

June (Week 1)

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Prelims

NATIONAL

Maharashtra overtook UP to re-emerge as top sugar producer

(Source: [Indian Express](#))

Context: After a five-year gap, Maharashtra has overtaken Uttar Pradesh (UP) to regain its position as India's top sugar producer.

Details:

- Three factors contributes to this:
 - The first is the **bountiful rainfall** Maharashtra has been receiving since the 2019 southwest monsoon season (June-September).
 - The filling up of reservoirs and recharged groundwater aquifers has induced farmer to plant more area under sugarcane, which is a 12-18 months duration crop.
 - The benefits of abundant water and expanded acreage accrued fully in 2021-22.
 - The second is higher yields from farmers **taking extra care** of their crop.

YEAR (OCT-SEP)	TOP SUGAR PRODUCING STATES (IN LAKH TONNES)				
	MAHARASHTRA	UTTAR PRADESH	KARNATAKA	GUJARAT	ALL-INDIA
2013-14	76.85	64.87	41.77	11.77	243.60
2014-15	105.07	71.01	49.35	11.54	283.13
2015-16	84.24	68.55	40.49	11.68	251.25
2016-17	42.38	87.73	21.44	8.85	202.62
2017-18	107.05	120.50	36.58	10.67	323.28
2018-19	107.21	118.22	44.29	11.23	331.62
2019-20	61.70	126.37	35.00	9.30	273.85
2020-21	106.30	110.59	44.65	10.50	311.20
2021-22*	138.00	104.00	60.00	12.00	355.50

*Projected

- Third factor for Maharashtra's sugar production scaling a new peak has to do with a **huge jump** in “unregistered” cane cultivation.
 - In 2020-21, the state reported a total area of 11.42 lakh hectares (lh) planted under cane.
 - While the sugar commissioner's office has estimated this year's area at 12.4 lh, millers peg it at least one lh higher – and all this is cane that farmers haven't “registered” for supplying to any factory.

- The large “unregistered” area has meant that there is un-harvested cane still in the fields and mills will continue to crush till the first week of June. In normal years, crushing operations are over by April-end, rarely extending beyond mid-May.
- This time, the excess cane has led the Maharashtra government to announce a Rs 20/quintal subsidy to compensate mills for lower sugar recovery (from cane crushed in extreme summer heat) and also requisition the services of mechanical harvesters (including from other states).
- The unregistered area is mostly in the Marathwada region and the adjoining districts of Ahmednagar and Solapur. This is a belt, ironically, most prone to drought.
- Neither the state’s revenue nor agriculture departments could assess the actual area planted to cane – registered or otherwise – courtesy of the successive good monsoons.

What is a unicorn

(Source: [Indian Express](#))

Context: Prime Minister Narendra Modi praised India’s startup ecosystem as he highlighted that the country has reached a landmark figure of 100 unicorns with a valuation of more than \$300 billion.

What is a unicorn startup?

- Unicorns are privately held, venture-capital backed startups that have reached a value of \$1 billion.
- The valuation of unicorns is not expressly linked to their current financial performance, but largely based on their growth potential as perceived by investors and venture capitalists who have taken part in various funding rounds.

When was the term first used?

- American venture capitalist Aileen Lee is credited with coining the term in 2013. It was used to emphasise the rarity of the emergence of such startups.

Are unicorns still a rarity?

- From the time the term was first used, it has become more common for startups to bag the unicorn tag, but the \$1 billion valuation still gets industry attention, and is considered an impressive achievement.
- According to PitchBook, a financial data and software company, a convergence of private and market funding is allowing more unicorns to emerge, faster.

What is the ‘onset’ of the monsoon?

(Source: [Indian Express](#))

Context: The southwest monsoon has arrived in Kerala three days before its normal onset date of June 1. As per the India Meteorological Department (IMD) records, this is only the fourth time since 2010 when the monsoon has arrived well ahead of its normal date.

What does the “onset of monsoon” mean?

- The onset of the monsoon over Kerala marks the beginning of the four-month — June-September — southwest monsoon season over India, which brings more than 70 per cent of the country’s annual rainfall.
- This marks a significant day in India’s economic calendar.

- According to the IMD, the onset of the monsoon marks a significant transition in the large-scale atmospheric and ocean circulations in the Indo-Pacific region, and the IMD announces it only after certain newly defined and measurable parameters, adopted in 2016, are met.
- Broadly, the IMD checks for the consistency of rainfall over a defined geography, its intensity, and wind speed.
 - **Rainfall:** The IMD declares the onset of the monsoon if at least 60% of 14 designated meteorological stations in Kerala and Lakshadweep record at least 2.5 mm of rain for two consecutive days at any time after May 10.
 - **Wind field:** The depth of westerlies should be up to 600 hectopascal (1 hPa is equal to 1 millibar of pressure) in the area bound by the equator to 10°N latitude, and from longitude 55°E to 80°E. The zonal wind speed over the area bound by 5-10°N latitude and 70-80°E longitude should be of the order of 15-20 knots (28-37 kph) at 925 hPa.
 - **Heat:** According to IMD, the INSAT-derived Outgoing Longwave Radiation (OLR) value (a measure of the energy emitted to space by the Earth's surface, oceans, and atmosphere) should be below 200 watt per sq m (wm²) in the box confined by 5-10°N latitude and 70-75°E longitude.
- In general, the Andaman and Nicobar Islands start receiving monsoon rainfall between May 15 and May 20 every year, and it usually starts raining along the Kerala coast in the last week of May. However, the onset is not officially declared until the prescribed conditions (above) are met.

Does an early onset foretell a good monsoon?

- No, it does not — just as a delay does not foretell a poor monsoon. The onset is just an event that happens during the progress of the monsoon over the Indian subcontinent.
- A delay of a few days, or perhaps the monsoon arriving a few days early, has no bearing on the quality or amount of rainfall, or its regional distribution across the country, during the four-month monsoon season.
- In a recent year, the onset of the monsoon occurred two days in advance of the normal date, and it rained heavily for about 10 days after that — however, the season as a whole ended with 14% less rain than normal.

How does the monsoon spread across the country after hitting Kerala coast?

- The northward progression of the monsoon after it has hit the Kerala coast depends on a lot of local factors, including the creation of low pressure areas.
- Though this year monsoon has arrived early, it is possible that despite a late onset over Kerala, other parts of the country start getting rain on time.
- After its onset over Kerala, the monsoon spreads over the entire country by July 15.

Reservation in public employment

(Source: [The Hindu](#))

Context: *The jurisprudence of reservation relies on the symbiotic coexistence of constitutionally guaranteed equality of opportunity in public employment under Article 16 (1) of the Constitution of India and classifications thereunder various clauses of the same article, especially Article 16(4) and Article 16 (4 A), which are in the nature of facilitating provisions, vesting a discretion on the government to consider providing reservations for the socially and educationally backward sections of the society and to provide reservation in promotion to Scheduled Castes and Scheduled Tribes, respectively.*

Reservation not a fundamental Right

- It is a settled law, time and again reiterated by the Supreme Court, that there is no fundamental right to reservation or promotion under Article 16(4) or Article 16(4 A) of the Constitution, rather they are enabling provisions for providing reservation, if the circumstances so warrant (Mukesh Kumar and Another vs State of Uttarakhand & Ors. 2020).
- However, these pronouncements no way underestimate the constitutional directive under Article 46 that mandates that the state shall promote with special care the educational and economic interests of the weaker sections of the people and in particular Scheduled Castes and Scheduled Tribes.
- In fact, sensitivity of the welfare state towards the weaker sections over decades resulted in the gradual expansion of canopy of reservation in the form of increasing classifications under Article 16, a set of actions that created a wave of litigation by which resulted in the ever-evolving jurisprudence of affirmative action in public employment.

The Mandal storm and Indra Sawhney

- Reservation in employment which was otherwise confined to Scheduled Castes and Scheduled Tribes got extended to Other Backward Classes as well on the basis of the recommendations of the Second Backward Class Commission as constituted, headed by B.P. Mandal.
- The recommendation of Mandal Commission (1980) to provide 27% reservation to Other Backward Classes in central services and public sector undertakings, over and above the existing 22.5% reservation for Scheduled Castes and Scheduled Tribes, was sought to be implemented by the V.P. Singh Government in 1990 and the same was assailed in the Supreme Court resulting in the historic Indra Sawhney Judgment (1992).
- In the judgment, a nine-judge bench presided by Chief Justice M.H. Kania upheld the constitutionality of the 27% reservation but put a ceiling of 50% unless exceptional circumstances warranting the breach, so that the constitutionally guaranteed right to equality under Article 14 would remain secured.
- The Court dwelled on the interrelationship between Articles 16(1) and 16(4) and declared that Article 16(4) is not an exception to article 16(1), rather an illustration of classification implicit in article 16(1).
- While Article 16(1) is a fundamental right, Article 16(4) is an enabling provision. Further, the Court directed the exclusion of creamy layer by way of horizontal division of every other backward class into creamy layer and non-creamy layer.

The Constitution (Seventy-seventh Amendment) Act, 1995

- In Indra Sawhney Case, the Supreme Court had held that Article 16(4) of the Constitution of India does not authorise reservation in the matter of promotions. However, the judgment was not to affect the promotions already made and hence only prospective in operation, it was ruled.
- By the Constitution (Seventy-seventh Amendment) Act, 1995, which, Article 16(4-A), was inserted to provide that “nothing in this article shall prevent the State from making any provision for reservation in matters of promotion to any class or classes of posts in the services under the State in favour of the Scheduled Castes and the Scheduled Tribes which, in the opinion of the State, are not adequately represented in the services under the State”.
- Later, two more amendments were brought, one to ensure consequential seniority and another to secure carry forward of unfilled vacancies of a year, the former by way of addition to Article 16(4 A) and the latter by way of adding Article 16(4 B).

The Constitution Bench Judgment in M. Nagaraj (2006)

- A five-judge bench of Supreme Court declared the 1995 amendment as not votive of basic structure of the Constitution but laid down certain conditions which included the collection of “quantifiable data showing backwardness of the class and inadequacy of representation of that class in public employment”.
- The bench held that the creamy layer among Scheduled castes and tribes is to be excluded from reservation.

Jarnail Singh vs Lachhmi Narain Gupta (2018)

- In the aforementioned case, a constitution bench of Supreme Court was called on to examine wisdom of the 2006 judgment in the light of the constitutionally recognised socio-economic backwardness of the Scheduled Castes and Scheduled Tribes which may not require any further substantiation.
- It was also contended that the requirement to identify creamy lawyer among Scheduled Castes and Scheduled tribes fell foul of Indra Sawhney decision.
- The constitution bench invalidated the requirement to collect quantifiable data in relation to Scheduled Castes and Scheduled Tribes but upheld the principle of applicability of creamy lawyer in relation to Scheduled Castes and Scheduled Tribes.
- Jarnail Singh judgment authored by Justice Rohinton Nariman indicates a critical turn in the jurisprudence of reservation.

The Constitution (103rd Amendment) Act, 2019

- The 10% reservation for Economically Weaker Sections (EWS), other Scheduled Castes, Scheduled Tribes and backward classes for government jobs and admission in educational institutions is currently under challenge before the Supreme Court which has referred the same to a constitution bench.
- The adjudication awaited in this regard may also turn to be a critical milestone in the jurisprudence of reservation as traditional understanding of backwardness is broadened to specifically include economic backwardness without social backwardness as is traditionally seen.

Dr. Jaishri Laxmanrao Patil vs Chief Minister (2021)

- Despite the Indra Sawhney ruling, there have been attempts on the part of many States to breach the rule by way of expanding the reservation coverage and the Maharashtra Socially and Educationally Backward Classes Act 2018, (Maratha reservation law) came under challenge before the Supreme Court which referred the same to a bench of five judges and one question was whether the 1992 judgment needs a relook.
- Interestingly, the Supreme Court not only affirmed the Indra Sawhney decision, but also struck down Section 4(1)(a) and Section 4(1)(b) of the Act which provided 12% reservation for Marathas in educational institutions and 13% reservation in public employment respectively, citing the breach of ceiling.
- “The 2018 Act as amended in 2019 granting reservation for Maratha community does not make out any exceptional circumstance to exceed the ceiling limit of 50% reservation,”, declared the apex Court.
- This judgment is likely to rein in the propensity on the part of some State governments to blatantly disregard the stipulated ceiling on electoral grounds rather than any exceptional circumstances as conceived by the constitution bench.
- It is pertinent to note that several States such as Maharashtra, Karnataka, and Andhra Pradesh had made submissions before the Supreme Court against any upper limit on reservation.

Questioning the safety of Aadhaar

(Source: [The Hindu](#))

Context: Two days after issuing an advisory asking people to refrain from sharing photocopies of their Aadhaar Card, the Unique Identification Development Authority of India (UIDAI) opted to withdraw the notification. It stated that the action was to avert any possibility of ‘misinterpretation’ of the (withdrawn) press release, asking people to exercise “normal prudence” in using/sharing their Aadhaar numbers.

What did the UIDAI advisory say?

- The withdrawn notice had suggested holders use a masked Aadhaar card instead of the conventional photocopy, adding that the document must not be downloaded from a cybercafé or public computer and if done for some reason, must be permanently deleted from the system.
- ‘Masked Aadhaar’ veils the first eight digits of the twelve-digit ID with ‘XXXX’ characters.
- The notice informed that only entities possessing a ‘User Licence’ are permitted to seek Aadhaar for authentication purposes.
- Private entities like hotels or film halls cannot collect or keep copies of the identification document.
- In July 2018, Telecom Regulatory of India’s Chairman R.S. Sharma tweeted his Aadhaar number challenging users to “cause him any harm”. In response, users dug up his mobile number, PAN number, photographs, residential address and date of birth.
- It could not be ascertained if the PAN number was actually correct. UIDAI dismissed assertions of any data leak, arguing that most of the data was publicly available.
- It did however caution users from publicly sharing their Aadhaar numbers.

What does the law say?

- The Aadhaar (Targeted Delivery of Financial and Other Subsidies Benefits and Services) Act, 2016 makes it clear that Aadhaar authentication is necessary for availing subsidies, benefits and services that are financed from the Consolidated Fund of India.
- In the absence of Aadhaar, the individual is to be offered an alternate and viable means of identification to ensure she/he is not deprived of the same.
- Separately, Aadhaar has been described as a preferred KYC (Know Your Customer) document but not mandatory for opening bank accounts, acquiring a new SIM or school admissions.
- The requesting entity would have to obtain the consent of the individual before collecting his/her identity and ensure that the information is only used for authentication purposes on the Central Identities Data Repository (CIDR).
- This centralised database contains all Aadhaar numbers and holder’s corresponding demographic and biometric information. UIDAI responds to authentication queries with a ‘Yes’ or ‘No’. In some cases, basic KYC details (as name, address, photograph etc) accompany the verification answer ‘Yes’.
- The regulator does not receive or collect the holder’s bank, investment or insurance details. Additionally, the Aadhaar Act forbids sharing Core Biometric Information (such as finger print, iris scan, among other biometric attributes) for any purpose other than Aadhaar number generation and authentication.
- The Act makes it clear that confidentiality needs to be maintained and the authenticated information cannot be used for anything other than the specified purpose.
- More importantly, no Aadhaar number (or enclosed personal information) collected from the holder can be published, displayed or posted publicly.
- Identity information or authentication records would only be liable to be produced pursuant to an order of the High Court or Supreme Court, or by someone of the Secretary rank or above in the interest of national security.

Is identity theft via Aadhaar possible?

- As per the National Payment Corporation of India’s (NCPI) data, ₹6.48 crore worth of financial frauds through 8,739 transactions involving 2,391 unique users took place in FY 2021-22.
- Since the inception of the UID project, institutions and organisations have endowed greater focus on linking their databases with Aadhaar numbers, including for bank accounts especially in light of the compulsory linkage for direct benefit transfer schemes.
- The NPCI’s Aadhaar Payments Bridge (APB) and the Aadhaar Enabled Payment System (AEPS) facilitate direct benefit transfer (DBT) and allow individuals to use Aadhaar for payments.
- This requires bank accounts to be linked to Aadhaar.

- In 2017, researchers at the Centre for Internet and Society (CIS) acquired information of various beneficiaries of such social security and employment schemes such as their Aadhaar numbers, bank account details, job card status, mobile number etc.
- The same year, the UIDAI in response to an RTI stated that more than 200 central and State government websites publicly displayed details of some Aadhaar beneficiaries such as their names and addresses.
- Both were made possible by the lack of robust encryption.
- This data could be potentially used to fraudulently link the rightful beneficiary's Aadhaar with a distinct bank account, embezzling the beneficiary by impersonation, made possible by the sizeable identity documents available.
- The UIDAI maintains that merely knowing the bank account number would not be enough to withdraw money from the bank, stating that the individual's fingerprint, iris data or OTP to a registered mobile number would be required.
- CIS states that brokers are known to buy tonnes of Aadhaar documents from mobile shops and other places where the identification document is shared.
- Additionally, there have been instances where employees of service providers were caught stealing biometric information collected solely for Aadhaar authentication.
- A far-stretch means for acquiring biometrics would involve collecting fingerprints from varied places that an individual might touch unknowingly in a certain space (such as a railing of a staircase) with iris data being acquired from high-resolution cameras.
- As for mobile verification, phone users in India are known to carry two or more phone numbers at one time.
- There could be a possibility that the number linked to the Aadhaar is not prominently used. Fraudsters could use this as an opportunity to link their phone numbers instead, update it in the bank using the available information (of the individual) and deprive them of benefits or embezzle funds.

What are some of the structural problems that the UIDAI faces?

- The Aadhaar Data Vault is where all numbers collected by authentication agencies are centrally stored. Its objective is to provide a dedicated facility for the agencies to access details only on a need-to-know basis.
- Comptroller and Auditor General of India's (CAG) latest report stipulated that UIDAI neither specified any encryption algorithm (as of October 2020) to secure the same nor a mechanism to illustrate that the entities were adhering to appropriate procedures.
- It relied solely on audit reports provided to them by the entities themselves. Further, UIDAI's unstable record with biometric authentication has not helped it with de-duplication efforts, the process that ensures that each Aadhaar Number generated is unique.
- The CAG's reported stated that apart from the issue of multiple Aadhaars to the same resident, there have been instances of the same biometric data being accorded to multiple residents. As per UIDAI's Tech Centre, nearly 4.75 lakh duplicate Aadhaar numbers were cancelled as of November 2019.
- The regulator relies on Automated Biometric Identification Systems for taking corrective actions.
- The CAG concluded it was "not effective enough" in detecting the leakages and plugging them.
- Biometric authentications can be a cause of worry, especially for disabled and senior citizens with both the iris and fingerprints dilapidating.
- Though the UIDAI has assured that no one would be deprived of any benefits due to biometric authentication failures, the absence of an efficient technology could serve as poignant premise for frauds to make use of their 'databases'.

Section 25 company

(Source: [Indian Express](#))

Context: *The Enforcement Directorate summoned Sonia Gandhi and Rahul Gandhi following a trial court order that allowed the Income Tax Department to probe the affairs of the National Herald newspaper — owned by AJL — and conduct a tax assessment of Sonia and Rahul. The Congress has said that since Young India has been created under a special provision of the Companies Act — Section 25 — it has to be a not-for-profit company and no dividend can be given to its shareholders*

So, what is a Section 25 company?

- As per the Companies Act, 1956, a Section 25 company — similar to what is defined under Section 8 under Companies Act, 2013 — is a not-for-profit charitable company formed with the sole object of “promoting commerce, art, science, religion, charity, or any other useful object, and intends to apply its profits, if any, or other income in promoting its objects, and to prohibit the payment of any dividend to its members”.
- Section 8 of the Companies Act, 2013 includes other objects such as sports, education, research, social welfare and protection of environment among others.
- While it could be a public or a private company, a Section 25 company is prohibited from payment of any dividend to its members. Section 25 states that by its constitution the company is required/ intends to apply its profits, if any, or other income in promoting its objects and is prohibited from paying any dividend to its members.”

What are prominent examples of Section 25 or Section 8 companies?

- According to details available with the Ministry of Corporate Affairs, a large number of companies have been formed under the Section. Among these are Reliance Foundation, Reliance Research Institute, Azim Premji Foundation, Coca Cola India Foundation, and Amazon Academic Foundation.

Why are companies formed under Section 25 when there is a Trust structure in place?

- Experts say that most people looking to form a charitable entity go for forming a company under Section 25, now Section 8, rather than a Trust structure because most foreign donors like to contribute to a company rather than Trust because they are more transparent and provide more disclosures.
- Tax experts say that if a company has to be converted into a not for profit company, they can't be converted into a Trust, however, they can be converted into a Section 25/ Section 8 company.

India gets world's first liquid-mirror telescope for astronomy

(Source: [Indian Express](#))

Context: *In early 2022, India's first liquid-mirror telescope, which will observe asteroids, supernovae, space debris and all other celestial objects from an altitude of 2,450 metres in the Himalayas, saw its first light as it peered into the zenith from the Devasthal observatory in Uttarakhand.*

What is a liquid-mirror telescope?

- The International Liquid-Mirror Telescope (ILMT) has been set up at the Devasthal Observatory campus owned by Aryabhatta Research Institute of Observational Sciences (ARIES), Nainital in Uttarakhand.
- Located at 2,450 metres above mean sea level, there are two firsts with this — it's the only one to have been developed for astronomy research and is also the only one of its kind to be operational anywhere in the world.
- The handful of liquid-telescopes that were previously built either tracked satellites or were deployed for military purposes.

- ILMT will be the third telescope facility to come up at Devasthal — one of the world's pristine sites for obtaining astronomical observations.
- With ILMT set to commence full-scale scientific operations in October this year, it will work along with the 3.6-metre Devasthal Optical Telescope (DOT), the largest telescopes operating in India (of the 4-metre class).
- Also operating at the location is the 1.3-metre Devasthal Fast Optical Telescope (DFOT) inaugurated in 2010.

How is it different from a conventional telescope?

- A conventional telescope is steered to point towards the celestial source of interest in the sky for observations.
- The liquid-mirror telescopes, on the other hand, are stationary telescopes that image a strip of the sky which is at the zenith at a given point of time in the night.
- In other words, a liquid-mirror telescope will survey and capture any and all possible celestial objects — from stars, galaxies, supernovae explosions, asteroids to space debris.
- Conventional telescopes have highly polished glass mirrors — either single or a combination of curved ones — that are steered in a controlled fashion to focus onto the targeted celestial object on specific nights. The light is then reflected to create images.
- As opposed to this, as is evident by the name, the liquid-telescope is made up of mirrors with a reflective liquid, in this case, mercury — a metal which has a high light-reflecting capacity.
- About 50 litres (equal to 700kgs) of mercury filled into a container will be rotated at a fixed constant speed along the vertical axis of the ILMT.
- During this process, the mercury will spread as a thin layer in the container forming a paraboloid-shaped reflecting surface which will now act as the mirror. Such a surface is ideal to collect and focus light. The mirror has a diameter of 4 metre.
- Another difference between the two is their operational time. While conventional telescopes observe specific stellar sources for fixed hours as per the study requirement and time allotted by the respective telescope time allotment committee, ILMT will capture the sky's images on all nights — between two successive twilights — for the next five years starting October 2022.
- For protecting it from moisture during monsoon, the ILMT will remain shut for operations between June and August.

Which countries are involved in its development?

- India, Belgium, Canada, Poland and Uzbekistan are the main countries who have collaborated to set up the ILMT.
- The telescope was designed and built at the Advanced Mechanical and Optical Systems Corporation and the Centre Spatial de Liège in Belgium.
- The funding, estimated to range between Rs 30 to Rs 40 crore, was jointly provided by Canada and Belgium.
- The operations and up-keep of this telescope is to be done by India.
- Along with ARIES, the other international institutes involved in the development process include the Institute of Astrophysics and Geophysics, Liège University, Belgium; the Canadian Astronomical Institutes from Vancouver, University of British Columbia; University of Montreal, University of Toronto, University of Victoria, York University, Laval University, Poznan Observatory, Poland; Ulugh Beg Astronomical Institute of Uzbek Academy of Sciences and the National University of Uzbekistan.

What is the data that will be generated and how will it be used?

- It is estimated that the ILMT is capable of generating 10-15 GB/night.
- With ILMT set for operations every night during nine months a year for the next five years starting October 2022, there will be data generated in gigantic volumes.

- According to international norms, the data generated by a new telescope facility will be cleaned, maintained and archived at either of the host/participating institutes, in this case, the AIRES.
- The norms also mandate that for an initial stipulated period, the data will be open only for researchers from these participating institutes.
- At a later stage, the data will be accessible to all global scientific communities.
- In order to sieve, process and analyse the large datasets, the ILMT will deploy the latest computational tools, like Artificial Intelligence, Machine Learning and big data analytics.
- Another advantage for having such large data sets is that the select data can be culled out as base data which can then be followed-up for further focused studies using spectrographs, near-Infrared spectrograph mounted on the in-house DOT.

How barcodes differ from radio-frequency identification tags

Context: *Baggage tags equipped with radio-frequency identification (RFID) will soon be available at Delhi's Indira Gandhi International Airport, marking a first of its kind for the country.*

What is Radio-frequency identification (RFID) technology?

- Radio-frequency identification (RFID) is a technology that uses radio waves to automatically identify various tagged objects.
- Radio Frequency Identification (RFID) is a wireless tracking method that uses tags and readers to track objects. Transponder, receiver, and transmitter are the three components of an RFID system.
- The RFID reader continually sends radio waves of a specific frequency in RFID system. If the object to which the RFID tag is attached is within the range of the radio waves, it provides feedback to the RFID reader, which then identifies the object based on the feedback.

What are the different kinds of RFID?

- Passive tags, semi-passive tags, and active tags are the three types of RFID tags that are commercially available.
- There is no power supply for passive tags. They acquire their power from the readers' incoming radio waves.
- Semi-passive tags comprise an internal circuit with a power source, but rely on the radio waves received from the reader to transmit the response.
- The internal circuit of active tags is powered by a power source.
- Passive RFID tags do not have a battery and are powered by the reader.
- Batteries are being used to power active RFID tags. It also utilises its own power supply to send the response to the reader.
- The Low Frequency, High Frequency, and Ultra-High Frequency bands are used by RFID systems.

What is a barcode?

- A barcode is a printed series of parallel bars or lines of varying width used for entering data into a computer system.
- The bars are black on a white background and vary in width and quantity depending on the application.
- The bars represent the binary digits zero and one, which represent the digits zero to nine processed by a digital computer.
- These barcodes are scanned using special optical scanners known as barcode readers, which come in a variety of shapes and sizes.
- The majority of these codes use only two different widths of bars, however some use four.

- The numbers that make up a barcode are also printed at the bottom. One of the most well-known examples of a barcode is the QR code.

Radio-frequency identification (RFID) technology Vs barcodes

- RFID uses radio waves to communicate data from RFID chips to readers that do not require line of sight in order to obtain the data, whereas barcodes use light to read the black-and-white pattern printed on the sticky tag.
- An RFID tag can communicate with a powered reader even when the tag is not powered.
- When printed on paper or sticky labels, barcodes are more susceptible to wear and breakage, which can affect their readability.
- RFID tags, on the other hand, are sometimes placed in plastic labels or into the object itself, making them more durable than barcodes.
- In contrast to barcode scanners, RFID scanners can process dozens of tags in a single second. Also, barcodes are simple and easy to copy or counterfeit, whereas RFID is more complicated and difficult to replicate or counterfeit.
- Unlike barcodes, which must be in line of sight, RFID tags need not be.
- Also, RFID tags are expensive compared to barcodes.

Is RFID enhanced version of barcode?

- Since their introduction in the 1970s, barcodes have become an indispensable part of commercial activity on a daily basis, whether in grocery stores or at airports.
- When it comes to speed, there is a noticeable difference between barcodes and RFID.
- This is because barcodes must be read manually, making them more susceptible to human error and more difficult to evaluate their accuracy.
- However, RFID's accuracy may be compromised if the tags are applied to metals or liquid.
- Since RFID frequencies can be transmitted over greater distances than barcode frequencies, there is also concern that RFID technology raises data protection issues, resulting in personal information becoming accessible without consent.
- When deciding whether to use barcodes or RFID, it is important to consider the purpose, the environment, and the potential costs of an application.

What is sologamy or ‘self-marriage’?

Context: A 24-year-old Vadodara woman, Kshama Bindu, on Thursday (June 2) announced that she would marry herself later this month, in what she described as an “act of self-love”. The wedding, being seen as one of the first instances of self-marriage or “sologamy” in the country, is slated for June 11.

What is sologamy?

- Sologamy is the act of marrying oneself in a public ceremony, also referred to as self-marriage or autogamy.
- While such a marriage has no legal sanction or status, the symbolic ceremony is used by many as an act to emphasize their self-love and independence.

When did the trend begin?

- It can be traced back to Linda Baker, a dental hygienist from the US, who married herself in 1993.

- It is widely considered the first publicized act of self-marriage which was attended by around 75 of Baker's friends, where the bride said "I do" to honour herself in sickness and in health until the day she's not there.
- A sologamy divorce was also reported last year when a Brazilian model, Cris Galera (33), announced she was ending her solo-marriage after just 90 days as she had fallen in love with someone else.



INTERNATIONAL

Looking at the UN report on the Taliban regime

(Source: [The Hindu](#))

Context: A new report from the Analytical Support and Sanctions Monitoring Team of the United Nations Security Council (UNSC) says that foreign terrorist organisations continue to enjoy safe haven under the new Taliban regime. The report adds that due to financial constraints, and possibly under political pressure not to embarrass the Taliban internationally at this juncture, the terrorist groups are currently in consolidation mode and not likely to launch major attacks outside Afghanistan before 2023.

What is the mandate of the monitoring team and how did it collect data?

- The monitoring team assists the UNSC sanctions committee. Its report, circulated among committee members, informs the formulation of UN strategy in Afghanistan.
- India is currently the chair of the sanctions committee, which comprises all the 15 UNSC members. This report — the 13th overall — is the first since the Taliban returned to power in August 2021. The UN team could not visit Afghanistan for evidence-gathering.
- This is the first of its reports not informed by official Afghan briefings.
- Instead, the team relied on consultations with UN member states, international and regional organisations, private sector financial institutions, and the work of bodies such as the United Nations Assistance Mission in Afghanistan.

What does the report say about terrorist organisations that pose a threat to India?

- Two India-focussed terrorist groups, Jaish-i-Mohammed (JiM) and Lashkar-e-Taiba (LeT), are reported to have training camps in Afghanistan.
- While the JiM “maintains eight training camps in Nangarhar, three of which are directly under Taliban control,” the LeT was “said to maintain three camps in Kunar and Nangarhar”.
- Both the groups enjoy close links with the Taliban leadership, with the LeT having a history of providing finance and training expertise to Taliban operations.
- The report also says that the al-Qaeda in Indian Sub-continent (AQIS) has 180-400 fighters in Afghanistan. “Fighters included nationals from Bangladesh, India, Myanmar and Pakistan,” says the report.
- While AQIS capabilities were “assessed as still weakened from losses as a result of the October 2015 joint United States-Afghan raid in Kandahar’s Shorabak district”, the outfit has also been forced to adopt a “less aggressive posture” due to financial constraints.
- The report notes that the name change of the AQIS magazine from ‘Nawa-i-Afghan Jihad’ to ‘Nawa-e-Gazwah-e-Hind’ suggests a “refocussing of AQIS from Afghanistan to Kashmir”.

What about internal tensions?

- The foremost internal division in the Taliban is between the moderate and hardline blocs.
- While the moderate bloc wants working relationships with foreign partners and integration with the international system, the hardliners (consisting of senior Taliban leaders centralised around Hibatullah Akhundzada) have a more ideological stance, with little interest in international relations.
- Independent of both these blocs is the Haqqani Network which, while more aligned with the hardliners, is inclined towards a pragmatic rather than ideological approach to securing Taliban interests.
- According to the report, under the command of Hibatullah, various Taliban factions are manoeuvring for advantage, with the Haqqani Network cornering most of the influential posts in the administration.

How are ethnic dynamics in the administration?

- The report believes the Kandahari (Durrani) Taliban to be in the ascendancy among the Taliban leadership, with Pashtuns getting precedence over non-Pashtuns.
- Several key Tajik and Uzbek commanders in the north have been replaced with Pashtuns from the south, and these decisions have come against the backdrop of an “organised campaign by Pashtuns to dislodge ethnic Tajik, Turkmen and Uzbek communities from rich agricultural land in the north”.
- Internal cohesion within the Taliban was easier to maintain during the insurgency period, when there was a “compelling common cause to expel foreign forces from Afghanistan”, the report notes.
- But now that they are in power, “the Taliban’s core identity of a Pashtun nationalist cause dominated by southern Taliban has again come to the fore, generating tension and conflict with other ethnic groups.”

What about other terrorist groups?

- Tehreek-e-Taliban Pakistan (TTP) constitutes the largest component of foreign terrorist fighters in Afghanistan, with their numbers estimated at 3,000-4,000, and mostly located along the east and south-east Afghanistan-Pakistan border areas.
- Among all the foreign extremist groups in Afghanistan, it is the TTP that has benefited the most from the Taliban takeover.
- The report also notes that the Kabul airport attack of August 26 has elevated the Islamic State in Iraq and the Levant-Khorasan (ISIL-K) to be the most prominent Daesh affiliate in the region.
- While its activity declined towards the end of 2021, the group has grown in strength through prison releases and new recruitments.
- Meanwhile, al-Qaeda continues to enjoy a close relationship with the Taliban, celebrating the latter’s success by “renewing its pledge of allegiance to Hibatullah”.
- Noting that neither ISIL-K nor the al-Qaeda are “believed to be capable of mounting international attacks before 2023 at the earliest,” the report concludes that their presence, along with the presence of other terrorist groups on Afghan soil, remain a matter of grave concern for neighbouring countries and the wider international community.

The Azerbaijan-Armenia conflict over Nagorno-Karabakh Enclave

(Source: [The Hindu](#))

Context: Armenia’s Prime Minister Nikol Pashinyan and Azerbaijan’s President Ilham Aliyev announced on May 23 that their respective countries would be setting up border security and delimitation commissions, signalling a step towards resolution of a decades-long conflict over the Nagorno-Karabakh Enclave. The talks between the two leaders have triggered protests in the Armenian capital of Yerevan and other parts of the country and the Opposition has demanded his resignation.

How did the conflict over Nagorno-Karabakh begin?

- Nagorno-Karabakh is a landlocked, mountainous and forested region, falling within the boundaries of Azerbaijan. Nagorno-Karabakh, called Artsakh in Armenian, hosts a predominantly ethnic Armenian population with an Azeri minority.
- It is located in the South Caucasus region and is roughly made up of modern-day Armenia, Azerbaijan, and Georgia.
- Nagorno-Karabakh, which was once a part of the Armenian kingdom, has been ruled by several empires over the centuries — the Ottomans, the Persians, and the Russians.
- Armenia, Azerbaijan and Georgia later became separate Republics, with the Azeris incorporating Nagorno-Karabakh into their Republic.

- During the First World War, the Ottomans, aided by Azeris, attacked the south Caucasus, especially targeting ethnic Armenians.
- As the Ottomans retreated at the end of the World War, Azerbaijan and Armenia descended into a full-blown war in 1920.

The Azeri-Armenian war of 1991

- Soon, the Bolsheviks took over south Caucasus to expand Soviet influence and Azerbaijan, Armenia, and Georgia became Soviet Republics.
- The Soviets officially placed Nagorno-Karabakh as an autonomous Oblast (administrative region) in Azerbaijan's territory, despite the chiefly Armenian population.
- As Soviet power began to wane in the 1980s, the ethnic Armenian population of Nagorno-Karabakh expressed a desire to be reunited with their roots and become a part of Armenia, organising a vote for the same in 1988.
- This did not go down well with Azerbaijan and military clashes ensued. The war killed nearly 30,000 people and caused numerous ethnic Azeris to flee Karabakh and Armenia. Some Armenians in parts of Azerbaijan fled too.
- By 1993, Armenia had taken control of most of Nagorno-Karabakh. The war ended in 1994 when both countries entered into a ceasefire brokered by Russia but the borders of Armenia and Azerbaijan were not demarcated. Peace talks were initiated by the Minsk Group but peace treaty could not be brokered.
- The Minsk Group, created by the Organisation for Security and Cooperation in Europe (OSCE) in early 1990, was co-chaired by Russia, the United States, and France.
- The Minsk Group's proposals were continuously rejected by both Yerevan and Baku. The role of the Minsk Group declined during the 2020 war between the two countries, as other negotiating groups entered the scene.

The war of 2016 and 2020

- A ceasefire signed in 1994 could not prevent multiple flare-ups between the Nagorno-Karabakh rebel armed forces backed by the Armenian military, and the Azerbaijani military.
- Some skirmishes turned into direct clashes and the conflict has resulted in several casualties over the years.
- In 2016, a clash started between Azerbaijan and Armenia which lasted for four days. A ceasefire signed in Moscow put an end to the war but the Nagorno-Karabakh issue was far from resolved.
- Fresh clashes erupted on the Armenia-Azerbaijan border in September of 2020, which turned into a fierce six-week war in which more than 2,000 people died.
- The fighting began after Azerbaijani President Aliyev launched an offensive vowing to take back Nagorno-Karabakh and other Armenian-occupied districts.
- Both parties entered a ceasefire brokered by Moscow in November 2020.

Who is organising the current peace talks and where do they stand?

- Despite the 2020 ceasefire, clashes have not stopped. In November last year, seven Azerbaijani and six Armenian soldiers were killed in border clashes.
- With the efforts of the Minsk Group remaining largely unsuccessful, Baku saw an opportunity to introduce its own peace proposal, which calls for the mutual recognition of each State's territorial integrity, meaning the recognition of Nagorno-Karabakh within Azerbaijani territory.
- The European Union, meanwhile, has emerged as a potential peace broker.
- European Council President Charles Michel spearheaded meetings between both countries for the beginning of peace talks twice in April, and again more recently on May 22.
- While both countries have now agreed to formulate border security and delimitation commissions and start talks for a peace deal, a permanent solution for the Karabakh issue remains out of sight.

Artillery rockets

(Source: [Indian Express](#))

Context: As the fighting in eastern Ukraine turns into an artillery duel, the Pentagon announced that it would send its most advanced artillery rocket launcher and munitions to the Ukrainian military in the hope of giving it an edge over Russia.

What is an artillery rocket?

- An artillery rocket is a weapon that is typically propelled by a solid-fuel motor and can carry a variety of warheads. During the Cold War, most artillery rockets were unguided and imprecise when fired at greater distances.
- In the 1970s, the United States invested in a new weapon it called MLRS, for Multiple Launch Rocket System, designed for use in the event that Russian armored vehicles massed for World War III on the border of Western Europe.
- The M270 MLRS launcher was an armored vehicle that could carry two “pods” of munitions. Each pod held either six cluster-weapon rockets that could fly about 20 miles, or a single, larger guided missile, called ATACMS, for Army Tactical Missile System, that could fly about 100.
- The 23-ton launcher moved on treads, at speeds up to 40 mph.
- Years later, the Pentagon introduced a more easily transportable version called HIMARS, for High Mobility Artillery Rocket System, which is based on a wheeled truck that is much lighter.
- Unlike its predecessor, the M142 HIMARS truck carries only one pod of munitions, but it can move much faster on and off-road, and can be shipped on a C-130 cargo plane.

Has the United States used these weapons?

- Yes. During Operation Desert Storm, government records show that the U.S. Army fired more than 17,200 unguided MLRS rockets and 32 of the larger ATACMS guided missiles at Iraqi forces.
- The submunitions carried by those rockets had a high failure rate, and the duds left behind killed and wounded many U.S. troops.
- In 2005, the Army fired a new guided rocket, known as a GMLRS, in combat in Iraq for the first time. That rocket has a range of more than 40 miles, more than twice that of the older rockets, and its navigation is aided by GPS signals.
- Since the invasion, the Pentagon has provided Ukraine with 108 M777 howitzers, the most lethal weapons the West has delivered so far. But the range of the GMLRS is more than twice that of the 155 mm shells fired by howitzers.
- The Pentagon has spent approximately \$5.4 billion to buy more than 42,000 of the GMLRS since 1998, according to a report published by the Congressional Research Service last year, and commanders in Iraq and Afghanistan used them frequently.

What's the difference between a rocket and a missile in this context?

- The nomenclature can be confusing sometimes, but generally the word “rocket” is used in a military context to refer to relatively inexpensive unguided weapons powered by solid-fuel motors, while “missile” is generally shorthand for “guided missiles,” more expensive and complicated weapons that use movable fins to steer themselves to their targets and can fly much farther.

- The Pentagon has already sent short-range, inexpensive and unguided anti-tank weapons that are classified as rockets to Ukraine, like the AT-4, and the longer-range Javelin, which is a guided missile.
- That delineation worked well in the past with the MLRS and ATACMS weapons, but in more recent years the military has built weapons it calls “guided rockets” — like GMLRS — which are often older rocket designs upgraded to have guidance systems and movable fins on their nose to steer them.
- The money part still holds true, though. GMLRS rockets remain far less expensive than the old ATACMS and the Precision Strike Missiles being developed to replace them.

How powerful are these rockets?

- Using the HIMARS and GMLRS together can offer an amount of firepower that is similar to an airstrike — all from a mobile platform.
- The upgrade in explosive power for the Ukrainian military will be profound. The warhead in each M31 GMLRS rocket contains a single charge of about 200 pounds of high explosives, while the 155 mm shells fired by howitzers contain about 18 pounds.
- Howitzers like the M777 can fire at a rate of about two to three rounds per minute. The GMLRS rockets can be fired singly or in a ripple of all six in just seconds, rivaling the power of an airstrike dropping guided bombs.

Does Russia have anything similar?

- The Russian military has primarily used three types of unguided artillery rockets during the war in Ukraine.
- The largest, the 300 mm Smerch, can fire a guided rocket, which makes it more accurate, and has a range similar to the GMLRS, although few have been seen in photos of the war.
- Most Smerch launches in Ukraine are unguided rockets, many containing cluster weapon warheads.

Do the U.S. rockets have other advantages?

- There's one major advantage to the MLRS and HIMARS launchers: They can be fully reloaded within minutes.
- Both vehicles have a winch that allows them to lower an empty pod to the ground, pick up a new, loaded pod, and pull it into place. The Russian launchers must be manually loaded, tube by tube.

The European Union's ban on Russian oil

(Source: [The Hindu](#))

Context: As part of the sixth package of sanctions since Russia's invasion of Ukraine, the European Union member states on May 30 reached an agreement to ban 90% of Russian crude oil imports by the end of the year. The partial embargo, worked out following extended negotiations in Brussels, exempts pipeline oil in order to bypass Hungary's objections to the ban.

What was the original proposal of the oil embargo?

- The proposal to completely phase out Russian crude and refined products from EU territory within a time frame of six to eight months was first mooted by European Commission President Ursula von der Leyen in early May.
- Addressing European lawmakers, she sought a “complete import ban on all Russian oil, seaborne and pipeline crude and refined.”
- It needed the agreement of all the 27 EU member states in order to be implemented.

What was the rationale behind such a move?

- The Russian economy is heavily dependent on energy exports, with the EU paying billions of dollars every month to Russia for its crude and refined products.
- The EU wants to block this massive revenue inflow which, as repeatedly pointed out by Ukrainian President Volodymyr Zelensky, is akin to Europeans bankrolling Russia's war.
- The EU has been attempting, ever since the Ukraine invasion, to build consensus on ways to hurt Russia economically so that it is forced to roll back its military offensive.
- The most obvious route was to stop buying Russian energy, which isn't easy given European households' dependence on Russian oil and gas.
- However, in the context of two long term EU objectives — reducing fossil fuel dependence in favour of renewables, and eliminating dependence on Russian energy for greater strategic autonomy and energy security — member states agreed to make a start by phasing out Russian oil.

What are the terms of the 'compromise deal' that has been agreed upon?

- The main departure from the original proposal is the "temporary exemption" from the oil embargo for countries that import Russian crude via pipeline.
- In other words, EU leaders have, in principle, agreed to ban all seaborne imports of Russian crude, which account for two-thirds of EU's oil imports from Russia.
- However, with Germany and Poland pledging to phase out even their pipeline imports from Russia by the end of the year, the embargo would eliminate 90% of Russian oil imports.
- The remaining 10% that's been allowed represents a free pass for Hungary, the Czech Republic, Slovakia, and Bulgaria to continue imports via the Druzhba pipeline, the world's largest oil pipeline network.
- Additionally, Hungary has obtained a guarantee that it could even import seaborne Russian oil in case of a disruption to their pipeline supplies.
- This was deemed a legitimate concession since the pipelines do pass through the war zone in Ukraine.

Why was exemption given for pipeline imports?

- The exemption for pipeline imports — essentially at the behest of Hungarian Prime Minister Viktor Orban — was made on the logic that landlocked countries (Hungary, Czech Republic and Slovakia) that are heavily dependent on Russian pipeline oil do not have a ready option to switch to alternative sources in the absence of ports.
- While Hungary imports 65% of its oil via pipeline from Russia, 50% of the Czech Republic's oil imports are Russian, while Slovakia gets 100% of its oil from Russia.
- Bulgaria, which gets 60% of its oil from Russia, is not landlocked. But its refineries at present are only equipped to process Russian crude.
- Until it invests in infrastructure to be able to process non-Russian crude delivered to its ports, it wants to be able to continue importing Russian oil via pipeline and has accordingly claimed the exemption.

Do the exemptions dilute the embargo?

- EU leaders have countered this criticism by pointing out that even a partial (90%) embargo on Russian oil represents tremendous progress in terms of weaning EU off Russian oil — something that was unthinkable even a few months ago given the magnitude of Europe's dependence on Russian energy imports.
- Secondly, they have reiterated that even the exemption for pipeline imports is not permanent and will be revisited soon.
- However, no timeline has been specified for a total ban on pipeline imports.

Are there other elements in the sixth package of sanctions?

- Apart from the oil embargo, the sixth package of sanctions also contains other tough measures against Russia.
- These include cutting off Sberbank, Russia's largest bank that holds one-third of Russian banking assets, from the SWIFT messaging system; a ban on three Russian-owned broadcasting networks from the EU; sanctions on individuals responsible for war crimes in Ukraine; and a ban on EU-based firms offering insurance, financing, brokering or any other technical services related to the transport of oil to Russian ships — a measure aimed at curbing Russia's ability to divert its oil to non-EU destinations.

How will the sanctions affect Russia?

- Analysts calculate that a two-thirds cut in Europe's imports of Russian oil would mean a reduction of 1.2-1.5 million barrels a day in oil, and one million barrels in refined products, which might cause Russia an annual loss in revenue of \$10 billion.
- Given Russia's limited storage infrastructure, the cutback in demand would force Russia to find other markets. Since that won't be easy, Russia might have to cut production by 20-30%, say industry experts.
- So far, Asian importers, especially India, have absorbed some of the excess inventory at discounted prices.
- But it remains unclear if the embargo would have any impact on Russian military operations in Ukraine.

How will the sanctions affect Europe?

- It is likely to further fuel inflation in Europe, where many countries are already facing a cost-of-living crisis.
- EU leaders have tried to balance contradictory pressures — of having to take decisive action against a military aggressor on European soil, but without causing too much pain to its citizens.
- But European lifestyles have tended to take cheap Russian energy for granted, and if inflation peaks further, the EU runs the risk of losing public support for harsh sanctions.

What about import of Russian gas?

- Compared to Russian oil, Europe's dependence on Russian gas is much greater, and this embargo leaves the import of Russian gas — which accounts of 40% of Europe's natural gas imports — untouched.
- In other words, Europe will continue to pay Russia for gas imports.
- But since crude is more expensive than natural gas, the oil ban is expected to hurt Russian revenues.

How has India responded to these developments?

- India ramped up purchases of Russian crude at discounted prices in the months following the Russian invasion, and this policy is expected to continue.
- The announcement of the EU ban caused an immediate surge in oil prices, and as Europe seeks alternate sources – from West Asia, Africa and elsewhere — for its oil needs, prices are expected to stay high.
- In this context, with Russia reportedly offering discounts of \$30-35 per barrel, India has found it convenient to make the most of the cheap Russian crude on offer.

Understanding gun control legislation of different countries

(Source: [The Hindu](#))

Context: The U.S. recently witnessed two episodes of mass shootings in a span of 11 days that killed more than 30 people including elementary school children. In 2020, it had witnessed 24,576 homicides, of which approximately 79%, or 19,384 incidents, involved the use of a firearm.

What do gun laws in the U.S. say?

- The Second Amendment of the U.S. constitution, which states that “the right of the people to keep and bear Arms shall not be infringed”, is often attributed as the root cause of all firearm-related violence.
- The U.S. Supreme Court previously held that the amendment protects the right to “keep and bear arms” for self-defence, while federal courts argue of a potential infringement if federal, state and local firearm regulations circumvent this right.

How are Arms regulated in Canada?

- Canada introduced legislation to amend its Firearms Act on Monday. It is proposing to institute a ‘national freeze’ on handguns — preventing sale, purchase, transfer and import of handguns into Canada.
- The legislation is of particular significance because handguns were used in 49% of all firearm-related homicides in 2020. Possessing a fully-automatic weapon, unless registered before 1978, is illegal in Canada.
- Gun licences are valid for five years and accorded to individuals at least 18 years of age upon completing the Canadian Firearms Safety Course.
- Vetting is undertaken to ensure that applicants do not have a history of violence, are suffering from mental illnesses or were previously barred from the process.
- The proposed legislation would revoke licences from holders deemed to be a danger to themselves or others. (by means of partner violence, gender-based violence, among others).
- It is mandatory for individuals and businesses to update records before transferring ownership of non-restricted items.
- In 2020, firearm-related homicides constituted 39% of all homicides in the country.

How do gun laws work in Japan?

- Acquiring a gun in Japan is particularly difficult — one has to present a series of documents, establish their ‘needs’, undertake an approximately month-long training on handling and safety, pass a scrutiny of criminal records and medical health, and then an exam to prove eligibility.
- Buying a weapon too requires a separate certification (from the dealer) mentioning the desired model.
- Applicants must be 18 years, not suffering from mental illnesses, not having a license revoked less than five years ago, not dependent on alcohol or narcotic substances, and have a fixed residence.
- Any violation is punishable with an imprisonment for a period up to three years, which could extend up to five years or more along with a fine of 10 million yen if done for “purpose of profit”.
- The Council on Foreign Relation states that “some analysts link Japan’s aversion to firearms with its demilitarisation in the aftermath of World War II.
- Others say that because the overall crime rate in the country is so low, most Japanese see no need for firearms”.

How is it in New Zealand?

- The turnaround in gun-law legislation in the country came in 2019 following the mass shootings that took place at two mosques in Christchurch.
- The legislation now requires firearms dealers to provide licence numbers of all its employees at a facility, including those not directly involved in handling any arms but having access to the premises.
- It is now also mandatory for all weaponry to have an identification number. In case a dealer receives an item without the same, they are required to have them stamped or engraved within 30 days of receipt.
- Applicants must be at least 16 years of age and undertake training in handling and storing firearms, and pass an exam.
- The vetting process requires the applicant to furnish contact details of known people to ascertain that she/he is a ‘fit and proper person’.

- In addition, if an applicant has resided overseas for six months or more in the past 10 years, she/he would have to provision a criminal history check from each country.

What about India?

- Gun licence applicants in India must be at least 21 years and not convicted of any offence involving violence, of ‘unsound mind’ or a threat to public safety and peace.
- Upon receiving an application, the licensing authority (i.e., the Home Ministry), asks the officer in-charge of the nearest police station to submit a report about the applicant after thorough vetting.
- The Arms Act amended in 2019 reduces the number of firearms that an individual can procure from three to two.
- Indian laws are particularly elaborate in dealing with sale and unlawful trade of weapons. It also enlists specific provisions on curtailing the use of licensed weapons to ensure social harmony.
- No entity is permitted to sell or transfer any firearm which does not bear the name of the maker, manufacturer’s number or any other visible or stamped identification mark.
- Any act of conversion (such as shortening the barrel of a firearm or converting an imitation firearm into a firearm) or unlawful import-export is punishable with an imprisonment term of seven years, which may extend to life imprisonment and be liable to monetary fines.

China's growing footprint in the Pacific Islands

(Source: [The Hindu](#))

Context: Wang Yi, the Foreign Minister of China, is currently on an eight-day visit to ten Pacific Island Countries (PICs), and has co-hosted with Fiji the Second China-Pacific Island Countries Foreign Ministers Meeting on May 30, 2022. During the meeting, China's effort to push through a comprehensive framework deal, the draft of which was leaked earlier, failed to gain consensus among the PICs. Though this has raised regional concerns about China's growing footprint in the Pacific islands, it has also been seen as a demonstration of China's limitations in the region.

What is the strategic significance of the PICs?

- The Pacific Island Countries are a cluster of 14 states which are located largely in the tropical zone of the Pacific Ocean between Asia, Australia and the Americas.
- They include Cook Islands, Fiji, Kiribati, Republic of Marshall Islands, Federated States of Micronesia (FSM), Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.
- The islands are divided on the basis of physical and human geography into three distinct parts — Micronesia, Melanesia and Polynesia. The islands are very small in land area, and are spread wide across the vast equatorial swathe of the Pacific ocean.
- As a result, though they are some of the smallest and least populated states, they have some of the largest Exclusive Economic Zones (EEZs) in the world.
- Large EEZs translate into huge economic potential due to the possibility of utilising the wealth of fisheries, energy, minerals and other marine resources present in such zones.
- Hence, they prefer to be identified as Big Ocean States, rather than Small Island States. In fact, Kiribati and FSM, both PICs, having EEZs larger than that of India.
- Moreover, these countries have played an important role in major power rivalry as springboards for power projection and laboratories for developing and demonstrating strategic capabilities.

- The major powers of the colonial era competed with each other to gain control over these strategic territories.
- The Pacific islands also acted as one of the major theatres of conflict during the Second World War — between imperial Japan and the U.S.
- Due to the remoteness of these islands from the Soviet Union and major population centres of the world, some of the major nuclear weapon test sites of the U.S., the U.K. and France were located here.
- In addition, the 14 PICs, bound together by shared economic and security concerns, account for as many number of votes in the United Nations, and act as a potential vote bank for major powers to mobilise international opinion.

What does China seek to achieve from the PICs and how?

- China does not have any particular historical linkages to the PICs unlike the Western powers. Therefore, its interest in the PICs is of relatively recent origin, and is linked to China's rise in the past few decades.
- The PICs lie in the natural line of expansion of China's maritime interest and naval power. They are located beyond China's 'First Island Chain', which represents the country's first threshold of maritime expansion.
- The PICs are located geostrategically in what is referred to by China as its 'Far Seas', the control of which will make China an effective Blue Water capable Navy — an essential prerequisite for becoming a superpower.
- At a time when the Quadrilateral Security Dialogue has emerged as a major force in the Indo-Pacific vis-à-vis China, the need to influence the PICs have become an even more pressing matter for China.
- Apart from the vast marine richness of the PICs, the Taiwan factor plays a major role in China's Pacific calculus. China, which considers Taiwan to be a breakaway territory, is preparing for what seems like an inevitable military invasion. In this context, it becomes important to break Western domination of island chains of the Pacific which could impede reunification.
- Wooing the PICs away from the West and Taiwan will therefore make the goal of Taiwan's reunification easier for China.
- It has to be noted here that a zero-sum game has been underway in the past few decades in the Pacific between China and Taiwan in terms of gaining diplomatic recognition.
- China has been successful in getting diplomatic recognition from 10 out of the 14 PICs through its economic largesse.
- Only four PICs — Tuvalu, Palau, Marshall Islands and Nauru, currently recognise Taiwan.

What are the implications of China's latest move?

- China has increasingly started talking about security cooperation in addition to its economic diplomacy towards the PICs.
- In April 2022, China signed a controversial security deal with the Solomon Islands, which raised regional concerns.
- Prior to the current visit of Wang Yi, two draft documents prepared by the Chinese side were leaked, and gained the attention of regional leaders in the Pacific as well as the larger international community.
- One of the documents is the "China-Pacific Island Countries (PICs) Common Development Vision", and the other is "China-Pacific Islands Five-Year Action Plan on Common Development (2022-2026)".
- The vision gives a broad proposal about co-operation in the political, security, economic and strategic areas, whereas the action plan outlines the more specific details of co-operation in the identified areas.
- The secrecy surrounding the draft, and the haste with which it was discussed with the governments of the PICs during the meeting sent worrying signals across the Pacific.
- The PICs as a collective did not agree to China's extensive and ambitious proposals, and therefore China failed to get a consensus on the deal.

- In fact, the Prime Minister of FSM had sent a letter to all the PIC governments prior to the meeting, to consider China's proposals with caution, as they could have negative implications for the sovereignty and unity of PICs and may drag them into major power conflicts in the future.
- Some have argued that China has acted too boldly and has therefore met with such a debacle.
- China might have also miscalculated the regional reaction, perhaps led by a monolithic understanding of the PICs after seeing Solomon Islands' positive response earlier this year.
- However, China can always come back with improvised plan which is more acceptable and use it to further pursue its final objectives incrementally.
- Moreover, this debacle does not stop China from pursuing bilateral deals of similar nature.
- The intensification of China's diplomacy towards the Pacific Islands have made the powers who have traditionally controlled the regional dynamics like the U.S. and Australia more cautious. The U.S. has started revisiting its diplomatic priority for the region ever since the China-Solomon Islands deal.
- The role played by the U.S. in mobilising opposition against China's proposed deal could not be ruled out as FSM is the only country which recognises China and at the same time is part of the Compact of Free Association with the U.S..
- Australia, in the meanwhile, has sent its new Foreign Secretary Penny Wong to the islands for revitalising ties, with promises of due priority and assistance to the PICs.

Mains

GS II

New India needs free and quality higher education

(Source: [The Hindu](#))

Context: At a time when the demand for quality education and research in leading universities in India and advanced nations is on the rise, the staggering tuition fees demanded by universities of repute, besides deterring the meritorious from pursuing their degrees from world-class universities, create compulsions to turn professions into business propositions rather than opportunities to serve and excel.

Details:

- Carving out a niche in the annals of the global education architecture, New York University's NYU Grossman School of Medicine announced that from the 2021–22 academic year, it will pay the tuition fees for all its students admitted in its MD programme, regardless of their financial needs, thereby becoming the first major American medical school to do so.
- Kenneth G. Langone, Chair of NYU Langone Health's Board of Trustees, who made his U.S.\$3.5 billion fortune as a co-founder of Home Depot, with his wife Elaine, has given U.S.\$100 million to fund the tuition package. NYU has already raised more than U.S.\$450 million of the U.S.\$600 million it needs to fund the programme.
- In India too, the burden of tuition fees in professional courses is becoming unbearable. Besides, it is causing a serious concern of reducing quality professional education to a commodity rather than the noble service that it ought to be.
- Educational loans, even with government collateral guarantee, are no answer, as the mounting debt of educational loans will cripple the economy of development and public welfare. What we need is a university system that fosters an environment of learning in which world-quality education can be provided without taxing learners with the burden of tuition fees.

The Nordic model

- The Nordic countries — Denmark, Finland, Iceland, Norway, and Sweden — provide free higher education to their people, and overseas students were able to study for free until recently.
- In Denmark, however, tuition fees were introduced for international students from outside the European Union and the European Economic Area, in 2006.
- Sweden followed suit in 2011. Only Finland, Norway, Iceland, and Germany do not charge international students tuition fees.
- This ensures that students receive quality education in the streams that they desire rather than pursuing streams that allow them to earn highly so as to repay their student debt.
- As an article in January 2022 says: 'the Nordic model has attracted a significant amount of attention from other nations.
- Many people wonder if it provides a template for smaller countries where citizens are more homogeneous in terms of their opinions and experiences, yet live in poverty or repression as a result of government policies'.
- Despite some attempts to impose fees, all these countries are outliers in a world where international students are frequently a valuable source of revenue for institutions.

- Last year, the topic resurfaced in Finland when the government recommended that institutions be allowed to charge tuition for international students from outside the European Union. Following a heated public debate, the Finnish government opted not to proceed with the proposals.
- All Nordic countries have a strong legacy of equality, extending to equal opportunities in the education system.
- The Nordic countries have measures in place to promote gender equality and assist students from lower socioeconomic categories to gain access to higher education.
- It is no wonder that these countries continue to figure in top of the world happiness index (Finland at No.1, Denmark at No. 2, Iceland at No.4, Norway at No.8 and Germany at No.14, as per the World Happiness Index 2022).

It reshapes student choices

- A ray of hope for evolving a progressive university system in professional education has been provided by NYU's Grossman School of Medicine.
- In its announcement, the NYU had pointed out the fact that “overwhelming student debt” is reshaping the medical profession in ways that are bad for the health-care system.
- Such debts prompt graduates to pursue high-paying specialties rather than careers in family medicine, paediatrics, and obstetrics and gynaecology. The lead taken by the NYU is bound to inspire many other leading universities to consider and value the student's intellectual acumen rather than financial investment.
- But then, universities need funds for education and research. Education is a noble service and an investment to charter a bright future for humanity.
- If students pay for education, they would be forced to earn from the degrees they acquire. The profession then becomes a privilege to earn rather than a privilege to serve and excel, as it ought to have been.
- There is a strong case for reviving philanthropy and community support for higher education in India. Corporates, generous alumni, and people at large can join in to create strong philanthropic support for higher education and make quality education tuition-free.
- The government, for its part, should be generous enough to declare such philanthropic donations to the cause of higher education and research tax-free, now that the treasury is full of funds from the ever-growing list of income tax and the Goods and Services Tax (GST) payers.
- Can we, then, make the prophecy of the great management guru, Philip B. Crosby, come true in higher education, who, during the quality revolution in the late 1970s, advocated that “Quality is Free!”

A case for community-oriented health services

(Source: [The Hindu](#))

Context: India's one million Accredited Social Health Activists (ASHA) volunteers have received arguably the biggest international recognition in form of the World Health Organization's Global Health Leaders Awards 2022. The ASHAs were among the six awardees announced at the 75th World Health Assembly in Geneva. This World Health Organization (WHO) award is in recognition of the work done by ASHA volunteers during the COVID-19 pandemic as well as for serving as a link between communities and health systems.

Details:

- It is important to note that even before the COVID-19 pandemic, ASHAs have made extraordinary contributions towards enabling increased access to primary health-care services; i.e. maternal and child health including immunisation and treatment for hypertension, diabetes and tuberculosis, etc., for both rural and urban populations, with special focus on difficult-to-reach habitations

- Over the years, ASHAs have played an outstanding role in making India polio free, increasing routine immunisation coverage; reducing maternal mortality; improving new-born survival and in greater access to treatment for common illnesses.

Genesis of the programme

- India launched the ASHA programme in 2005-06 as part of the National Rural Health Mission.
- Initially rolled out in rural areas, with the launch of the National Urban Health Mission in 2013, it was extended to urban settings as well.
- Each of these women-only volunteers work with a population of nearly 1,000 people in rural and 2,000 people in urban areas, with flexibility for local adjustments.
- The core of the ASHA programme has been an intention to build the capacity of community members in taking care of their own health and being partners in health services.
- The ASHA programme was inspired from the learnings from two past initiatives: one from the late 1970s and the other of the early 2000s. In 1975, a WHO monograph titled ‘Health by the people’ and then in 1978, an international conference on primary health care in Alma Ata (in the then USSR and now in Kazakhstan), gave emphasis for countries recruiting community health workers to strengthen primary health-care services that were participatory and people centric.
- Soon after, many countries launched community health worker programmes under different names. In India, they were called community health volunteers.
- However, within a few years of implementation, the community health volunteer scheme met many hurdles and evaluations which followed, indicating that a key reason for sub-optimal success was a failure of community health volunteers to make a community connect (in fact, people did not perceive them to be any different from existing government staff).
- The lack of political will was another factor behind scaling down, before the community health volunteer programme was forgotten.
- The biggest inspiration for designing the ASHA programme came from the Mitanin (meaning ‘a female friend’ in Chhattisgarhi) initiative of Chhattisgarh, which had started in May 2002.
- The Mitanin were/are all-female volunteers available for every 50 households and 250 people. Public health experts and civil society organisations who had first-hand experience in developing and designing the Mitanin programme were also involved in developing the ASHA programme.
- The ASHA programme was well thought through and deliberated with public health specialists and community-based organisations from the beginning.
 - One, the ASHA selection involved key village stakeholders to ensure community ownership for the initiatives and forge a partnership.
 - Two, ASHAs coming from the same village where they worked had an aim to ensure familiarity, better community connect and acceptance.
 - Three, the idea of having activists in their name was to reflect that they were/are the community’s representative in the health system, and not the lowest-rung government functionary in the community (as was the perception with the erstwhile community health volunteer, a few decades ago).
 - Four, calling them volunteers was partly to avoid a painfully slow process for government recruitment and to allow an opportunity to implement performance-based incentives in the hope that this approach would bring about some accountability.
- A practical aspect was that performance-based incentives were being rolled out for the first time in the health services on such a scale. The thinking was that it would be easier to implement performance-based incentives under a new programme and a new workforce rather than for the existing government staff.
- Since the launch of ASHA initiatives, many reviews and field assessments have documented successes and learnings.

- Public health experts have unusual consensus that ASHAs have become pivotal to nearly every health initiative at the community level and are integral to demand side interventions for health services in India.

A partnership, hurdles

- However, the programme has had its own set of challenges, which have been tackled proactively and in a timely manner, through sustained political will and by creating institutional mechanisms, i.e. community actions for health and ASHA mentoring groups.
- For example, when newly-appointed ASHAs struggled to find their way and coordinate things within villages and with the health system, their linkage with two existing health and nutrition system functionaries — Anganwadi workers (AWW) and Auxiliary Nurse Midwife (ANM) as well as with panchayat representatives and influential community members at the village level — was facilitated.
- This resulted in an all-women partnership, or A-A-A: ASHA, AWW and ANM, of three frontline functionaries at the village level, that worked together to facilitate health and nutrition service delivery to the community.
- Platforms such as village health, sanitation and nutrition committees were created, for coordination and service delivery. In the process, the trio became a well-recognised and respected face of primary health-care services to the community; their working together ensured greater internal accountability. In 2022, it is difficult to imagine how India would have responded to the COVID-19 pandemic had the ASHAs, AWWs and ANMs not toiled.
- Yet, there are ongoing challenges that need urgent resolution. Among the A-A-A, ASHAs are the only ones who do not have a fixed salary; they do not have opportunity for career progression.
- Though performance-based incentives are supplemented by a fixed amount in a few Indian States, the total payment continues to remain low and often delayed. These issues have resulted in dissatisfaction, regular agitations and protests by ASHAs in many States of India.
- The global recognition for ASHAs should be used as an opportunity to review the programme afresh, from a solution perspective. First, Indian States need to develop mechanisms for higher remuneration for ASHAs.
- The performance-based incentives should not be interpreted that ASHAs — no matter how much and how hard they work — need to be paid the lowest of all health functionaries. If they work more, the system should allow them to be paid more than even regular government staff.
- Second, it is time that in-built institutional mechanisms are created for capacity-building and avenues for career progression for ASHAs to move to other cadres such as ANM, public health nurse and community health officers are opened.
 - A few Indian States have started such initiatives but these are smaller in scale and at nascent stages.
- Third, extending the benefits of social sector services including health insurance (for ASHAs and their families) should be considered. The possibility of ASHAs automatically being entitled and having access to a broad range of social welfare schemes needs to be institutionalised.
- Fourth, while the ASHA programme has benefitted from many internal and regular reviews by the Government, an independent and external review of the programme needs to be given urgent and priority consideration.
- Fifth, there are arguments for the regularisation of many temporary posts in the National Health Mission and making ASHAs permanent government employees.
 - Considering the extensive shortage of staff in the workforce at all levels, and more so in the primary health-care system in India, and an ongoing need for functions being undertaken by ASHAs, it is a policy option that is worth serious consideration.
 - Alongside, there is a need to acknowledge that the specific functions at the village level, which ASHAs play, may not be ideally suited for a permanent position.
 - However, finding a middle path would not be very difficult either.

- The WHO award for ASHA volunteers is a proud moment and also a recognition of every health functionary working for the poor and the underserved in India.
- It is an acknowledgement of the role and the relevance of people-centric primary health-care services.
- It is a reminder and an opportunity to further strengthen the ASHA programme for a stronger and community-oriented primary health-care system, which will prepare India for future epidemics and pandemics as well.

Is the Indo-Pacific bloc limited in scope?

(Source: [The Hindu](#))

Context: *The launch this week of U.S. President Joseph Biden's new trade initiative for the region, the Indo-Pacific Economic Framework for Prosperity (IPEF), which was witnessed by leaders of 13 countries, including Prime Minister Narendra Modi, was heralded as the start of a new economic bloc in the region, one which could be seen as a counter to China. The IPEF, which comprises a "baker's dozen" of Australia, Brunei, India, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, the Philippines, Singapore, Thailand, the United States and Vietnam, represents 40% of the world's GDP. However, the launch of the IPEF has also been accompanied with some scepticism, not least from within the U.S., about just what it can deliver, given that officials made it clear that it is not a traditional trade deal.*

What is the IPEF, if not a trade deal?

- For the past few months, the Biden administration has been working with countries in the Indo-Pacific region to try and bring them on board with the idea of an alternative trading arrangement led by the U.S.
- The four pillars that the IPEF framework rests on are 'Connected Economy', setting standards on digital trade, cross-border data flows and data localisation; 'Resilient Economy', with supply chain commitments and guarding against price spikes; 'Clean Economy', with commitments on clean energy, decarbonisation, and infrastructure to cut emissions; and 'Fair Economy', in terms of enforcing regimes that cut down on money laundering and corruption, and ensure fair taxation.
- As a result, the IPEF is more about standard setting and facilitating trade and will not involve more market access for its members. Nor will it negotiate lower tariffs. Officials say as the negotiations proceed, they may incorporate more ideas, but have also stressed that members can take a "pick and choose" attitude towards joining only the pillars that interest them.
- While this concept has been developed in order to be more inclusive and attract more members, it also has raised questions about the seriousness of the U.S. proposition.

Why is the U.S. promoting this bloc?

- The IPEF is part of the U.S.'s more than a decade old "Pivot to Asia" programme, re-imagining the Indo-Pacific as a geographic construct including America.
- The Quad, consisting of India, Australia, Japan and the U.S., is part of the same pitch made originally by the Obama administration, and then re-energised by the Trump administration.
- The IPEF is also a way for the U.S. to keep its foot in the door on trade in Asia, after the Trump administration walked out of the 11-member Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP, originally the TPP) in 2017 that includes Canada, Mexico and countries in Asia and South America (China has applied to be a member).
- The U.S. is also not part of the other big trade bloc, the Regional Comprehensive Economic Partnership (RCEP), that includes China, all 10 members of the ASEAN, as well as Australia, Japan, New Zealand and South Korea, a deal India walked out of in 2019.

- By announcing a new arrangement that includes India, seven of 10 ASEAN members, and a majority of the RCEP members, the Biden administration is seeking to signal that it has not been cut out of trade in the region.
- The IPEF also clearly has a geopolitical edge — as it doesn't include China, although the Biden administration stopped short of including Taiwan in the launch, as many U.S. Congress members had demanded.
- Given that the U.S. itself is deeply divided on free trade issues, the U.S. Government has chosen not to make the IPEF a trade deal, which would need congressional clearance.
- Finally, the IPEF is part of the Biden administration's way of showing that despite its current focus on the war in Europe, and hot pursuit of Russia through economic sanctions, it has not lost sight that Asia, and the challenge from China, is prominent in the U.S. agenda.

What's in it for India?

- For the Modi government too, which walked out of the RCEP after eight years of negotiations, the membership of IPEF keeps it in the room on Asian trading arrangements, and is a way of blunting criticism that it is overtly protectionist.
- In the past year, the government has made a virtual U-turn from its previous antagonism towards bilateral trade agreements.
- It has concluded its first-ever trade deal in its tenure with the United Arab Emirates, and is in active negotiations to complete deals with the U.K., Australia and Canada.
- The IPEF's non-specific and flexible nature also suits India, which has held strong views on a range of issues like labour standards, environmental restrictions on fossil fuels, and data localisation.
- India's inclusion also comes from a geopolitical need to counter China's virtual control over Asian trade, given that the RCEP seeks to eliminate about 90% of tariffs amongst members, particularly given India's bilateral issues with China since the 2020 transgressions by the Chinese army at the Line of Actual Control.
- For the U.S., and other Quad members Japan and Australia, India's inclusion, which had been tentative in the run-up to the IPEF launch, is important.
- Although India may not be an ideal participant under current conditions, its exclusion from the IPEF would raise questions about how 'Indo' the Indo-Pacific Economic Framework truly is," remarked a brief on IPEF released by the Washington-based Center for Strategic and International Studies (CSIS) in April this year.
- It is significant that India is the only country in South Asia which has been invited to the grouping, and the U.S. plans to expand the membership further will be watched closely.

How has China responded to the IPEF?

- Clearly, China has been deeply critical of all U.S. initiatives in the region, as a part of a strategy to "contain China".
- The Chinese government has accused the U.S. of building an "Asian NATO" in the Quad, of nuclearising the region through the Australia-U.K.-U.S. security pact AUKUS, and has also trained its guns on the IPEF, dismissing its utility, but also warning, as Chinese Foreign Ministry spokesperson Wang Wenbin did, that "many countries in the region are worried about the huge cost of 'decoupling' with China."

What about other criticisms of the arrangement?

- The biggest criticism of IPEF in other capitals in Asia is that it is still too vague and lacks enough substance.
- Indian officials said India's participation as an "initial founder" means that it will go along with the negotiations and see where they lead, but, like with RCEP, joining the launch is not the same as joining the eventual IPEF agreement negotiated, and much will depend on whether India's specific red-lines on market protection and services are included.

- There is also some scepticism of U.S. initiatives that don't carry any "dollar value". With market access to U.S. and tariff reductions off the table, there are questions about how much "skin in the game" Washington will bring.
- Previous initiatives like the Blue Dot Network, and the Build Back World initiative with G-7 partners have not brought in the sort of funding required for emerging economies in the region.
- A Quad initiative for \$50 billion in financing infrastructure projects over five years seems unambitious, compared to U.S. spending in other regions, and even on Ukraine in the past few months.
- Finally, in selling the IPEF back home in Washington, the U.S. appears to be making the deal more about benefits to the U.S. economy than to the Indo-Pacific region as a whole.
- U.S. National Security Adviser Jake Sullivan's remarks in a press briefing, that the "IPEF is part of President Biden's commitment to putting American families and workers at the centre of [U.S.] economic and foreign policy, while strengthening our ties with allies and partners for the purpose of increasing shared prosperity," raised eyebrows.

Building peace and prosperity with strong

(Source: [The Hindu](#))

Context: As an old Chinese saying goes, nothing can separate people with common goals and ideals; not even mountains and seas. Sixteen years after its creation, BRICS has become an important platform for win-win cooperation among China, India, Russia, Brazil and South Africa, and a significant force for the evolution of international order, the improvement of global governance and the promotion of common development.

Details:

- Since China took over the BRICS chairmanship at the beginning of this year, we have worked together with BRICS partners to press ahead with cooperation in political security, economy and finance, people-to-people exchanges, public health and other realms. More than 50 important events have been held, contributing to significant progress in various cooperative fields.
- On May 19, Chinese President Xi Jinping delivered a video address at the virtual meeting of BRICS Foreign Ministers. The BRICS Foreign Ministers issued a joint statement.
- And the first dialogue of Foreign Ministers between BRICS and emerging markets and developing countries was held.
- The world today witnesses increasing factors of instability, uncertainty and insecurity.
- It is of great significance for the BRICS Foreign Ministers' meeting to reach consensus and outcomes on multiple important issues concerning global security and development, which made political preparations for the 14th BRICS summit.
- The BRICS Foreign Ministers' meeting indicated that BRICS countries will strengthen solidarity and cooperation in the face of challenges with firm conviction, and take real actions to promote peace and development, and uphold fairness and justice.
- We will inject more BRICS strength into global development, and speak with a louder BRICS voice to uphold the common interests of the developing countries.

Upholding universal security

- BRICS countries should be builders of universal security. Cold-war mentality and bloc confrontation pose grave threats to world peace and security. Seeking one's own security at the expense of others' will only create new tensions and risks.

- President Xi Jinping put forward the Global Security Initiative, pointing out the way to make up the peace deficit and solve the global security dilemma.
- It is important to respect and guarantee the security of every country, replace confrontation and alliance with dialogue and partnership, and promote the building of a balanced, effective and sustainable regional security architecture.
- BRICS countries need to strengthen political mutual trust and security cooperation, maintain communication and coordination on major international and regional issues, accommodate each other's core interests and major concerns, respect each other's sovereignty, security and development interests, oppose hegemonism and power politics, and work together to build a global community of security for all.
- BRICS countries should be contributors of common development. The COVID-19 pandemic threatens to derail the world economy.
- The irresponsible macro-economic and monetary policies of certain countries have aggravated the uncertainties and imbalances of economic recovery.
- President Xi Jinping's Global Development Initiative gives priority to development, embraces the people-centered core concept, and calls for more robust, greener and more sound global development. It provides a Chinese solution to global development problems and has been widely echoed by the international community.
- Facing the rising tide of de-globalisation and the increase of unilateral sanctions and technology barriers, BRICS countries should enhance mutually-beneficial cooperation in supply chains, energy, food and financial resilience, take solid steps to implement the Global Development Initiative, foster an open world economy and create a favourable environment for common development.

On health

- BRICS countries should be pioneers of cooperation in COVID-19 pandemic management.
- The international pandemic response is at a critical moment, and we should not give up half way.
- President Xi Jinping has called for accelerating the building of a global community of health for all, and has advocated a coordinated international approach to the pandemic and the improvement of global health governance.
- India's vision of 'One Earth, One Health' also contributes to multilateral cooperation on public health. BRICS countries should fully leverage their respective strengths, and jointly promote the development of global health governance in a direction in favour of developing countries.
- We should make good use of the BRICS Vaccine Research and Development Center, establish a BRICS early warning mechanism for preventing large-scale infectious diseases, and provide high-quality public goods for global health governance cooperation.

A governance philosophy

- BRICS countries should be leaders of global governance. Global challenges are emerging one after another. Only by coordinating global actions can we properly cope with them. "Small circles" cannot solve the "big challenges" facing the whole world.
- BRICS countries should firmly safeguard the international system, with the United Nations at its core and the international order underpinned by international law, and ensure that international affairs have participation by all, international rules are formulated by all, and development outcomes are shared by all.
- We should embrace a global governance philosophy that emphasises extensive consultation, joint contribution and shared benefits, enhance unity and cooperation with emerging markets and developing countries, and increase the voice in global governance.
- It is especially commendable that the first dialogue of Foreign Ministers between BRICS and emerging markets and developing countries sent out the message of supporting multilateralism, supporting anti-pandemic cooperation, supporting common development, and supporting solidarity and cooperation.

- All parties to the dialogue support and advocate the ‘BRICS plus’ cooperation model, which is a platform born for cooperation and thrives on development.
- We should explore the ‘BRICS plus’ cooperation at more levels, in more areas and in a wider scope.
- China proposes to launch the BRICS expansion process and discuss standards and procedures for expansion in order to build consensus step-by-step.
- This will increase BRICS countries’ representation and influence and make greater contributions to world peace and development.
- As an old saying goes, if you want to walk fast, walk alone. If you want to walk far, walk together. Since the establishment of the BRICS mechanism, it has been closely connected with the destiny of emerging markets and developing countries.
- China is always a member of the family of the developing world, and will always stand alongside developing countries.
- We will endeavour to translate the BRICS spirit of openness, inclusiveness and win-win cooperation into concrete actions, deepen the BRICS partnership centering on the theme of ‘forming a high-quality partnership to jointly create a new era of global development’; we will make unrelenting efforts to build a community with a shared future for mankind.

China’s ‘inevitable’ global dominance

Source: [The Hindu](#)

Context: India and China were roughly at the same economic level in 1978, with similar GDP and per capita income. Though China began to grow much faster thereafter, the gap between the two countries was not very significant even a decade later, when the Indian Prime Minister Rajiv Gandhi paid a historic visit to Beijing in December 1988. It was then possible for Deng Xiaoping to declare that there could not be an Asian Century without India and China growing together and playing a resurgent role. The surge in India’s GDP growth as a result of its own economic reforms and liberalisation policies adopted in the early 1990s expanded India’s political and economic profile. At the turn of the century, India was behind China but was seen as shrinking the gap. In the period 2003–2007, India’s growth rate accelerated while China’s began to slow down. This was the brief period when India’s diplomatic options multiplied. It was able to leverage the advance of its relations with one major power to promote its relations with other major powers, thereby expanding its strategic space.

Border dispute

- During the visit of the Indian Prime Minister [Atal Bihari] Vajpayee to China in 2003, two important decisions were taken.
- One, the two countries agreed to seek an early political solution to the India–China border dispute, instituting regular negotiations at the level of Special Representatives of their respective leaders.
 - The Chinese side also conveyed its recognition of Sikkim as a State of India. It had not accepted the accession of the State to the Indian Union in 1975 and its maps had continued to depict it [Sikkim] as an independent country.
 - The backdrop to these important decisions was the recognition that relations between the two large emerging economies had now acquired a global and strategic dimension, going beyond their bilateral relations.
 - It was, therefore, important to resolve the long-standing border issue in order to enable the two countries to cooperate more closely in the shaping of the emerging regional and global architecture.
 - This development was carried forward during the subsequent visit of Chinese Premier Wen Jiabao to India in April 2005.

- This encouraged the Chinese to balance this development by upgrading their own relations with India, and this increased India's room for manoeuvre vis-à-vis China.
- At their meeting, Prime Minister Manmohan Singh and [Premier] Wen Jiabao reached a broad consensus on the following lines: One, that China was not a threat to India and India was not a threat to China;
- Two, that there was enough space in Asia and the world for the simultaneous growth of both India and China;
- Three, that India was an economic opportunity for China, and China likewise an economic opportunity for India;
- Four, that as two large and emerging economies the two countries, by working together, could exercise significant influence on the existing global regimes in different domains and could shape new global regimes in emerging domains such as climate change, cyber space and outer space;
- Five, that India-China relations having thus acquired a global and strategic dimension and in order to enable them to work more effectively together, it was important to resolve the India-China border issue at an early date.

Impact of financial crisis

- The global financial and economic crisis had a major impact on the further development of India-China relations.
- Just as the asymmetry between the U.S. and China began to shrink in the aftermath of the crisis, the asymmetry between India and China, which had been shrinking earlier, began to expand once again. India's GDP growth decelerated and has averaged about 6-7 per cent per annum since then.
- China has maintained the same rate of growth as India, but on a much larger base than India's. This asymmetry of power began to be reflected in China showing less sensitivity to India's interests, its steady economic and political penetration of countries in India's periphery and a lower threshold of tolerance to closer relations between India and the U.S.
- In conversations at non-official meetings, Chinese scholars would often draw attention to the fact that China's economy was five times the size of India's and this could not but reflect in the nature of India-China relations.
- The implication of such a statement was that India should accept its diminished ranking in the Chinese perception and defer to Chinese interests.
- Stepping out of line – a line drawn by China – would invite punitive reactions, and that too is evident in the more recent Chinese moves against India, including its more aggressive posture at the India-China border, where relative peace and tranquillity had prevailed over the past several decades.
- In 2005, China was willing to make some concessions to India in order to forestall an incipient Indo-U.S. alliance that could be threatening to China.
- Its reaction to the Quad, which is a coalition of India, Australia, Japan and the U.S., which could constrain China in the Indo-Pacific, is to dismiss its relevance and to adopt an even more threatening posture towards the coalition partners.
- In the aftermath of the global financial and economic crisis of 2008, the Chinese assessment is that the U.S. is a declining power, that its credibility is eroded and, importantly, that its will to exercise power has also diminished.
- It is a power in retreat and, therefore, allies and partners of the U.S., the Chinese assert, cannot count on U.S. power to deter China.
- A narrative is being built on the inevitability of Chinese regional, and eventually global, dominance, which it would be futile to resist.

The status of Russia's invasion of Ukraine

(Source: [The Hindu](#))

Context: Three months after Russia started the invasion of Ukraine, its troops are making slow but steady advances in the eastern Donbas region. Russia has faced stiff resistance from the Ukrainian troops from day one and the crisis has snowballed into a larger security contest between Moscow and the West, which has pumped money and weapons to Ukraine. With no peace talks on the table and neither side showing any signs of compromise, the war is likely to grind on for many more weeks, if not months.

What's the current status of the invasion?

- Russia started the war on February 24 on three fronts — its troops moved in from the Belarussian border in the north, from the separatists-controlled parts of Donbas in the east and from the Russian-controlled Crimean peninsula in the south.
- While announcing his “special military operation”, President Vladimir Putin said “demilitarisation and de-Nazification” of Ukraine were his goals.
- It’s anybody’s guess whether Russia wanted to capture Kyiv and bring in a regime change. But clearly, at least as part of their war strategy, the Russians sought to envelope Kyiv, while its troops attacked cities in the east and south.
- While its forces made gains in the east and south, they faced stiff resistance from the Ukrainian forces in the north and northeast.
- As its advances slowed down, Russia pulled back troops from around Kyiv, ending its efforts to envelope the city, and retreated from Kharkiv, Ukraine’s second largest city which lies about 40 km from the Russian border, and focussed its resources on the east.
- The southern city of Kherson had fallen into Russian hands in the initial days of the war. From the south, Russian troops have moved towards the outskirts of Zaporizhzhia, taking over the eponymous nuclear plant, the largest in Europe. In the eastern Donbas region, the Russians have taken almost all major cities.
- They took Mariupol, a Sea of Azov port city known for its steel plants, last month after a prolonged siege. They took Lyman in Luhansk last week while advancing towards Severodonetsk, the easternmost city in Ukrainian hands.
- As of Monday, pro-Russia media have claimed, quoting Chechen leader Ramzan Kadyrov, that the Russians have seized Severodonetsk. The Ukrainian authorities have contested this claim, but independent reports confirm that the Russians have entered the city.
- Faced with the likelihood of being encircled in the east, Ukrainian troops hinted last week that they might make a tactical retreat to bolster their defences elsewhere.

What does Russia want?

- Russian Foreign Minister Sergei Lavrov said on Monday that the “liberation” of Donbas was Russia’s “unconditional priority”.
- Donbas, the traditional industrial region that has historical ties with Russia, encompasses Ukraine’s Luhansk and Donetsk oblasts (now, self-declared Luhansk and Donetsk People’s Republics, which were recognised by Mr. Putin as sovereign states before ordering the invasion). Russia has already taken almost all of Luhansk.
- Severodonetsk (it was the capital of the Ukrainian-controlled parts of Luhansk), is the only major city where there is still Ukrainian presence in the oblast (province) and all reports indicate that the city would be in complete Russian control within days, if it hasn’t already fallen.

- Russia and the separatists it backs have also taken a sizeable part of Donetsk, including Mariupol, which allowed Moscow to establish a land bridge from the Russian mainland to Crimea along the coast of the Sea of Azov.
- Mariupol was also the headquarters of the Azov Battalion, the neo-Nazi group that had been integrated into the Ukrainian armed forces. The capture of the city serves the Russian claims of “de-Nazifying” Ukraine.
- If Mr. Lavrov should be trusted, Russia is likely to shift its focus to the Ukraine-controlled parts of Donetsk once Severodonetsk is fully in its control. But there’s no clarity on whether Russia would stop the war even if it captures the whole of Donbas.
- There are conflicting signals from Russian leadership. According to Mr. Putin, “demilitarisation and deNazification” are the goals, which are open for interpretation. As per Mr. Lavrov, “liberation of Donbas” is the priority.
- In April, Maj Gen Rustam Minnekayev, a senior Russian commander, said Russia wanted the whole of Ukraine’s east and south. If Mr. Minnekayev is right, Russia wants to take, besides Donbas, Kharkiv in the northeast and Mykolaiv, Zaporizhzhya and Odesa in the south, which would turn Ukraine into a landlocked country.
- Ukraine has already asked for more weapons, including artillery and long-range rockets, from the West, apparently to prepare for the coming battles.
- The U.S. is sending them the Multiple Launch Rocket Systems (MLRS) and the High Mobility Artillery Rocket Systems (HIMARS) — both light, flexible, long-range rocket launchers. All these suggest that there is no immediate plan from any side to end the war.

Haven’t the sanctions hit the Russian economy?

- They have. Russia’s economy is expected to contract this year. But the sanctions and their impact on the economy are unlikely to influence the Kremlin’s strategic thinking for a number of reasons.
- First, the war and the western response to it appear to have bolstered Mr. Putin’s standing in Russia. According to the Levada Centre, an independent research firm, as of April, 82% Russians approve of his presidency. He doesn’t face any immediate threat to his grip on power in Russia.
- Second, despite the sanctions, the Russian economy doesn’t face any imminent collapse. The rouble, which U.S. President Joe Biden threatened to run into “rubble”, is one of the best performing currencies this year.
 - The sanctions also jacked up commodity prices, especially that of oil and gas, which is helping Russia, a major oil and gas exporter. Europe remains dependent on Russian gas — close to 40% of its gas requirements are met through imports from Russia.
 - Its attempts to diversify its gas imports by buying LNG from countries such as Qatar and Libya have so far been not successful.
- Also, the Russian blockade of Ukraine’s sea ports is threatening to send food prices soaring which could impact global food supplies and food security. This has prompted several European countries to reach out to Mr. Putin, seeking a solution.
- Moreover, countries outside the Western alliances have not joined the sanctions, which means Russia is not as isolated internationally as the West claims it is.
- So Mr. Putin appears to be ready to fight a war of attrition, which could hurt the global economy further.

Is there a peace process?

- Both Russia and Ukraine have held multiple rounds of talks, in Minsk as well as in Istanbul, since the war began, but there has been no breakthrough. In the last round of the Istanbul talks, Ukraine had apparently made a peace proposal.
- According to media reports, Ukraine proposed a 15-year consultation period for Crimea (during this period Kyiv won’t contest Russia’s control of the peninsula) and direct talks between Presidents Volodymyr Zelensky and Mr. Putin on the status of Donbas.

- As a “goodwill gesture”, the Russians quickly announced that they were withdrawing troops from the outskirts of Kyiv.
- But soon after the Istanbul talks were concluded, video footage surfaced showing bodies in Bucha, the northern city that the Russians vacated. U.S. President Joe Biden accused Russia of committing “genocide” in Ukraine. The peace process collapsed.
- Now, Mr. Zelensky has once again urged direct talks with Mr. Putin, but Russia, which stated in April that the talks were “at a dead end”, says “Ukraine is not serious about ending the conflict”.
- In between, the war continues and Ukraine keeps losing territories.

India-Pakistan ties and the mirror of 2019

(Source: [The Hindu](#))

Context: An official delegation from Pakistan was in New Delhi on Monday to hold talks with its Indian counterparts under the aegis of the Indus Water Treaty. In March, the Indians had gone to Islamabad to attend the previous meeting. Starting from February, India has been sending through Pakistan consignments of wheat, via the World Food Programme, to the Taliban-run Afghanistan.

China forced the hand

- The border crisis in Ladakh raised the spectre of a collusive military threat between China and Pakistan. As various military leaders have since stated, such a challenge cannot be effectively dealt with by the military alone and would need all the instruments of the state — diplomatic, economic, informational, and military — to act in concert.
- To prevent such a situation, India’s National Security Adviser Ajit Doval opened backchannel talks with Pakistan, using the United Arab Emirates (UAE) as an interlocutor.
- This was confirmed by the UAE’s Ambassador to the United States, as the Indian and Pakistan armies agreed to a reiteration of the ceasefire on the Line of Control (LoC) in Kashmir in February 2021.
- It was a U-turn for the Modi government, after the dilution of Article 370 in Jammu and Kashmir in August 2019, and the number of ceasefire violations along the LoC had reached a record high in 2020.
- In line with Home Minister Amit Shah’s statement in Parliament vowing to wrest back Pakistan-occupied Kashmir — and Aksai Chin from China — every other politician from the Bharatiya Janata Party politician was threatening Pakistan. By then, the Indian Army was boasting of its firepower on the LoC.
- It thus came as a surprise that Mr. Doval had agreed in his backchannel talks with the Pakistan Army to undertake certain actions in Kashmir as part of a mutually agreed road map.
- Reports emanating from Pakistan Army Chief General Qamar Javed Bajwa made it clear that two actions by India were a precondition for any further steps by Pakistan: restoration of statehood to Jammu and Kashmir; and an announcement of no demographic change in the Kashmir Valley.
- As the backchannel talks dragged on, the Indian side expressed its political inability to initiate these actions. With Imran Khan (now former Prime Minister) refusing to move ahead, it created a stalemate.
- By then, limited disengagement had occurred with the Chinese forces in Ladakh, thus stabilising the situation along the LAC to some extent. India gave assurances to Pakistan when the threat of escalation with China became very high in late 2020 following the Indian Army’s occupation of certain heights in the Kailash range in Ladakh.
- Pakistan had then not shown any inclination to mobilise its forces to the LoC, which would have created a nightmare scenario for the Indian security establishment.

- Even if there was no further progress in bilateral ties, the Indians were happy with this new status quo with Pakistan while the border crisis with China was alive. This bought them time to further consolidate the changes in Kashmir undertaken in August 2019.

Kashmir suffers

- The delimitation of Assembly constituencies in Kashmir has been completed. The fresh making of an electoral map disadvantages Kashmiris, and new Assembly elections seem but a matter of time.
- That would bring closer the BJP's dream of installing a Hindu Chief Minister in India's only Muslim-majority region, an attempt made earlier after the sacking of Mehbooba Mufti as Chief Minister. If these efforts are successful, the statehood to Jammu and Kashmir could also be restored.
- However, despite a harsh security-centric approach by the administration, violence in the region has gone up in the past year or so.
- All the resources of the Indian state have now been devoted towards a successful conduct of the Amarnath Yatra, with a record participation this year, even as the same administration bans Friday prayers at the iconic Jamia Masjid in Srinagar using the flimsiest of excuses.
- Congregational prayers were disallowed at the historic mosque last Friday after the sentencing of Kashmiri separatist leader Yasin Malik.
- His sentencing also earned a strong statement of condemnation from the Organisation of Islamic Cooperation (OIC) that was rejected by India's Foreign Ministry.
- Things have changed drastically from February 2019, when the then External Affairs Minister Sushma Swaraj was invited as the "guest of honour" by the OIC.
- Islamabad's rhetoric helps the Modi government make its case domestically that the crisis in Kashmir is solely of Pakistan's making.
- While Pakistan's use of violence by sending weapons and militants has been a major factor, exploiting it to overlook the political grievances of Kashmiris thwarts a lasting solution.
- The idea that Kashmiris have no agency of their own and are instruments in the hands of the Pakistan military defies both history and common sense.

No environment in Pakistan

- The recent change of government in Pakistan, including Imran Khan's removal, is seen as a positive in New Delhi.
- The official Indian establishment has had close ties with both the Pakistan Muslim League-Nawaz and the Pakistan Peoples Party that are now part of the government.
- There are Indian businessmen who have acted as interlocutors with the Sharif brothers on behalf of the Modi government.
- Mr. Modi had himself made a sudden stopover at the Sharif household in December 2015 to attend a family wedding, and subsequently allowed Inter-Services Intelligence (ISI) officials to visit Pathankot airbase for terror attack investigation.
- Officials on both sides argue that there are some low-hanging fruits which can be plucked the moment a political go-ahead is given.
- These include a deal on the Sir Creek dispute, an agreement for revival of bilateral trade, return of High Commissioners to the missions in Delhi and Islamabad, and build-up of diplomatic missions to their full strength. Demilitarisation of the Siachen glacier is still seen to be off the table as the Indian proposal is believed to be unacceptable to the Pakistan Army.
- The environment in Pakistan is, however, not conducive for any such move. Imran Khan is garnering big crowds in his support and has put the Shehbaz Sharif government and Pakistan Army under pressure.
- With the economy in doldrums, there is little room for manoeuvre with the new government. Even an announcement of talks with India, without New Delhi conceding anything on Kashmir, will provide further ammunition to Imran Khan.

- The current moment, where New Delhi and Islamabad seem willing to move forward but are restrained by Pakistan's domestic politics, somewhat mirrors the lawyers' protest against General Musharraf in 2008 which derailed the Manmohan-Musharraf talks after they had nearly agreed on a road map.

New environment

- A window of opportunity would possibly open in Pakistan after the next elections, which are scheduled next year but could be held earlier. By then, the Pakistan Army would have a new army chief, as Gen. Bajwa's three-year extension comes to an end in November. Gen. Bajwa's successor may look at things differently.
- By then, if Jammu and Kashmir has a new State government after elections and the border crisis with Beijing is resolved, the ground would have completely shifted in India.
- As Mr. Modi goes for another re-election in 2024 with little to show on the economy front, a totally different dynamics on Pakistan would be at play in India.
- Following the Balakot airstrike (2019), Pakistan was at the forefront of Mr. Modi's election campaign in 2019.
- In a recent book chapter, Mr. Doval has written that Balakot "blew away the myth of Pakistan's nuclear blackmail". For the next strike on Pakistan, "domain and level will not be limiting factors", he wrote.
- Mr. Doval does not mention it but last time, India lost a fighter aircraft, had its pilot in Pakistani captivity, shot down its own helicopter killing seven men, had another near-miss friendly fire accident over Rajasthan, and the two nuclear-armed countries threatened to shoot missiles at each other.
- That was in 2019. A reckless act in the future may have even more dire consequences. Unless that is what India desires, the Modi government must shift course from the belligerence it has displayed and profited from earlier in favour of proper diplomatic and political engagement with Pakistan.

GS III

Price rise and GST

(Source: [The Hindu](#))

Context: The GST regime, about to complete five years this July, is due for an overhaul in tax rates levied on different products because of structural anomalies and to reduce the multiple tax slabs. A ministerial group of the GST Council, under Karnataka Chief Minister Basavaraj S. Bommai, was tasked last September to suggest immediate changes, as well as a roadmap for short- and medium-term changes to the GST rate structure. The group of ministers (GoM) is yet to conclude its deliberations.

What is the need to rationalise the GST rates?

- From businesses' viewpoint, there are just too many tax rate slabs, compounded by aberrations in the duty structure through their supply chains with some inputs taxed more than the final product.
- There are five broad tax rates of zero, 5%, 12%, 18% and 28%, with a cess levied over and above the 28% on some 'sin' goods. Special lower rates are levied on items like precious stones and diamonds.
- Tax experts have been flagging that these are far too many rates and do not necessarily constitute a Good and Simple Tax.
- For the government, the top priority, apart from simplifying the tax structure in the hope of bolstering compliance, is to rake in more revenues as they believe collections have been underwhelming.
- At the last full-fledged GST Council meet, Finance Minister Nirmala Sitharaman had stressed that the new indirect tax system was premised on a revenue-neutral tax rate of 15.5%, but actual revenues have been steadily going down taking the effective tax rate to 11.6%.
- "Knowingly or unknowingly, [the rate] was brought down by reduction in tax rates of some items," the Minister had said. Some of these frequent rate cuts were approved by the Council on the eve of critical elections.
- The need to shore up revenues was also flagged as the assured compensation period for States under the GST compact expires on June 30, so their fiscal space will depend on actual collections thereafter.
- The Council set up two GoMs to resolve this – one to examine more technology and schemes to improve tax compliance, and another under Mr. Bommai to rationalise tax rates to correct anomalies and consider the merger of different tax slabs.

Haven't GST revenues been hitting new records?

- Yes, they have – GST revenues have scaled fresh highs in three of the first four months of 2022, going past ₹1.67 lakh crore in April.
- The government terms this a sign of economic recovery and a reflection of the measures to tighten the screws on tax evaders, but there is another key factor — the runaway pace of price rise.
- Wholesale price inflation, which captures producers' costs, has been over 10% for over a year and peaked at 15.1% in April. Inflation faced by consumers on the ground has spiked to a near-eight year high of 7.8% in April.
- In a recent note, Ambit Capital analysts Sumit Shekhar and Eashaan Nair stressed that higher GST revenues "should not be confused" with a rise in consumption which is just 2% above pre-pandemic levels.
- The rise in prices, they said, was "the single most important factor for higher tax inflows" along with higher imports, compliance tweaks and a boom in the consumption of high-ticket items even as mass consumption goods and services languish.

Can we expect the rate reset this year?

- Ambit reckoned that a hike in GST rates is ‘almost certain’ this year to ensure that high collections sustain and States get enough money from July onwards.
- But any rejig and merger of GST rates will entail some products being taxed higher, with concomitant ripple effects on prices. “The Centre and the States are not unmindful of the desperate need to rationalise the rate slabs and structure but we just need to get the timing right. When inflation is the top worry, whether the Council is ready to tackle this, is a key question,” averred a top government official.
- The Council is aware of the need to rationalise rates since at least 2019, but has deferred action each year due to macro-level compulsions — starting with slowing growth in 2019-20, followed by the pandemic’s onset and the fledgling recovery in 2021-22.
- With inflation, much of it imported through pricier fuels, commodities and food items, expected to hover high through the year, the GST rate reset hopes appear bleak in 2022-23.
- Even if the conflict in Europe eases or ceases, its aftermath through sanctions as well as other supply chain disruptions could persist and keep prices high in 2023-24 as well.
- This may mean an even longer wait for a simpler GST regime, especially as tax hikes are unlikely to be a palatable option ahead of the 2024 general election.

5G: Under the hood

(Source: [The Hindu](#))

Context: *Lately there has been a lot of buzz around 5G. Last week Prime Minister Narendra Modi inaugurated the country’s first indigenous test bed to help support the ecosystem around 5G. Earlier this year, the Government reiterated its plans to conduct auctions for 5G spectrum in June and expected services to be rolled out by the third quarter of the year.*

Details:

- Service providers have been conducting 5G trials and 5G ready phones have been flooding the market. But what exactly is 5G? What lies behind the promise of faster downloads and better call quality?
- Radio electronics refers to a broad range of technologies that can transmit, receive and process wireless signals. While these technologies can utilise electromagnetic spectrum that goes all the way up to 300GHz, the lower frequencies of this spectrum are particularly attractive.
- Lower frequency signals can travel longer distances and penetrate obstacles with lesser attenuation. Electronic components (amplifiers, transmitters, receivers) operating at lower frequencies are also easier to design and manufacture.
- Consequently, much of the bandwidth in the lower frequencies of this spectrum has already been allocated for several applications (mobile communications currently use the spectrum from 800MHz to 2.5 GHz).

New spectrum for 3GHz

- With the increasing demand for mobile services, the currently allocated spectrum is proving inadequate.
- At the simplest level, 5G represents the allocation of new spectrum to increase capacity. Since most of the spectrum at lower frequencies is already being utilised — much of this new spectrum is being allocated at higher frequencies.
- The first deployments in India will be around 3GHz, but will expand to 25 GHz and beyond.
- As 5G services evolve to occupy higher frequencies, it will significantly increase the bandwidth available for mobile services. However, at these frequencies the design of the transmitting and receiving equipment becomes more complex. Signal attenuation also increases.

- So, the coverage area of each cell tower will decrease which will require the towers to be more closely spaced.
- An interesting fact related to the physics of signal transmission is that at higher frequencies it becomes easier to direct a signal in specific direction. So, signals transmitted from a cell tower can be more precisely directed at a specific user (rather than spreading out in various directions which is just a waste of energy).
- Intuitively, this enhanced directivity results in less interference between signals meant for different users which directly translates to increased capacity. Thus, while operating at higher frequencies has some fundamental challenges, it offers some unique opportunities as well.

Evolving communication needs

- Since much of the 5G infrastructure is being built from ground up, there is a chance to redesign the technology to make it more suitable for the evolving communication needs of the future. 5G places special emphasis on low latency, energy efficiency and standardisation.
- Existing wireless communication infrastructure is primarily designed around the needs of mobile phones.
- However, several emerging applications in factory automation, gaming and remote healthcare have more stringent latency requirements. Self-driving cars is an illustrative example. Low delays between transmission and reception of messages are extremely critical when these cars have to co-operate with each other to avoid accidents.
- As 5G rolls out, over the next several years the volume of data is expected to exponentially increase. To ensure that there isn't a corresponding increase in the energy usage, 5G places a lot of importance on energy efficiency.
- This will mean lower energy bills for service providers and longer battery life for mobile devices. Greater attention to standardisation is another important aspect of 5G. Today most of the components that make up wireless telecom interact with each other using proprietary protocols that are vendor specific.
- To enable the rapid deployment of 5G infrastructure there is an industry-wide effort to standardise interaction between components.
- Greater standardisation would enable service providers to build their infrastructure, ‘mixing and matching’ components from multiple vendors. Switching vendors would also be easier which would foster competition and lower costs.

Advanced R&D

- There is a lot of research in both industry and academia centred around 5G. An interesting topic is the convergence of positioning, sensing and communication. Traditionally, positioning, sensing and communication have been seen as separate technologies (for e.g., GPS is used for positioning, and radar for sensing).
- However, all three technologies involve transmission and reception of radio signals — hence it is possible for positioning and sensing to piggy back on 5G infrastructure that is primarily meant for communication.
- While this is not a new concept, 5G is expected to significantly improve the state of art. It turns out that some of the key features of 5G (such as increased bandwidth availability and antenna directionality) are also useful for improved accuracy of positioning and sensing.
- There is also a lot of research around cost and energy efficient electronic devices that can transmit and receive high frequency signals.
- This involves delving into the fundamental physics of semiconductor technologies and is expected to lay the foundation for the growth of wireless technology into higher frequency bands.
- In fact, engineers are already busy prototyping a 6G system which would utilise the large amounts of available spectrum at frequencies above 100 GHz. As one of my colleagues who works in this domain

pointed out — engineers are perhaps having more fun developing these technologies than consumers are using them!

Doses of statecraft to meet India's challenges

(Source: [The Hindu](#))

Context: Russia and Ukraine — with Kyiv being backed by western powers and the North Atlantic Treaty Organization (NATO) — and the political turmoils in South Asia dominate newspaper headlines today. This has pushed the debate on India's many internal security problems on the backburner. This is unfortunate, for many long-standing security problems have a propensity to wax and wane and seldom seem to go away.

Limitations of a security vigil

- While the country's security agencies do maintain a tight vigil, what is seldom realised is that security agencies can only deal with the immediate threat.
- Long-term solutions require the use of statecraft. Additional doses of security whenever a situation arises are at best a temporary solution. This does not amount to problem solving.
- To change the mindsets of both the authorities and those challenging the existing order, it may be first necessary to admit that more and more security has its limitations.
- The next step is even harder, viz., to admit that the forces threatening the state have lately become nimbler in adopting new technologies and modes of warfare.
- In many countries, both the authorities and security agencies are beginning to acknowledge the importance of resorting to statecraft as a vital adjunct to the role played by the security agencies. Statecraft involves fine-grained comprehension of inherent problems; also an ability to quickly respond to political challenges.
- It further involves strengthening the ability to exploit opportunities as they arise, and display a degree of political nimbleness rather than leaving everything to the security agencies.
- In short, it entails a shift from reposing all faith in the security establishment to putting equal emphasis on implementation of policies and programmes.
- In effect, it shifts the emphasis to formulating strategies that favour political deftness, strength and agility, after the initial phase.

Upheaval in Kashmir

- Two prime examples which provide grist to the above proposition are the prevailing situation in Jammu and Kashmir and the continuing problem involving Maoists.
- While Jammu and Kashmir has been a troubled region ever since 1947, the situation has metamorphosed over the years — at times tending to become extremely violent followed by spells of near normalcy. No proper solution has emerged to a long-standing problem.
- The ongoing violence in Jammu and Kashmir which started almost 18 to 20 months ago is an instance in point. Political angst over the revocation of Article 370 of the Constitution is possibly one of the reasons for local support being available for the current crop of Jammu and Kashmir militants.
- A majority of them are believed to be home-grown militants, though backed by elements from across the border in Pakistan. Irrespective of the reasons for the latest upsurge in violence, what is evident is that Jammu and Kashmir has again become the vortex of violence, specialising currently on targeted killings of outsiders, mainly Kashmiri Pandits.
- Migrant Kashmiri Pandits returning to Jammu and Kashmir have, no doubt, been given certain concessions, including government jobs.

- This might have acted as provocation, but what is equally disturbing is the targeted killings of police personnel, many of whom were on duty while some others were on leave. Information filtering out of government vaults suggests that terrorists may have infiltrated the official machinery. They also appear to have access to data banks of the police and security agencies.
- All this is leading to an atmosphere of uncertainty. Concerns exist that this year's Amarnath Yatra (beginning end June) could well be one of the targets of the militants. If this were to happen, it might well result in a crescendo of violence, leading to large-scale upheaval across Kashmir.
- Evidently, the doctrine of containment pursued by the Jammu and Kashmir police and security agencies is not having the desired effect. Security analysts believe that a sizeable segment of the new cadres fall into what they perceive as 'unpredictable', and this further aggravates the situation.
- The history of Jammu and Kashmir is replete with instances where a sizeable presence of such 'unpredictable' elements has tilted the scale in favour of greater violence. What is also disturbing is that strategies intended for one set of militants can seldom be applied to newer elements, making it more difficult to contain the spread of violence.
- In Jammu and Kashmir today, as also elsewhere, there is no all-in-one grand strategy to deal with the situation. The missing ingredient is statecraft which alone can walk in step with the changing contours of a long-standing problem.

The Maoist shadow

- While problems seem to be mounting for the security establishment in Jammu and Kashmir as of now, across several heartland States of India, the police face a different kind of threat.
- Of all the strands of the militancy in India, Maoists or Naxalites stand apart as being the only ones with strong ideological underpinnings. Notwithstanding its ideological veneer, Maoists/Naxalites nevertheless tend to indulge in mindless violence carrying out brutal killings.
- The original Maoist leaders in Bengal, Andhra Pradesh and Kerala (in the late 1960s and early 1970s) who were inspired by Charu Mazumdar who talked of a 'Spring Thunder over India' (followed by his claim to have lit a spark to initiate a 'prairie fire') have since been replaced by lesser leaders with few ideological pretensions.
- The combination of ideological ideation and brutal killings has often confused and confounded the police, intelligence and security establishments of the States and the Centre. In that sense, the Maoists represent the biggest challenge to the idea of India.
- While railing against the use of State violence, and from time to time displaying a willingness to hold peace talks with both the State and Central governments, the Maoists have seldom displayed a commitment to peaceful ways.
- New adherents, thanks to its ideological underpinnings, are meanwhile readily available, and this further perplexes the authorities who often tend to claim 'that Maoism is on its last legs'.
- More than any other militant or violent movement in the country, curbing the Maoist menace will require considerable doses of statecraft, as many of the purported demands of the Maoists find an echo among intellectuals in the cities and the 'poorest of the poor' in the rural areas.

In Punjab and the North-east

- The need to use statecraft to deal with quite a few other internal security problems — some of which have lain dormant for years — is also becoming more manifest by the day.
- In this category may be included the resurgence of militancy by pro-Khalistan groups in the Punjab, which could spill over into Haryana and Himachal Pradesh. The recent discovery of 'sleeper cells' in the Punjab clearly indicates the potential for the revival of a pro-Khalistan movement — which once ravaged large parts of the Punjab.
- While pro-Khalistani sentiment is present in pockets in the United Kingdom and in Europe, it has not been in evidence in India for some time.
- Hence, the recent attack by pro-Khalistan elements on the headquarters of the Punjab Police Intelligence wing in Mohali was a rude shock to the security establishment.

- The incident appeared to be like a warning shot ‘across the bow’ by the Babbar Khalsa International, which has the backing of Pakistan’s Inter-Services Intelligence — a reminder that militancy in the Punjab has not been permanently extinguished, and will need deft statecraft to nip it in the bud.
- In India’s North-east, more specifically in the States of Assam and Nagaland, there are again incipient signs of trouble which, for the present, may need use of statecraft rather than the security forces.
- In Assam, the United Liberation Front of Asom-Independent (ULFA-I) is trying to revive its activities after a long spell of hibernation. Currently, the ULFA-I operates from Myanmar, and its fortunes have been on a steady decline in the past decade.
- However, latest reports indicate that ULFA-I has embarked on a recruitment drive which will need to be curbed before matters get out of hand.
- Likewise in Nagaland, where the National Socialist Council of Nagalim (I-M) has recently initiated a fresh push for a solution of the ‘Naga political issue’, the situation is pregnant with serious possibilities. Both instances merit the use of statecraft so that the situation does not get out of hand.

A threat in the South

- In the South, intelligence and police officials appear concerned about a likely revival of Liberation Tigers of Tamil Eelam (LTTE)-sponsored activities in Tamil Nadu.
- This stems from a possible revival of LTTE-sponsored militancy in Sri Lanka following the recent economic crises and uncertainty there.
- Security agencies in India believe that an attempt could be made to reach out to elements in Tamil Nadu to revive the spirit of the 1980s.
- This situation again needs deft statecraft to prevent a resurgence of the past.
- Hence, it should be evident that statecraft is critical in finding lasting solutions to a host of problems that continue to afflict India. India faces several challenges today, but the answer to this is neither grand strategy nor grand simplifications nor resort to higher doses of security.
- India must navigate its way through a complex set of circumstances and situations, and suitably manage crises which might otherwise undermine peace and stability.
- A properly structured set of policies, having liberal doses of statecraft in addition to a proper set of security measures, is the best answer to India’s needs, now and in the future.

India’s changing goal posts over coal

(Source: [The Hindu](#))

Context: In April, Finance Minister Nirmala Sitharaman said India’s transition away from coal as a fuel for power would be hampered by the Russia-Ukraine war. “One calculation which I think we had in our mind was that the transition [away from coal] ... will be enabled by natural gas,” she said, adding that “lowering dependence on coal, and the speed with which we want to get out of it, will now be challenged.”

Why is the ‘move away from coal’ so important?

- The threat of global warming looms over the planet, promising to bring about unprecedented natural calamities.
- An effective way to keep the danger at bay is to cut the use of fossil fuels — coal, natural gas and oil. About 80% of the world’s energy requirements are met by these three fuels. They have likely brought on the climate crisis we now face, as they trigger the emission of carbon dioxide.
- However, the worst culprit of them all is coal, which emits nearly twice as much carbon dioxide as natural gas and about 60% more than oil, on a kilogram-to-kilogram comparison.

- Combusting coal also leaves behind partially-burnt carbon particles that feed pollution and trigger respiratory disorders.
- The consequence of these chemical reactions gains great significance because, the power sector in India accounts for 49% of total carbon dioxide emissions, compared with the global average of 41%.

What is the extent of India's dependence on coal?

- As of February 2022, the installed capacity for coal-based power generation across the country was 2.04 lakh megawatt (MW). This accounts for about 51.5% of power from all sources.
- This compares with about 25,000 MW of capacity based on natural gas as fuel, or a mere 6.3% of all installed capacity. Renewable power accounted for 1.06 lakh MW or 27%.
- Coal-based power stations are retired periodically which happens all the time. But is not fast enough nor are new additions being halted. And with good reason – coal is still inexpensive compared with other sources of energy.
- For FY20, for example, India added 6,765 MW power capacity based on coal as fuel. But only 2,335 MW was retired. According to the IEA's Coal Report 2021, India's coal consumption will increase at an average annual rate of 3.9% to 1.18 billion tonnes in 2024.
- So, it is not easy to shift away from coal overnight. As the World Coal Association CEO Melissa Manook put it while on her India visit recently, "Coal will still be a significant contributor in the energy sector even in 2040!"

How has war made India's move away from coal difficult?

- Natural gas has been dubbed as the transition fuel in India's plans to move away from coal. The international cost of natural gas has zoomed in the recent past from a level that was considered already too high to be financially viable. On May 17, 2022, the price per MMBTU of gas was ₹1,425, compared with ₹500 in April, 2021.
- Even back in November last, well before the war made things difficult, the government put in place a committee to ensure that natural gas prices remained stable. Of the 25,000 MW of gas-based power plants, about 14,000 MW remains stranded, or idle, because they are financially unviable.
- While renewable energy sources are cheaper than coal, their ability to generate power consistently is subject to the whims of nature — the wind and the Sun. Coal can give you power on demand. Storage technologies are still not mature enough to help renewable energy sources become reliable generators of power.

Is there a coal availability crisis that is exacerbating our problems?

- It appears that the pent-up demand returning in the economy which was in a pandemic-induced stupor for a while has caught policymakers off guard.
- From having asked States only recently to stop importing coal, the power Ministry urged States earlier this month to step up coal imports as the private sector would take till about 2025 to produce significant amounts of coal.
- As per a letter by the Ministry, Coal India, the country's largest supplier of the dry fuel is set to import coal for the first time since 2015. The aim of the exercise is to avoid a repeat of the power outage crisis that India faced in April — the worst in more than six years.
- Following the issue of the letter dated May 28 to all state utilities, officials at the States and the Centre, including to the Coal Secretary, the central government has asked States to place import tenders on hold with a view to cut procurement costs using government-to-government channels.
- An internal power Ministry presentation is said to point to a 42.5 million tonne (MT) coal shortage in the quarter ending September on the back of high demand for power supply.
- The shortage is 15% higher than earlier anticipated. Domestic supply of coal is expected to be 154.7 MT, compared with the projected requirement of 197.3 MT. The previously anticipated shortage was 37 MT.

- The projections for requirements for the year ending March are 3.3% higher than earlier anticipated at 784.6 MT. Without imports, utilities are likely to run out of coal supplies by July.

India's EV ambition rides on three wheels

(Source: [The Hindu](#))

Context: India's push for electric vehicles (EVs) was renewed when phase-II of the Faster Adoption and Manufacturing of (Hybrid and) Electric (FAME) Vehicles scheme in India, with an outlay of ₹10,000 crore, was approved in 2019. This was significant since phase-I, launched in 2015, was approved with an outlay of ₹895 crore. India was doubling down on its EV ambitions, focusing on cultivating demand for EVs at home while also developing its own indigenous EV manufacturing industry which could cater to this demand.

Details:

- Initially envisioned for three years, FAME-II got a two-year extension in June 2021 owing to a number of factors including the pandemic.
- It aims to support 10 lakh e-two-wheelers, 5 lakh e-three-wheelers, 55,000 e-four-wheeler passenger cars and 7,000 e-buses.
- Three years into FAME-II, the numbers have been lagging far behind the original three-year target. As a part of FAME-II, the government has made a push for indigenous manufacturing with a number of automakers answering the call.
- Legacy auto manufacturers such as Tata Motors, Mahindra & Mahindra, Hero Electric, and TVS unveiled their EV offerings. New EV players also emerged on the scene with the likes of Ola and Bounce entering the e-two-wheeler segment.
- While e-two-wheelers and e-four-wheelers receive significant coverage, a three-wheeled underdog has been quietly dominating the Indian EV space.

The dominance of e-3-wheelers

- Three-wheeler EVs like e-autos and e-rickshaws account for close to 65% of all EVs registered in India. In contrast, two-wheeler EVs come at a distant second with over 30% of registrations and passenger four-wheeler EVs at a meagre 2.5%.
- Under the targets for FAME-II, e-three-wheelers have crossed over 4 lakh vehicles of the 5-lakh target since 2019. The numbers are expected to be higher given the prevalence of unregistered vehicles in India.
- At the current rate, e-three-wheelers are expected to breach the 5-lakh target by 2023. Given the success of e-three-wheelers, it is worth taking a closer look at their dominant position, how they got here, and what India's EV policy can do to sustain their success and extend it to the other categories.
- The EV registrations data show that Assam, Bihar, Delhi, Uttar Pradesh and West Bengal account for close to 80% of all e-three-wheeler registrations, with U.P. accounting for close to 40% of all registrations.
- Of these five States, Assam, Delhi, U.P., and West Bengal have formalised EV policies while Bihar has a draft policy with a final policy due to be introduced later in 2022.
- Incidentally, these five States are characterised by high population density and shortage of affordable public transport. Indigenously designed and produced, e-three-wheelers like e-rickshaws have become a common sight in these States.
- Costing between ₹1 lakh and ₹1.5 lakh, these vehicles are produced by scores of local workshops and small enterprises and have come to dominate the e-three-wheeler market.

- With financial assistance from FAME-II, local manufacturers have built a truly Indian EV with its unique design catering to Indian commuter needs. Legacy automakers with their own e-three-wheeler offerings have been struggling to compete with these local producers. The EV policies put in place by these States as part of FAME-II have been instrumental in driving this growth.
- The focus of the EV policies of these five States is on accelerating adoption of EVs among consumers and promoting local manufacturing. All five States provide road tax exemption of 100% and on registration fees.
- Assam, Delhi and West Bengal have linked incentives to the battery size (in kWh) with additional benefits on interest rate on loans and scrappage incentives in some cases. U.P. has gone a different way with its subsidies, offering 100% interest-free loans to State government employees for purchasing EVs in the State and 30% subsidy on the road price of EVs to families with a single girl child.
- To promote sales of EVs manufactured within the State, U.P. exempts SGST on all such vehicles. It has outlined incentives to promote EV manufacturing in the State. Bihar's draft EV policy too has been drafted along similar lines: it focuses on adoption and manufacturing.
- These States have performed exceptionally well in the FAME-II scheme and are on their way to achieve the target of 5 lakh e-three-wheelers.
- The success India has experienced in the e-three-wheeler space has come from developing both the demand and supply sides. Subsidies, tax exemptions, and interest-free loans have successfully rallied demand for these vehicles.
- These vehicles provide for inexpensive means of transport for millions, are easy to maintain, and have relatively low operating costs, making them immensely popular among operators. The indigenous design allows for easy local manufacturing in workshops and small enterprises and makes them relatively easy to charge and maintain compared to their two-wheeler and four-wheeler counterparts.
- This success in the e-three-wheeler space has been difficult to replicate in the e-two-wheeler and e-four-wheeler space, which have problems both on the demand and supply side.
- Since two-wheelers and four-wheelers are essentially associated with personal use, consumers are justifiably apprehensive in adopting such vehicles given the host of issues which come with it. The recent incidents of fires in e-scooters have added to the apprehension.
- Reliable manufacturers with proven track records in the two-wheeler and four-wheeler EV space in India are hard to come by. This further adds to the supply side crunch and there are very few affordable offerings for the consumer.

Issues to be addressed

- The current policies in place at the State level, which are focused on accelerating adoption of EVs among consumers, have spurred an e-three-wheeler dominance.
- However, this has come at some costs. A major one is adequate passenger safety. Subsequent EV policies must therefore pay special attention to this issue.
- Local manufacturing enterprises often lack the necessary resources or the motivation to invest in design developments focusing on safety. Lack of proper oversight from regulatory bodies over these manufacturers add to the woes.
- Future policies must therefore incorporate appropriate design and passenger safety standards. While the current State-level policies have been instrumental in increasing local e-three-wheeler manufacturing, they have led to an increasingly fragmented manufacturing industry with non-uniform standards akin to the formative years of motor vehicles in the early 20th century.
- This fragmentation has led to legacy automakers struggling to compete with the large number of manufacturers in every State. EV policies must address this issue so that legacy automakers are not demotivated from competing in the e-three-wheeler space.
- Their resources are necessary for designing and manufacturing more advanced and safer e-three-wheelers.

- Future EV policies must therefore take into account the existing and emerging stakeholders on the demand and supply sides for effective implementation.
- With the prevailing trajectory of EVs, India must take lessons from its e-three-wheeler success story to sustain its EV ambitions.



Current Affairs Quiz

1) Consider the following statements:

1. Madden-Julian Oscillation is the major fluctuation in tropical weather on weekly to monthly timescales.
2. It can be characterized as an eastward moving 'pulse' of cloud and rainfall near the equator that typically recurs every 30 to 60 days.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

2) Consider the following statements regarding (SPAC):

1. Special purpose acquisition company is a company that has no commercial operations and is formed strictly to raise capital through an initial public offering (IPO).
2. In India, the SPAC issuer must complete the business combination within a maximum of 36 months from the date of listing.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

3) Consider the following statements with respect to ocean acidification:

1. In the ocean acidification process, the CO₂ dissolves in seawater and forms carbonic acid, and increases the ocean's pH.
2. Ocean acidification is a direct consequence of increased human-induced carbon dioxide concentrations in the atmosphere.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : b

In the ocean acidification process the CO₂ dissolves in sea water and forms carbonic acid and lowers the ocean's pH.

4) Consider the following statements:

1. West Nile Virus is a mosquito-borne, single-stranded RNA virus and pathogenic for birds.
2. No human-to-human transmission of WNV through casual contact has been documented.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

5) Which the following statements is/are correct with respect to PM CARES for children scheme?

1. The scheme will support children who have lost both their parents or legal guardians or Adoptive Parents or Surviving Parents to the COVID-19 pandemic.
2. The scheme will be implemented by the Ministry of Women and Child Development in coordination with the Ministry of social justice and empowerment.
3. The objective of the Scheme is to ensure comprehensive care and protection of children in a sustained manner.

Which of the above statement(s) is/are correct?

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1, 2 and 3

Answer : c

The Ministry of Women and Child Development is the nodal implementing agency.

6) The Nagorno-Karabakh is a region located between -

- a. Iran and Turkmenistan
- b. Uzbekistan and Tajikistan
- c. Azerbaijan and Armenia
- d. Russia and Ukraine

Answer : c

7) Consider the following statements with respect to unicorn companies:

1. Unicorns are privately held, venture-capital-backed startups that have reached a value of \$1 trillion.
2. India is the country with the second most number of unicorns followed by the United States.

Which of the above statements is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

Unicorns are privately held, venture-capital-backed startups that have reached a value of \$1 billion.

India is the third-largest unicorn hub behind the US and China and ahead of the UK.

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8) Consider the following statements:

1. Community Forest Resource is the common forest land that has been traditionally protected and conserved for sustainable use by a particular community.
2. It may include forests of any category, such as revenue forest, classified & unclassified forest, reserve forest, protected forest, sanctuary, and national parks.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

9) Consider the following statements:

1. The U.N. Peacekeeping mission is a joint effort between the Department of Peace Operations and the Department of Operational Support.

2. The UN peacekeepers provide both security and political & peacebuilding support to conflict-ridden countries.
3. India is the second-largest troop-contributing country to the UN peacekeeping missions, after Pakistan.

Which of the above statements is/are correct?

- a. 1 and 2 only
- b. 2 only
- c. 1 and 3 only
- d. 1, 2 and 3

Answer : d

10) Consider the following statements with respect to sugar production in India:

1. India is the highest producer and second-largest exporter of sugar.
2. The Directorate of General of Foreign Trade (DGFT), export of sugar - raw, refined, and white has been placed under a restricted category.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

11) Which of the following statements is/are correct with respect to Liquid Nano Urea:

1. It is urea in the form of a Nanoparticle and the size of the Nano nitrogen particle varies from 10-30 nm.
2. Liquid Nano Urea is indigenously produced and patented by India and has higher efficiency than conventional urea.

Select the correct answer code:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : b

The size of a Nano nitrogen particle varies from 20-50 nm. (A nanometer is equal to a billionth of a meter.)

12) Consider the following statements:

1. Astra Mk1 is a beyond visual range (BVR), air-to-air missile (AAM) which is capable of engaging targets beyond the range of 37 kilometers.
2. AAMs with BVR capability provide large stand-off ranges to own fighter aircraft which neutralize airborne assets without exposing themselves to air defense measures.
3. Stand-off range means the missile is launched at a distance sufficient to allow the attacking side to evade defensive fire from the target.

Which of the above statements is/are correct?

- a. 2 and 3 only
- b. 1 and 3 only
- c. 1 and 2 only
- d. 1, 2 and 3

Answer : a

BVM missiles are capable of engaging beyond the range of 20 nautical miles or 37 kilometers.

13) Consider the following statements with respect to Stockholm conference:

1. The Stockholm conference was the first world conference to make the environment a major issue.
2. The United Nations Environment Programme was created as a result of the conference.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

14) What is the difference between Barcodes and radio frequency identification?

1. RFID uses radio waves to communicate data whereas barcodes use light to read the black-and-white pattern.
2. Barcodes require line of sight whereas RFID tags does not need any line of sight.
3. RFID are simple and easy to copy or counterfeit, whereas Barcodes are more complicated.
4. In contrast to barcode scanners, RFID scanners can process dozens of tags in a single second.

Select the correct answer code:

- a. 3 and 4 only
- b. 1 and 2 only
- c. 1, 2 and 4 only
- d. 1, 2, 3 and 4

Answer : c

Barcodes are simple and easy to copy or counterfeit, whereas RFID is more complicated and difficult to replicate or counterfeit.

15) Consider the following statements :

1. National Achievement Survey is a periodic exercise carried out in alternate years to monitor the health of the country's school education system.
2. It has been designed by the Ministry of Education along with the National Council for Educational Research and Training (NCERT).
3. According to recent NAS survey, between 2017 and 2021, the literacy and numeracy skills of school students in India improved considerably across subjects and grades.

Which of the statements given above is/are correct?

- a. 1 only
- b. 1 and 2 only
- c. 2 and 3 only
- d. 1, 2 and 3

Answer : b

A recent survey of NAS, 2021 found that between 2017 and 2021, the literacy and numeracy skills of school students in India worsened considerably across subjects and grades.

16) Consider the following statements artillery rockets:

1. Artillery rockets are propelled by a liquid-fuel motor and have the capability to carry a variety of warheads.
2. HIMARS truck carries only one pod of munitions and is manufactured by the United States.
3. HIMARS and Guided Multiple Launch Rocket System (GMLRS) used together from a mobile platform amounts to firepower that is similar to an airstrike.

Which of the above statements is/are correct?

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1, 2 and 3

Answer : b

An artillery rocket is a weapon that is typically propelled by a solid-fuel motor and can carry a variety of warheads.

17) Consider the following statements with respect to the Pacific Island Countries:

1. They are largely located in the temperate zone of the Pacific Ocean between Asia, Australia, and the Americas.
2. The islands are very small in land area and are spread wide across the vast equatorial swathe of the Pacific Ocean.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : b

The Pacific Island Countries are a cluster of 14 states which are located largely in the tropical zone of the Pacific Ocean between Asia, Australia, and the Americas.

18) Consider the following statements with respect to liquid mirror telescope:

1. India is home to the world's first liquid-mirror telescope, which is located in the Union Territory of Ladakh.
2. The liquid used in the telescope is mercury due to its reflective property.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : b

The Four-meter International Liquid Mirror Telescope (ILMT) saw the first light recently, gazing out from its vantage on Devasthal, a hill in Uttarakhand.

19) Consider the following statements:

1. SHRESHTA scheme aims to provide quality education for meritorious Scheduled Caste and Scheduled Tribe students in the CBSE-affiliated residential schools across the country.
2. The scheme was launched by the Ministry of Social Justice and Empowerment.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : b

The Ministry of Social Justice & Empowerment has launched the SHRESHTA scheme to provide seats for the meritorious Scheduled Caste boys and girls in the best private residential schools in the country.

20) Which of the following statements is/are correct with respect to Section 8 of Companies Act, 2013?

1. A company registered under this section should promote commerce, art, science, sports or any such other object.
2. These companies are prohibited from payment of any dividend to its members.

Select the correct answer code:

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

