THE HINDU

India as G20 President

- The moment of India's ascent to the G20 presidency coincides with the country's 75th year of Independence. Together, the G20 members represent over 80% of the world's GDP, 75% of international trade, and 60% of the population putting pressure on the World Bank and IMF.
- India should use the G20 to roll out the India Stack on the global stage increase in IMF and World Bank show your cultural diversity and bring together the power of the diaspora and the power of Indian culture on a single platform.



THE HINDU

SEBI to control rumors

- The proposed measures are directed toward preventing any false market sentiment or impact on the securities of a company

- Recognizing the “growing influence” of print, television, and digital news media, it argues that companies need to keep pace and ensure that any rumors are verified or refuted. It proposes companies disclose all information whose expected impact in terms of value exceeds 2% of either its turnover or net-worth as per the last audited financial statement, or 5% of the three-year average of the absolute value of profit/loss after tax. In order to avoid information asymmetry, SEBI has proposed that the listed entities need to also disseminate any communication with regards to the company made by its Directors, promoters, key managerial personnel or senior management
- Individually and not through the company companies also need to disclose any actions initiated by a regulatory, statutory, enforcement, or judicial. Authority against any of its directors,

Key managerial personnel

- It proposes that entities inform the
- The exchange about resignation(s) within seven days. Along similar lines, companies must. Also, disclose if the MD/CEO is not available to discharge their duties for greater than a month.

THE HINDU

EL NINO LA NINA and weather pattern

- ENSO's scale is significant enough to influence the global climate. According to the study, published in the Nature Communications journal, increased SST variability from ENSO in the eastern. Equatorial Pacific (EP) will emerge around 2030 (error margin of +/- 6 Years), more than a decade earlier than that the central Pacific (CP) ENSO.
- SST variability from ENSO will occur almost four decades earlier than previously suggested. Changes in the equatorial Pacific will be visible first due to a stronger increase in the EPENSO rainfall response, leading to increased SST variability.
- El Niño causes weak rainfall and more heat, while La Niña intensifies rainfall across South Asia, particularly in India's northwest and Bangladesh during the monsoon. At present, India, like the rest of the globe, is witnessing an extended 'triple dip' La Niña.

THE HINDU

Malnutrition

- GLOBAL Hunger ranking-107/121. India's National Family

Health Survey (NFHS5) from 201921 reported that in children below the age of five years, 35.5% were stunted, 19.3% showed wasting, and 32.1% were underweight.

Steps

- The Saksham Anganwadi and Prime Minister's Overarching Scheme for Holistic Nutrition
- (POSHAN) 2.0 scheme (which now includes the Integrated Child Development Services (ICDS) scheme), which seeks to work with adolescent girls, pregnant women, nursing mothers, and children below three.

What is not done?

- Per capita costs of the Supplementary Nutrition Programme (one of the largest Components of this scheme) have not increased since 2017 and remain grossly underfunded. 50% Child Development. Project Officer (CDPO) posts were vacant in Jharkhand, Assam, Uttar Pradesh, and
- In Rajasthan, cash transfer alone is not the Solution.
- Cash transfer is helpful where Purchasing power is low. Food rations through PDS and special supplements for the target group of

pregnant and lactating mothers, and infants and young children, are essential. Involvement of local government. A comprehensive programme targeting adolescent girls is required. If the intergenerational nature of Malnutrition is to be tackled and local community groups in the design and delivery of tailored nutrition interventions.

- Bureaucrats reject RTIs with glee with no fear of facing penal provisions outlined in Section 20 of the RTI Act.

THE HINDU

THE HINDU

Information Commission

- Until the 2019 amendment to the RTI Act, Information Commissioners (ICs)
- Appointed to the CI were in status to the Chief Election Commissioner and that of a Supreme Court judge. They had a five-year fixed term and terms of service. After the amendments of 2019, the Centre gave itself powers to change and decide these terms. Seeking disclosure of documents relating to the making of the Unlawful.

Activities (Prevention) Amendment Act, 2019,

- The commission has resorted to keeping the
- Matter pending for final order.

Climate change opens up

- Arctic giving access to new routes and resources, there is a race by adjoining countries to build up their militaries and Russia has a clear lead over them.

Why are the Russian icebreakers significant?

- Russia WANTS TO BECOME Arctic power earlier-Arktika and Sibir “Rossiya,” displacing up to 71,380 tonnes, would be completed by 2027
- 2027 Icebreaker fleets- Yakutia, ural earlier-Arktika, and Sibir “Rossiya,” displacing up to 71,380 tonnes, would be completed by 2027.
- Northern Sea Route, which cuts down the time to reach Asia by up to two weeks compared to the current route via the Suez Canal.
- In line with this, the updated Russian naval doctrine, unveiled, envisages “diversifying and stepping up naval activities on the Spitsbergen, Franz Josef Land and Novaya Zemlya archipelagos and Wrangel Island.
- Unlike Antarctica, the Arctic is not a global common accentuating the problem. For instance, the North Atlantic Treaty Organization (NATO) has been conducting

- Regular exercises in the region while partnering
- Countries are partnering in upgrading military Capabilities.
- At the same time, China, which calls itself to be a near arctic state, has also announced ambitious plans for a ‘polar silk route’ to connect to Europe as well as building massive icebreakers.

THE HINDU

India stands with respect to the Arctic

- In March 2022, India unveiled its first Arctic policy, Titled: ‘India and the Arctic Building a Partnership for sustainable development. India is also one of the 13 Observers in the Arctic Council, the leading intergovernmental forum promoting cooperation in the Arctic.
- **Shall OTT be included in the Telecom act?**
- OTT communication services are applications or value-added. Communication services that ride on the basic communication services that telcos provide.
- OTT communication services are already covered under the existing IT Act. IT will continue to be so under the proposed Digital India Act.

Whether it is encryption, data storage, interception, or cooperation with law enforcement, OTTs can be and are regulated but not licensed or pre-authorized.

How does one make a distinction between them?

- An OTT communication service provider and any other OTT platform or service that includes communication services???
- Telecom Bill will impact only India-based OTT on players. Those operating from overseas would not be impacted. Hardly any other country has equated OTT communication services with foundational telecommunication services including OTT communication services. Providers within the ambit of the Telecom Bill could seriously compromise the energy, innovation, and funding that characterizes India's Startup ecosystem today.

THE HINDU

India-Australia trade pact

- India's first major free trade deal with a
- Developed economies signed the Economic

- Cooperation and Trade Agreement (ECTA) with India, paving easier market access
- For Indian services and goods. Australia has been particularly upset with what it called the 'weaponization of trade' by China. Two countries are already part of such as the four-nation Quad, the trilateral Supply Chain Resilience Initiative, and the Indo-Pacific Economic Forum (IPEF) towards a 'China plus one strategy.'
- India expects bilateral trade to rise to about
- \$50 billion from the current level of \$31 billion in five years, with Indian exports driving half this surge, creating a million new jobs in labour-intensive sectors. Zero duty benefits on 98.3% of Australian tariff lines, from the day the agreement comes into force, will be extended to all Indian products within five years.
- With raw materials such as coal, metals, and wool dominating its shipments, that means cheaper inputs for Indian firms.
- Annual visa quotas for Indian chefs and yoga trainers, and a post-study work visa regime for Indian students will bolster ties, the approval of a double taxation avoidance agreement by Australia, which is

expected to save millions of dollars a year for Indian IT firms.

THE HINDU

Draft Aircraft Security Rules, 2022

- Draft Aircraft Security Rules Enables, which enable the aviation security regulator, Bureau of Civil Aviation Security (BCAS), to Impose penalties of up to ₹ 1 crore on airports and airlines for violation of security measures. Can impose a fine of ₹ 50 lakh to ₹1 crore on airports and airlines if airlines prepare and implement a security program, or if they commence operations without seeking a security clearance.
- Large airports can also face a penalty of ₹1 crore if they fail to plan the design and layout of the airport in accordance with the National Civil Aviation Security Program. Individuals will also face penalties ranging from ₹1 lakh to ₹25 lakh depending on the nature of the offense.

About BCAS

- The Bureau of Civil Aviation Security (BCAS) was initially set up as a Cell in the DGCA in January 1978 on the recommendation of the Pande Committee. The BCAS was reorganized into an independent

department under the Ministry of Civil Aviation on 1st April 1987. The main responsibilities of BCAS include laying down standards and measures with respect to the security of civil flights at international and domestic airports in India.

THE HINDU

Chicago Convention

- Convention on International Civil Aviation (also known as Chicago Convention), was signed on 7 December 1944 by 52 States. The Convention establishes rules of airspace, aircraft registration, and safety, and details the rights of the signatories in relation to air travel; it also exempts air fuels from tax.

News

- Pakistani PM Name's exspy master Asim Munir to be new Army chief Anwar Ibrahim sworn in as Prime Minister of Malaysia. Asia-Pacific is the part of the world near the western Pacific Ocean. The Asia-Pacific region varies in the area depending on the context, but it generally includes East Asia, the Russian Far East, South Asia, Southeast Asia, Australia, and Pacific Islands, and SC questions 'lightning speed' of EC appointment Domestic

demand to help offset dent in
Exports from global slowdown.

THE HINDU

GES
REPORTER

Kudankulam

- Russian state owned nuclear energy corporation Rosatom has offered a more advanced fuel option to India's largest nuclear power station at Kudankulam, which will allow its reactors to run for an extended two-year cycle without stopping to load fresh fuel.

About Kudankulam

- The Kudankulam power plant is located in the coastal Tamil Nadu. It is a Civilian Nuclear Power Plant, built by India in joint collaboration with Russia. There are a total of 7 operating nuclear power plants in India, and all of these facilities are a part of India's Critical Information Infrastructure.
- Air Gapping refers to the physical and virtual Isolation of the sensitive classified systems from the rest of the network or the rest of the world.

THE HINDU

Loss and damage fund

- As developing countries have rising energy needs and vulnerable populations, they need financial support for low-carbon transformations, building resilience to inevitable climate impacts, and

other steep challenges, important among these being loss and damage (L and D) from climate-induced impact the biggest headline after COP27 was the establishment of a new L and D fund.

- The main L and D agendas for developing countries are to start holding developed countries morally responsible and financially liable for the same developing countries that have been trying to separate L and D from adaptation.
- They argue that losses from these events have not and likely cannot be adapted to. The text finally frames L and D as post-event "rehabilitation, recovery, and reconstruction"
- But it excludes mention of historic responsibility and the principle of Common but Differentiated Responsibilities (CBDR).
- In 2009, developed countries had promised
- Developing countries \$100 billion in climate finance annually by 2020, which still remains unmet. Developing countries expected this amount to come from public sources
- There was no discussion on Article 2.1c of the Paris Agreement, which seeks to make all finance flows compatible with low-carbon development'. For the first time, the COP27 decision text included a call

for reforming the global financial system, particularly multilateral development banks (MDBs), to make them more supportive of Climate action. This, importantly, entreated MDBs to reduce the costs of Borrowing for climate projects, increase finance for Adaptation and better align their operations with the Paris Agreement.

- In parallel, carbon markets emerged as more prominent Vehicles for channelling private finance.
- In carbon markets, some entities sell credits by reducing their Emissions below a threshold, while others buy these credits to offset emissions they are unable to reduce many questions regarding the design of these markets were addressed at COP26, and discussions on unresolved issues raised concerns about whether these markets would be transparent, lead to actual emissions reductions, and risk reductions being counted twice by the buyers and the sellers of credits.

THE HINDU

Lachit Borphukan

- Assam's legendary war hero Lachit Borphukan
- Borphukan was a commander in the erstwhile Ahom kingdom. He is

known for his leadership in the 1671 battle of Saraighat which thwarted an attempt by the Mughals to capture Assam.

- November 24 is celebrated as 'Lachit Divas' across the Assam. The 'Battle of Saraighat' was fought on the banks of Brahmaputra in Guwahati.

THE HINDU

Internationalization of rupees

- The central banks of India and they are discussing a concept paper on promoting bilateral trade in the rupee and dirham with a view to reducing transaction cost

Benefits of internationalisation of rupees

- Use of Rupee in cross-border transactions mitigates currency risk for Indian businesses. It reduces the need for holding foreign exchange reserves. Reducing dependence on foreign currency makes India less vulnerable to external shocks. As the use of Rupee becomes significant, the bargaining power of Indian business would improve

Long-term capital gain Tax

- Investments that provide returns over a longer period of time are called as long term capital gains or LTCG. All the investments that offer

returns in periods that the range between 1 and 3 years can be called as long term capital gains.

- When anyone makes an investment, it is almost always with the view of getting a return from that investment.
- There are some investments that will provide returns. Over a short period of time and there are those that provide returns over a longer period of time.

What Qualifies as Long Term Capital Gains?

- Sale of Property: Sale of Agricultural Land.
- Mutual Fund Investments

Stocks:



THE HINDU

Black corals

- Antipatharians, also known as black corals or thorn corals, are an order of soft deep-water corals.
- These corals can be recognized by their jet-black or dark brown chitin skeletons, surrounded by the polyps (part of coral that is alive).
- Antipatharians are a cosmopolitan order, existing at nearly every location and depth, with the sole exception of brackish waters. Five new species of black corals living as deep as 2,500 feet (760 metres) below the surface in the Great Barrier Reef and Coral Sea off the coast of Australia.
- Black corals can be found growing both in shallow waters and down to depths of over 26,000 feet (8,000 meters), and some indmetersl corals can live for over 4,000 years.
- Many of these corals are branched and look like feathers, fans or bushes, while others are straight like a whip.
- Unlike their colourful, shallow-water cousins that rely on the sun and photosynthesis for Energy, black corals are filter feeders and Eat tiny zooplankton that are abundant in deep water.

What is the difference between hard and soft coral?

- Hard corals, also known as scleractinian and stony coral, produce a rigid skeleton made of calcium carbonate (CaCO_3) in crystal form called aragonite.
- Hard corals are the primary reef-building corals. Colonial hard corals, consisting of hundreds to hundreds of thousands of individual polyps, are cemented together by the calcium carbonate 'skeletons' they secrete. Hard corals that form reefs are called hermatypic corals. Soft coral, also known as Alcyonacea and ahermatypic coral, do not produce a rigid calcium carbonate skeleton and do not form reefs, though they are present in a reef ecosystems.
- Soft corals are also mostly colonial; what appears to be a single large organism is actually a colony of individual Polyps combined to form a larger structure.

What is a filter feeder?

- Filter feeders are a sub-group of suspension-feeding animals that feed by straining suspended matter and food particles from water, typically by passing the water over a specialized filtering structure.

- Some animals that use this method of feeding are clams, krill, sponges, baleen whales, and many fish (including some sharks).

THE HINDU

Measles

- A viral infection that's serious for small children but is easily preventable by a vaccine.
- The disease spreads through the air by respiratory droplets produced from coughing or sneezing.
- Measles symptoms don't appear until 10 to 14 days after exposure. They include cough, runny nose, inflamed eyes, sore throat, fever, and a red, blotchy skin rash.
- There's no treatment to get rid of an established measles infection, but over-the-counter fever reducers or vitamin A may help with symptoms.

THE HINDU

mRNA lipid Nano Particles based vaccine

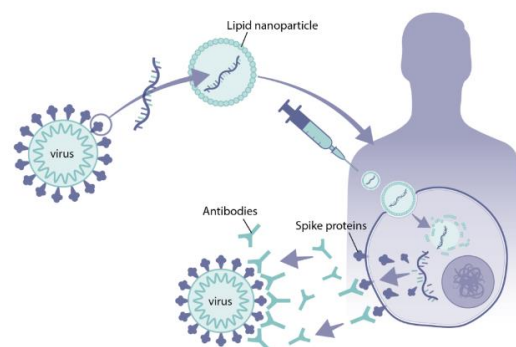
- Researchers have developed an mRNA lipid nanoparticle vaccine that contains antigens from all 20 known subtypes of influenza A and B viruses.
- Universal vaccine is important as it is difficult to predict which flu strain will cause the next flu pandemic.

About Influenza

- Flu (influenza) is an infection of the nose, throat and lungs, which are part of the respiratory system.
- Influenza is commonly called the flu, but it's not the same as stomach "flu" viruses that cause diarrhoea and vomiting.
- Most people with the flu get better on their own. But sometimes, influenza and its complications can be deadly.

How does lipid nanoparticles-based mRNA vaccine works?

- To function in vivo, mRNA requires safe, effective and stable delivery systems that protect the nucleic acid from degradation and that allow cellular uptake and mRNA release.
- Lipid nanoparticles have successfully entered the clinic for the delivery of mRNA; in particular, lipid nanoparticle–mRNA.
- Vaccines are now in clinical use



Leap seconds

What is leap second?

- A leap second is a one-second adjustment that is occasionally applied to Coordinated Universal Time, to accommodate the difference between precise time and imprecise observed solar time, which varies due to irregularities and long-term slowdown in the Earth's rotation
- Metrologists have agreed to stop adding 'leap seconds' to official clocks to keep them in sync with variations in Earth's rotation.
- Leap seconds can disrupt systems based on precise timekeeping because there is no set way to integrate them.
- Earth's rotation has sped up since 2020 normally over the long term, Earth's rotation slows because of Moon's pull.
- So, for the first time, a leap second might need to be removed rather than added.
- The practice of adding leap seconds will be put on hold from 2035



THE HINDU

James Webb telescope

- The James Webb Space Telescope (sometimes called JWST or Webb) is an orbiting infrared observatory that will complement and extend the discoveries of the Hubble.
- Space Telescope, with longer wavelength coverage and greatly improved sensitivity.
- The longer wavelengths enable Webb to look much closer to the beginning of time and to hunt for the unobserved formation of the first galaxies, as well as to look inside dust. Clouds where stars and planetary systems are forming today.
- The James Webb Space Telescope (JWST) is a space telescope designed primarily to conduct infrared astronomy.
- As the largest optical telescope in space, its greatly improved infrared resolution and sensitivity allows it to

view objects too old, distant, or faint for the Hubble Space Telescope. U.S. National Aeronautics and Space Administration (NASA) led JWST's development in collaboration with European Space Agency (ESA) and the Canadian Space Agency (CSA).

- Infrared astronomy is a sub-discipline of astronomy that specializes in the observation and analysis of astronomical objects using infrared (IR) radiation.

THE HINDU

MISSION GOALS

- Search for the first galaxies or luminous objects formed after the Big Bang.
- Determine how galaxies evolved from their formation until now. Observe the formation of stars from the first stages to the formation of planetary systems. Measure the physical and chemical properties of planetary systems, including our own Solar System, and investigate the potential for life in those systems.

THE HINDU

Leprosy

- Leprosy is a chronic infectious disease caused by a bacillus, *Mycobacterium leprae*. *M. leprae*

multiplies slowly and the incubation period of the disease, on average, is 5 years. Symptoms may occur within 1 year but can also take as long as 20 years or even more.

- Leprosy mainly affects the skin, the peripheral nerves, mucosa of the upper respiratory tract, and the eyes. The disease is curable with multidrug therapy.
- Leprosy is likely transmitted via droplets, from the nose and mouth, during close and frequent contact with untreated cases. Untreated, leprosy can cause progressive and permanent damage to the skin, nerves, limbs, and eyes.
- There were 127558 new leprosy cases detected globally in 2020, according to official figures from 139 countries from the 6 WHO Regions.

THE HINDU

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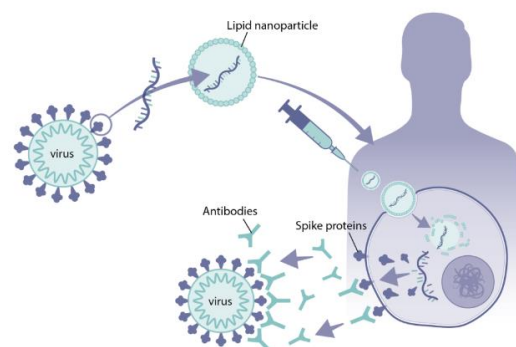
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- Universal vaccine is important as it is difficult to predict which flu strain will cause the next flu pandemic.

About Influenza

- Flu (influenza) is an infection of the nose, throat and lungs, which are part of the respiratory system.
- Influenza is commonly called the flu, but it's not the same as stomach "flu" viruses that cause diarrhoea and vomiting.
- Most people with the flu get better on their own. But sometimes, influenza and its complications can be deadly.

How does lipid nanoparticles-based mRNA vaccine works?

- To function in vivo, mRNA requires safe, effective and stable delivery systems that protect the nucleic acid from degradation and that allow cellular uptake and mRNA release.
- Lipid nanoparticles have successfully entered the clinic for the delivery of mRNA; in particular, lipid nanoparticle–mRNA.
- Vaccines are now in clinical use



Leap seconds

What is leap second?

- A leap second is a one-second adjustment that is occasionally applied to Coordinated Universal Time, to accommodate the difference between precise time and imprecise observed solar time, which varies due to irregularities and long-term slowdown in the Earth's rotation
- Metrologists have agreed to stop adding 'leap seconds' to official clocks to keep them in sync with variations in Earth's rotation.
- Leap seconds can disrupt systems based on precise timekeeping because there is no set way to integrate them.
- Earth's rotation has sped up since 2020 normally over the long term, Earth's rotation slows because of Moon's pull.
- So, for the first time, a leap second might need to be removed rather than added.
- The practice of adding leap seconds will be put on hold from 2035



THE HINDU

James Webb telescope

- The James Webb Space Telescope (sometimes called JWST or Webb) is an orbiting infrared observatory that will complement and extend the discoveries of the Hubble.
- Space Telescope, with longer wavelength coverage and greatly improved sensitivity.
- The longer wavelengths enable Webb to look much closer to the beginning of time and to hunt for the unobserved formation of the first galaxies, as well as to look inside dust. Clouds where stars and planetary systems are forming today.
- The James Webb Space Telescope (JWST) is a space telescope designed primarily to conduct infrared astronomy.
- As the largest optical telescope in space, its greatly improved infrared resolution and sensitivity allows it to

view objects too old, distant, or faint for the Hubble Space Telescope. U.S. National Aeronautics and Space Administration (NASA) led JWST's development in collaboration with European Space Agency (ESA) and the Canadian Space Agency (CSA).

- Infrared astronomy is a sub-discipline of astronomy that specializes in the observation and analysis of astronomical objects using infrared (IR) radiation.

THE HINDU

MISSION GOALS

- Search for the first galaxies or luminous objects formed after the Big Bang.
- Determine how galaxies evolved from their formation until now. Observe the formation of stars from the first stages to the formation of planetary systems. Measure the physical and chemical properties of planetary systems, including our own Solar System, and investigate the potential for life in those systems.

THE HINDU

Leprosy

- Leprosy is a chronic infectious disease caused by a bacillus, *Mycobacterium leprae*. *M. leprae*

multiplies slowly and the incubation period of the disease, on average, is 5 years. Symptoms may occur within 1 year but can also take as long as 20 years or even more.

- Leprosy mainly affects the skin, the peripheral nerves, mucosa of the upper respiratory tract, and the eyes. The disease is curable with multidrug therapy.
- Leprosy is likely transmitted via droplets, from the nose and mouth, during close and frequent contact with untreated cases. Untreated, leprosy can cause progressive and permanent damage to the skin, nerves, limbs, and eyes.
- There were 127558 new leprosy cases detected globally in 2020, according to official figures from 139 countries from the 6 WHO Regions.

THE HINDU

Depopulation

- The world population touched eight billion. India was the largest contributor to the last billion and is set to surpass China as the world's most populous nation by 2023.
- China's population has begun to decline, while India's population is expected to grow for another 40 years. By current United Nations estimates, India's population will begin to decline only in 2063, by which time it will be just shy of 1.7 billion. The world's population is expected to grow until 2086. Countries such as Japan, South Korea, and Europe, are experiencing falling fertility and nearing the inflection point of population declines.



THE HINDU

Fertility in India

- It is now well-established that fertility in India is falling along expected lines as a direct result of rising incomes and greater female access to health and education.
- India's total fertility rate is now below the replacement rate of fertility parts of India have not only achieved replacement fertility but have been below the replacement rate for so long that they are at the cusp of real declines in population. Kerala, which achieved replacement fertility in 1998, and Tamil Nadu, which achieved this in 2000, are an example. In the next four years, both Tamil Nadu and Kerala will see the first absolute declines in their working-age populations in their histories.
- With falling mortality (barring the pandemic), the total population of these States will continue to grow for the next few decades, which means that fewer working-age people must support more elderly people than ever before.
- Among the female elderly in particular, economic dependence is a serious concern. Both States will also need to re-examine the continued sustainability of low immigration.

Three challenges

- A depopulating future poses at least three unique challenges to India. First, a skewed sex ratio remains a danger.
- As the latest round of the NFHS showed, families with at least one son are less likely to want more children than families with just one daughter.
- Second, the stark differences between northern and southern States in terms of basic literacy as well as enrolment in higher education, including in technical fields, will mean that workers from the southern States are not automatically replaceable.

THE HINDU

Special marriage act

- Navtej Singh Johar judgment of 2018 (decriminalizing homosexuality) and the Puttaswamy's judgment of 2017 (affirming the Right to Privacy as a fundamental right).
- A specific type of marriage, documentation of certain marriages, separation.

About Special marriage ACT

- The Special Marriage Act, of 1954 was brought into the Indian legal system in 1954

Objectives of the Special Marriage Act, of 1954

- The following are the key goals that may be derived from the Act's Preamble:
- A specific type of marriage, Documentation of certain marriages,
- Separation Purpose of the Special Marriage Act, 1954.
- The purpose of the Act is to establish consistent legal measures to protect those who want to marry across castes or religions.
- By establishing a system for inter-faith marriages, the Act serves the interests of all Indian people.
- The Act includes provisions for lawful marriage, prerequisites for a valid marriage, dissolution of an inter-faith marriage, marriage registration, and other regulations.
- Elements of the Special Marriage Act, 1954.
- Unlike the previous marriage legislation, this Act applies to all Indian citizens, regardless of religion or caste. As a result, any individual desirous of marrying another individual might do so under the aforementioned Act.
- Since the Act considers marriage to be a legal transaction, no rituals or ceremonies are conducted.

- The marriage is carried out in accordance with the law i.e., through court marriage.

THE HINDU

NAN SCAM

- The NAN is Chhattisgarh's nodal agency for procuring and distributing food grains under the Public Distribution System (PDS).
- In 2015, when former Chief Minister and BJP leader Raman Singh was in power, the Opposition alleged that the government was distributing substandard quality grains under the PDS and that officials had received Kickbacks from rice millers to allow this. The State's Anticorruption Bureau (ACB) launched a probe into the matter.
- While conducting raids at the NAN office, the agency found unaccounted-for cash worth over three crores.
- It also tested the food samples for their quality, finding many samples of salt and rice unfit for human consumption.
- The ED moved the Supreme Court seeking a transfer of the case to the CBI.
- The ED alleged that the current Congress-ruled Chhattisgarh

government was weakening the Investigation.



THE HINDU

BLUE Bugging

- It is a form of hacking that lets attackers access a device through its discoverable Bluetooth connection.
- Once a device or phone is blue bugged, a hacker can listen to the calls, read and send messages and steal and modify contacts.
- It started out as a threat to laptops with Bluetooth Capability.

How does blue bugging hack devices?

- Blue bugging attacks work by exploiting Bluetooth-enabled devices.
- The device's Bluetooth must be in discoverable mode, which is the default setting on most devices.
- The hacker then tries to pair with the device via Bluetooth.

- Once a connection is established, hackers can use brute force attacks to bypass authentication.
- They can install malware in the compromised device to gain unauthorised access to it.
- Blue bugging can happen whenever a Bluetooth-enabled device is within a 10-meter radius of the hacker.

How can one prevent blue bugging?

- Turning off Bluetooth and disconnecting paired. Bluetooth devices when not in use, updating the device's system software to the latest version, and limited use of public WiFi and using VPN as an additional security measure are some of the ways to prevent bluebugging.

Which devices are most susceptible to such attacks?

- Any Bluetooth-enabled device can be blue bugged. Bluetooth-enabled is susceptible to such hacks.
- Apps that enable users to connect to their TWS (True Wireless Stereo) devices or earbuds can record conversations.
- The apps of these TWS devices can record conversations.
- Once hacked, the attacker can make and listen to calls, read and send

messages, and modify or steal your contacts,

NEWS BRIEF

- A bilateral training exercise between.
- India and Australian armies will kick-start in Rajasthan.
- 'Austra Hind 22' is scheduled to take Place at Mahajan Field Firing Ranges.
- From November 28 to December 11.
- It will be a yearly event conducted alternatively in India and Australia.

THE HINDU

UNESCO award for Mumbai museum restoration

Project

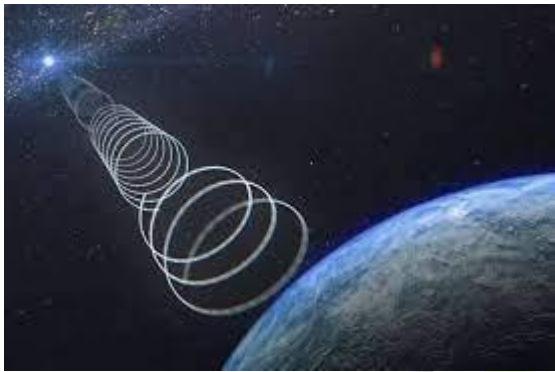
- The restoration of the 100-year-old Chhatrapati Shivaji Maharaj Vastu Sangrahalaya in Mumbai has won the 'Award of Excellence in this year's UNESCO Asia Pacific Awards for Cultural Heritage Conservation.
- The museum is a part of the Victorian Gothic and Art Deco Ensembles of Mumbai's world heritage property.
- It was established as the Prince of Wales Museum of Western India in 1922.
- China's anti-lockdown protests spread to dozens of campuses.

- The G20 presidency is an opportunity to focus on global good: PM. Egyptian President Sisi to be chief guest at Republic Day celebrations.

THE HINDU

GES
REPORTER

SARAS-3



- SARAS is a niche high-risk high-gain experimental effort of RRI initiated and led by Prof. Ravi Subrahmanyan, along with Prof. N. Udaya Shankar.
- SARAS aims to design, build and deploy in India a precision radio telescope to detect extremely faint radio wave signals from the depths of time, from our “Cosmic Dawn” when the first stars and galaxies formed in the early Universe.



- The signal from Cosmic Dawn is expected to arrive on Earth stretched in wavelength to meters and lowered in frequency by the expansion of the Universe to lie in the radio frequency band 50-200 MHz.
- The signal from Cosmic Dawn is expected to arrive on Earth stretched in wavelength to meters and lowered in frequency by the expansion of the Universe to lie in the radio frequency band 50-200 MHz.
- SARAS 3, a radio telescope designed and built at the Raman Research Institute (RRI) here, has provided clues to the nature of the universe’s first stars and galaxies.
- Raman Research Institute, an autonomous institute of the Department of Science & Technology, Govt. of India refuted this claim.
- Using data from the telescope which has been deployed over the Dandiganahalli Lake and Sharavati backwaters (Karnataka) since 2020, astronomers and researchers have been able to determine the properties of radio luminous galaxies formed just 200 million years post the Big Bang.

Kolkali art

- Kolkali is a folk art performed in Malabar region of Kerala, India.
- The dance performers move in a circle, striking small sticks and keeping rhythm with special steps. The circle expands and contracts as the dance progress
- The accompanying music gradually rises in pitch and the dance reaches its climax.
- **THE HINDU**

DOMESTIC VIOLENCE ACT

Objectives of the Domestic Violence Act, 2005

- To identify and determine that every act of domestic violence is unlawful and punishable by law.
- To provide protection to victims of domestic violence in the cases such acts occur.
- To serve justice in a timely, cost-effective, and convenient manner to the aggrieved person.



- To prevent the commission of domestic violence and to take

adequate steps if such violence occurs.

- To implement sufficient programmes and agendas for the victims of domestic violence and to guarantee the recovery of such victims.

Appointment of Protection Officers

- Protection Officers are appointed by the State Government.
- The number of Protection Officers may vary from district to district depending on the size and necessity.
- Section 10 of the Act, lays down the functions and duties of service providers.
- Service providers are defined under the Act as any voluntary association registered under the Societies Registration Act, 1860, or a company that is registered under the Companies Act, 1956 which aims to protect the rights of the women lawfully by providing legal aid, medical, financial, or other assistance.
- If any victim of domestic violence requires a shelter home then under Section 6 of the Act, the person in charge of a shelter home will provide suitable shelter to the victims of domestic violence in the shelter home.

SOAT



WHAT IS SEMI-AUTOMATED OFFSIDE TECHNOLOGY (SOAT)?

- AI-based semi-automated offside technology (SAOT) has been developed to help video and on-field officials make quicker and more accurate decisions on offside during a match.
- The new system makes use of 12 cameras that are positioned below the stadium's roof to track 29 data points on each player at a pace of 50 times per second, giving rise to a position that is almost perfect concerning the surface.
- There are two parts to the technology a sensor inside the match ball (Adidas's Al Rihla) that is held using suspension technology, and existing tracking tools that are part of the VAR system
- Video Assistant Referee (VAR), is a qualified referee who watches the match via a number of screens and can view slow-motion replays,

enabling them to advise the on-field referee

- The innovative system utilizes AI and ball-tracking data to automatically alert the video match officials in the video operation room whenever an attacker receives the ball in an offside position.
- The exact positional data points used to make the decision are generated into a 3D animation that precisely depicts the position of the player's limbs when the ball is played.



THE HINDU

Fine ON GOOGLE

- The story so far: On November 14, Google reached an agreement with the Attorney-Generals of 40 U.S. States to pay a historic \$391.5 million settlement, over its location tracking practices,

What is the lawsuit about?

- Google was found to violate state consumer protection laws by

misleading its users about its location-tracking practices since at least 2014.

- The company misled consumers into thinking they had turned off location tracking, when, in fact, the company continued to collect their location information and use that for advertising.

Will Google make any changes?

- The company is creating a single, comprehensive information hub to highlight key location settings and help people make informed choices about their data.

THE HINDU

LGBTQ Rights

- In India, marriages solemnised under personal laws such as the Hindu Marriage Act, of 1955, the Indian Christian Marriage Act, 1872, the Muslim Personal Law (Shariat) Application Act, 1937, and so on. At present, though same-sex and queer marriages are not clearly recognised in India, we are not bereft of judicial guidance.
- The judgment of the Madras High Court builds on the tenets laid down by the Supreme Court of India in *Shafin Jahan vs Ashokan K.M. and Others* AIR 2018 SC 1933 (Hadiya case), wherein the right to choose

and marry a partner was considered to be a constitutionally guaranteed freedom.

- The Supreme Court held that the “intimacies of marriage lie within a core zone of privacy, which is inviolable” and that “society has no role to play in determining our choice of partners”
- The only logical interpretation from reading these cases together, it is apparent that any legal or statutory bar to same-sex and queer marriages must necessarily be held to be unconstitutional and specifically violative of Articles 14, 15, and 21 of the Constitution of India.

THE HINDU

GM Crops

- Bt cotton is the only genetically modified (GM) crop that has been approved for commercial cultivation in 2002 by the Government of India. Long-term studies were conducted by ICAR on the impact of Bt cotton which did not show any adverse effect on soil, microflora, and animal health.
- However, the Parliamentary Standing Committee on Science and Technology, Environment and Forests, in its report on ‘Genetically modified crops and its impact on

environment, submitted to parliament on August 25, 2017, recommended that GM crops should be introduced in the country only after critical scientific evaluation of its benefit and safety, and also recommended restructuring of regulatory framework for unbiased assessment of GM crops.

- In 2002 approval for the commercial release of Bt cotton hybrids/ varieties resistant to cotton bollworms were given.
- Bt Brinjal resistant to brinjal shoot fly developed by M/S Mahyco in collaboration with University of Agricultural Sciences, Dharwad; Tamil Nadu Agricultural University, Coimbatore and ICAR-Indian Institute of Vegetable Research, Varanasi was approved by GEAC in 2009 but due to 10 years moratorium imposed on GM crops by the Technical Expert Committee (TEC) appointed by the Hon'ble Supreme Court of India, no further action on commercialization has been taken.
- GM mustard Dhara Mustard Hybrid 11 (DMH 11) developed by Delhi University is pending for commercial release as GEAC has advised generating complete safety assessment data on environmental bio-safety, especially effects on

beneficial insect species. No such request is pending in the matter.

- ICAR always promotes science-based innovative technology including research on GM crops. 'Network Project on Transgenic in Crops' (presently Network Project on Functional Genomics and Genetic Modification in Crops) was launched by ICAR in 2005 for the development of GM crops in case of pigeonpea, chickpea, sorghum, potato, brinjal, tomato, and banana for different traits and the material is in different stages of development.
- The Government of India has very strict guidelines to test and evaluate the agronomic value of the GM crops so as to protect the interests of the farmers.
- These guidelines address all concerns with regard to the safety of GM seeds.
- The regulatory system for GM crops as operative in the Department of Biotechnology, Ministry of Science and Technology (Review Committee on Genetic Manipulation; RCGM), and Ministry of Environment and Forests (Genetic Engineering Appraisal Committee; GEAC) has guidelines to consider the GM crops on case-by-case basis towards testing.

FIRST-EVER LAUNCHPAD

- Agnikul, the Chennai headquartered space tech Startup, has established India's first-ever Launchpad for a private launch vehicle at Sriharikota.
- It was inaugurated recently by S. Somanath, Chairman of the Indian Space Research Organisation (ISRO) and Secretary of the Department of Space. “



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- It was inaugurated recently by S. Somanath, Chairman of the Indian Space Research Organisation (ISRO) and Secretary of the Department of Space. “
- The first exclusive Launchpad for a private launch vehicle has come up at the Satish Dhawan Space Center. Now, India can travel to space from one more platform.

THE HINDU

Global shield schemes

- Germany will provide €170 million (\$172 million) to a "Global Shield" insurance initiative to help low-income and vulnerable countries to rebound in the event of climate calamities.
- It aims to strengthen social protection schemes and climate risk insurance, so that when an extreme weather event like flooding strikes, communities can access aid quickly
- Germany, G7 launch 'Global Shield' climate finance at COP27
- A protection scheme that "kicks in automatically in the case of a crisis" frees up money for new seeds immediately, limiting the damage, the statement continued.
- Countries like Canada, Ireland, and Denmark have so far pledged a further €40 million to the initiative.
- Scheme towards LOSS AND DAMAGE.

THE HINDU

Dozee

- Dozee, a contactless remote vital parameter monitoring (RPM) device which can convert any normal bed into a step- down ICU, will be deployed in six States.

THE HINDU

Language and cooperative federalism

- Article 345 leaves it to the State to choose its language for official purposes.
 - In actual practice, several States and Union Territories continue to use English.
 - Article 348 stipulates that all proceedings of the Supreme Court and 'of every High Court' and of Bills, etc. in Parliament shall be in the English language.
 - The Eighth Schedule and the periodic additions to it (now numbering 22) spell out the diversity and complexity of the language landscape as do the Official Languages Act of 1963 and its Rules made in 1976 and amended in 1987, 2007, and 2011.
 - Article 351 directs the state, in the development of Hindi, to draw upon other languages in the composite culture of India.
- These include Hindustani that does not find a mention in the Eighth Schedule.
 - The committee on official language, though consisting of 30 members of Parliament, is headed by the Home Minister.
 - Its mandate is to review the progress made in the use of Hindi for official purposes and to make recommendations to increase the use of Hindi in official communications.
 - It submits its report to the President of India, who forwards its recommendations to the two House.
 - The transition from English along with Hindi as the Official Language of the Union to it being the national language and to bring it about through such procedural devices such as the language of instruction and examination and of textbooks to the detriment of students whose mother tongue is not Hindi.
 - Its implications for competitiveness in the job market are evident.
 - It is to be recalled that the language of the chapter on Official Language is definitive and limits itself to the language of the Union. It does not mention a national language.
 - There is no mention of it in the section on Directive Principles of

State Policy or of Fundamental Duties.

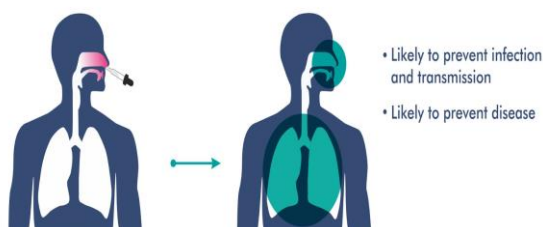
- In fact, Article 344(3) stipulates that ‘the just claims and interests of persons belonging to the non-- Hindi speaking areas in regard to the public services’ shall be considered by the President.
- The constitutional course would be to opt for the language of Article 345, that allows each Legislature to the use of Hindi, or to choose its language, for all official purposes.

THE HINDU

Intranasal vaccine

- An intranasal vaccine stimulates a broad immune response neutralizing IgG, mucosal IgA, and T-cell responses.
- Immune responses at the site of infection (in the nasal mucosa) are essential for blocking both infection and transmission of COVID-19.

Intranasal SARS-CoV-2 Vaccines

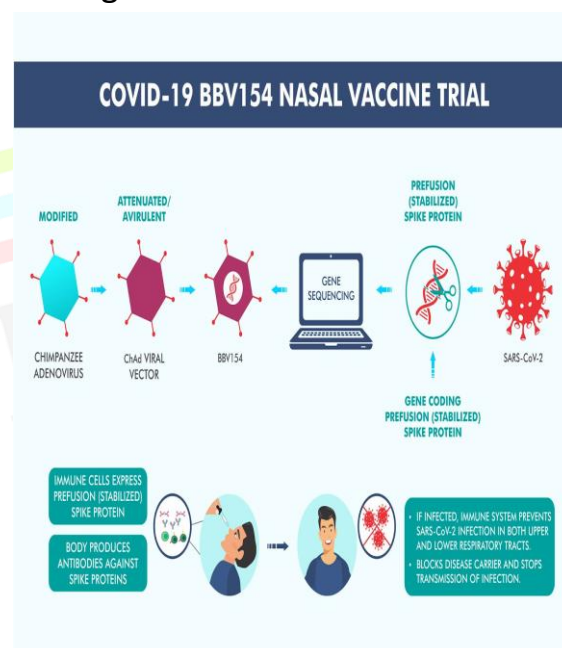


- The nasal route has excellent potential for vaccination due to the

organized immune systems of the nasal mucosa.

Non-invasive, Needle-free.

- Ease of administration does not require trained health care workers.
- Elimination of needle-associated risks (injuries and infections).
- High compliance (Ideally suits for children’s and adults).
- Scalable manufacturing is able to meet global demand.



THE HINDU

Women in religious places

- According to the Constitution, there is complete equality between men and women.
- In the Haji Ali Dargah case too, the High Court quoted Articles 15, 16 and 25 of the Constitution to grant

women the desired access to the dargah.

- Under the Article 14 (Equality before law), Article 15 (which prohibits discrimination based on religious lines), Article 19 (ensures certain freedoms) and Article 21 (protection of personal life and liberty) any women can enter the Dargah if she wants to
- Article 25 of the Indian Constitution guarantees to all persons the right to “freely profess, practice, and propagate religion”, but most of the time what we is, that these rights are infringed and the perpetrator have various reasons with which he supports his arguments.
- Ensuring gender equality and striving towards a more inclusive society is also a salient feature of our Constitution
- In a landmark decision, the Bombay High Court permitted the entry of women entry into the sanctum sanctorum at the Haji Ali Dargah in 2016, terming the ban on entry unconstitutional.

THE HINDU

Military exercises

- The 18th edition of India- U.S. Army exercise ‘Yudh Abhyas’ which is underway at Auli in Uttarakhand,

about 100 km from the Line of Actual Control, has entered the validation phase and is set to conclude this week.

- Other exercises such as Ex Austra Hind with Australia are underway at Mahajan field firing ranges in Rajasthan from November 28 to December 11 and
- Ex Agni Warrior with Singapore at Deolali from November 13 to December 03.
- The outgoing exercises are Ex Harimau Shakti with Malaysia from November 28 to December 12
- Ex Garuda Shakti with Indonesia, between Special Forces began on November 21.
- Ex KazInd with Kazakhstan is scheduled in mid- December.

THE HINDU

Kuki Chin refugees

- The first batch of over 270 Kuki Chin refugees crossed over to India fearing an attack from Bangladesh security forces, government officials estimate that 150 more refugees are expected to seek shelter in Mizoram in the next few days.
- A government official said that since India is not a signatory to the United Nations Refugee Convention of 1951 and its 1967 Protocol and does not

recognize refugees, undocumented migrants are liable to be prosecuted for violating the Foreigners Act.

- The members of the community from the Chittagong Hill Tract Area in Bangladesh fled the country after the Rapid Action Battalion (RAB) began a crackdown against the Kuki-Chin fighters, an armed wing of the Kuki -Chin National Front, a political body that seeks various safeguards, and protection, for the community.
- Fighters of the Kuki Chin National Front had received financial support from Jama'atul Ansar Fil Hindal Sharqiya (JAFHS), a fundamentalist organisation in Bangladesh, informed sources.

THE HINDU

Universal health sector

- Fifteenth Finance Commission chairperson N.K. Singh called for a substantial increase in budgetary allocations for the health sector and restructuring of centrally sponsored schemes to enable greater flexibility for States.
- Mooting the inclusion of 'health' in the Concurrent list under the Constitution, universalizing health insurance to capture 'the missing middle' people who are not rich enough to buy private health cover

nor poor enough to qualify for government schemes.

- 'Avoid complacency' While India's response to the pandemic may have taken the 'world by surprise, it should not lull policymakers into a state of complacency public outlays in the health sector need to be substantially augmented. We need to enhance public outlays (on health) to 2.5% of GDP by 2025,"

THE HINDU

CCUS technology

- Carbon Capture Utilisation and Storage (CCUS), the technology for decarbonizing emissions from high polluting sectors such as steel, cement, oil, gas, petrochemicals, chemicals, and fertilizers, has a critical role to play for the country to halve carbon dioxide emissions by 2050, says a report on the policy framework of the CCUS prepared by the NITI Aayog and MN Dastur & Company.
- CCUS technology would help in promoting the low carbon-hydrogen economy and in the removal of the CO₂ stock from the atmosphere
- CCUS has an important and critical role to play in it, especially for India to accomplish NetZero by 2070."

- CCUS could enable the production of clean products while utilizing rich endowments of coal, reducing imports and thus leading to a self-reliant Indian economy.
- “CCUS also has an important role to play in enabling sunrise sectors such as coal gasification and the nascent hydrogen economy in India.

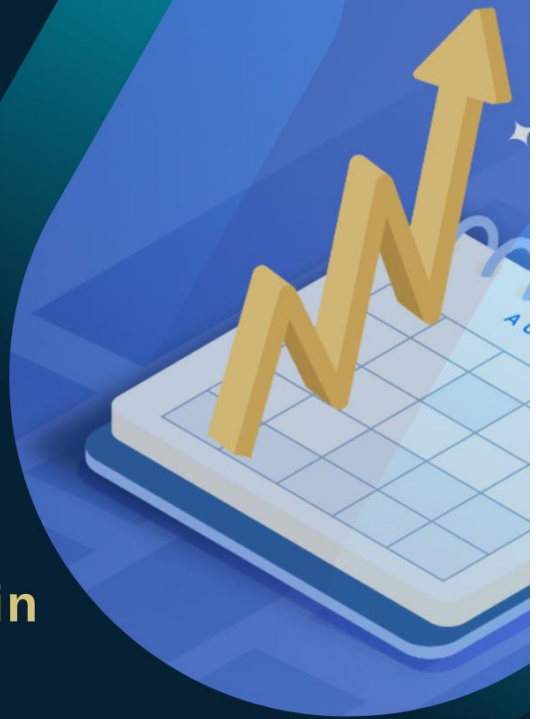
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