



CURRENT AFFAIRS MAGAZINE AUGUST 2022

- Flag Code of India
- Long road ahead: Towards Women Empowerment
- Farmer Suicides
- Nehru's luminous legacy



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DNA

GS I

1. Can women be true representatives of the people?

(gs1: Women Empowerment)

Sadia Hussain's article, 'Performance of Women in Parliament: A Quantitative Study of Questions by Women Members in Lok Sabha (1999-2019)' draws attention to women's performance in the Lok Sabha through a quantitative analysis of the questions posed by women leaders on the floor.

It contests claims that women members act as silent dolls or 'gungi gudiyas' during the Question Hour in Parliament and that they act as mere token representation in political spheres.

WOMEN IN POLITICS:

- Education and wealth have aided women in political participation.
- Studies suggest that more women have started to organise themselves into economic groups, and financial freedom has pushed them to be more politically active.
- The decreased gap in voter turnout between men and women is a positive sign toward gender inclusivity in the political sphere.
- The 2019 general election was a historic moment for women's politics, as it saw 78 women elected to the lower house of Parliament for the first time
- However, this number is still not representative of the actual proportion of women in the country.

MAJOR QUESTION

- Do women members only represent women, or do they represent the general public that voted them into positions of power? Do they ask questions only about "softer issues" such as women and child development, health, and sanitation, shying away from discussions on national security, finance, agriculture, and railways?

BREAKING STEREOTYPES:

- Though men asked more questions and participated in more debates than women, there has been a substantial increase in the number of questions women asked.
- Moreover, contrary to general belief, women representatives asked more questions on health and family welfare, human resource development, home affairs, finance, agriculture and railways than women's issues.
- Male legislators asked more questions on issues concerning women than their female counterparts
- While women are expected to bring a feminine quality into the public political domain, they are breaking stereotypes by simply behaving like their male counterparts.

WAY FORWARD:

- Analysing these debates on gender and politics, using the performance framework, one concludes that the problem of under-representation of women is only superficial.
- What lies underneath is the problem of structural inequality, wherein women are marginalised at different levels.
- Through examples of Latin American Parliaments, the author explains how proportional representation will lead to a better representation of women's interests.

2. Reaping our demographic dividend

(GS1: Population & Associated Issues)

The 2022 edition of the World Population Prospects (WPP) of the United Nations has projected that India may surpass China as the world's most populous country next year.

- Demographic dividend, as defined by the United Nations Population Fund, is “the economic growth potential that can result from shifts in a population's age structure, mainly when the share of the working-age population is larger than the non-working-age share of the population”.
- India entered the demographic dividend opportunity window in 2005-06 and will remain there till 2055-56.
- This is the period when the working age ratio is equal to or more than 150% and the dependency ratio is equal to or lower than 66.7%, generally taken as the cut-off for the demographic dividend window.

HOW INDIA CAN LEVERAGE THIS DIVIDEND

Investment in right direction

- Investments in human and physical infrastructure will need to be scaled up dramatically to promote entrepreneurship and create jobs.
- Investment in education is crucial for ensuring that working-age people are prepared for the demands of the economy.
- Increase spending on health
- Increase investments in Research and Development

Absorption of labour into productive employment

- Promote entrepreneurship and job creation
- Service sector like tourism, logistics should be promoted
- Skill development of the working-age population so that they can turn out to be productive for the country's economy

CHALLENGES IN REAPING THIS

- Drastic quality improvement: India's challenge is to create conditions for faster growth of productive jobs outside of agriculture, especially in the organized manufacturing and in services.
- Severe shortages: India currently faces a severe shortage of well trained, skilled workers. Large sections of the educated workforce have little or no job skills, making them largely Unemployable.
- Dismal health sector: A closer look implies various factors such as poor health which although obvious, play a major role in the poor performance of working population.
- Socio economic dimensions: The status of institutions in India regarding caste discrimination, gender inequalities, widening income gap between the rich and the poor, religious differences, inefficient and slow legal system- all contribute to the poor standard of living of the masses.

GOVERNMENT STEPS

- National Skill Development Corporation (NSDC): incorporated on 31st July, 2008, is a first-of-its-kind Public Private Partnership (PPP) in India set up to facilitate the development and upgrading of the skills of the growing Indian workforce through skill training programs.
- National Skill Development Agency: Currently, skill development efforts are spread across approximately 20 separate ministries, 35 State Governments and Union Territories and the private sector.
- National Skill Certification and Money Reward Scheme: encouragement is given for skill development for youth by providing monetary rewards for successful completion of approved training programs.

3. Long road ahead: Towards women empowerment

(GS1: Role Of Women & Women Organization, Salient features of Indian Society)

- Gender parity is not recovering, according to the Global Gender Gap Report 2022. It will take another 132 years to close the global gender gap.

- India has one of the world's lowest female labour force participation rates (LFPR).
- This means the productive potential of half of the population goes unutilized.

Women's empowerment can be defined to promoting women's sense of self-worth, their ability to determine their own choices, and their right to influence social change for themselves and others.

CONSTRAINTS IN WOMEN EMPOWERMENT

- Illiteracy: Illiteracy has been found as major constraints for the attainment of women Empowerment in the nation. It is the rate of literacy which governs the reservation, takeover and competition among women for their right in country. Female child are less privileged for attaining schools.
- Discriminatory nature of male towards female: In India, since the olden days, the men have been in control of politics, social, economical as well as cultural and traditional spheres of life.
- Religious and cultural beliefs: This is another important constraint of women's empowerment in India which tightens up the female population. It is because of unknowing believes and following superstitions.
- Less participation of women in political field: In particular, women them self involves less in the political filed. Their participation is very insignificant in political issues and right as compared to male population.

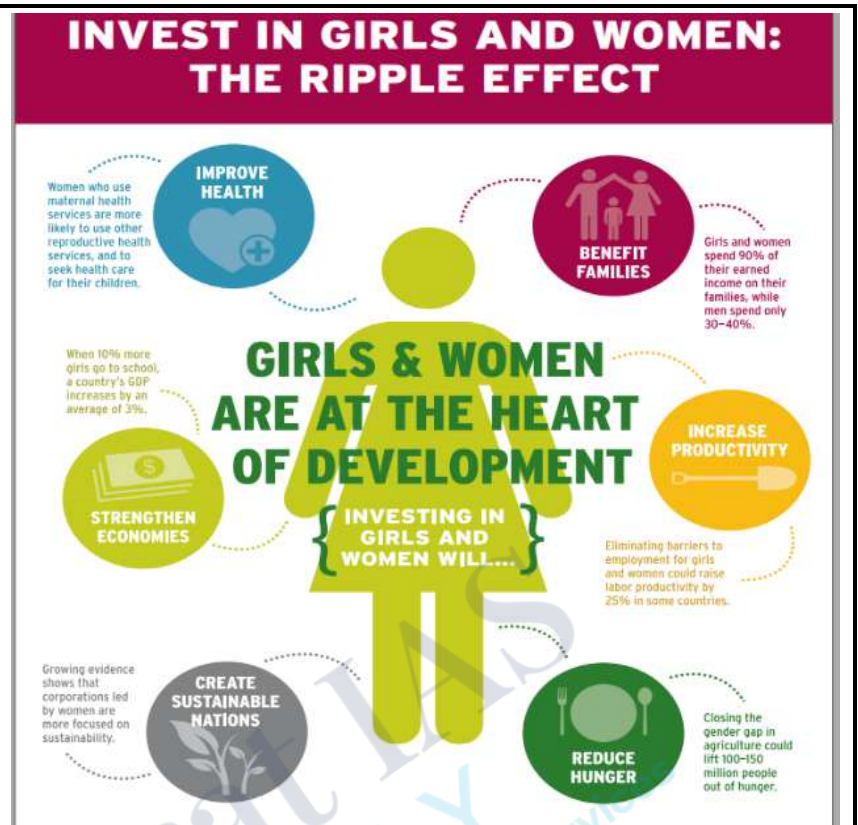
WHAT IS NEEDED TO IMPROVE WOMEN'S WELFARE?

- Community sensitization: Persistent effort must be directed toward community sensitization to root out patriarchal social norms.
- Directional efforts: In addition to enforcing existing regulations like minimum wages, there must be supportive ancillary policies including childcare; secure transport; lighting; safety at work; and quotas in hiring, corporate boards, and politics to foster more women in leadership.
- Universal social mobilization: Identification and inclusion of the poor remains a challenge. There is need to develop community resource persons for participatory identification of poor.
- Training, Capacity Building & Skill Upgradation: There is lack of appropriate training plans, quality training and availability of expert training institutions.
- Universal Financial Inclusion: Lack of uniform financial management systems at all tiers of SHGs has impacted the growth in bank accounts, improvement in financial literacy, and absorption capacity of community members.
- Multiple & Diversified Livelihoods: There is lack of progressive leadership for inclusiveness of small-sized enterprises at the federal level. Market/ forward linkages, is largely missing.

4. The fragility of the Northeast's integration

(GS 1 Regionalism)

In recent years, the North-eastern states governments like Assam, Tripura, Manipur and Arunachal Pradesh are ruled by the same political party which is ruling the Union government. So, there is a debate on mainstream versus sub-stream friction.



HOW THE INTEGRATION OF NORTHEAST INDIA INTO MAINSTREAM INDIAN LIFE HAS BEEN ON THE NATIONAL AGENDA FROM INDEPENDENCE?

- The Sixth Schedule was introduced in the Constitution of India, for undivided Assam's tribal belt. It mandated the formation of Autonomous District Councils in which, among others, tribal customary laws were given legitimacy. In other words, the Northeast's tribals were encouraged to live by their own geniuses and local customs.
- State Reorganization: Nagaland became a state in 1963. Tripura and Manipur, which were the Part-C States after the merger with India in 1949, were also upgraded to States in 1972. In 1972, Meghalaya became a State, while Arunachal Pradesh and Mizoram were made UTs. The latter two were upgraded to States in 1987. These were done to meet the aspirations of the local people and tribals in the North-eastern region.
- Inclusion by accommodation: Later, India gained confidence and shed insecurities about further balkanization of Northeast regions after its traumatic Partition experience. Thereafter, the focus shifted to accommodate people, rather than requiring the latter to leave their streams to join the mainstream. For example,

A judicial commission was constituted in 2004 to recommend a way to repeal or else "humanise" AFSPA.

In 2010, a protected area regime that had restricted visits to Nagaland, Manipur and Mizoram by foreigners was relaxed.

India's Look East Policy was born with the stated objective of linking the Northeast with the vibrant economies of South East Asia.

The **Department of North-East Region (DoNER)** was created by the Union Government in 2001, and in 2004 it was upgraded to a full-fledged Ministry.

The **North Eastern Council (NEC)** which was an advisory body composed of the State's Governors as members, was amended. Later it became an infrastructure planning body, Sikkim was included and the composition expanded to include Chief Ministers.

WHY NORTHEAST'S REMAINED ALIEN 75 YEARS AFTER INDEPENDENCE?

- Historical reason: The British India Foreign Secretary Olaf Caroe coined the term "Mongolian Fringe" in relation to the North-east region and proposed to leave this region from a Crown Colony. The Governor of Assam, Robert Reid said "Northeast people had no affinity with the rest of India racially, historically, culturally, or linguistically". Therefore, the British dropped the Crown Colony plan on grounds of administrative feasibility.
- North-east people do not believe it to be part of Mainland India: The Naga Hills refused the Sixth Schedule. They wanted nothing less than sovereignty. This resulted in a powerful insurgency in the region.
- The Armed Forces (Special Powers) Act (AFSPA), 1958 Promulgation: The Draconian act was promulgated and enforced in wake of the Naga insurgency. This gave sweeping powers to the armed forces. Also, a separate Nagaland State was created in 1963.
- The North-eastern people are fearful of the threat of cultural and population deluge from mainstream India.
- New political dynamics in the north-eastern states do not reflect the grass-root sentiments. For example, Assam vehemently opposed the Citizenship (Amendment) Act (CAA).



5. Ending Ultra Poverty in India

(GS1 Poverty & Developmental Issues)

According to the World Bank Poverty and Shared Prosperity Report, Extreme poverty was expected to affect between 9.1% and 9.4% of the world's population in 2020.

- SECC 2011 captured data on the socio-economic status of 17.97 crore rural households of which 0.16 Cr. (0.91%) households are identified as poorest of the poor and were automatically included on the basis of the number of deprivations faced by them.

WHAT IS ULTRA POOR?

- Ultra poor are those who spend 80 per cent of their total expenditures on food and cannot attain 80 percent of their standard caloric needs.
- They tend to be food insecure, living on less than 2 meals a day.
- Malnutrition exacerbates illnesses that further drain resources, leading to borrowings from exploitative moneylenders.
- Different from Poor: The ultra-poor have many significant differences from the poor as the households living in ultra-poverty are tied to:
 - Unpredictable availability of wage labour,
 - Own few or no assets of even a non-durable nature,
 - Have limited livelihood prospects and
 - Are socially, economically, and geographically isolated.
- Termed as: Ultra poor are variously referred to as 'extreme poor', 'ultra-poor', 'poorest of the poor' and, often, interchangeably.

GOVERNMENT INITIATIVES

- Government programs for the poorest of the poor (PoP) have evolved context specific strategies for targeting and identifying the ultra-poor.
- Bihar, through its State Rural Livelihood Mission, is implementing the 'Satat Jivikoparjan Yojana' program to graduate 2 lakh households from ultra- poverty. These households are being identified as toddy tapper families, women-headed households from Scheduled Caste/Scheduled Tribes and single women-headed households.
- In Jharkhand, the special project UDAAN works with Particularly Vulnerable Tribal Groups (PVTG) who are characterized by declining or stagnant population, as undertaking pre-agricultural activities and largely dependent on forest-based livelihoods, with very low levels of literacy and living in remote and scattered geographies.
- Governments of Kerala and Andhra Pradesh have targeted the poorest of the poor through convergence programs like the Attapadi program with the Irula and Muruga tribal and Kurumba PVTG communities, and the Unnathi program that continues to serve the PoP among the SC/ST community.

SOLUTION: GRADUATION APPROACH

- It is a tested and evidence-driven approach to 'graduate' the poorest of poor out of ultra-poverty.

- It is based on the premise that special multifaceted and sequenced interventions are required before these households can join any large-scale savings and credit based or market-oriented livelihoods programs.

It is a comprehensive, time-bound and sequenced set of interventions that aim to graduate people from ultra-poverty to sustainable livelihoods.



GS II

6. Recalling India's Antarctica activities

(GS2: bilateral relations, GS3: science and tech)

Lok Sabha has introduced the Indian Antarctic Bill, 2022:

- **Regulate Activities to Antarctica:** It aims to regulate visits and activities to Antarctica, as well as potential disputes that may arise among those present on the continent.
- **Inspection of Vessels:** It lays out a structure for government officials to inspect a vessel and conduct checks of research facilities.
- **Antarctic fund:** It directs the creation of a fund called the Antarctic fund that will be used for protecting the Antarctic environment.
- **Penal Provisions:** It extends the jurisdiction of Indian courts to Antarctica. It also lays out penal provisions for crimes on the continent by Indian citizens, and foreign citizens who are a part of Indian expeditions or are in the precincts of Indian research stations.
- **Establishment of Committee on Antarctic Governance and Environmental Protection:** It will monitor, implement and ensure compliance with the relevant international laws, emissions standards and rules of protection.
- **Prohibitory Activities:** It prohibits mining, dredging and activities that threaten the pristine conditions of the continent. It also bans any person, vessel or aircraft from disposing waste in Antarctica and bars the testing of nuclear devices.

The Bill seeks to give effect to :

- A. The Antarctic Treaty
- B. The Convention on the Conservation of Antarctic Marine Living Resources
- C. The Protocol on Environmental Protection to the Antarctic Treaty

WHAT ARE THE INDIAN EXPEDITIONS IN ANTARCTICA?

- In 1982, India's first Antarctic expedition called Operation Gangotri started
- The objectives were ecological dimensions - greater knowledge of the Indian Ocean and the monsoons, life in ice-bound regions and marine biodiversity.
- A second expedition led by one of India's top geologists V.K. Raina landed in Antarctica in 1982.
- With two expeditions successfully completed within a span of 11 months, India finally became a member of the Antarctic Treaty in August 1983 and China followed in 1985.

RESEARCH BASES- The first Antarctic team started wintering in Antarctica in 1984 and a few months afterwards an unmanned Antarctic research base -Dakshin Gangotri was established.

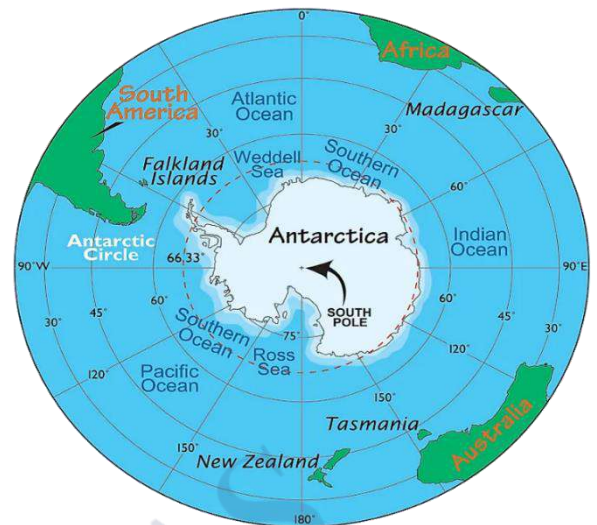
- Since then, India has set up two manned research stations in Antarctica — Maitri in 1988 and Bharati in 2012.
- As of today, Maitri and Bharati are fully operational.

ISSUES:

- So far, India has been chartering polar research vessels from countries like Russia and Norway while China has raced ahead and has two of its own.
- A decision was indeed taken by the Union Cabinet in 2014 for India to have its own research ship with ice-breaking and other advanced technological capabilities but it remains unimplemented.

7. Union government rolls back Data Protection Bill

(GS2: Parliament-structure, functioning, the conduct of business, power and privileges and issues arising out of these, Data protection bill)



- The Union Information Technology Minister announced the withdrawal of The Personal Data Protection Bill, 2019 in the Lok Sabha.
- He stated that the government has decided to come up with a fresh bill that fits into the comprehensive legal framework with reference to the suggestions made by the Joint Committee of Parliament (JCP) on the Bill.

PERSONAL DATA PROTECTION BILL, 2019:

- Its specific provisions are:
- Personal data (data that can identify an individual): The bill talks about various types of personal data, such as:
- Sensitive personal data: (related to finances, health, official identifiers, sex life, sexual orientation, biometric, genetics, transgender status, intersex status, caste or tribe, religious or political belief or affiliation)
- Critical personal data: (military or national security data and the government can define it from time to time)
- General personal data: other than sensitive and critical personal data.
- Recommendations by Joint Parliamentary Committee(JCP): The JCP proposed 81 amendments to the Bill finalized by the Srikrishna panel and 12 recommendations including:

•Sensitive personal data may be transferred outside India for processing if explicitly consented to by the individual and subject to certain additional conditions.

•However, such sensitive personal data should continue to be stored in India.

•Critical personal data can only be processed in India.

•Data Protection Authority: The Bill sets up a Data Protection Authority which may:

- Take steps to protect interests of individuals
- Prevent misuse of personal data
- Ensure compliance with the Bill.

•The Bill allows processing of data by fiduciaries only if consent is provided by the individual. However, in certain circumstances, personal data can be processed without consent. These include: If required by the State for providing benefits to the individual, legal proceedings and medical emergency

•Additionally, all data fiduciaries must undertake certain transparency and accountability measures such as: **implementing security safeguards(encryption and preventing misuse of data)**

- Broader data protection: Expanding its mandate to include discussions on non-personal data, thereby changing the mandate of the Bill from personal data protection to broader data protection
- Regulation of social media: Changes on issues such as the regulation of social media companies.
- Trusted hardware: Using only “trusted hardware” in smartphones, among other things.
- Data protection in line with SC judgment: The new Bill will incorporate the broader ideas of data protection as recommended by the JCP and will be in line with the Supreme Court’s landmark judgment of 2017 in which it held privacy as a fundamental right.
- Social media as content publishers: The JCP’s report also proposed that social media companies that do not act as intermediaries are to be treated as content publishers, they become liable for the content they host.
- Non-personal data: The JCP had also recommended including non-personal data in the Bill. In its most basic form, non-personal data is any set of data which does not contain personally identifiable information.

THE DATA PROTECTION BILL WILL DO AWAY WITH SOME RECOMMENDATIONS BY THE JCP SUCH AS:

- Including “trusted hardware” and local storage of some kinds of personal data within the boundaries of India: Instead, it will add these ideas in the larger framework for the internet ecosystem which will replace the Information Technology Act, 2000.

- Do away with classification of personal data from the perspective of data localisation: The new Bill could also do away with classification of personal data from the perspective of data localisation and only use classification for awarding damages to people whose personal data may have been compromised by an entity.

ISSUES:

The JPC recommended subsuming the regulation of personal data and non-personal data within a single legislation, even though it undermined the Puttaswamy mandate to ensure protection of personal data.

•The Bill imposed a strong data localisation mandate, requiring companies to store all sensitive personal data and critical personal data (which was not defined) in India. *Despite concerns around surveillance and increased cost of compliance expressed by civil society and the private sector, the Government did not endorse cross-border data transfer.*

The PDP Bill, 2019 as well as the JPC's version established a strong regulator (the Data Protection Authority) with a lot of power, but very little independence or accountability.

The PDP Bill, 2019, as well as the JPC's recommendations in the suggested Data Protection Bill, 2021, suffered from serious lacunae, leading Justice Srikrishna to criticize the Bill for its potential to turn India into an "Orwellian state".

8. Democracy is waiting in Jammu and Kashmir

(GS2)

Three years have elapsed since the orders were passed separating the State of Jammu and Kashmir into two Union Territories in accordance with Article 370 of the Indian Constitution.

REASONS BEHIND THE BIFURCATION OF STATE:

- Both security and militancy would be eliminated.
- The inhabitants of the erstwhile State would benefit as it integrated with the Indian economy.
- Pandits from Kashmir who have lived as internal refugees for more than 30 years would be allowed to go home.
- It would usher in a new era of non-dynastic politics.

WHAT HARSH MEASURES WERE IMPLEMENTED AFTER THE BIFURCATION?

- Arrests without a trial—Several hundreds of people were detained without being brought to trial in 2019.
- Media repression—Despite criticism from the Supreme Court in the Mohammed Zubair case, the media is nonetheless restrained, and journalists are frequently detained.
- Elections that were delayed despite the delimitation commission's exercise being finished have not yet been notified.
- Imposition of President's Rule: For the past four years, Jammu and Kashmir has been governed by both the President and the Lieutenant-Governor.
- Deaths of civilians: The Home Ministry reports that between 2019 and 2021, there were more civilian deaths than during Mr. Modi's first term (2014-19).
- Alienation and insurgency: The Valley is so hostile toward the Indian Union that public support for insurrection is at an all-time high.
- The South Asia Terrorism Portal reports that between 2019 and 2021, 437 Kashmiri youngsters joined the ranks of the insurgency.

- Economic decline: According to the NITI Aayog, Jammu and Kashmir dropped from being one of the best-performing States in the Indian Union to being among the worst last year.
- Attacks by militants: Just like in the 1990s, Kashmiri Pandits are once again the focus of terrorist violence.

WAY FORWARD:

- The first action that needs to be taken right away is holding assembly elections.
- It would be in the spirit of “cooperative federalism” if they could be held under the earlier delimitation and the current report of the commission presented to the new Assembly for discussion.

9. Manipur’s NRC exercise:

(GS Paper - 2 Issues Arising Out of Design & Implementation of Policies, Population and Associated Issues)

Recently, the Manipur Assembly has resolved to implement the National Register of Citizens (NRC) and establish a State Population Commission (SPC)

WHY IS MANIPUR PUSHING FOR NRC?

- The northeastern States have been paranoid about “outsiders”, “foreigners” or “alien cultures” swamping out their numerically weaker indigenous communities.
- Manipur, home to three major ethnic groups, is no different.
- These ethnic groups are the non-tribal Meitei people, and the tribal Naga and Kuki-Zomi groups
- They claim that an NRC is necessary because the political crisis in neighbouring Myanmar, triggered by the military coup, has forced hundreds of people into the State from across its 398-km international border.
- A majority of those who fled or are fleeing belong to the Kuki-Chin communities, ethnically related to the Kuki-Zomi people in Manipur as well as the Mizos of Mizoram.

HAS MANIPUR HAD PROTECTIVE MECHANISMS?

- In December 2019, Manipur became the fourth northeastern State to be brought under the inner-line permit (ILP) system after Arunachal Pradesh, Mizoram and Nagaland.
- But less than two years later, an umbrella organisation that spearheaded the ILP movement said the system was flawed and that Manipur needed a stronger and more effective mechanism for protecting indigenous populations.

WHAT IS THE STATUS OF THE NRC ELSEWHERE IN THE NORTHEAST?

- Assam is the only State in the region that undertook an exercise to update the NRC of 1951 with March 24, 1971, as the cut-off date for citizenship of a person.
- Nagaland attempted a similar exercise called RIIN (Register of Indigenous Inhabitants of Nagaland) in June 2019 to primarily sift the indigenous Nagas from the non-indigenous Nagas.

The move, seen as directed particularly against the Nagas of adjoining Manipur, was shelved following opposition from several groups, including the extremist National Socialist Council of Nagalim or NSCN (I-M), the bulk of whose members are ironically from Manipur.

10. Launch a national tribal health mission

(gs2: Issues related to health, Schemes, and programs for the vulnerable sections)

- Nearly 11 crore tribal people (Scheduled Tribes (ST) as per Census of India (2011) live in India. It is the second-highest population in the world. However, their health state is in dismal condition.
- As per the Lancet report, 2016, India has the second-highest infant mortality rate for the tribal people. Pakistan tops this list.
- Another report, i.e. the first national report on the state of India’s tribal people’s health, highlights the health state of the Tribal in India.

FINDINGS:

Tribal people heavily depend on government-run public health care institutions. However, there is a 27% to 40% deficit in the number of such facilities in tribal areas. There is a 33% to 84% deficit in medical doctors

Even the incidence of non-communicable diseases is increasing. For example; the cases of hypertension and diabetes, and worse, mental health problems such as depression and addiction leading to cancer and suicide, are increasing.

Child malnutrition is 50% higher in tribal children: 42% compared to 28% in others.

When it comes to Tribal welfare, the government's major focus goes on the scheduled areas. However, it is found that half of the tribal population lives outside the scheduled areas, where they are found to be mostly powerless.

The official policy of additional allocation under Tribal Sub-Plan (TSP) has been flouted by the state governments. There is even no accounts of accountability on how much of the allocated amount has been spent.

WAY FORWARD:

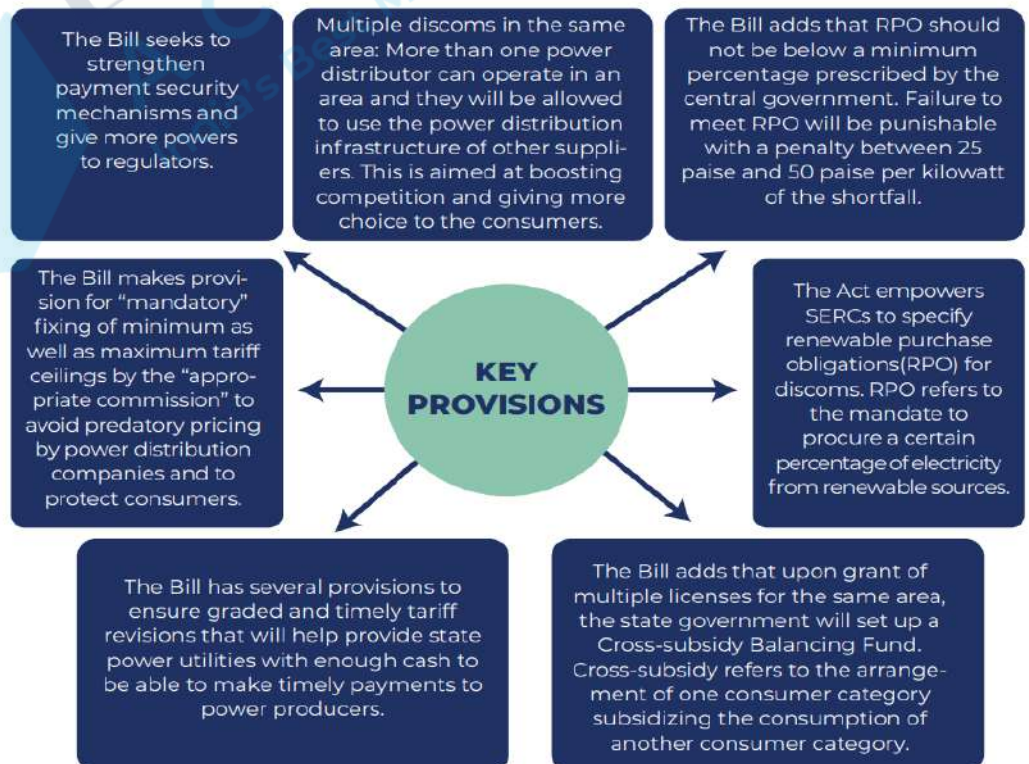
- First, launch a National Tribal Health Action Plan to bring the status of health and healthcare to par with the respective State averages in the next 10 years.
- Second, the committee suggested nearly 80 measures to address the 10 priority health problems, the health care gap, the human resource gap, and the governance problems.
- Third, the allocation of additional money so that the per capita government health expenditure on tribal people becomes equal to the stated goal of the National Health Policy (2017), i.e. 2.5% of the per capita GDP.

11. Electricity (Amendment) Bill 2022

(gs2)

The Electricity (Amendment) Bill 2022, to be introduced in the ongoing monsoon session of Parliament, is likely to push state electricity regulatory commissions to take up timely revision of tariffs and catalyse competition in the retail power distribution sector, among other provisions.

The Bill amends the Electricity Act, 2003. The Act regulates the electricity sector in India. It sets up the Central and State Electricity Regulatory Commissions (CERC and SERCs) to regulate interstate and



intrastate matters, respectively.

ISSUES:

- Firstly, the bill is violative of India's federal structure in as much as Electricity is a subject mentioned as item 38 in the Concurrent list. This implies that it is the duty of the Centre to have effective consultation with State governments. However, no consultation was done before introducing the bill.
- Secondly, the provision to encourage competition may lead to more entities entering lucrative and urban areas, while loss-making areas may continue to be underserved.
- Thirdly, some farmers are concerned that it will eventually lead to the end of subsidies power.
- If passed in its current form it will lead to a major loss for government distribution companies, eventually helping to establish the monopoly of a few private companies in the country's power sector.

HOW WILL IT HELP?

- Power freebie: The Bill comes at a time when there is a debate around freebies being offered by political parties.
- Discom crisis: Various state power distribution companies (Discoms) have not been able to raise enough resources to make timely payments to power generating companies.
- Empowering discoms: Empowering the regulator to be able to take calls on tariff revision and ensuring that the government freebies, even on electricity, should be through direct benefit transfer.

12. A Disruption-mukt Parliament

(GS2)

The inability of Parliament to transact any business and the lack of serious deliberation must be a matter of grave concern for all.

In a deliberative democracy, Parliament works as a special purpose vehicle for the legislative scrutiny of bills, grievance redressal and debate on policies and related governance issues.

Its failure to transact business is a sad commentary on three aspects — Members of Parliament, the presiding officers as well as the rules and regulations that define the functioning of both Houses.

HOW DISRUPTION AFFECTS MEMBER OF PARLIAMENTS

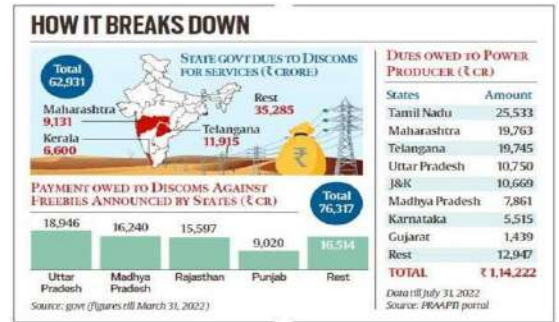
- For any parliamentarian, it is extremely disappointing to be unable to speak in the House for which he or she has — in most cases — given notice and come prepared.
- And when this happens too often, their enthusiasm decreases.
- Impact on quality of debate: In such a situation, members are often tempted to make a popular intervention than a substantive one.

CHALLENGES FOR PRESIDING OFFICER

- Perhaps presiding officers can emulate the courts of law.
- Use of in-camera proceedings: Like in courts, the presiding officers need to consider conducting in-camera proceedings in their chambers to insulate at least the Zero Hour and Question Hour from getting washed out.
- While the House remains force-adjoined, presiding officers can order in-camera hearing of questions of MPs and replies of ministers.

ISSUES WITH MEDIA COVERAGE OF PARLIAMENTARY PROCEEDINGS

- The space allocated for parliamentary proceedings in both, print and electronic media is shrinking fast.
- Rarely does one finds adequate coverage of Question Hour or Zero Hour compared to the past.
- Debates on bills are also subject to brief and sketchy reporting.



- Although disruptions have become common, they continue to get reported without fail and disruptors often bask in the media limelight.
- As against this, those who make a reasonably good speech — well argued and supported by statistics, examples or case studies — rarely get adequate attention.
- This too hampers the interest of parliamentarians.

WAY FORWARD:

As the Parliament of independent India enters the eighth decade of its history and prepares to enter a new, more well-equipped and modern Parliament House, it is the right time to think about how we can add value to our deliberative democracy.

13. What is the Criminal Procedure (Identification) Act, 2022?

(GS2: Governance, Transparency & Accountability, Citizens Charters)

While the Criminal Procedure (Identification) Act, 2022 was enacted earlier this year, the Ministry of Home Affairs notified it to come into effect from August 4, 2022. It also repeals the existing Identification of Prisoners Act, 1920.

- This act provides legal sanction to law enforcement agencies for “taking measurements of convicts and other persons for the purposes of identification and investigation of criminal matters”.
- The Minister of Home Affairs has observed that with advancements in forensics, there was a need to recognise more kinds of “measurements” that can be used by law enforcement agencies for investigation.
- Need: To establish the identity of the culprit against the person being arrested
 - To identify suspected repetition of similar offences by the same person and third
 - To establish a previous conviction
- At the State level, each State is required to notify an appropriate agency to collect and preserve this database of measurements.
- At the national level, the National Crime Records Bureau (NCRB) is the designated agency to manage, process, share and disseminate the records collected at the State level.

WHAT WAS THE PREVIOUS IDENTIFICATION OF PRISONERS ACT, 1920?

- Even though the police has powers of arrest, mere arrest does not give Police the right to search a person. The police requires legal sanction to search the person and collect evidence.

WHAT WAS THE NEED TO REPLACE THIS ACT?

- In 1980, the 87th Report of the Law Commission of India undertook a review of this legislation and recommended several amendments.
- This was done in the backdrop of the State of UP vs Ram Babu Misra case, where the Supreme Court had highlighted the need for amending this law.
- The first set of recommendations laid out the need to amend the Act to expand the scope of measurements to include “palm impressions”, “specimen of signature or writing” and “specimen of voice”.
- The second set of recommendations raised the need of allowing measurements to be taken for proceedings other than those under the Code of Criminal Procedure (CrPC).

ISSUES:

- A probable police state in making: Analysis and measurement of behavioural attributes have raised concerns that data processing may go beyond recording of core “measurements”.
- The current law allows for “measurements” to be taken if a person has been convicted/arrested for any offence, including petty offences. This would definitely overburden the systems used for collection and storage of these measurements.

- Given that these records will be stored for 75 years from the time of collection, the law has been criticised as being disproportionate.
- Such collection can also result in mass surveillance, with the database under this law being combined with other databases such as those of the Crime and Criminal Tracking Network and Systems (CCTNS).
- Concerns are being raised that the present law violates the right against self-incrimination enshrined in Article 20(3) of the Constitution of India.

WAY FORWARD

Extensive pre-legislative consultation is must for any sensitive law as such.

Privacy and data protection-related concerns must be addressed in the Rules formulated under the legislation and through model Prison Manuals that States can refer to.

14. Survey data on poverty and broad policy pointers

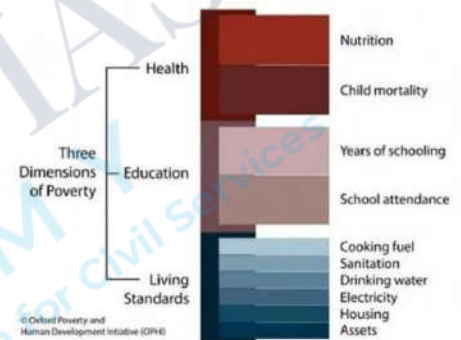
(GS2: Issues relating to poverty and hunger.)

NITI Aayog used the survey data of NFHS 4 to estimate the Multidimensional Poverty Index (MPI) and published the baseline report in 2021. The MPI is a product of the Head Count Ratio and Intensity of Poverty.

MPI:

- The NITI Aayog identified 12 indicators in these three sectors and calculated the weighted average of deprivations in each of these 12 indicators for all men and women surveyed in NFHS 4.
- If an individual's aggregate weighted deprivation score was more than 0.33, they were considered multidimensionally poor.
- The proportion of the population with a deprivation score greater than 0.33 to the total population is defined as the Poverty Ratio or Head Count Ratio.
- A sharp decline in MPI is largely due to a greater decline in Head Count Ratio compared to Intensity of Poverty.

What does the global MPI measure?



The intensity of poverty **makes it possible to see how far the living standard of the poor population is from the poverty line.**

The head count ratio (HCR) is **the population proportion that exists, or lives, below the poverty threshold.** One of the undesirable features of the head count ratio is that it ignores the depth of poverty; if the poor become poorer, the head count index does not change.

WHAT ARE THE CONCERNS ASSOCIATED WITH THE NITI AAYOG'S POVERTY INDEX?

- Firstly, the overall population was deprived in most of the indicators individually, and they were higher than the population identified as multidimensionally poor.
- Secondly, the strength of the MPI as an instrument for a data-driven public policy depends on the quality of survey data, namely the NFHS data.

WHAT ARE THE FACTORS AFFECTING THE QUALITY OF NFHS DATA?

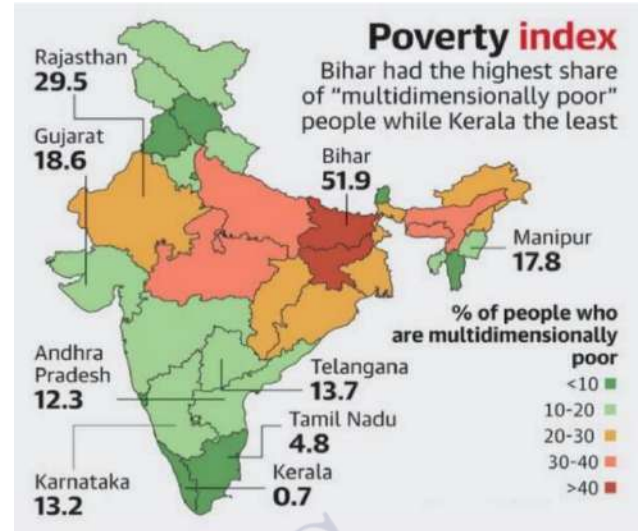
- The National Sample Survey Organisation's (NSSO) sample surveys have been debated among economists and statisticians, both in terms of sampling and non-sample errors, right from its initial days in the 1950s.
- The NFHS data were collected in two time periods. One before the pandemic and the other post-lockdown period. The difference in time period interprets the statistics of the entire database. For instance, the deprivation in terms

of nutrition and maternal health declined, and schooling and school attendance increased in the post-lockdown period.

- The other issues with NFHS data are a) Arbitrariness in reporting the age of the dead, b) Differences in data quality between educated and uneducated respondents, c) Data quality based on differences in time taken to complete a survey of different household types, d) Market-based approach to decide the data collection process, etc.

WHAT SHOULD BE DONE WITH THE NFHS DATA AND TO REDUCE POVERTY?

- For improving the NFHS:
 - a) India should improve the sample design and response quality,
 - b) Analysing the data and finding the inferences from different databases on an issue would help improve data gathering systems.
 - c) The government must continue to use survey data both to derive policy conclusions and also to help improve data quality.
- For reducing poverty:
 - a) The survey data gives only broad policy pointers whereas programmatic interventions should be curated with ground-level realities,
 - b) People may be deprived severely in a few functions, but may not be multidimensionally poor. Hence, attacking poverty should not only be multidimensional but also



15. Flag Code of India:

(GS2: Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure.)

WHAT DO WE KNOW ABOUT THE FLAG CODE OF INDIA?

- The Flag Code of India, 2002 was amended vide Order dated December 30, 2021, and National Flag made of polyester or machine made flag have also been allowed. Now, the National Flag shall be made of hand-spun, hand-woven or machine-made cotton/polyester/wool/silk/khadi bunting, as per the amended flag code.
- It allowed the unrestricted display of the Tricolour as long as the honour and dignity of the flag were being respected.
- The flag code did not replace the pre-existing rules governing the correct display of the flag.
- It was, however, an effort to bring together all the previous laws, conventions and practices.
- It is divided into three parts -
 - General description of the tricolour.
 - Rules on display of the flag by public and private bodies and educational institutions.
 - Rules for display of the flag by governments and government bodies.
- It mentions that the tricolour cannot be used for commercial purposes and cannot be dipped in salute to any person or thing.
- Moreover, the flag should not be used as a festoon, or for any kind of decoration purposes.
- For official display, only flags that conform to the specifications as laid down by the Bureau of Indian Standards and bearing their mark can be used.

16. India-EU ties

(GS2: International relations)

While India celebrates its 75th year of Independence, it also celebrates 60 years of diplomatic relations with the European Union (EU).

The European Union is a group of 27 countries that operate as a cohesive economic and political block.

19 of these countries use EURO as their official currency. 8 EU members (Bulgaria, Croatia, Czech Republic, Denmark, Hungary, Poland, Romania, Sweden) do not use the euro.

The EU grew out of a desire to form a single European political entity to end centuries of warfare among European countries that culminated with World War II and decimated much of the continent.

The EU has developed an internal single market through a standardised system of laws that apply in all member states in matters, where members have agreed to act as one.



Evolution:

- A cooperation agreement signed in 1994 took the bilateral relationship beyond trade and economic cooperation.
- The first India-EU Summit, in June 2000, marked a watershed in the evolution of the relationship.
- At the fifth India-EU Summit in 2004, the relationship was upgraded to a 'Strategic Partnership'.
- The two sides adopted a Joint Action Plan in 2005 towards strengthening dialogue and consultation mechanisms in the political and economic spheres, enhancing trade and investment, and bringing peoples and cultures together.
- The 15th India-EU Summit, in July 2020, provided a common road map to guide joint action and further strengthen the partnership over the next five years.
- The road map highlights engagement across five domains: foreign policy and security cooperation; trade and economy; sustainable modernisation partnership; global governance; and people-to-people relations.

Economic partnership:

- The EU is India's second largest trading partner after the U.S., and the second largest destination for Indian exports.
- Bilateral trade between the two surpassed \$116 billion in 2021-22.

defence partnership:

India and the EU regularly conduct joint military and naval exercises which reflects on their commitment to a free, open, inclusive and rules-based order in the Indo-Pacific. The first maritime security dialogue between the two in 2021 focused on cooperation in maritime domain awareness, capacity-building, and joint naval activities.

innovation ecosystem:

In 2020, there was an agreement for research and development cooperation in the peaceful uses of nuclear energy between the European Atomic Energy Community and the Government of India. Science and Technology Joint Steering Committee between the two focus on areas such as healthcare, Artificial Intelligence, and earth sciences.

INDIA EU TIES

The Joint Action Plan adopted in 2005, highlighted and emphasized on maritime cooperation.

- In the past few decades, both India and the EU have stressed on the idea of freedom of navigation, maritime piracy, and adherence to United Nation Conventions on the Law of the Sea (UNCLOS) and the development of the blue economy and maritime infrastructure.
- Both have identified the Indo-Pacific as the new avenue for maritime cooperation.
- In January 2021, India and the EU hosted the first Maritime security dialogue in a virtual format

climate partnership:

the 'green strategic partnership' between India and Denmark aims to address climate change, biodiversity loss and pollution, and the India-Nordic Summit in May focused on green technologies and industry transformation that are vital for sustainable and inclusive growth.

France's on-time delivery of 36 Rafale fighter jets and willingness to offer Barracuda nuclear attack submarines to the Indian Navy reflects the growing level of trust in their relationships.

ISSUES:

- Both have differing opinions and divergent interests in some areas.

- India's reluctance to explicitly condemn Russia's intervention in Ukraine, and the country's increasing economic cooperation with Russia, has been one area of disagreement.
- India has called out the EU's double standards on the same, for the EU purchases 45% of its gas imports from Russia in 2021.
- There is also ambiguity on the EU's strategy in tackling the rise of China.
- Its muted response during the Galwan clash is a case in point.
- India's economic, political and demographic weight could be deftly leveraged by the EU to counterbalance China's influence across the region. But there seems to be some hesitancy about this.

WAY FORWARD

- India and the EU should not let such divergences of views overwhelm the many areas of convergence among them.
 - The proactive resumption of the ambitious India-EU free trade and investment agreement in 2021 is a step in the right direction.
 - European partners acknowledge India as an important pillar in ensuring stability in the Indo-Pacific region.
 - The EU wants to be more than just a trading bloc and is seeking alliances with like-minded countries like India.
- India and the EU are political and economic poles in an increasingly multi-polar world. Our ability to work together, therefore, can shape global outcomes.

17. Remission without reforms:

(GS2)

The 11 convicts in the Bilkis Bano case of the 2002 riots walked out of jail as the Gujarat government has allowed their release under its remission policy.

WHAT ARE THE LAWS AVAILABLE ON REMISSIONS?

- Under Articles 72 and 161 of the Constitution, the President and Governors have the power to pardon, and to suspend, remit, or commute a sentence passed by the courts.
- Since prisons is a state subject, state governments have powers under Section 432 of the CrPC to remit sentences.
- Prisoners are often released on the birth and death anniversaries of prominent leaders and other important occasions.

WHAT ARE THE GROUNDS FOR REMISSION?

- States set up a Sentence Review Board to exercise the powers under Section 432 of the CrPC.
- The Supreme Court has held that states cannot exercise the power of remission arbitrarily, and must follow due process.
- Factors considered for granting remission
 - Seriousness of the crime
 - The status of the co-accused
 - Conduct in jail
- In 'Laxman Naskar v. Union of India' (2000) the SC laid down five grounds on which remission is considered.
- Whether the offence is an individual act of crime that does not affect the society
- Whether there is a chance of the crime being repeated in future
- Whether the convict has lost the potentiality to commit crime
- Whether any purpose is being served in keeping the convict in prison
- Socio-economic conditions of the convict's family
- Jail manuals contain rules that allow certain days of remission in every month for good behaviour of convicts.
- However, convicts serving life sentences are entitled to seek remission only after serving a minimum of 14 years.

WHY IS THE REMISSION CRITICIZED?

- Against treating crimes as heinous- The remission runs contrary to the spirit of contemporary thinking on treating crimes against women and children as so heinous that the perpetrators should not be considered for remission.
- No premature release- The Cr.P.C. does permit premature release in the form of remission or commutation in life sentences, but it should be based on a legal and constitutional scheme, and not on a ruler's whimsy.
- Political considerations- Any decision on remission should be linked to the convict's expression of regret and some promise of reform.

It would be unjustified if given for political considerations merely because of elapse of the minimum number of years they have to serve.

18. Dysfunction in the Indian Police Forces

(GS2: Governance)

As India is celebrating 75 years of Independence, the police continue to be in the public gaze, most often for antagonistic reasons.

- Police is an exclusive subject under the State List (List II, Schedule 7 of the Constitution).
- However, the centre is also allowed to maintain its own police forces to assist the states with ensuring law and order
- The present Indian police system is largely based on the Police Act of 1861.

Various Reforms taken for Criminal Justice System Since Independence

The constitutional courts have also made far-reaching contributions. By reading down Section 377 of the IPC, the Supreme Court granted relief to the LGBTQ+ community.

- Custodial torture and sexual harassment of women have been held to be violations of fundamental rights.

- National security
- The National Investigation Agency was constituted in 2008 (after the deadly 26/11 terror attacks in Mumbai) to investigate and prosecute offences affecting national security.

• Cybercrime

- Electronic documents and signatures have been given legal sanctity to facilitate online transactions and check cybercrime under the Information Technology Act of 2000.

• Children related

- Comprehensive laws such as the Protection of Children from Sexual Offences Act, 2012, and the Juvenile Justice (Care and Protection of Children) Act, 2015, have been enacted.

- More revolutionary changes were made in the Indian Penal Code (IPC) in 1983 and 1986 and by introducing Sections 498A (cruelty by husband and his relatives) and 304B (dowry death) along with certain amendments in the Evidence Act.

The Probation of Offenders Act, 1958 : It states that all persons found guilty of crimes that will not lead to life imprisonment or death penalty can be put on probation instead of being sentenced: objective more to reform, rather than punish, offenders

ISSUES:

- The police continue to be haunted by allegations of being a brute force.
- The trust deficit does not appear to have bridged despite the power to arrest having been curtailed, the use of handcuffs restrained, the presence of a lawyer permitted during interrogation, CCTV cameras installed in the police stations, and human rights bodies allowed to keep a constant eye.

- Lawmakers are still reluctant and the judiciary apprehensive about making voluntary confessions before a police officer.
- Despite 'Police' being a State subject, no State government has given due attention to police reforms so far.
- the District Superintendent of Police is unable to transfer his Station House Officers without the approval of the District Magistrate in U.P.; the performance appraisal report of a Superintendent of Police is still written by the District Magistrate in some States (including Chhattisgarh) despite the Supreme Court's directions to the contrary; and
- The introduction of the police commissionerate system in metropolitan areas (as per the provisions of the Criminal Procedure Code) is always resisted tooth and nail.

WAY FORWARD:

- Unwanted and mechanical arrests need to be stopped.
- More offences can be made bailable and more brought under the ambit of compounding to lighten the burden on jails.
- The use of technology and forensic techniques must be encouraged to enhance the quality of evidence.
- Specialised wings need to be established to deal with newer types of crime.

The police should be accountable only for their constitutional goal of establishing the rule of law.

19. India's labour reforms

(GS3: economy and related issues)

One of the most significant economic fallout of the pandemic has been the declining labour market conditions. And in this background Labour Codes were reformed in 2019-20.

INITIATIVES:

- The government has worked to create employment opportunities in the formal and the informal sectors. Schemes such as MUDRA Yojana, Svanidhi Yojana, Garib Kalyan Rozgar Abhiyaan and MGNREGA are aimed at harnessing the potential of the working population in the formal and the informal sectors.
- Apart from the Center, State Governments have also undertaken substantive legislative and administrative reforms in their respective labour and industrial relations arena.
- Constitutional mandate: Article 41 – The state shall within the limits of its economic capacity and development make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement and in other cases of underserved want.
- Article 42 – The state shall make provision for securing just and humane conditions of work and for maternity relief.
- Social Insurance: is described as the giving in return for contribution, benefits up to subsistence level, as of right and without a means test, so that an individual may build freely upon it.
- Social Assistance: is provided as a supplement to social insurance for those needy persons who cannot get social insurance payments and is offered after a means test.
- Public Service: is a programme constituting the third main type of social security. They are financed directly by the government from its general revenues in form of cash payments or services to every member of the community falling within a defined category.

MAJOR ISSUES :

- Government's failure :The Government has failed to provide legal visibility to millions of unorganised and migrant workers. India's labour regulatory framework has been rigid and hindered the growth of output, investment and employment expansion.
- Pandemic Impacts: COVID-19 intensified informality, led to the withdrawal of workers from the labour market, reduced earnings, increased unemployment and widened inequality

- Technical glitches: Under the Constitution of India, Labour is a subject in the concurrent list where both the Central and State Governments are competent to enact legislation. As a result, a large number of labour laws have been enacted catering to different aspects of labour e.g. occupational health, safety, employment etc.
- Loopholes: Because of the predominantly heavy-handed labour regulations (also called as Inspector Raj) with exploitable gaps, the MNCs and domestic organizations have resorted to alternate ways i.e. employing contract labour at less than half the payroll of a permanent employee.
- Gaps in labour laws: One of the main reasons for labour reforms is the concept of contract labour. Trade Unions suggest that this concept itself should be removed. There is stringent hiring and firing process defined in Industry Disputes Act. It makes it mandatory for the organization to seek Government permission before removing an employee.

CONCLUSION

Labour Welfare helps labourers improve their working conditions, providing social security and raising their standard of living.

Raise the employee's morale use the workforce more effectively besides removing dissatisfaction help to develop loyalty in workers towards the organization.

20. A new global vision for G20

(GS2: international relations)

While India has taken a clear view of the role of G20, there is concern that the agenda, themes and focus areas which India will set for 2023 lack vision.

- The G20 is a strategic multilateral platform connecting the world's major developed and emerging economies. The G20 holds a strategic role in securing future global economic growth and prosperity.
- Starting in 1999 as a meeting for the finance minister and central bank governors, the G20 has evolved into a yearly summit involving the Head of State and Government.
- In addition to that, the Sherpa meetings (in charge of carrying out negotiations and building consensus among Leaders), working groups, and special events are also organized throughout the year.
- India is a member of the G20.
- The G20 has no permanent secretariat.
- The presidency of the G20 rotates every year among its members, with the country that holds the presidency working together with its predecessor and successor, also known as Troika.

WHAT CONCERNS NEEDS TO BE ADDRESSED?

- Limited focus areas- India should seek collaboration on limited focus areas around science and technology, building on resolutions of United Nations General Assembly and other multilateral bodies.
- Focus on emerging economies- Emerging economies are no longer to be considered the source of problems needing external solutions but source of solutions to shared problems.
- Human rights- There should be a global consensus in the Vienna Declaration on Human Rights 1993 reaffirming the indivisibility of all human rights.
Ensuring adequate food, housing, education, health, water and sanitation and work for all should guide international cooperation.
- Societal benefit- A forum to exchange experiences on societal benefits and growth as complementary goals would lead to fresh thinking on employment and environment.
- Tech access- For global society to reap the fruits of the new set of network technologies, open access software should be offered for more cost-effective service delivery options, good governance and sustainable development.

- Space sector- Analysing Earth observation data will require regional and international collaboration through existing centres which have massive computing capacities, machine learning and artificial intelligence. Open access to geospatial data, data products and services and lower costs of geospatial information technology facilities do not require huge financial resources.
- Health sector- A major global challenge is the rapidly growing antimicrobial resistance which needs new antibiotics and collaboration between existing biotechnology facilities.
- Indian Ocean Region for peace- Countries in the region will support building on the 1971 UNGA Declaration designating for all time the Indian Ocean as a zone of peace and non-extension into the region of rivalries and conflicts that are foreign to it.
- Environment- A Global Financial Transaction Tax, considered by the G20 in 2011, needs to be revived to be paid to a Green Technology Fund for Least Developed Countries.

21. Delhi Police's use of Facial Recognition Technology

(GS 2: Civil Service)

A Right to Information (RTI) response revealed that the Delhi Police treats matches of above 80% similarity generated by its facial recognition technology (FRT) system as positive results.

WHAT IS FACIAL RECOGNITION TECHNOLOGY?

- Facial recognition is an algorithm-based technology that creates a digital map of the face by identifying and mapping an individual's facial features, which it then matches against the database to which it has access.
- It can be used for two purposes:
 - verification of identity: Here the facial map is obtained for the purpose of matching it against the person's photograph on a database to authenticate their identity. Increasingly it is being used to provide access to any benefits or government schemes.
 - One-to-many identification: There is the one-to-many identification of identity wherein the facial map is obtained from a photograph or video and then matched against the entire database to identify the person in the photograph or video.

A list of possible matches are generated on the basis of their likelihood to be the correct match with corresponding match scores.

However, ultimately it is a human analyst who selects the final probable match from the list of matches generated by FRT.

ISSUES WITH FRT USE:

- Issues related to misidentification due to inaccuracy of the technology and
- Issues related to mass surveillance due to misuse of the technology
- Extensive research into the technology has revealed that its accuracy rates fall starkly based on race and gender.
- This can result in a false positive rate, where a person is misidentified as someone else, or a false negative where a person is not verified as themselves.
- Cases of a false positive result can lead to bias against the individual who has been misidentified.
- On the other hand, cases of false negative results can lead to exclusion of the individual from accessing essential schemes. Ex. Failure of biometric based authentication under Aadhaar for a 90 YO person.
- At present, India does NOT have a data protection law or a FRT specific regulation to protect against misuse. In such a legal vacuum, there are no safeguards to ensure that authorities use FRT only for the purposes that they have been authorised to, as is the case with the Delhi Police.

It is feared that the Act will lead to overbroad collection of personal data in violation of internationally recognised best practices for the collection and processing of data.

22. SC uphold PMLA amendments

(GS2: Governance, Transparency & Accountability, Citizens Charters)

WHAT IS PMLA?

- Prevention of Money Laundering Act, 2002 is an Act of the Parliament of India enacted by the government to prevent money-laundering and to provide for confiscation of property derived from money-laundering.
- The Directorate of Enforcement is a law enforcement agency and economic intelligence agency responsible for enforcing economic laws and fighting economic crime in India. It is part of the Department of Revenue, Ministry of Finance, Government Of India.
- The acts it covers:
 - Prevention of Money Laundering Act (PMLA)
 - Fugitive Economic Offenders Act
 - Foreign Exchange Management Act
 - Foreign Exchange Regulation Act (FERA)
- The ED has often been attacked for initiating investigations, raiding and questioning leaders of opposition parties, be it under the current regime or under past governments.
- Huge discretions: The ED is the only Central agency in the country that does not require permission from the government to summon or prosecute politicians or government functionaries for committing economic offences like money laundering.
- Used for petty crimes: PMLA is pulled into the investigation of even “ordinary” crimes and assets of genuine victims have been attached.
- Actual purpose denigrated: PMLA was a comprehensive penal statute to counter the threat of money laundering, specifically stemming from the trade in narcotics.
- Violations of Rights: PMLA was enacted in response to India’s global commitment to combat the menace of money laundering. Instead, rights have been “cribbed, cabined and confined”.

On ED's power under PMLA

An upshot of the judgment by the Supreme Court on the validity of certain provisions under the Prevention of Money Laundering Act

- The offence of money laundering is as heinous an offence as terrorism
- Section 3 (definition of money laundering), Section 24 (reverse burden of proof), and Section 5 (attachment of property) to stay
- Stringency in granting bail under the Act is legal and not arbitrary
- It is not mandatory to give an Enforcement Case Information Report (ECIR) in every case as it was not an FIR
- The statements made to ED are considered admissible
- Provision of attachment of property of accused as proceeds of crime 'balances' the interests of the accused and the State
- The question of enactment of PMLA amendments through the Money Bill route is to be decided by a larger Bench



ISSUES WITH PMLA

- Misuse of central agencies: PMLA is being pulled into the investigation of even ordinary crimes by the Enforcement Directorate.
- Seizing of assets: Assets of genuine victims have been attached. The ED could just walk into anybody’s house.
- Politically motivated raids: In all this, the fundamental purpose of PMLA to investigate the conversion of “illegitimate money into legitimate money” was lost.
- Opacity of charges: Petitioners pointed out that even the Enforcement Case Information Report (ECIR) – an equivalent of the FIR – is considered an “internal document” and not given to the accused.
- Vagueness over evidence: The accused is called upon to make statements that are treated as admissible in evidence.
- Harassment: The ED begins to summon accused persons and seeks details of all their financial transactions and of their family members.
- Against individual liberty: The initiation of an investigation by the ED has consequences that have the potential of curtailing the liberty of an individual.

WAY AHEAD

It is unlikely that corruption can be substantially reduced without modifying the way government agencies operate. The fight against corruption is intimately linked with the reform of the investigations. Therefore the adjudicating authorities must work in cooperation and ensure the highest standards of transparency and fairness.

23. Constitution Bench to hear Delhi statehood plea

(GS2: Indian Constitution - historical underpinnings, evolution, features, amendments, significant provisions and basic structure)

A Constitution Bench led by Justice D.Y. Chandrachud will hear the legal battle between the Centre and the Government of Delhi for control over officials in the national capital.

WHAT IS A CONSTITUTION BENCH?

- The constitution bench is the name given to the benches of the Supreme Court of India.
- The Chief Justice of India has the power to constitute a Constitution Bench and refer cases to it.
- Constitution benches are set up when the following circumstances exist:
 - Interpretation of the Constitution: Article 145(3)
 - President of India seeking SC's opinion
 - Conflicting Judgments: When two or more three-judge benches of the Supreme Court have delivered conflicting judgments on the same point of law, necessitating a definite understanding and interpretation of the law by a larger bench

WHY IN NEWS NOW?

- A 2018 Constitution bench decision interpreting Article 239AA had not dealt with an aspect having a bearing on the dispute over services, CJI agreed.
- By a majority decision in July, 2018, the Constitution bench upheld the respective powers of the state Assembly and the Parliament.
- It said that while the CoM must communicate all decisions to the L-G, this does not mean that the L-G's concurrence is required.
- In case of a difference of opinion, the L-G can refer it to the President for a decision.
- The L-G has no independent decision-making power but has to either act on the 'aid and advice' of the CoM or is bound to implement the decision of the President on a reference being made.
- The bench, which limited itself to the interpretation of Article 239AA, left individual issues to be decided by regular benches.

WHEN POWER TUSSLE BEGAN?

- Subsequently in 2019, a two-judge bench of the SC dealt with some individual issues arising from the power tussle between the Centre and the NCT government.
- It ruled that the Anti-Corruption Branch of the Delhi government cannot investigate corruption cases against central government officials.
- The judges, however, differed on who should have control over administrative services.
- The 2018 Constitution bench judgment had not interpreted the expression "insofar as any such matter as applicable to Union Territories" appearing in Article 239AA.

24. The Competition (Amendment) Bill, 2022:

(GS Paper 2 & 3: Parliament-Structure, functioning and conduct of business, Competition Commission of India etc)

WHAT THE ACT SAYS

- The term "Government" in any law by the legislative assembly will mean "Lieutenant Governor"
- The assembly shall not make rules or committees to consider day-to-day administration or conduct inquiries
- Rule or committee made before the new amendment comes into force "shall be void"
- Before taking any executive action, opinion of the L-G shall be obtained by a general or special order
- L-G shall have power to reserve for consideration any bill, and any of the matters outside the purview of the powers conferred on the legislative assembly

DELHI GOVT'S RESERVATIONS

- Article 239AA says legislature can make laws on any matters on state and concurrent list except for issues relating to public order, police and land.
- SC's Constitution bench in 2018 recognised assembly's right, and said Union has exclusive powers only in the above 3 issues.
- SC said L-G should work with aid and advice of council of ministers
- SC order clarified that L-G has not been entrusted with any independent decision-making power
- While any matter of dispute can be sent to President, the SC said it does not mean every matter should be

WHAT THE CENTRE'S AFFIDAVIT IN THE SUPREME COURT SAYS

- The 2021 amendments were carried out "to bring clarity and streamline the governance structure of the NCT of Delhi"
- The amendments do not attempt to vest independent executive power to the LG since the LG can either act on the council of ministers' advice or implement the decision by the President on a reference made by him

The changing market dynamics due to technological advancements, artificial intelligence, factors other than price, amendments became necessary to sustain and promote market competition

WHAT IS THE MAJOR CHANGE IN DEALING WITH NEW-AGE MARKET COMBINATIONS?

- 'Deal value' threshold: Amendment makes it mandatory to notify the Commission of any transaction with a deal value in excess of ₹2,000 crore and if either of the parties has 'substantial business operations in India'.
- Under Section 5 currently parties indulging in merger, acquisition, or amalgamation need to notify the Commission of the combination only on the basis of 'asset' or 'turnover'.
- Frame regulations to prescribe the requirements for assessing (an enterprise having 'substantial business operations in India): This change will strengthen the Commission's review mechanism, particularly in the digital and infrastructure space.
- Information to commission: When business entities are willing to execute a combination, they must inform the Commission. The Commission may approve or disapprove the combination, with a check on adverse effect on competition.
- Increase in timeline: The new Bill seeks to accelerate the timeline from 210 working days to only 150 working days with a conservatory period of 30 days for extensions to approve the combination.
- Anti-competitive agreements: The amendment broadens the scope of 'anti-competitive agreements' to catch entities that facilitate cartelisation even if they are not engaged in identical trade practices.
- Framework for settlements and commitments: For cases relating to vertical agreements and abuse of dominance. In the case of vertical agreements and abuse of dominance, the parties may apply for a 'commitment' before the Director General (DG) submits the report.
Settlement' will be considered after the report is submitted and before the Commission decides.
- Leniency Plus: It allows the commission to give an additional waiver of penalties to an applicant who discloses the existence of another cartel in an unrelated market.
- Appointment of the DG: To be appointed by the Commission rather than the Central government, giving the Commission greater control.
- Penalties and penalty guidelines: For any false information filed, a penalty of five crore will be imposed, and for failure to comply with the Commission directions, a penalty of ₹10 crore will be imposed.
- NCLT: For an appeal to be heard by the National Company Law Tribunal (NCLT) against the Commission's order, the party will have to deposit 25% of the penalty amount.

CHALLENGES COMBINING PARTIES FACE IN OPEN MARKET PURCHASES:

- Gun jumping cases: There have been several gun-jumping cases owing to the combining parties' inability to defer the consummation of open market purchases.
- If the combining parties close a notified transaction before the approval, or have consummated a reportable transaction without bringing it to the Commission's knowledge, it is seen as gun-jumping. The penalty for gun-jumping was a total of 1% of the asset or turnover. This is now proposed to be 1% of the deal value
- Unaffordable transaction: If parties wait for the Commission's clearance, the transaction may become unaffordable.
- Exempt open market purchases: The amendment proposes to exempt open market purchases and stock market transactions instead of notifying to the Commission in advance (Similar to the European Union merger regulations).
- This is subject to the condition that the acquirer does not exercise voting or ownership rights until the transaction is approved and the same is notified to the Commission subsequently.

Note: A Hub-and-Spoke arrangement is a kind of cartelisation in which vertically related players act as a hub and place horizontal restrictions on suppliers or retailers (spokes). Currently, the prohibition on anti-competitive agreements only covers entities with similar trades that engage in anti-competitive practices.

25. One Year of Taliban 2.0

(GS2: India and its Neighbourhood, Effect of Policies & Politics of Countries on India's Interests, Crisis in Afghanistan and its Implications)

- It has been a year since American Troops withdrew and Taliban took over the regime in Afghanistan in August 2021.
- Over the last two decades, foreign powers including India helped Afghanistan to rebuild roads, dams, government offices, hospitals, rural infrastructure, the economy, and education.



CURRENT SITUATION:

- Most of Afghanistan's revenues are now being raised through customs duties.
- It is also exporting coal to Pakistan.
- In the absence of international banking facilities, UN planes have flown in USD 1 billion in hard cash, including to fund money transfers to the needy through partner agencies.
- The killing of al-Qaeda leader Ayman al-Zawahiri in a Kabul neighbourhood by the US has added to the Taliban's insecurity.
- The anti-people action by the Taliban to ban the education of girls beyond class 6 in school, and to make it difficult for women to work met with protest by women demanding "Education, Employment and Bread".
- The UN has reported 160 extrajudicial killings, 178 arbitrary detentions, 23 instances of incommunicado detentions, and 56 instances of torture and ill-treatment of former government and military officials.
- Reports of factionalism, and the reported dissonance between the Haqqanis and the Kandahar core of the Taliban have fueled speculation about the possibility of a breakdown and another cycle of civil war.

HOW HAS INDIA APPROACHED AFGHANISTAN SINCE THE TALIBAN REGIME?

- Currently, India is assessing three broad ways of potential engagement with Afghanistan:
 - Providing humanitarian assistance.
 - Exploring a joint counterterrorism effort with other partners.
 - Engaging in talks with the Taliban.
- The end goal of all these is to restore people-to-people links and prevent backsliding of the gains Delhi's developmental aid has made in Afghanistan in the past two decades.
- India has undertaken more than 400 key infrastructure projects in all 34 Afghan provinces and has signed strategic agreements to enhance trade and bilateral relations.
- From 2002 to 2021, India spent \$4 bn in development assistance in Afghanistan, building high-visibility projects such as highways, hospitals, the parliament building, rural schools, and electricity transmission lines.
- These projects have created a vast and deep pool of goodwill for India of the kind that no other country can claim.
- One of the projects that was left incomplete was the Shahtoot Dam, to provide drinking water to 2 million residents of Kabul.

WHAT IS THE SIGNIFICANCE OF AFGHANISTAN FOR INDIA?

- Economic and Strategic Interest:
 - ✓ Afghanistan is a gateway to the oil and mineral-rich Central Asian republics.
 - ✓ Afghanistan's main advantage is its geography, as anyone who is in power in Afghanistan controls the land routes connecting India with Central Asia (via Afghanistan).
- Developmental Projects:
 - ✓ The massive reconstruction plans for the country to offer a lot of opportunities for Indian companies.
 - ✓ Three major projects:

- ✓ The Afghan Parliament, the Zaranj-Delaram Highway, and the Afghanistan-India Friendship Dam (Salma Dam), along with India's assistance of more than USD 3 billion in projects, hundreds of small development projects (of schools, hospitals and water projects) have cemented India's position in Afghanistan.
- Security Interest:
 - ✓ India has been the victim of state-sponsored terrorism emanating from Pakistan supported terrorist group operating in the region (e.g., Haqqani network). Thus, India has two priorities in Afghanistan:
 - ✓ To prevent Pakistan from setting up a friendly government in Afghanistan, and
 - ✓ To avoid the return of jihadi groups, like al Qaeda, which could strike in India.

26. The Concerns Around Aadhaar-Voter Id Linkage

(GS2: Important Provisions of the Constitution of India)

Recently, the Election Commission (EC) has been organizing a campaign to promote the linkage of Voter ID and Aadhaar. As a result, the block level officers (BLOs) have been asking individuals to link their Aadhaar with their Voter IDs, failing which their Voter IDs could be cancelled.

- Form 6B issued under the new Rule 26B does not give the impression of voluntariness in linkage. It mandates that the voter should either submit their Aadhaar number or any other listed document if the voter is "not able to furnish their Aadhaar number because they do not have an Aadhaar number".

WHY MANDATORY AADHAAR-VOTER ID LINKAGE IS AN ISSUE?

- As per the Puttaswamy judgment, the Court observed that the mandatory linking of Aadhaar with bank accounts fell afoul of the test of proportionality, as it deprived a person of their right to property for non-linkage.
- In Lal Babu Hussein (1995), the SC had held that the Right to vote cannot be disallowed by insisting only on four proofs of identity, i.e., voters can rely on any other proof of identity and obtain the right to vote.

WHAT ARE THE OPERATIONAL DIFFICULTIES IN AADHAAR-VOTER ID LINKAGE?

- First, the preference to Aadhaar for the purposes of determining voters is puzzling as Aadhaar is only a proof of residence and not a proof of citizenship.
- Second, as per the Unique Identification Authority of India in 2018, Aadhaar based biometric authentication had a 12% error rate.
- Third, linking of the two databases of electoral rolls and Aadhaar could lead to the linkage of Aadhaar's "demographic" information with voter ID information. Therefore, it can lead to some sort of state surveillance and violation of the right to privacy. Therefore, any other officially valid document should be used to verify or authenticate the identity of the voter in India.

Benefits of linkage:

The government also announced that the purpose of obtaining an Aadhaar number is

- For authentication of electors' entries in the electoral roll
To extend better electoral services
For registration of migrated voters without duplication in the rolls, and
To curb the menace of multiple enrolments of the same person in different places.
- Universal coverage: At the end of 2021, 99.7% of the adult Indian population had an Aadhaar card.

Issues:

Violations to an individual's right to privacy, and the linking might help in creating voter profiles which may be used to influence the voting process.

The preference for Aadhaar for the purposes of determining voters is puzzling as Aadhaar is only proof of residence and not proof of citizenship. Therefore, verifying voter identity against this will only help in tackling duplication but will not remove voters who are not citizens of India from the electoral rolls.

- This coverage exceeds that of any other officially valid document such as driver's licence, ration cards, PAN cards etc that are mostly applied for specific purposes.
- As per the government, linkage of Aadhaar with voter IDs will assist in ensuring that only one Voter ID is issued per citizen of India.

As per the Unique Identification Authority of India in 2018, Aadhaar-based biometric authentication had a 12% error rate.

A similar exercise undertaken in 2015 in Andhra and Telangana led to the disenfranchisement of around 30 lakh voters before the Supreme Court stalled the process of linkage.

WAY FORWARD

- The Government must invite public opinion and allow deeper parliamentary scrutiny before implementing any new provisions.
- It is of utmost importance in a Parliamentary democracy like India that not just the ordinary citizens but also the elected representatives are not being deprived of their rights and opportunities.
- Before pursuing the Aadhaar-voter ID integration, the government shall first go for enacting the Personal Data Protection (PDP) law.



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GS III

27. PMLA verdict, an erosion of constitutional buffers

(GS 3 –Indian Economy)

The Supreme Court in Vijay Madanlal Choudhary and Ors versus Union of India case upheld the provisions of the PMLA (Prevention of Money Laundering Act).

WHAT ARE THE SIGNIFICANT PROVISIONS OF PMLA?

- Section 3 of the Act says, “Whosoever directly or indirectly attempts to indulge or knowingly assists or knowingly is a party or is actually involved in any process or activity connected with the proceeds of crime including its concealment, possession, acquisition or use and projecting or claiming it as untainted property shall be guilty of the offence of money-laundering.”
- Proceeds of the Crime not only includes the property derived from scheduled offence but would also include any other property derived or obtained indulging into any criminal activity relate-able or similar to the scheduled offence.
- Money Laundering Redefined: Money Laundering was not an independent crime rather depended on another crime, known as the predicate offence or scheduled offence.
- The amendment seeks to treat money laundering as a stand-alone crime.
- Under Section 3 of PMLA, the person shall be accused of money laundering if in any manner that person is directly or indirectly involved in the proceeds of the crime.
- Concealment
- Possession
- Acquisition
- Use or projecting as untainted property
- Claiming as untainted property
- Continuing Nature of Offence: This amendment further mentioned that the person will be considered to be involved in the offence of money laundering till the time that person is getting the fruits of activities related to money laundering as this offence is of a continuing nature.

CONCERNS RAISED ABOUT THE AMENDMENTS IN PMLA

- There is a strong possibility that PMLA can be invoked against a political rival or a dissenter, because the “process is itself the punishment”.
- Issues with ECIR: ECIR (Enforcement Case Information Report), an equivalent of the FIR, is considered an “internal document” and not given to the accused. Throughout the procedure, the accused does not even know facts of the allegation against him
- In General Criminal Law, every accused is innocent until proven guilty. However, in PMLA, this burden has been shifted to the accused persons; they will have to prove their innocence.
- Section 63 of PMLA states that information must be given by the accused, false information or no information will constitute another offence. Compelling the accused to be a witness against themselves is violative of the right against self-incrimination.

WAY FORWARD:

- It is true that law has given stringent powers to the ED in dealing with the accused that can increase the possibility of political misuse.
- But there must be a consensus between the adjudicating authority and the officers of ED to abide by the constitutionality of provision under PMLA, making the investigation more lucid.
- There must be a constant scrutiny over the operations of the Enforcement Directorate and current disposition whether this clarification will improve the conviction rate (which is right now less than half a percent).

28. India's bioeconomy report:

(GS3: Environment)

A bioeconomy is defined as “an economy where the basic building blocks for materials, chemicals, and energy are derived from renewable biological resources.”

- India's Bioeconomy Report 2022 was released recently and it shows that India's Bioeconomy will touch 300 billion US dollars by 2030 from 80 billion US Dollars in 2021.

INDIA'S BIOECONOMY REPORT 2022:

- India is among the top 3 in South Asia and the top 12 destinations for biotechnology in the world, with approximately a 3% share in the global biotechnology industry.
- India has 2nd highest number of USFDA-approved manufacturing plants outside the US.
- The number of Biotech startups in the country has increased from 50 to over 5,300 in the last 10 years, because of the growing enabling ecosystem and prioritization.
- While most sectors showed stunted growth or negative growth in the backdrop of the Covid challenge, two rounds of lockdowns, and global disruptions, the Biotech sector stood out distinctly.
- The Make in India National Mission is also likely to play a major role in substituting the import dependence of medical devices where the 70-80% demand is currently being met through imports.
- In the case of sustainable Biofuel, the target year for 20% ethanol blending has been advanced by India from 2025 to 2023 and this biotech sub-sector has shown two times growth.
- The agriculture sector which employs nearly 60% of India's population has a large scope for improvement. BT Cotton, Biopesticides, Biostimulants, and Biofertilizers contributed to about \$10.48 billion in 2021 for bioeconomy of the country.

NEED:

- Creating millions of green jobs in rural and coastal regions.
- Ensuring food security and reducing hydric stress.
- Renewing and modernizing industrial fabrics, introducing innovations in agriculture, aquaculture, forestry, and other industries.
- Reducing atmospheric emissions and dependence on fossil resources, hence aiding in climate mitigation and carbon neutrality.

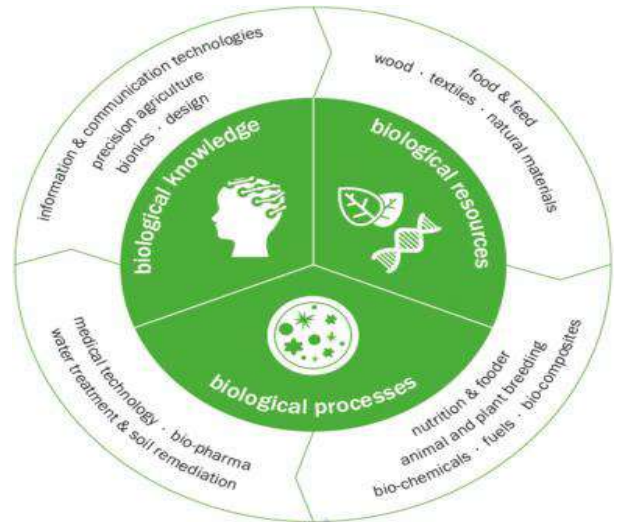
It is aligned with SDGs and will help in recovering part of degraded ecosystems and restoring biodiversity.

29. AlphaFold & Protein Structure:

(GS3: biotechnology)

Recently, DeepMind, a company based in London, announced that it had predicted the three-dimensional structures of more than 200 million proteins using AlphaFold.

- AlphaFold is an AI-based protein structure prediction tool. It is based on a computer system called deep neural network.
- Inspired by the human brain, neural networks use a large amount of input data and provide the desired output exactly like how a human brain would.
- The real work is done by the black box between the input and the output layers, called the hidden networks.
- AlphaFold is fed with protein sequences as input. When protein sequences enter through one end, the predicted three-dimensional structures come out through the other.



WHAT ARE ITS IMPLICATIONS?

- Knowing protein structure and function is essential to understanding human diseases.
- Protein structures using x-ray crystallography, nuclear magnetic resonance spectroscopy, or cryogenic electron microscopy. These techniques are not just time-consuming, they often take years and are based mainly on trial-and-error methods.
- AlphaFold makes the process of protein structuring easier. It is a watershed movement in science and structural biology in particular.
- AlphaFold has already helped hundreds of scientists accelerate their discoveries in vaccine and drug development since the first public release of the database nearly a year back.

SIGNIFICANCE FOR INDIA

- The Indian community of structural biology is strong and skilled. It needs to quickly take advantage of the AlphaFold database and learn how to use the structures to design better vaccines and drugs.
- Understanding the accurate structures of COVID-19 virus proteins in days rather than years will accelerate vaccine and drug development against the virus.

India could facilitate joint collaborations with the prevalent hardware muscle and data science talent in the private sector and specialists in academic institutions to pave the way for data science innovations.

30. Using a rupee route to get around a dominating dollar

(Mains Paper 3: Indian Economy)

A number of countries, including India, are now considering the use of other currencies to avoid the U.S. dollar and its hegemonic role in settling international transactions.

RUPEE SETTLEMENT OF TRADE

- In recent times, India has been taking an active interest in having the rupee used for trade and the settlement of payments with other countries, which include Russia, now facing sanctions.
- The Reserve Bank of India has recently taken a proactive stand to have rupee settlement of trade (circular dated July 11, 2022).

Opportunities:

• The advantages India is currently seeking in these arrangements include avoidance of transactions in the highly priced dollar which has an exchange value of ₹80, impacting the Indian economy with inflation, capital flight and the **drop in foreign exchange reserves** by \$70 billion since September 2021.

With India having a trade deficit with Russia, which has been around \$3.52 billion on average over the last two financial years, India's opportunities include the possible use, by Russia, of the surpluses in the Vostro rupee account in Russian banks for additional purchases from India.

Buying oil with a depreciated ruble, and at discounts, is not only cost-saving but also saves transport time with the use of multi-modal routes using land, sea and air routes.

CHALLENGES:

- Willingness of banks and private parties: Apart from issues that concern an agreed exchange rate between the rupee and the ruble (R-R), two volatile currencies, there is also the question of the willingness of private parties (companies, banks) to accept the rupee for trade and settlements.
- There are official concerns for reactions, particularly from the U.S., to deals, especially for purchase of the S-400 defence equipment.
- Moreover, the deals between India and Russia, especially on oil, can be considered by the West as 'indirect back door support' — as India is importing Russian crude at 30% discount, processing at refineries in Gujarat which include Reliance, and then exporting those to the West.

- Trade deficit: There were attempts even before the novel coronavirus pandemic to initiate a clearing account on the BRICS platform.
- The quantitative implications indicate a skewed pattern of transactions — with China having most of the trade surplus.

CONCLUSION:

The India-Soviet agreements of the past may provide a clue on how the current 'R-R' trade and the problems can be managed by initiating a push for Indian exports to Russia and, of course, avoiding all deals in dollars — benefiting both trade partners and countering, globally, the on-going currency hierarchy.

31. Nehru's luminous legacy

(GS3: Infrastructure: Energy, Ports, Roads, Airports, Railways Etc, GS1: post independence)

In 1947, Nehru, as Prime Minister, inherited an India that was politically shattered, socially divided and emotionally devastated. Yet, with restraint and self-confidence, he steered the country through those turbulent times and laid out the vision of a modern, progressive nation that quietly earned the respect of the global community.

- Nehru's vision of India was anchored in a set of ideas such as democracy, secularism, inclusive economic growth, free press and non-alignment in international affairs and also in institutions that would lay the foundation for India's future growth.

Temple of modern India:

• **Indian Council of Agricultural Research (ICAR):** to support indigenous scientists like Boshi Sen, who is credited with producing hybrid maize and irradiated wheat mutant.

• **Bhabha Atomic Research Centre:** The Atomic Energy Establishment, Trombay (AEET), was started by the government of India on January 3rd 1954 with the intention of consolidating all research and development activities for nuclear reactors and technology under the Atomic Energy Commission.

• **Bhilai Steel Plant:** Bhilai, located in Chhattisgarh, was home to massive iron-ore deposits at Dalli Rajhara. Taking this into consideration, the government of India and the USSR entered into an agreement which was signed on March 2nd 1955, at New Delhi.

• **The Bhakra-Nangal Dam:** The Bhakra-Nangal Dam project is a series of multi-purpose dams that were among the earliest river valley developments schemes undertaken by the government of India after independence. The project, though, had been conceived long before independence.

IMPORTANCE:

- Economic development mainly depends upon industrial development. Heavy & basic industries like iron & steel, shipping, mining, etc. are required for supplying raw materials to small industries.
- Regional Development: Private sector usually neglect backward area. But public sector organizations set up their units in economically backward areas. By this public sector removes regional imbalance & brings regional development.
- Employment: Various public sectors operating in India needs lot of manpower & this provide employment to unlimited individuals according to their education, experience & abilities.
- Service Motive: Public sector organizations are working with the only motive of providing public utility services to society at large irrespective of profit.

- **Sound Infrastructure:** Rapid industrial growth in a country needs sound infrastructure. Infrastructural industries require huge capital for construction of Roads, Railways, Electricity & many such industries. Private sector is unable to have such huge capital & that also without any high return but public sector can easily afford to provide all infrastructural facilities.

CHALLENGES:

- **Inefficient Management:** It has been found that these enterprises are managed by public savants. They are not professionally qualified nor experts in the management of industrial enterprises.
- **Lack of Efficiency:** They are not run on commercial principles. Their main motto is social welfare, not profit earning.
- **Lack of Innovations:** Innovations are essential for economic development. Public enterprise lacks it due to monopoly or lack of competition. The private sector is always busy with innovating new techniques, new production methods, etc. For the purpose of cost reduction and profit maximization.

WAY FORWARD:

- **Sound business principles:** The enterprise should be run on sound business principles. There should be focus on improving efficiency in all functional areas. Policies, systems and procedures should be modified with the aim of making the enterprise flexible, efficient and profitable.
- **Autonomy:** Public enterprises should have considerable autonomy in their functioning. Authority should be delegated and they should have the freedom to take decisions. Autonomy would ensure that decisions are taken at the right time and growth opportunities utilized in the best possible manner.
- **Freedom from political interference:** Many public enterprises are considered to be the kingdoms of politicians. They are run to suit the needs and requirements of the ruling party.

32. Understanding Ethanol Blending

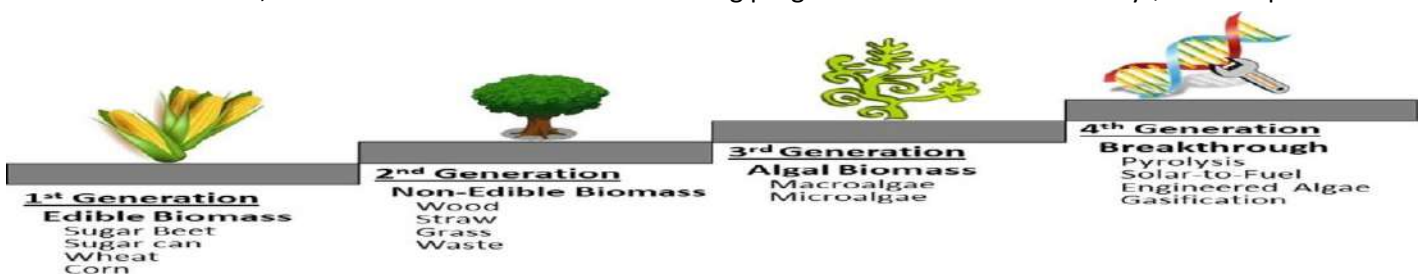
(GS3: Conservation, environmental pollution and degradation, environmental impact assessment.)

Prime Minister Narendra Modi announced that India has achieved its target of blending 10% sugarcane-extracted ethanol in petrol, ahead of schedule while addressing the nation from the Red Fort on the 76th Independence Day.

- Blending ethanol with petrol to burn less fossil fuel while running vehicles is called ethanol blending.
- Ethanol is an agricultural by-product which is mainly obtained from the processing of sugar from sugarcane, but also from other sources such as rice husk or maize.
- Currently, 10% of the petrol that powers your vehicle is ethanol.
- Though we have had an E10 — or 10% ethanol as policy for a while, it is only this year that we have achieved that proportion.
- India’s aim is to increase this ratio to 20% originally by 2030 but in 2021, when NITI Aayog put out the ethanol roadmap, that deadline was advanced to 2025.

NEED:

- Ethanol blending will help bring down our share of oil imports (almost 85%) on which we spend a considerable amount of precious foreign exchange.
- More ethanol output would help increase farmers’ incomes.
- The NITI Aayog report of June 2021 says, “India’s net import of petroleum was 185 million tonnes at a cost of \$55 billion in 2020-21,” and that a successful ethanol blending programme can save the country \$4 billion per annum.



India's Goal

- At the time of the NITI Aayog report in June last year, the industry had committed to the government to make all vehicles E20 material compliant by 2023.
- This meant that the petrol points, plastics, rubber, steel and other components in vehicles would need to be compliant to hold/store fuel that is 20% ethanol.
- Without such a change, rusting is an obvious impediment
- Society of Indian Automobile Manufacturers says that the industry has committed to becoming E20 engine compliant by 2025, which means that engines would need to be tweaked so as to process petrol which has been blended with 20% ethanol.
- Even though the industry is recovering from the economic losses bought on by the pandemic, it is bound to make some change to comply with India's promise for net-zero emissions by 2070.

Challenges

- Optimization of engine for higher ethanol blends and the conduct of durability studies on engines and field trials before introducing E20 compliant vehicles.
- Storage is going to be the main concern, for if E10 supply has to continue in tandem with E20 supply, storage would have to be separate which then raises costs.
- It does not reduce the emission of another key pollutant — nitrous oxide.
- The water needed to grow crops for ethanol is another debating point- a litre of ethanol from sugar requires 2,860 litres of water.
- Given the uncertainty about future production, India may not find it easy to simultaneously strengthen domestic food supply systems, set aside adequate stocks for lean years, maintain an export market for grains, and divert grain to ethanol at the expected rate in coming years, and this is an issue that warrants continued monitoring

WHAT ARE THE UNINTENDED EFFECTS OF THE POLICY?

- Unsustainability of cash-crops: Increasing reliance on biofuels can push farmers to grow more water-intensive crops like sugarcane and rice.
- Huge water requirement: Currently use 70% of the available irrigation water, negating some positive impact on the environment of using more ethanol.
- Food and nutrition security: The move could impact India's hunger situation by limiting the coverage of the food security schemes.
- Food inflation: Diversion of mass consumption grains can also push food prices up.

33. Journey towards innovation:

(GS3: Achievements Of Indians In S&T)

Senior scientist Nallathamby Kalaiselvi was appointed the director general of the Council of Scientific and Industrial Research (CSIR), on Saturday, August 6, 2022. This makes her the first woman to head the largest research and development organisation in India, which runs 38 laboratories and institutes, 39 outreach centres, and three innovation centres.

CONTRIBUTION OF CSIR:

STRATEGIC SECTOR

- CSIR-NAL made significant contribution by developing indigenous Head-Up- display(HUD) for Indian Light Combat Aircraft, Tejas. HUD aids the pilot in flying the aircraft and in critical flight maneuvers including weapon aiming.
- Addressing the challenges of technology denial: Design and development of indigenous gyrotron for nuclear fusion reactor

Energy & Environment

- Solar Tree: designed by CSIR- CMERI lab in Durgapur was launched which occupies minimum space to produce clean power.

- Wax Deoiling Technology: Technology developed for recovery of wax

VALUE ADDED AGRICULTURE

- Samba Mahsuri Rice Variety – Bacterial Blight Resistant: CSIR has in collaboration with DRR (ICAR) and DBT part funding developed an improved bacterial blight resistant Samba Mahsuri variety.
- Rice Cultivar (Muktashree) for Arsenic Contaminated Areas: A rice variety has been developed which restricts assimilation of Arsenic within permissible limit. The variety has been released to farmers of West Bengal.
- White-fly resistant Cotton variety: Developed a transgenic cotton line which is resistant to whiteflies. It is expected to render it commercially cultivable in 10 years, after due regulatory clearances.

HEALTHCARE

- JD Vaccine for Farm Animals, A programme called GOMED (Genomics and other omics technologies for Enabling Medical Decision) has been developed by the CSIR which provides a platform of disease genomics to solve clinical problems.

FOOD :

- Double-Fortified Salt: Salt fortified with iodine and iron having improved properties developed and tested for addressing anaemia in people. To be launched in the market soon.
- Anti-obesity DAG Oil: Oil enriched with Diacylglycerol (DAG) instead of conventional triacylglycerol (TAG) developed. To be launched in the market soon.
- Aquifer Mapping of Water Scarce Areas: Heliborne transient electromagnetic and surface magnetic technique based aquifer mapping carried out in six different geological locations in Rajasthan (2), Bihar, Karnataka, Maharashtra and Tamil Nadu.

ISSUES:

- Low research professionals: India has an estimated full-time equivalent R&D professional strength of only 150 professionals per million, compared to that of other countries.
- Low investment: Indian research is mostly skewed towards basic research and lacks in application oriented R&D. The vast majority of organizations would rather go for quick acquisition of technology rather than invest in internal R&D.
- IPR enforcement: Inadequate enforcement of intellectual property rights (IPR). While India has improved its IPR regime, the protection of intellectual property remains weak in some areas owing to inadequate laws and ineffective enforcement.

WAY FORWARD:

- Embrace technology: Technologies, such as machine learning, can be used to improve R&D decision-making. Documents need to be filed throughout the R&D process, for example, and the process could be automated to free up employees to do more complex tasks.
- Invest in innovation hubs: Companies that invest in innovation hubs expand talent and relationships with local universities and startups can support a two-way learning process and faster innovation cycles.
- Promoting startups: Most radical innovations are coming from startups and more of them are needed. Tilting higher education towards science and encouraging more students to take degrees in science-based subjects can provide the people needed for R&D.

34. What is causing Arctic Amplification?

(GS3: Climatic Change, GS 1 – geographical features and their location changes in critical geographical features (including water bodies and ice-caps).

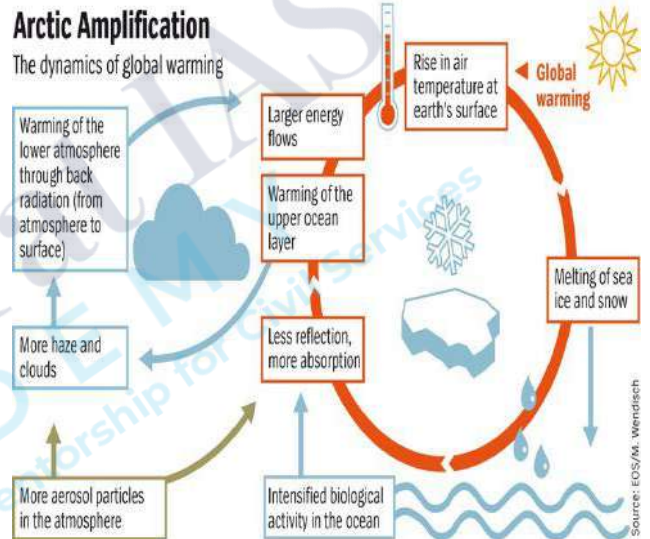
A recent study points out that the Arctic is heating four times faster than the rest of the planet. The warming is more concentrated in the Eurasian part of the Arctic, where the Barents Sea north of Russia and Norway is warming at an alarming rate — seven times faster than the global average. This is affecting the monsoons and climate conditions around the world.

- Polar amplification: Any change in the surface air temperature and the net radiation balance tends to produce larger changes at the north and south poles. This phenomenon is known as polar amplification
- Arctic amplification: The above changes are more pronounced in the northern latitudes than in the southern latitudes. This is known as Arctic amplification.



WHAT ARE THE CAUSES OF POLAR AND ARCTIC AMPLIFICATION?

- Primary causes: Ice-albedo feedback, lapse rate feedback, water vapour feedback and ocean heat transport. Among these, the ice-albedo feedback and the lapse rate feedback are responsible for 40% and 15% of polar amplification respectively.
- Ice-albedo feedback: Sea ice and snow have high albedo, implying that they are capable of reflecting most of the solar radiation compared to water and air. Global warming is resulting in diminishing sea ice. As the sea ice melts, the Arctic Ocean will be more capable of absorbing solar radiation.
- Lapse rate feedback: The lapse rate or the rate at which the temperature drops with elevation decreases with warming.



WHAT ARE THE CONSEQUENCES OF ARCTIC AMPLIFICATION?

- The causes and consequences of Arctic amplification are cyclical, which means what might be a cause can be a consequence too.
- Melting of Greenland ice sheet: Greenland's old and thicker ice sheets are getting replaced by young and thinner ice sheets.
- In 2019, the melting of this icesheet was the single biggest cause for the rise in the sea level, about 1.5 metres. (Note: The Greenlandic ice sheet holds the second-largest amount of ice, after Antarctica, and therefore it is crucial for maintaining the sea level.)
- Impact on biodiversity: The warming of the Arctic Ocean results in the acidification of water by changing the salinity levels. This impacts biodiversity, including the marine species and the dependent species.
- Further, it also increases the amount of rainfall. This affects the availability and accessibility of lichens to the reindeer. This is causing widespread starvation and death among the Arctic fauna.
- Impact on permafrost: The permafrost in the Arctic is thawing and in turn releasing carbon and methane which are among the major greenhouse gases responsible for global warming.
- Experts fear that the thaw and the melt will also release the long-dormant bacteria and viruses that were trapped in the permafrost and can potentially give rise to diseases.

WHAT ARE THE IMPACTS OF ARCTIC AMPLIFICATION ON INDIA?

Arctic ice and Indian monsoon: A study found that the reduced sea ice in the Barents-Kara sea region can lead to extreme rainfall events in the latter half of the monsoons in India. The changes in the atmospheric circulation due to diminishing sea ice combined with the warm temperatures in the Arabian Sea contribute to enhanced moisture and drive extreme rainfall events.

35. India as a 'developed' country: where we are, and the challenges ahead

(GS3)

In his Independence Day address, PM asked Indians to embrace the “Panch Pran” — five vows — by 2047 when the country celebrates 100 years of independence.



WHAT IS DEVELOPED COUNTRY:

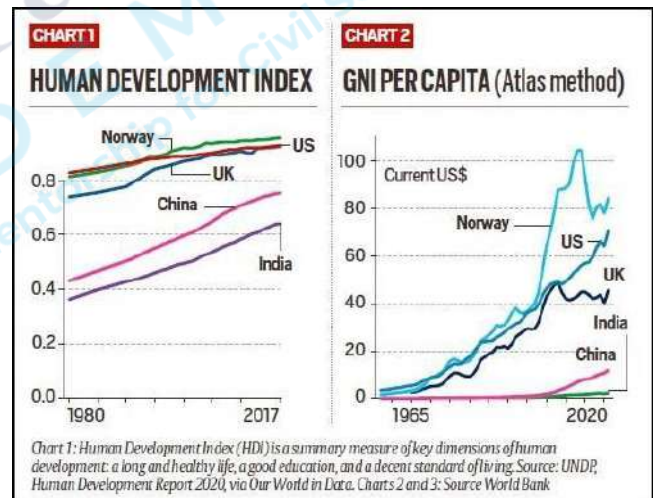
- The ‘World Economic Situation and Prospects’ of the United Nations classifies countries into three broad categories: developed economies, economies in transition, and developing economies.
- The idea is “to reflect basic economic country conditions”, and the categories “are not strictly aligned with the regional classifications”.
- So, it isn’t as though all European countries are “developed”, and all Asian ones are “developing”.
- To categorise countries by economic conditions, the United Nations uses the World Bank’s categorisation, based on Gross National Income (GNI) per capita (in current US dollars).

WHY IS THE UNITED NATIONS CLASSIFICATION CONTESTED?

- It can be argued that the UN classification is not very accurate and, as such, has limited analytical value.
- Only the top three mentioned in chart 3 alongside — the US, the UK and Norway — fall in the developed country category.
- Today, there are 31 developed countries according to the UN in all.
- All the rest — except 17 “economies in transition” — are designated as “developing” countries, even though in terms of proportion, China’s per capita income is closer to Norway’s than Somalia’s.
- Then there are countries — such as Ukraine, with a per capita GNI of \$4,120 (a third of China’s) — that are designated as “economies in transition”.

WHAT ABOUT INDIA?

- As chart 2 shows, India is currently far behind both the so-called developed countries, as well as some developing countries.
- Often, the discourse is on the absolute level of GDP (gross domestic product).
- On that metric, India is one of the biggest economies of the world — even though the US and China remain far ahead.
- However, to be classified as a “developed” country, the average income of a country’s people matters more.
- And on per capita income, India is behind even Bangladesh.
- India has made a secular improvement on HDI metrics.
- For instance, the life expectancy at birth (one of the sub-metrics of HDI) in India has gone from around 40 years in 1947 to around 70 years now.



- Even though India is the world's third-largest economy in purchasing power parity (PPP) terms, most Indians are still relatively poor compared to people in other middle income or rich countries.
- India's current HDI score (0.64) is much lower than what any of the developed countries had even in 1980.

WHAT CAN INDIA ACHIEVE BY 2047?

- The World Bank's 2018 report had made a mention of what India could achieve by 2047.
- By 2047 — the centenary of its independence — at least half its citizens could join the ranks of the global middle class.

36. Privatisation of Public Sector Banks

(GS3: Privatisation)

In the Union Budget 2021-22, the government announced its decision to privatise two Public Sector Banks.

- The transfer of ownership, property or business from the government to the private sector is termed privatisation. The government ceases to be the owner of the entity or business.

Why is there a Need to Privatisise Public Sector Banks?

High NPA. The gross NPA ratio of the state-owned banks is 7.4 per cent. Private sector banks have lower gross NPAs.

• Most of PSBs are also unable to maintain a **capital adequacy ratio**.

Most of the rural branches are running at a loss because of high overheads and the prevalence of the barter system in most parts of rural India

Over FY16 to FY21, the government has infused ₹3.36 lakh crore of capital in PSBs

• The smooth functioning of banks has been hampered by red-tapism, long delays, lack of initiative, and failure to take quick decisions.

• private banks provide a more significant contribution towards extending loans and a higher percentage of contribution to getting deposits from savers.

• When the Economic Survey reviewed bank nationalisation in 2020, it is found that every rupee of taxpayer money invested in PSBs fetches a market value of just 71 paise. This is called the market to book ratio. In stark contrast, every rupee invested in new private sector banks fetches a market value of Rs 3.70. In other words, private banks give more than five times more value than PSBs.

RELEVANCE OF PSBS:

- Financial Inclusion: Pradhan Mantri Jan Dhan Yojana (PMJDY), envisages universal access to banking facilities with at least one basic banking account for every household.
- Public Sector Banks provide 36.2 crore beneficiaries while Private sector banks accounted for just Rs 1.3 crores of the total of almost Rs 46 crore beneficiaries.
- While the private banks dominate the metropolitan areas, it is the public sector banks that operate branches in rural India.
- PSBs provide more ATMs in rural India.
- PSBs are more efficient than PVB in Financial Inclusion, while when profit maximisation is the sole motive, efficiency of the PVBs has always surpassed that of their public sector counterparts.
- However, when the objective function is changed to include financial inclusion—like total branches, agricultural advances and PSL advances— PSBs prove to be more efficient than PVBs (middle and bottom panel).
- The relevance of banking lies in knowing whether banks lend when borrowers need the money the most.
- Thus, PSBs have a lion's share in infrastructure finance lendings and their role has been especially crucial against the backdrop of the withering away of erstwhile development financial institutions.

WAY FORWARD

- There is a need for a nuanced approach and further, members of RBI's Banking Research Division have warned against the conventional perspective of viewing privatisation as a panacea for all ills.
- The big bang approach of privatization of the public sector banks may do more harm than good as the repercussions could lead to the vulnerable population losing their financial inclusion and further making it difficult for them to access banking and related facilities.
- That's why It is best to steer clear of an ideologically-driven stance and instead focus on achieving a mix of public and private banks that best serves the needs of a diverse economy such as India.

37. The implications of the 5G roll-out for law enforcement

(GS-3, Achievements of Indians in Science & Technology)

Importance of 5G Network from the angle of law enforcement in India

- Ensuring security
- The police can have faster access to critical information in real-time, and it would be able to nab criminals. This is because the 5G has high bandwidth and will allow ultra-fast Internet speeds with low latency
- The increased storage capacity promised by 5G will allow the police to streamline their investigation methods.
- 5G will also allow rapid and secure communication within the organization as well as between civilians and emergency responders.
- What are the challenges in the adoption of the 5G network?
- Most police systems in India are outdated and do not have infrastructure that is compatible with 5G.
- India has a poor cybersecurity foundation. For example, India's previous networks were hardware-based, but 5G is a software-defined digital routing. Therefore, India's networks are susceptible to cyber threats such as botnet attacks, man-in-the-middle attacks, and distributed denial-of-service (DDoS) overloads.
- 5G lacks end-to-end encryption. Therefore, hackers can hack into systems to perpetrate cybercrimes
- The 5G led bandwidth expansion will enable criminals to embezzle databases easily. Further, the frequency of attacks would increase with time as more devices will be connected to the 5G network,
- Due to a faster network, there could be a lower probability of criminals getting caught after commissioning identity theft or credit card fraud or stealing information from computers, smartphones, and tablets.
- 5G may also make it easier for criminals to perpetrate cyberbullying.
- It could be easy to carry out DDoS onslaughts because of the real-time communication capabilities between multiple criminal groups.
- 5G would enable hackers to enter into Internet-of-Things (IoT) devices and commit crimes. For example, an IoT vehicle can be hacked to cause an accident or make a ransom to collect insurance money, etc.
- Further, Terrorists would be able to execute attacks more rapidly and precisely with a 5G network.

WHAT ARE SOLUTIONS FOR FIGHTING NEW-AGE CRIMES?

- First, the Indian police will need to be trained so that they are able to recognize new 5G-enabled crimes.
- Second, there should be the development of training programs that focus on such 5G-enabled crimes.
- Third, the government and telecom companies could think of setting up a 5G crime monitoring task force to monitor and identify new crimes and develop countermeasures.
- Fourth, it is imperative to create regulations that make it a crime for people to use 5G technology to commit crimes.
- Fifth, regulations may also require telecom companies to allow police officers access to their equipment to track the location of victims and perpetrators of 5G-facilitated crimes for countermeasures.
- Sixth, law enforcement agencies will have to evolve strategies to identify victims of 5G-facilitated crimes in India, locate them, and take action against the perpetrators of such crimes.
- Seventh, law enforcement agencies should have the necessary infrastructure to take full advantage of all that 5G can offer. The government must provide funds to invest in modern tools, software and infrastructure.

38. Making out a case for the other UBI in India

(GS3: Indian economy)

- As per the Author, there are good reasons why Universal Basic Insurance is a better proposition than Universal Basic Income
- Social security systems are like a safety net. It saves a household from falling into a poverty trap. Social security mainly encompasses food security (NFSA), health security (Ayushman Bharat Scheme) and income security.
Types of security nets:
 - Passive safety net: E.g., Rising economy, creating more jobs
 - Active safety net (it works like a trampoline so that those who fall on it are able to bounce back) e.g., National Food Security Act, MGNREGA, Ayushman Bharat Scheme
 - Proactive safety net which acts like a launchpad out of poverty e.g., Universal Basic Income

WHAT IS UNIVERSAL BASIC INCOME?

- UBI is a model for providing all citizens of a country with a guaranteed minimum sum of money, regardless of their income, resources or employment status.
- This provides a “safety net preventing any citizen” from sinking below a basic minimum standard of living
- Economic Survey 2016-17 has recommended UBI as an alternative to the various subsidy

ISSUES WITH UBI:

- Lack of political will
- Huge fiscal pressure
- Free cash to people may increase the inflation rate
- Difficulty in reducing subsidies on exiting schemes
- No guarantee that cash will be spent on productive assets.

WHAT ARE THE VARIOUS TYPES OF SOCIAL SECURITY NETS IN INDIA?

India operates the widest spectrum of social security schemes at a different level, which cater to the largest number of people than any other country.

Food security: The **National Food Security Act (NFSA)** is the world’s largest food security programme.

Issues: There are issues of financial sustainability and leakages in the food security programme.

For the organised sector, the General Provident Fund (GPF), the Employees’ Provident Fund (EPF), the Public Provident Fund (PPF) and the New Pension Scheme (NPS) are being run. In the unorganised sector, the Pradhan Mantri Kisan Maan-Dhan Yojana (PM-KMY), the PM-KISAN scheme, the Atal Pension Yojana (APY), and the Mahatma Gandhi National Rural Employment Guarantee Act, are being run.

Issues: The Indian economy is informal in nature. Therefore, rolling out schemes such as unemployment insurance is difficult due to the challenges of identification of the beneficiaries. Further, there are huge fiscal implications (around 4.5% of GDP).

Health Security: For the **unorganised sector**, there is the **Ayushman Bharat Scheme**. For the organised sector, the Employees State Insurance Corporation (ESIC) and Central Government Health Scheme (CGHS) are being run. Further, about 110 million people in India have private health insurance.

Issues: Despite these large-scale provisions, about 400 million Indians are not covered under any kind of health insurance.

WHY UNIVERSAL BASIC INSURANCE?

- Low insurance penetration: The insurance penetration (premium as a percentage of GDP) in India has been hovering around 4% for many years compared to 17%, 9% and 6% in Taiwan, Japan and China, respectively.
- Thus insurance can become a need-based safety net for the poor.
- Availability of Data: The economy largely remains informal, data of that informal sector are now available both for businesses (through GSTIN, or Goods and Services Tax Identification Number) and for unorganised workers (through e-Shram, which is the centralised database of all unorganised workers).

The social registry portal, 'Kutumba', developed by Karnataka is a good example of social security data

39. Agri agenda for Amrit Kaal

(GS3)

As India celebrates 75 years of Independence and enters the Amrit Kaal toward 2047, it is time to salute Indian farmers and scientists who transformed the country's food situation from "ship to mouth" in the mid-1960s to emerging as one of the largest food grain exporters in the world.

- Agriculture at the time of Independence
- Immediately after Independence, India faced food shortages and limited avenues to raise production.
- Its rising population and their growing food demand meant a hand-to-mouth situation for most and the country had to implore other nations to feed its people.

EFFORTS TO IMPROVE THE SITUATION

- Under the leadership of Chidambaram Subramaniam, M. S. Swaminathan and others, India did an outstanding job of bringing the Green Revolution into the country.
- It aimed to increase the output of agriculture to prevent shortages of food.
- The network under the National Agricultural Research System worked on adaptation of the improved seeds for local conditions, while a mammoth extension infrastructure was established to disseminate technologies to the farmers.
- Irrigation capacities were created to make precious water available
- Fertiliser and other inputs were subsidised and made affordable
- Outreach of formal credit was expanded, output prices were assured and procurement guaranteed.

ACHIEVEMENTS

- The initiatives helped in attaining self-sufficiency in foodgrain production and laid an institutional architecture for the subsequent growth and development of agriculture, pulling millions of farmers out of poverty.
- India's food situation has been improved from "ship to mouth" in the mid-1960s to emerging as the largest exporter of rice in the world (21mmt in FY22).
- The famous slogan of late Lal Bahadur Shastri, "Jai Jawan, Jai Kisan," was extended by Atal Bihari Vajpayee to include "Jai Vigyan". Now, Prime Minister Narendra Modi has extended it to, "Jai Anusandhan".
- Poultry and fisheries have the fastest growth, while it has been the slowest in cereal production.
- Government intervention is the most in cereals through the massive procurement of rice and wheat.

CHALLENGES

- Population Pressure: India's population at the time of independence was roughly 340 million which is likely to touch 1.66 billion by 2050, as per the latest UN Population reports, thereby surpassing China. Thus the biggest challenge is feeding over a billion mouths.
- Emerging demands: As the per capita income of people increases, people are likely to demand not just more food but safe and nutritious food. So, India's agri-policies should align to these emerging demand patterns.
- Irrigation issues: Heavy subsidy and free supply of power for irrigation led to indiscriminate overuse of water which led to decline of water table and distorted crop choices. Also even now various areas are untouched by Irrigation facilities and are dependent on Monsoon.

- Environmental impacts: The indiscriminate use of chemical fertilisers, pesticides and crop specialisations favouring a few crops during the post-Green Revolution played havoc with natural resources, environment and ecology.
- Cost of production: In most of the crops, increase in productivity has been accompanied by an increase in average cost of production.

WAY FORWARD:

- In the next 25 years, we need to go beyond just increasing production and focus on the food system as a composite entity. This has five dimensions: (1) production, (2) marketing, (3) consumption, (4) environmental sustainability of our food systems and (5) their nutritional outcomes.
- We need to develop carbon markets so that farmers can be incentivised to change existing farming practices that are not compatible with environmental sustainability. The digitisation of agriculture can help in this.
- We need to become a nation of innovators in agriculture like Israel, Holland, and the US.
- Making the agri-food system vibrant and competitive requires significantly augmenting farmers' incomes.
- "Solar as a third crop" on fields can almost double farmers' incomes quickly. On one acre of cultivated land, which grows two crops a year, farmers can have more than 400 solar panels (trees) with the help of power companies.

Finally, a well-coordinated strategy between the Centre and the states is needed to ensure that agriculture moves to the next stage of development.

40. Farmer suicide

(GS3: Agriculture and related issues)

An agricultural labourer died by suicide every 2 hours in 2021: NCRB

- Some 5,563 agricultural labourers died by suicide in 2021, according to the latest report of the National Crime Records Bureau (NCRB). The number of suicides increased by nine per cent from 2020 and by around 29 per cent from 2019.

CAUSES OF FARMERS SUICIDE



- 7R' model utility
- It looks at the prevention of farmer suicide
- Remunerative agriculture,
- Resilience building,
- Rational expenditure,
- Reassurance through connectivity,
- Righteous conduct,
- Religious support and
- Responsible reporting

WAY FORWARD:

- Information technology promises to improve weather forecasting, crop identification as well as damage control, soil health monitoring, and mapping of available water resources.
- Improvements in marketing and logistics can significantly raise the share that cultivators get of the money people pay for their food.
- The govt. is using technology to connect farmers to a nationwide e-market, but the states need to amend their antiquated farm produce marketing laws that have squeezed farmers' earnings.
- An old problem of price signals failing to adjust demand and supply may also need fixing.
- For agricultural incomes to rise, reforms, rather than cash transfers, loan waivers and the like, are the way ahead.

41. Fiscal prudence

(GS3)

The Central government's alarm has been on the mounting debt burden and the deteriorating fiscal situation in some States due to diversion in fiscal prudence.

As both the Union government and States are expected to work closely in a co-operative federal structure, frictions arising out of these exchanges might have repercussions on both resource sharing and expenditure prioritisation.

- Fiscal prudence is defined as the ability of a government to sustain smooth monetary operation and long-standing fiscal condition.

THREE ISSUES IN INDIA'S FISCAL FEDERALISM

- First: are a set of issues related to Goods and Services Tax (GST) such as the rate structure, inclusion and exclusion of commodities, revenue sharing from GST and associated compensation.
- Second: State-level expenditure patterns especially related to the welfare schemes of States.
- Third: the conception and the implementation of central schemes.

WHERE SHOULD STATE GOVERNMENT SPEND THE BORROWED MONEY?

- Fundamental infrastructure: Ideally, governments should use borrowed money to invest in physical and social infrastructure that will generate higher growth, and thereby higher revenues in the future so that the debt pays for itself.
- Targeted expenditure only: On the other hand, if governments spend the loan money on populist giveaways that generate no additional revenue, the growing debt burden will eventually implode.

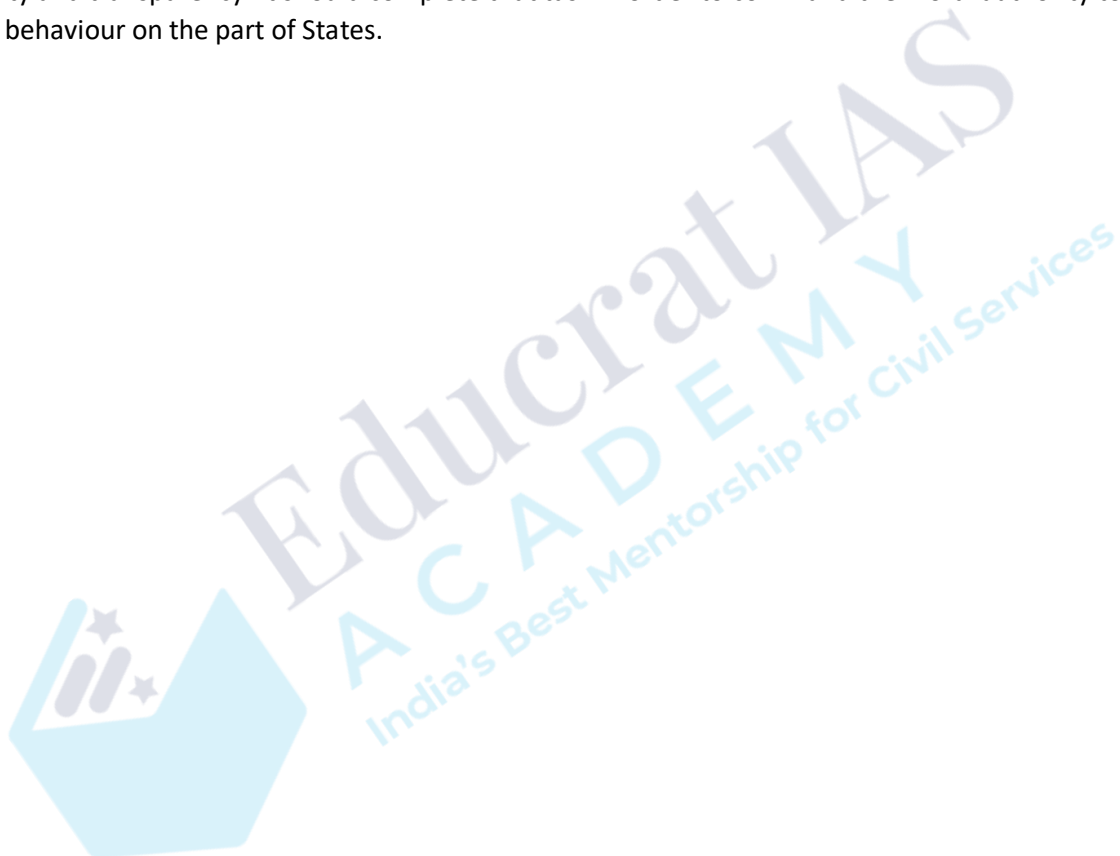
Fiscal consolidation is defined as concrete policies aimed at reducing government deficits and debt accumulation.

- Fiscal expansion financed through debt and the resultant debt accumulation have important impacts on the economy both in the short run as well as in the long run.

HOW TO ACHIEVE FISCAL CONSOLIDATION?

- Better targeting of government subsidies and extending Direct Benefit Transfer scheme for more subsidies

- Improved tax revenue realization For this, increasing efficiency of tax administration by reducing tax avoidance, eliminating tax evasion, enhancing tax compliance etc. are to be made.
- Enhancing tax GDP ratio by widening the tax base and minimizing tax concessions and exemptions also improves tax revenues.
- Amend FRBM Act for complete disclosure: First, the FRBM Acts of the Centre as well as States need to be amended to enforce a more complete disclosure of the liabilities on their exchequers.
- Centre should impose conditionalities: Under the Constitution, States are required to take the Centre's permission when they borrow. The Centre should not hesitate to impose conditionalities on wayward States when it accords such permission.
- Use of financial emergency provision: There is a provision in the Constitution of India which allows the President to declare a financial emergency in any State if s/he is satisfied that financial stability is threatened.
- Course correction by the Centre: The Centre itself has not been a beacon of virtue when it comes to fiscal responsibility and transparency. It should complete that task in order to command the moral authority to enforce good fiscal behaviour on the part of States.



GS IV

42. Corruption reflects a crisis of ethics, values

(GS4)

Prime Minister Narendra Modi's recent Independence Day speech revealed his anguish and exasperation as also his passionate campaign for more transparency and honesty in public life to reduce corruption.

- Even after 75 years of Independence, we continue to be branded internationally as a corrupt nation.

AREAS WHICH HAVE ISSUES:

- Dishonesty of government officials, both in the higher echelons and at the bottom. This evil prevails both in State administration and in a few bureaucratic segments at the Centre.
- Real Estate Corruption remains unbearable in areas such as registration of documents relating to buying and selling property and sanction of planning permissions to put up new buildings.
- Political issues: The reference to the demand for a 'plum portfolio' during the formation of a government is nauseating and has many dismaying connotations.
- Corruption in law enforcement: Police departments all over the country are notorious for their dishonesty. There are hardly any among the 10,000 or more police stations in the country which can claim they are free from the malady.

FEW SUGGESTIONS GIVEN :

- Public Participation: Handling corruption is supposed to be a joint endeavour between the government and the public. Without a union of minds and endeavour little can be achieved to enhance our moral credibility. A bribe taker cannot flourish without a bribe giver.
- Education in ethics: Unless our future generations are indoctrinated in favour of honesty in their careers there is precious little to hope for them.



Prelims Booster

1.8.22

1) Bullion: Bullion refers to physical gold and silver of high purity that is often kept in the form of bars, ingots, or coins.

- It can sometimes be considered legal tender and is often held as reserves by central banks or held by institutional investors.

2) India International Bullion Exchange (IIBX): Prime Minister has launched India's first International Bullion Exchange (IIBX) at the Gujarat International Finance Tec-City (GIFT City) near Gandhinagar.

- India for the first time had liberalised gold imports through nominated banks and agencies in the 1990s.
- Now, the eligible qualified jewellers in India have been allowed to directly import gold through IIBX.
- For this, jewellers will have to become a trading partner or a client of an existing trading member.
- In addition, the exchange has set up necessary infrastructure to store physical gold and silver.
- The exchange will sell physical gold and silver and aims to be set up on the lines of the Shanghai Gold Exchange and Borsa Istanbul in order to make India a key regional hub for bullion flows.

3) Hybrid electric vehicle (HEV): it uses an ICE (a petrol/diesel engine) and one or more electric motors to run. It is powered by the electric motor alone, which uses energy stored in batteries, by the ICE, or both.

- The powertrain of the HEV is more complex than a regular ICE-powered car as it has EV components and a conventional ICE.
- HEV powertrains are designed to power cars in a series, parallel or series-parallel (power split) methods.

4) Gluttonous Cosmic 'Black Widow': Astronomers have observed a most massive neutron star, classified as a "black widow".

- It got particularly hefty by gobbling up most of the mass of a stellar companion trapped in an unhappy cosmic marriage.
- It means its gravitational pull has poached material from its companion star enabling it to grow to a mass at the uppermost limit before it would collapse into a black hole.
- It is highly magnetized type of neutron star called a pulsar.
- It unleashes beams of electromagnetic radiation from its poles. As it spins, these beams appear akin to a lighthouse's rotating light.

5) Section 295A: defines and prescribes a punishment for deliberate and malicious acts, intended to outrage religious feelings of any class by insulting its religion or religious beliefs.

- India does not have a formal legal framework for dealing with hate speech. However, a cluster of provisions, loosely termed hate speech laws, are invoked. These are primarily laws to deal with offences against religions.

2.8.22

1) AlphaFold: Recently, DeepMind, a company based in London, announced that it had predicted the three-dimensional structures of more than 200 million proteins using AlphaFold.

- AlphaFold is an Artificial Intelligence-based protein structure prediction tool.
- It is based on a computer system called **Deep Neural Network**.
- Neural networks use a large amount of input data and provide the desired output exactly like how a human brain would.
- The real work is done by the **black box** between the input and the output layers, called the **Hidden Networks**.
- AlphaFold is fed with protein sequences as input. When protein sequences enter through one end, the predicted three-dimensional structures come out through the other.

2) African Swine Fever: It is a highly contagious and fatal animal disease that infects and leads to an acute form of hemorrhagic fever in domestic and wild pigs.

- The mortality is close to 95% – 100% and since the fever has no cure, the only way to stop its spread is by culling the animals.
- ASF is not a threat to human beings since it only spreads from animals to other animals.

3) Pyrene Remediation: Researchers at the CSIR-IIP, Dehradun have identified **white-rot fungus *Trametes maxima* IIPLC-32** to be capable of pyrene remediation.

- Pyrene Remediation is the action of remedying the environment by removing pyrene from the environment.
- The fungus ***Trametes maxima* IIPLC-32** has the potential to cause microbial degradation of pyrene using special enzymes.
- Growing on dead plants, this fungus can remove pyrene from the environment.

4) Pyrene: possessing four fused benzene rings, is a parent class of Polycyclic Aromatic Hydrocarbons (PAHs).

- Pyrene is a highly toxic, recalcitrant, and carcinogenic PAHs found in the environment.
- Rapid pace of economic development and industrialisation has resulted in the release of several PAHs into the environment.
- The PAHs are ubiquitous environmental pollutants originating from multiple sources, including combustion of petrogenic fossil fuels, and incomplete incineration of municipal wastes and biomass.
- It gets lodged into the environmental matrices like soil, water and atmosphere.
- This results in widespread environmental pollution, necessitating adequate remediation of contaminated environmental matrices.

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

- **Article 44**, a directive principle of the Constitution says that the state shall endeavour to secure a UCC for the citizens throughout the territory of India.
- **Goa** is the **only state** in India that has a **uniform civil code** regardless of religion, gender and caste. It inherited the Portuguese Civil Code, 1867 even after it joined the Indian Union in 1961.

3.8.22

1) Tokenism: it is the act of doing something in order to show that a person/company is including people from minority or marginalised groups, but without sincerity and without showing an intent to increase diversity and promote inclusivity.

- Tokenistic acts can be dangerous and counter-productive for the tokens. One, they do not change prejudices about the community and secondly they don't contribute to diversity, for diversity is more than just mere representation.

2) Section 45 (1) of the Prevention of Money Laundering Act, 2002: Section 45 (1) of the PMLA 2002.

- Section 45(1) of the PMLA requires that before a person is released on bail, the public prosecutor must be given an opportunity to oppose the application and secondly, when the application is opposed, the court must be satisfied that the accused is not guilty.
- The SC by upholding such stringent provisions overturns the principle of presumption of innocence — that an undertrial remains innocent until he is proven guilty.

3) Antarctic Treaty 1959: The Antarctic treaty remains the only example of a single treaty that governs a whole continent and one without a permanent population.

- The Antarctic Treaty was signed between 12 countries in Washington on 1st December 1959 for making the Antarctic Continent a demilitarized zone to be preserved for scientific research only.
- It entered into force in 1961 and has since been acceded by many other nations.
- Antarctica is defined as all of the land and ice shelves south of 60°S latitude
- Currently it has 54 parties. **India became a member** of this treaty in 1983.
- Headquarters: Buenos Aires, Argentina.

4) Doha Agreement: In 2020, the United States signed a historic deal with the Taliban. The deal aims to end the 18-year-war in Afghanistan. The deal was signed in Doha (Qatar) and thus termed as Doha Agreement.

- The US will withdraw its troops from Afghanistan. Further, the NATO or coalition troop numbers will also be brought down simultaneously.

- Taliban will not allow any of its members, other individuals or groups including al-Qaeda to use the soil of Afghanistan to threaten the security of the United States and its allies.

5) Hellfire R9X missile: The United States used a special missile in its drone strikes in Afghanistan that does not explode but releases knife-like blades.

- The US drone strikes were carried out using the Hellfire missile. There are various variants of the Hellfire missile. The R9-X is also called the 'Ninja' bomb.



4.8.22

1) Yuan Wang 5: Yuan Wang 5 is a dual-use spy, research and survey vessel, employed for space and satellite tracking and with specific usage in intercontinental ballistic missile launches.

- This vessel is in control of the People's Liberation Army (PLA) under its Strategic Support Force (SSF) unit. The SSF focuses on space, cyber, and electronic warfare.
- It is a highly sophisticated missile range instrumentation ship with top-of-the-line antennas and electronic equipment to support the launching and tracking of missiles and rockets.
- India is closely monitoring the movement of a Chinese "spy ship", the 'Yuan Wang 5', that is on its way to Sri Lanka.

2) Public assets sale: The sale of an enterprise is different from the sale of its assets (otherwise known as 'asset sale'), where in order to unlock the value of assets, liabilities are retained by the seller either by himself or through a special purpose vehicle, and assets are sold for a competitive price, as otherwise, the liabilities will surpass the value of the assets, rendering the enterprise value to negative. This is the norm in many corporate transactions.

3) Guidelines regarding foreign travel of Ministers of State government and Union Territories and State government officials: in 1982, the Cabinet Secretariat had issued this office memorandum stating that foreign visits by members of the State governments in their official capacity would require clearances from the Ministry of External Affairs (MEA), Ministry of Home Affairs, Finance Ministry, and the Central Administrative Ministry.

- The Secretariat circulated another order on September 3, 2004, modifying the provisions to the extent that the final orders were to be issued by the Finance Ministry.
- The following directive dated November 2, 2004, stipulated that Chief Ministers required further approval from the Prime Minister's Office before an official visit.

4) Procedures for Appointment of CJI: The 'Memorandum of Procedure of Appointment of Supreme Court Judges' says "appointment to the office of the Chief Justice of India should be of the seniormost Judge of the Supreme Court considered fit to hold the office".

- The process, according to the Memorandum, begins with the Union Law Minister seeking the recommendation of the outgoing CJI about the next appointment.
- The Minister has to seek the CJI's recommendation "at the appropriate time". The Memorandum does not elaborate or specify a timeline.
- The Memorandum says that "after receipt of the recommendation of the Chief Justice of India, the Union Minister of Law, Justice and Company Affairs will put up the recommendation to the Prime Minister who will advise the President in the matter of appointment".

5) One China policy: The One China policy is a key cornerstone of Sino-US relations. It is the diplomatic acknowledgement of China's position that there is only one Chinese government.

- Under the policy, the US recognises and has formal ties with China rather than the island of Taiwan, which China sees as a breakaway province.
- The One China principle is the position held by the People's Republic of China (PRC) that there is only one sovereign state under the name China, with the PRC serving as the sole legitimate government of that China, and Taiwan is a part of China.

5.8.22

1) Mission showcasing Nari Shakti: Five officers of the Indian Navy created history by completing the first all-woman independent maritime reconnaissance and surveillance mission in the Arabian Sea, onboard a Dornier-228 aircraft.

- This first-of-its-kind military flying mission was, however, unique and is expected to pave the way for women officers in the aviation cadre to assume greater responsibility and aspire for more challenging roles, the Navy stated.

2) Hasdeo Aranya region: The Hasdeo Aranya forests are called **the lungs of Chhattisgarh**. Over the past one year, protests against mining in this region have erupted several times and some still continue to sit-in demanding a complete stop to mining.

- It lies in the catchment area of the **Hasdeo river**.
- The Hasdeo river is a tributary of the **Mahanadi river** which originates in Chhattisgarh and flows through Odisha into the Bay of Bengal.
- The Hasdeo forests are also the catchment area for the Hasdeo Bango Dam built across the Hasdeo river which irrigates six lakh acres of land, crucial to a State with paddy as its main crop.
- Besides, the forests are ecologically sensitive due to the rich biodiversity they offer and due to the presence of a large migratory corridor for elephants.

3) Rare Earth Elements: The rare earths minerals (REM) are a set of seventeen metallic elements. These include the fifteen lanthanides on the periodic table in addition to scandium and yttrium that show similar physical and chemical properties to the lanthanides.

- The REMs have unique catalytic, metallurgical, nuclear, electrical, magnetic and luminescent properties. While named 'rare earth', they are in fact not that rare and are relatively abundant in the Earth's crust.
- Its usage range from daily use (e.g., lighter flints, glass polishing mediums, car alternators) to high-end technology (lasers, magnets, batteries, fibre-optic telecommunication cables).

4) Minerals Security Partnership (MSP): The US and 10 partners — Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea (South Korea), Sweden, the United Kingdom, and the European Commission — have come together to form the MSP.

- The new grouping is aimed at catalysing investment from governments and the private sector to develop strategic opportunities.
- The new grouping, will focus on the supply chains of minerals such as Cobalt, Nickel, Lithium, and also the 17 'rare earth' minerals. The alliance is seen as primarily focused on evolving an alternative to China, which has created processing infrastructure in rare earth minerals and has acquired mines in Africa for elements such as Cobalt.

5) Diammonium Phosphate: Di-ammonium Phosphate (DAP) [(NH₄)₂HPO₄] is the world's most widely used phosphorus fertilizers.

- It is a preferred fertilizer in India because it contains both Nitrogen (18% N) and Phosphorus [46%] that are primary macronutrients and part of 18 essential plant nutrients.
- It is highly soluble and thus dissolves quickly in soil to release plant-available phosphate and ammonium.

8.8.22

1) Small Satellite Launch Vehicle (SSLV): It is a 3 stage Launch Vehicle configured with three Solid Propulsion Stages and liquid propulsion based Velocity Trimming Module (VTM) as a terminal stage.

- All three stages of the SSLV will be solid propulsion stages.
- The SSLV can carry satellites weighing a maximum 500 kg to low orbit, while the PSLV can launch satellites weighing above 1000 kg.
- Low cost, with low turn-around time, flexibility in accommodating multiple satellites, Launch on demand feasibility, minimal launch infrastructure requirements, etc
- ISRO's first SSLV launch develops glitch as satellites were injected into a wrong orbit. The new rocket was carrying an Indian Earth Observation Satellite, EOS-02, weighing 145 kg and AzaadiSat, made by 750 schoolgirls to celebrate 75 years of Independence

2) Cheruthoni dam: located in Idukki District, Kerala, India, it is a 138m tall concrete gravity dam. This dam was constructed in 1976 as part of the Idukki Hydroelectric Project.

- The Idukki Dam is a double curvature arch dam constructed across **Periyar River** in a narrow gorge between two granite hills and is the tallest double curvature arch dam in Asia.

3) Great Barrier Reef: The highest levels of coral cover, within the past 36 years, has been recorded in the northern and central parts of Australia's Great Barrier Reef.

- The entire ecosystem was inscribed as World Heritage in 1981
- It is the world's most extensive and spectacular coral reef ecosystem composed of over 2,900 individual reefs and 900 islands.
- The reef is located in the Coral Sea (North-East Coast), off the coast of Queensland, Australia.
- It can be seen from outer space and is the world's biggest single structure made by living organisms.

4) Stablecoins: A stablecoin is a digital currency whose value is pegged to a 'stable' asset, such as the U.S. dollar or gold.

- The best-known stablecoin in the crypto ecosystem today is arguably Tether (USDT), whose market cap is close to \$66 billion, putting it below Ethereum, the second largest cryptocurrency in existence
- Across the world, stablecoins can serve as lifelines. In countries such as Turkey, Nigeria, and Argentina where the local currency is rapidly losing value, converting funds to stablecoins is one way for residents to try and safeguard their earnings.

5) Council of Scientific and Industrial Research (CSIR): It is an **autonomous body** established in 1942.

- Funded by the **Ministry of Science and Technology** and it operates as an autonomous body through the Societies Registration Act, 1860.
- It covers a wide spectrum of streams – from radio and space physics, oceanography, geophysics, chemicals, drugs, genomics, biotechnology and nanotechnology to mining, aeronautics, instrumentation, environmental engineering and information technology.
- President: Prime Minister of India (Ex-officio), Vice President: Union Minister of Science and Technology (Ex-officio)
- CSIR has, for the first time in its 80-year history, appointed a woman Director-General., N. Kalaiselvi.

9.8.22

1) Taiwan's "porcupine doctrine": The "porcupine doctrine", which was proposed in 2008 by US Naval War College research professor William S Murray, is a strategy of asymmetric warfare focused on fortifying a weak state's defences to exploit the enemy's weaknesses rather than taking on its strengths.

- It is about building defences that would ensure that Taiwan "could be attacked and damaged but not defeated, at least without unacceptably high costs and risks".

2) Cantillon effect: The Cantillon effect refers to the idea that changes in the money supply in an economy causes redistribution of purchasing power among people, disturbs the relative prices of goods and services, and leads to the misallocation of scarce resources.

- It is generally accepted by economists today that an increase in the overall money supply in an economy causes a proportionate rise in the prices of goods and services over the long-run
- This is in line with the quantity theory of money, according to which the total amount of money in an economy plays a crucial role in determining the general price level.
- Cantillon, however, noted that when money supply is expanded, the fresh money does not get evenly distributed across the economy all at once as assumed by most economists. The fresh money is rather injected into particular sections of the economy first and thus people in these sections of the economy are enriched when compared to people in the rest of the economy.

3) Yellow Sea: Yellow Sea or Huang Hai or Hwanghae is a large inlet of the **western Pacific Ocean** lying between mainland China and the Korean peninsula.

- It is situated to the north of the East China Sea.
- The Bo Hai Sea is the north-western extension of the Yellow Sea. It is connected to the Yellow Sea via the Bohai Strait.

4) Nadis of Rajasthan: Popularly called nadis or talabs (village ponds), these are slopy countryside - **traditional water harvesting structures**.

- These are shallow depressions strewn across the rural landscape in the arid regions of Jodhpur and Barmer districts.
- They are used for storing water from an adjoining natural catchment during the rainy season.

5) Indian Virtual Herbarium: Recently, the Union Environment Minister inaugurated India's largest online herbarium database, the 'Indian Virtual Herbarium' web portal.

- Indian Virtual Herbarium is the biggest **virtual database of flora** in the country, as it contains details of about one lakh plant specimens.
- It was developed by the scientists of the Botanical Survey of India (BSI).
- The digital herbarium also includes features to extract the data State-wise and users can search plants of their own States which will help them to identify regional plants and in building regional checklists.

10.8.22

1) PESA Act: The Panchayats (Extension to Scheduled Areas) Act, 1996 or PESA Act is a law enacted by the Government of India for ensuring self-governance through traditional Gram Sabhas for people living in the Scheduled Areas of India, on the recommendation of **Bhuria committee**.

- The PESA conferred the absolute powers to Gram Sabha, whereas state legislature has given an advisory role to ensure the proper functioning of Panchayats and Gram Sabhas.
- The power delegated to Gram Sabha cannot be curtailed by a higher level, and there shall be independence throughout.

2) AGM-88 HARM: United States Under Secretary of Defence for Policy confirmed that Washington has supplied some "anti-radiation missiles" to Ukraine.

- The acronym 'HARM' in the AGM-88 HARM air-to-surface missile stands for High-Speed Anti-Radiation Missile.
- It is a tactical weapon fired from fighter aircraft, and has the capability to detect and home into radiation emitted by hostile radar stations that have surface-to-air detection capabilities.
- It also has an anti-radar homing seeker broadband RF antenna and receiver, and a solid state digital processor. The missile has a range of more than 100 km.

3) Circular and elliptical orbits: The eccentricity (e) of an orbit indicates the deviation of the orbit from a perfect circle.

- A circular orbit has an eccentricity of 0, while a highly eccentric orbit is closer to (but always less than) 1.
- Mostly objects such as satellites and spacecrafts are put in elliptical orbits only temporarily.
- They are then either pushed up to circular orbits at a greater height or the acceleration is increased until the trajectory changes from an ellipse to a hyperbola and the spacecraft escapes the gravity of the Earth in order to move further into space — for example, to the Moon or Mars or further away.
- Satellites that orbit the Earth are mostly placed in circular orbits. One reason is that if the satellite is used for imaging the Earth, it is easier if it has a fixed distance from the Earth. If the distance keeps changing as in an elliptical orbit, keeping the cameras focused can become complicated.

4) Kushiara River: River Kushiara (also known as Kushiara river) is originates from India.

- The original **Barak river** divided into two rivers named **Surma and Kushiara**. Later both the rivers merged together near the Bhairab bazar in Bangladesh, and later joins to massive river Meghna.
- Kushiara is not a massive river in Bangladesh, but a prominent river.
- The waters of the Kushiara thus originate in the state of Nagaland in India and pick up tributaries from Manipur, Mizoram and Assam

5) Fluorosis: Fluorosis is a crippling disease resulted from deposition of fluorides in the hard and soft tissues of body.

- It is a public health problem that is caused by excess intake of fluoride through drinking water/ food products/ industrial pollutants over a long period. It results in major health disorders like dental fluorosis, skeletal fluorosis and non-skeletal fluorosis.

11.8.22

1) LiFE-Lifestyle for Environment Movement: The idea of LiFE promotes an environment-conscious lifestyle that focuses on 'mindful and deliberate utilisation' instead of 'mindless and destructive consumption.

- The LiFE Movement is a global initiative which was proposed by the Prime Minister of India at COP26, the UN's climate summit in Glasgow.
- The vision of LiFE is to live a lifestyle that is in tune with our planet and does not harm it. Those who live such a lifestyle are called "Pro-Planet People".
- Mission LiFE borrows from the past, operates in the present and focuses on the future.

2) Langya virus: The newly discovered virus in China, is a "phylogenetically distinct Henipavirus"

- The study shows that Langya's genome organization is "identical to that of other Henipaviruses", and that it is closely related to the "Mojiang Henipavirus".
- In all likelihood, the new virus has jumped from an animal to humans. The LayV virus RNA has been predominantly found in shrews, which may be its natural hosts
- So far, there is no vaccine or treatment for the Langya virus.
- Henipaviruses are classified as biosafety level 4 (BSL4) pathogens. They can cause severe illness in animals and humans.

3) Corbevax: It is India's indigenous **protein based Covid-19 vaccine**

- It is a "recombinant protein sub-unit" vaccine.
- It means it is made up of a specific part of SARS-CoV-2 - the spike protein on the virus's surface which allows the virus to enter the cells in the body so that it can replicate and cause disease.
- However, when this protein alone is given to the body, it is not expected to be harmful as the rest of the virus is absent.
- The Union government on Wednesday approved it as a precaution dose against COVID-19 for those above 18 who are fully vaccinated with either Covishield or Covaxin.

4) G20: The G20 is an informal group of 19 countries and the European Union, with representatives of the International Monetary Fund and the World Bank.

- The G20 membership comprises a mix of the world's largest advanced and emerging economies, representing about two-thirds of the world's population, 85% of global gross domestic product, 80% of global investment and over 75% of global trade.
- The group has no permanent staff of its own, so every year in December, a G20 country from a rotating region takes on the presidency. That country is then responsible for organising the next summit, as well as smaller meetings for the coming year.
- They can also choose to invite non-member countries along as guests.

G20 members



Note: The European Union is also a member

BBE

5) Vasculitis: Vasculitis is a general term for several conditions that cause **inflammation of blood vessels**. It is also called angiitis ("inflammation within blood vessels") or arteritis ("inflammation in arteries").

- It is an **auto-immune disease** in which the body's immune system turns on healthy blood vessels, causing them to swell up, narrow down, stretched, or weak. The blood vessels might close entirely. The trigger for vasculitis may be an infection or a drug or blood cancers or immune system diseases, although the precise reason is often uncertain or unknown.

12.8.22

1) World Elephant Day: it is celebrated on 12 August every year to raise awareness about the plight of elephants all over the world.

- There has been a 50 percent decline in the population of Asian elephants in the last 75 years
- There are three subspecies of Asian elephant which are the Indian, Sumatran and Sri Lankan.
- The Indian subspecies has the widest range and accounts for the majority of the remaining elephants on the continent.

- IUCN Red List: Endangered, Wildlife (Protection) Act, 1972: Schedule I, CITES: Appendix I

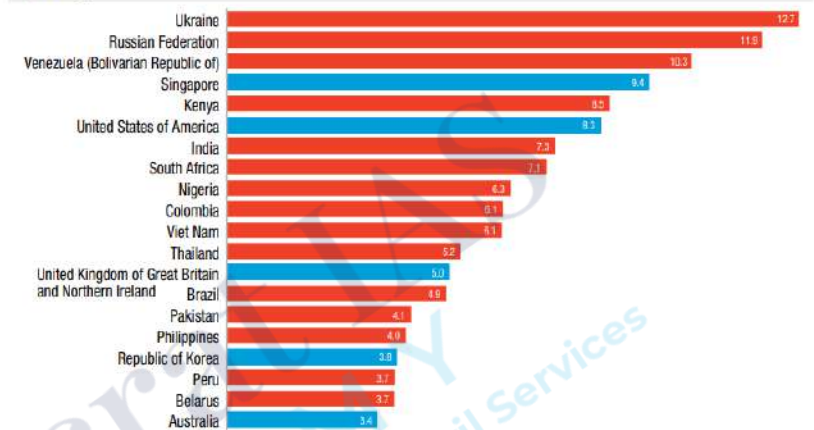
2) Butterfly Mine: Russia is likely to have deployed anti-personnel mines to deter freedom of movement along its defensive lines in the Donbas

- The PFM-1 and PFM-1S are two kinds of anti-personnel landmines that are commonly referred to as 'Butterfly mines' or 'Green Parrots'.
- These names are derived from the shape and colour of the mines.
- The main difference between the PFM-1 and PFM-1S mine is that the latter comes with a self destruction mechanism which gets activated within one to 40 hours.
- Because of the relatively lesser explosive packed in this small mine, it often injures and maims the handler rather than killing them.

3) UNCTAD report on crypto: The United Nations Conference on Trade and Development (UNCTAD) released a policy brief on crypto.

- 7.3% of Indian Population Owned Cryptocurrencies In 2021
- The report noted that the cryptocurrency ecosystem expanded globally by 2300% between September 2019 and June 2021 especially in developing countries
- One of the prime reasons for the increased uptake of cryptocurrencies was because users considering them a cheap and swift alternative to send remittances

Digital currency ownership as share of population: Top 20 economies, 2021
(Percentage)



Source: UNCTAD, based on data from <https://triple-a.io/crypto-ownership/>.
Note: The classification of economies (blue, advanced economies; red, emerging and market economies) is based on that in International Monetary Fund, 2020, *World Economic Outlook: A Long and Difficult Ascent* (Washington, D.C.).

4) Vitamin D: Vitamin D is a **fat-soluble vitamin**

which is naturally present in very few foods like fatty fish, and fish liver oils, beef liver, cheese, and egg yolks.

- It is also produced endogenously when ultraviolet rays from sunlight strike the skin and trigger vitamin D synthesis.
- Vitamin D maintains adequate calcium and phosphate concentrations in blood. It prevents weakening of bones.
- Deficiency leads to: Rickets in children and osteomalacia (softening of bones) in adults.
- Bones can become thin, brittle, or misshapen (osteoporosis) Vitamin D.

5) Human Immunodeficiency Virus (HIV): The human immunodeficiency viruses (HIV) are two species of Lentivirus (a subgroup of retrovirus) that infect humans.

- It is an infection that attacks the immune system by destroying the body's immune cells called CD4, which help it respond to infection.
- Once HIV attacks the CD4 cells, it starts replicating and destroying the cells, weakening the body's immune system and making it more prone to certain "opportunistic infections" that take advantage of the weak immune system.
- Anti-retroviral treatment (ART) therapy consisting of tenofovir, emtricitabine and raltegravir can be used.

15.8.22

1) New Ramsar sites: India adds 11 more wetlands to the list of Ramsar sites to make total **75 Ramsar sites** covering an area of 13,26,677 ha in the country in the **75th year of Independence**.

- Odisha – Tampara Lake and Hirakud Reservoir, Ansupa Lake
- Madhya Pradesh – Yashwant Sagar
- Tamil Nadu – Chitrangudi Bird Sanctuary, Suchindram Theroor Wetland Complex, Vaduvur Bird Sanctuary and Kanjirankulam Bird Sanctuary
- Maharashtra – Thane Creek
- Jammu and Kashmir – Hygam Wetland Conservation Reserve and Shallbugh Wetland Conservation Reserve

2) Special Economic Zones: In the Union Budget this year, the government proposed to replace the existing law governing Special Economic Zones (SEZs) with a new legislation to enable states to become partners in 'Development of Enterprise and Service Hubs' (DESH).

- An SEZ is a territory within a country that is typically duty-free and has different business and commercial laws chiefly to encourage investment and create employment.
- Asia's first EPZ (Export Processing Zones) was established in 1965 at Kandla, Gujarat.
- The Special Economic Zones Act was passed in 2005. The Act came into force along with the SEZ Rules in 2006. Presently, 379 SEZs are notified, out of which 265 are operational.
- About 64% of the SEZs are located in five states – Tamil Nadu, Telangana, Karnataka, Andhra Pradesh and Maharashtra.
- The Board of Approval is the apex body and is headed by the Secretary, Department of Commerce (Ministry of Commerce and Industry).

3) Asymmetrical federalism: means federalism based on unequal powers and relationships in political, administrative, and fiscal arrangements between the units constituting a federation.

- Asymmetry in the arrangements in a federation can be viewed in both vertical (between Centre and states) and horizontal (among the states) senses.

4) DigiYatra: The 'DigiYatra' is a Biometric Enabled Seamless Travel experience (BEST) based on Facial Recognition Technology. It aims to provide a paperless and seamless travel experience to the passengers.

- DigiYatra is a unique initiative of the Government of India, coordinated by the **Ministry of Civil Aviation**.
- DigiYatra envisages that travellers pass through various checkpoints at the airport through paperless and contactless processing, using facial features to establish their identity, which would be linked to the boarding pass.

5) Udarshakti: It is a bilateral air exercise between **India and Malaysia** at Kuantan (Malaysia)

- Other exercises: Joint military exercises "Harimau Shakti" are held annually between the two countries.

16.8.22

1) Advanced Towed Artillery Gun System (ATAGS): An indigenously developed howitzer gun, ATAG, became part of the 21-gun salute during the Independence Day ceremony for the first time.

- The ATAGS is an indigenous 155 mm x 52 calibre howitzer gun developed by the Defence Research and Development Organisation (DRDO) with its Pune-based facility Armament Research and Development Establishment (ARDE) being the nodal agency.



2) Nagorno-Karabakh: The Nagorno-Karabakh conflict is an ethnic and territorial conflict between Armenia and Azerbaijan over the disputed region of Nagorno-Karabakh, inhabited mostly by ethnic Armenians, but located within the boundaries of Azerbaijan.

- Years of clashes followed between Azerbaijan forces and Armenian separatists ended in 1994 when Russia brokered a ceasefire, by which time ethnic Armenians had taken control of the region.
- While the area remains in Azerbaijan, it is today governed by separatist Armenians who have declared it a republic called the "Nagorno-Karabakh Autonomous Oblast"

3) Zaporizhzhia nuclear power plant: It is located on the banks of the Dnieper river, just 200 kilometers from the conflicted Donbas region where Russian-backed separatists and Ukrainian forces have been fighting.

- Zaporizhzhya is one of the four operating NPPs in the country and has been operating since 1984
- It is Europe's largest NPP.

4) Dornier 228: it is a twin-turboprop utility aircraft of the STOL (Short-Take off and Landing) variety.

- It is capable of day and night operations, short take-off and landing, and can land and take off from semi-prepared runways. It is made in India.

5) SMILE-75 initiative: The **Ministry of Social Justice & Empowerment**, Government of India, has identified 75 Municipal Corporations to implement comprehensive rehabilitation of persons engaged in the act of begging under "SMILE: Support for Marginalised Individuals for Livelihood and Enterprise" named as "SMILE-75 Initiative".

- It has allocated a total budget of Rs. 100 crore for the SMILE project for the coming years till 2025-26.

17.8.22

1) Paalan 1000: it is National Campaign and Parenting App

- Paalan 1000' focuses on the cognitive development of children in the first two years of their life. The app will provide practical advice to caregivers on what they can do in their everyday routine and will help clear doubts.
- The first 1,000 days encompasses conception as well as the first two years of a growing child's life
- The programme is aligned with the mission of the Rashtriya Bal Swasthya Karyakram (RBSK), emphasising responsive care and focused interventions during the first 1,000 days.
- India has taken rapid strides in reducing child mortality since 2014 from 45 per 1,000 live births to 35 per 1,000 live births in 2019

2) Hirakud Dam: It is a multipurpose scheme conceived by Er. M. Visveswaraya in 1937, after recurrence of devastating floods in **Mahanadi river**. Its first hydro power was commissioned in 1956.

- It is the longest dam of India.
- The dam is built across river Mahanadi at about 15 km upstream of Sambalpur town of Odisha. The Mahanadi River system is the third largest of peninsular India after Godavari and Krishna, and the largest river of Odisha state.
- The catchment area of the river extends to Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand and Maharashtra.
- Cattle Island: It is located in one of the extreme points of Hirakud Reservoir. It is completely inhabited by wild animals, and without any trace of humans.

3) Section 432 of Code of Criminal Procedure (CrPC): Under Section 432, the appropriate state government may **suspend or remit a sentence**, in whole or in part, with or without conditions to release of prisoners before they complete their prison terms

- Section 432(2) says that whenever an application is made for remission, the appropriate government "may" seek the opinion of the presiding judge of the court that had sentenced the convict or confirmed the conviction, on whether the request should be granted

4) Section 433A: states that where a sentence of imprisonment for life is imposed on conviction of a person for an offence for which death is one of the punishments provided by law, or where a sentence of death imposed on a person has been commuted under section 433 into one of imprisonment for life, such person shall not be released from prison unless he had served at least fourteen years of imprisonment.

- Section 433-A cannot and does not in any way affect the constitutional power conferred on the President/Governor to grant pardon under Articles 72 or 161 of the Constitution.
- Section 433 deals with the power of governments to commute sentences while 433A lays down the restriction on exercise of this power.

5) Nipun mines: were developed by an Indian firm in partnership with the Defence Research and Development Organisation (DRDO) and termed as 'soft target blast munition'.

- They are anti personnel mines (can be used against humans) as against anti tanks (aimed at heavy vehicles)
- They are small in size and can be deployed in large numbers and can act as 1st line of defence against infiltrators and enemy infantry.

18.8.22

1) Vostok exercise: Chinese troops will travel to Russia to take part in joint military exercises led by the host and including India, Belarus, Mongolia, Tajikistan and other countries

- Exercise TSENER is part of the annual series of large scale exercises that form part of the Russian Armed Forces' annual training cycle
- The series rotates through the four main Russian operational strategic commands i.e Vostok (East), Zapad (West), TSENER (Centre) and Kavkas (South).

2) F-INSAS System: F-INSAS is "Future-Infantry Soldier as A System" weapon.

- This system aims to improve operational capabilities of infantry units of the Army.
- Under the F-INSAS project, the soldiers will get modern fighting equipment that are cost-effective, lightweight, needs low maintenance cost and suitable for all weather and terrain conditions.
- This system includes firepower in the form of AK-203 Assault Rifle, which is a magazine-fed, gas-operated, select-fire assault rifle of Russian origin.

- Apart from assault rifle, F-INSAS system also include ballistic helmet, goggles and bulletproof jackets. F-INSAS system was created in year 2005, under Infantry Vision 2020.

3) AK-203 Assault Rifle: AK-203 Assault Rifle will be produced in Amethi, as a part of India-Russia Joint Venture. This rifle has a range of 300 meters.

- It is equipped with a rifle-mounted holographic sight, that will provide easier target acquisition.
- The holographic sight has high speed and accuracy. It can target the object 200 metres away

4) Biofuels: Any hydrocarbon fuel that is produced from an organic matter (living or once living material) in a short period of time (days, weeks, or even months) is considered a biofuel.

- Biofuels may be solid, liquid or gaseous in nature.
- Solid: Wood, dried plant material, and manure, Liquid: Bioethanol and Biodiesel, Gaseous: Biogas
- These can be used to replace or can be used in addition to diesel, petrol or other fossil fuels.

5) Nereguli Paddy: Nereguli is a **flood-resistant traditional variety of paddy**.

- Though the yield is less compared to other varieties of paddy, this variety has a higher rate of tolerance to flooding.
- This variety is organically grown using traditional methods and is highly nutritious and in great demand, in Kerala and Goa.

19.8.22

1) Endosulfan: it is an organochlorine insecticide which was first introduced in the 1950s and is commonly known by its trade name Thiodan.

- It is linked to a slew of grave medical conditions, such as neurotoxicity, physical deformities, poisoning and more.
- It is sprayed on crops like cotton, cashew, fruits, tea, paddy, tobacco etc. for control of pests such as whiteflies, aphids, beetles, worms etc.
- Endosulfan is listed under both the Rotterdam Convention on the Prior Informed Consent and the Stockholm Convention on Persistent Organic Pollutants.

2) Megalodon: It is an extinct species of mackerel shark which used to exist at an estimated 23 million to 2.6 million years ago.

- It was the largest shark to ever swim through Earth's oceans.
- The giant transoceanic predator would have weighed around 70 tonnes — or as much as 10 elephants.
- It had an average cruising speed faster than sharks today. It had the ability to migrate across multiple oceans. It was bigger than a school bus at around 50 feet from nose to tail.

3) Photobombing Effect: it would also impact a space telescope's ability to observe habitable exoplanets.

- According to a new NASA study, when a telescope is pointed at an exoplanet, the light reflected by the planet could be contaminated by light from other planets in the same system.
- This phenomenon stems from the "point-spread function" of the target exoplanet.
- PSF is the image created due to the diffraction of light coming from the source and becomes larger than the source for very distant objects, like an exoplanet.
- The PSF's size depends on the aperture of the telescope and the wavelength at which the image was captured.

4) Pandemic Treaty: In December 2021, the Health Assembly adopted a decision titled "The World Together" at its second special session since it was founded in 1948.

- Under the decision, WHO established an intergovernmental negotiating body (INB) to draft and negotiate the contents of the pandemic treaty in compliance with Article 19 of the WHO Constitution.
- The pandemic treaty is expected to cover aspects like data sharing and genome sequencing of emerging viruses and equitable distribution of vaccines and drugs and related research throughout the world.



1st Generation Biofuel

- It has **High Carbon Content**.
- Made from Edible Items. Eg- **Sugar, Corn, Starch** etc.



2nd Generation Biofuel

- **Greenhouse Gas content less than 1st Generation Biofuel**
- Made from leftover of Food Crops. Eg- **Rice Husk, Wood Chips** etc.



3rd Generation Biofuel

- It is **Carbon Neutral** in. (CO₂ Emitted = CO₂ Sequestered)
- Produced using Microorganisms. Eg- **Algae**



4th Generation Biofuel

- Made from '**Genetically Engineered Crops**'.
- They are **Carbon Negative**.

5) Modified Interest Subvention scheme (MISS): Under this, bank provides short term loans upto 3 lakh for all agriculture and allied activities at 7% per annum.

- For prompt repayment of loans: Farmers repaying loans before due date are given extra 3% subventions (i.e., they will have to pay just 4% interest rate)
- Funding: 100% by centre
- Nodal agency: **NABARD and RBI**

20.8.22

1) Resurrecting the extinct Tasmanian Tiger: Scientists in the US and Australia have embarked on a project to resurrect the thylacine or Tasmanian Tiger, a marsupial that went extinct in the 1930s, using gene-editing technology.

- Tasmanian Tiger (*Thylacinus cynocephalus*), the only animal in the Thylacinidae family to survive in modern times, was a marsupial mammal that raises young ones in a pouch.
- They were slow-paced carnivorous that usually hunted alone or in pairs at night. The sharply clawed animal had a dog-like head and ate kangaroos, other marsupials, small rodents, and birds.

2) Traditional Knowledge Digital Library (TKDL): The TKDL contains documentation of publicly available traditional knowledge (TK) that relates to Ayurveda, Unani, Siddha and Yoga. is in digitized format. It was established in 2001 by CSIR and the **Ministry of AYUSH**.

- Aim of TKDL: It seeks to prevent the misappropriation of the country's traditional medicinal knowledge through patenting worldwide or against bio-piracy.
- Traditional knowledge refers to the knowledge, innovations and practices of indigenous peoples. Developed from experience gained over the centuries and adapted to the local culture and environment.

3) Kuno-National Park: It is located in the Vindhyan Hills of Central India, in the State of Madhya Pradesh.

- It is a protected area and received the status of national park in 2018.
- The protected area was established in 1981 as a wildlife sanctuary.
- It is in the Khathiar-Gir dry deciduous forests ecoregion.

4) Har Ghar Jal: Goa became 1st state to be certified with 'Har Ghar Jal' in the country.

- Process followed: After every household in the village is connected with tap water, Gram Sabha passes a resolution that not a single household is left out. Only after every village certifies its, State can be declared 'Har Ghar Jal'
- It aims to encourage the state to ensure tap water connection to every household by 2024
- Under Jal Jeevan Mission (Ministry of Jal Shakti)

5) Tilapia fish: Tilapia' (also called "aquatic chicken" due to its

quick growth and low maintenance) is one of the most productive and internationally traded food fish in the world.

- It belongs to the family Cichlidae, native to Africa and the Middle East
- It can adapt to a wide variety of conditions and has omnivorous food habits
- It has also turned 'invasive' in some parts of India.
- Under a project, Tilapia will be grown from the imported parent broodstock 'Hermon' from Israel.

22.8.22

1) NAFIS - National Automated Fingerprint Identification System: It was developed by the National Crime Records Bureau (NCRB) at the Central Fingerprint Bureau (CFPB).

- A unique 10-digit National Fingerprint Number (NFN) will be assigned to each person arrested for a crime.
- It will be used for his lifetime. Different crimes registered under different FIRs will be linked to the same NFN.
- The unique identifier is also available for CCTNS (Crime and Criminal Tracking Network & Systems) database as both are connected at the backend.

2) Forever Chemicals: According to a recent study, scientists have found that rainwater from many places across the globe is contaminated with Per- and Polyfluoroalkyl Substances (PFAs).



- Further, they are called Forever chemicals because of their tendency to stick around in the atmosphere, rainwater, and soil for long periods of time.
- PFAs are also listed in the **Stockholm Convention**.
- They are man-made chemicals used to make nonstick cookware, water-repellent clothing, stain-resistant fabrics, cosmetics, firefighting forms, and many other products that resist grease, water, and oil.
- They can migrate to the soil, water, and air during their production and use.

3) Grameen Udyami Project (GUP): It is a unique multiskilling project, funded by National Skill Development Council that aims to train tribal students.

- Implementation: Six states: – Maharashtra, Rajasthan, Chhattisgarh, Madhya Pradesh, Jharkhand, and Gujarat. It is implemented under Sansadiya Parisankul Yojana.

4) Account Aggregator (AA) Framework System: SEBI has recently joined RBI's AA Framework.

- AA framework allows a consolidated dashboard of all bank accounts of the user in one place, thus allowing sharing of information and credentials from one financial institution to other.
- The framework will allow customers to share information about their mutual fund and stock holdings with financial service providers. It will also help prevent fraud in loans and credits.
- AA: It is an RBI-regulated non-banking finance company (NBFC) that facilitates the collection of financial information pertaining to a customer from financial information providers on the basis of the consent of the customer.

5) Gene Modification in Rice: In recent studies, it has been found that, adding a second copy of one of its own genes has boosted the yield of a Chinese rice variety by up to 40%

- When the second copy of a single gene (called *OsDREB1C*) is added to rice, it improves photosynthesis and nitrogen use, speeds up flowering and absorbs nitrogen more efficiently — offering larger and more abundant grains.
- Gene modulation refers to the process of temporarily altering gene expression levels without making heritable changes to the underlying cellular DNA.

23.8.22

1) Soft release centres: Jharkhand forest officials have chalked out plans to set up soft release centres in order to ensure enough food for tigers, which will help in increasing their numbers in the Palamu Tiger Reserve (PTR).

- The soft release centres are those where animals are placed in pre-release cages located close to the location where they will be released.
- After some time, the animals are allowed to go out, but they have the option of returning to the cage for shelter, water and food.

2) Tomato flu: Tomato flu or fever is a **viral disease**. The flu gets its name because of the red blister it causes. The fever is affecting children below the age of five.

- Like other cases of flu, tomato fever is also contagious.
- If someone is infected with this flu, they need to be kept in isolation as this could spread rapidly from one person to another.
- Tomato flu is a self-limiting one and there is no specific drug for this.

3) Legal Aid Defense Counsel System (LADCS): LADC is a NALSA-funded project to provide free legal aid (in line with the Public defender system) to accused persons to defend themselves in criminal trials.

- NALSA has been constituted under the Legal Services Authorities Act, 1987, to provide free legal services to weaker sections of society. '**Nyaya Deep**' is the **official newsletter of NALSA**.
- Composition: Chief Justice of India shall be the Patron-in-Chief, Second senior-most judge of the Supreme Court of India is the Executive-Chairman.

4) Pacific Bluefin Tuna: The Pacific bluefin tuna (*Thunnus Orientalis*) is a predatory species of tuna found widely in the northern Pacific Ocean, but it is migratory and also recorded as a visitor to the south Pacific.

- The biomass of the Pacific Bluefin Tuna has increased and is second-highest in recorded history.

5) New norms to ease doing business: Subsume all norms on overseas investments: The new norms under the Overseas Investment Rules and Regulations, notified under the Foreign Exchange Management Act and administered by the RBI.

- ‘No-go sectors’: Indian residents are not allowed to make investments in foreign entities that are engaged in real estate activity, or gambling in any form.
- NOC: Bank defaulters and fraudsters need to have a No objection certificate to acquire assets abroad.
- ‘60-day timeline’: If authorities/banks fail to furnish the NOC within 60 days of receiving an application, it may be presumed that they have no objection to the proposed transaction.

24.8.22

1) India’s sex ratio at birth normalizes slightly: The latest study by Pew Research Center has pointed out that “son bias” is on a decline in India and the average annual number of “baby girls missing” in India fell from approx. 4.8 lakh in 2010 to 4.1 lakh in 2019.

- Missing females: It refers to how many births would have occurred during the time if there were no female selective abortions.
- Sex ratio normalised slightly: From about 111 boys per 100 girls (India’s 2011 census) to about 109 (2015-16) and to 108 boys (latest NFHS survey 2019-21)
- Sex selection was the highest for Sikhs, the share of “missing” girls among Hindus is also above their respective population share. Both Christians (105 boys to 100 girls) and Muslims (106 boys to 100 girls) have sex ratios close to the natural norm, and this trend is holding.

2) Acculturation: A sociological concept that explains the changes that occur when two or more groups come in contact with each other and exchange aspects of their cultures such as values and practices of the other while still retaining their own distinct identity.

- E.g. Assimilation of many American Indian groups into the white culture of America in the nineteenth century

3) Garba Dance nominated in UNESCO Heritage List: Garba is a form of dance, as well as a religious and social event that originated in Gujarat.

- Traditionally it is performed during the nine-day Hindu festival Navaratri.
- Either the lamp (the Garba Deep) or an image of the Goddess Durga is placed in the middle of concentric rings and the people dance around the centre, bending sideways at every step, their arms making sweeping gestures, each movement ending in a clap.
- If approved for the list, it will become the first intangible cultural heritage of Gujarat to be listed by UNESCO.

4) Bent-toed gecko: New species of bent-toed gecko found at Agasthyamalai.

- Species have been given the common name Aravind’s ground gecko scientific name *Cyrtodactylus aravindi* after noted malacologist N.A. Aravind.
- Geckos are reptiles and are found on all the continents except Antarctica.
- These colorful lizards have adapted to habitats from rainforests, to deserts, to cold mountain slopes. Most geckos are nocturnal.
- Gecko tails serve many purposes. They help balance their weight as they climb branches, they act as fuel tanks to store fat, and as camouflage to help them disappear into their environment. Geckos are also able to shed their tails if a predator grabs them.

5) Amrit Grants: Recently, DBT (department of biotechnology) and BIRAC (Biotechnology Industry Research Assistance Council) have given 75 Amrit Grants for supporting high-risk, ambitious research projects in the biotech sector under PPP mode.

- Jai Jawan Jai Kisan Jai Vigyan Jai Anusandhaan: in this new phase Amrit Kaal now it is imperative to add jai anusandhaan that is “hail innovation”.
(don’t confuse with e amrit)
- E-Amrit is a one-stop destination for all information on electric vehicles—busting myths around the adoption of EVs, their purchase, investment opportunities, policies, subsidies, etc. The portal has been developed and hosted by NITI Aayog with UK.

25.8.22

1) Mandala art: Mandala is a geometric design or pattern that represents the cosmos or deities in various heavenly worlds. "It's all about finding peace in the symmetry of the design and the universe,". It is believed to be rooted in Buddhism, appearing in the first century BC in India.

- In Hinduism, the mandala imagery first appeared in Rig Veda (1500 – 500 BCE).
- It is believed that by entering the mandala and moving towards its center, one is guided through the cosmic process of transforming the universe .
- It depicts transition from one of suffering to that of joy.

2) Enteroviruses: Enteroviruses are a group of viruses (viruses transmitted through the intestine) that cause a number of infectious illnesses which are usually mild.

- However, if they infect the central nervous system, they can cause serious illness.
- The two most common ones are echovirus and coxsackievirus, but there are several others. Enteroviruses also cause polio and hand, foot and mouth disease (HFMD).
- Tomato Flu is a rare viral disease caused by Coxsackie virus A 16. It belongs to Enterovirus family.

3) Yakshagana: Yakshagana is a traditional theatre form of Karnataka.

- It is a temple art form that depicts mythological stories and Puranas.
- It is performed with massive headgears, elaborate facial make-up and vibrant costumes and ornaments.
- Yakshagana is believed to have evolved from the ancient Bhutha-worship prevalent in South Canara and Kasaragod.

4) Ulchi Freedom Shield: South Korea and the United States began their largest joint military drills since 2017 this week.

- The military drills included the resumption of field training. These joint military drills are designed to test readiness against North Korea's missile tests

5) SING Project: Spectrographic Investigation of Nebular Gas (SING) Project is a collaboration between the Indian Institute of Astronomy (IIA) and the Russian Academy of science for designing payload for China's Tiangong Space station.

- A spectrograph is an instrument that separates incoming light by its wavelength or frequency and records them. Many astronomical observations use telescopes as, essentially, spectrographs.

26.8.22

1) Data Sonification: Data Sonification is the translation of astronomical data into sounds.

- This sonification translates the actual sound waves discovered in data from various NASA missions - such as the Chandra X-ray Observatory, Hubble Space Telescope, and Spitzer Space Telescope.
- There is a misconception that there is no sound in space because most of the space is a vacuum, with no medium for sound waves to travel.
- However, galaxy clusters enveloping thousands of galaxies within it often have large amounts of sound, providing a medium for the sound waves to travel.

2) Chola Era Idols: Tamil Nadu Idol Wing CID initiates steps to bring back 6 stolen Chola-era idols from the US. The idol belongs to Nareswara Siv Temple (Veeracholapuram, Kallakurichi) and was built by Rajendra Chola I.

- He was the son of Rajaraja Chola
- He established many educational institutes in his empire, and for this, he got the title Pandita Chola.
- He contributed to art, religion and literature including Gangaikondacholapuram Temple (after his victory over Pala's Mahipala-I)

3) Right of Way Rules: Ministry of Communications, Electronics & IT and the Ministry of Railways has released amendment in the Indian Telegraph Right of Way (RoW) Rules, 2016 to facilitate faster and easier deployment of Telecom Infrastructure.

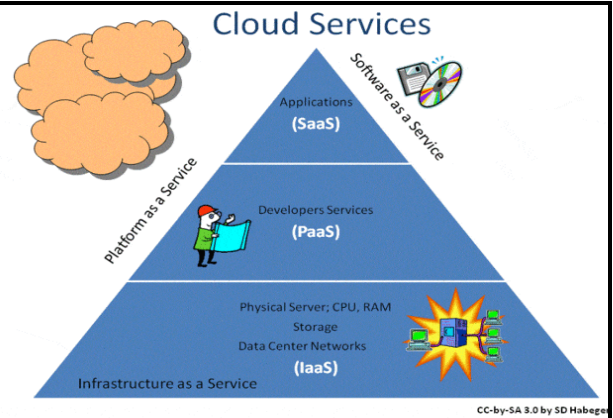
- Ministry has released the 5G RoW application 'form' on GatiShakti Sanchar Portal .
- The Right of Way (RoW) in the telecommunications sector is referred to as the legal framework for setting up telecom towers, laying optical fibre cables (OFC), improving coordination among companies, and settling disputes.
- The "GatiShakti Sanchar" portal was launched recently for Centralised Right of Way (RoW) approvals. (under the ministry of communication)

4) **Software as a service (or SaaS):** is a way of delivering applications over the Internet—as service (freeing up the need of installing and maintaining software). It is also called **Web-based Software**.

- India now has 18 SaaS unicorns with the country being the third largest SaaS ecosystem globally, after the USA and China.

5) **Arth Ganga:** In 2019, the Prime Minister of India first introduced the 'Arth Ganga' concept

- The 'Arth Ganga' model focuses on the sustainable development of the Ganga and its surrounding areas, by focusing on economic activities related to the river.
- This model strives to contribute at least 3% of the GDP from the Ganga Basin itself.



27.8.22

1) **Zorawar:** The Indian Army is prioritising the procurement of the indigenous Indian light tank named 'Zorawar' for deployment in the mountains.

- The Armoured Fighting Vehicle-Indian Light Tank (AFV-ILT) 'Zorawar' will be deployed to outmanoeuvre the movement of Chinese forces during the standoff in eastern Ladakh.
- It will be designed to operate from High Altitude Area, and will be highly transportable for rapid deployment to meet any operational situation.
- It will have equal firepower as the present tank, including missile firing.

2) **Swarm Drone Systems:** Indian Army has inducted indigenously produced Swarm Drones Systems aiming to employ them in both offensive and defensive operations.

- These drones will provide a decisive edge to the tactical commanders employing them.
- The Indian Army has also initiated a Make-II case, Autonomous Surveillance and Armed Drone Swarm (A-SADS) which includes a version for the High Altitude Area

3) **UN Human Rights Council:** The UNHRC has 47 members serving at any time with elections held to fill up seats every year, based on allocations to regions across the world to ensure geographical representation.

- Each elected member serves for a term of three years.
- Countries are disallowed from occupying a seat for more than two consecutive terms.
- The UNHRC passes non-binding resolutions on human rights issues through a periodic review of all 193 UN member states called the Universal Periodic Review (UPR).
- It was reconstituted from its predecessor organization, the UN Commission on Human Rights to help overcome the "credibility deficit" of the previous organization.

4) **African Rhinoceros:** There are two African rhino species, **Black Rhino and White Rhino** (numbers have increased now)

- While the Black rhinos have hooked upper lip, the White Rhino has a square lip.
- White rhinos are the second largest land mammal after the elephant. (IUCN Red List: Near Threatened; CITES: Appendix I & II)
- Black rhinos are the smaller of the two African Rhinos. Black rhinos are browsers rather than grazers. They have two horns, and occasionally a third, small posterior horn. (IUCN Red List: Critically Endangered; CITES: Appendix I)

5) **Bhitarkanika National Park:** Odisha's Bhitarkanika is located in the estuary of Brahmani, Baitarani, Dhamra, and Mahanadi river systems.

- It has the second-largest mangrove forest in India and is a Ramsar site.
- It is the breeding place for the 'endangered' saltwater crocodiles.
- The **Gahirmatha Beach**, which forms the boundary of the sanctuary in the east, is the largest colony of the **Olive Ridley Sea Turtles**.
- It is one of Odisha's finest biodiversity hotspots

29.8.22

1) **Full court meeting:** It literally means one which is attended by all the judges of the court.

- There are no written rules dealing with this. As per convention, full-court meetings are called by the Chief Justice of India to discuss issues of importance to the judiciary.
- The senior designations of practising advocates in the Supreme Court and high courts are also decided during the full court meetings.

2) Centre for Wildlife Rehabilitation and Conservation (CWRC): CWRC is the only facility in India where orphaned and/or injured wild animals of several species are hand-raised and/or treated and subsequently returned to the wild.

- Strategically located adjacent to the **Panbari Reserve Forest** near **Kaziranga National Park in Assam**, the centre attends to a wide range of wildlife emergencies resulting from natural or anthropogenic causes.
- A joint venture between Wildlife Trust of India, the International Fund for Animal Welfare and the Assam Forest Department, CWRC was constructed with the support of the Animal Welfare Division, Government of India. It is recognised by the Centre Zoo Authority (CZA).

3) Fiji Virus: The Fiji Virus is the other name for the **Southern Rice Black-Streaked Dwarf Virus**

- The virus was first reported in southern China in 2001 and causes a striking disease on rice and maize that leads to serious yield losses in several East Asian countries, such as China, Vietnam and Japan.
- It spreads by the white-backed plant hopper (*Sogatella furcifera*), which injects it while sucking the sap from mostly young plants.
- The virus is specific to the phloem and is not transmitted by seed or grain.

4) Nuclear Matrix: Every cell that makes up an organism contains a copy of its genome, which is embedded in the jelly-like nuclear matrix inside the nucleus.

- The nuclear matrix (NM), or nuclear skeleton, is the non-chromatin, ribonucleo-proteinaceous framework that is resistant to high ionic strength buffers, nonionic detergents, and nucleolytic enzymes.
- It fulfils a structural role in eukaryotic cells. It maintains the shape of the nucleus and the spatial organization of chromatin. The nuclear matrix is a dynamic material providing access for the regulation of different genes in different cells.
- Using biochemical means, the nucleus is treated with an enzyme that digests the entire DNA, then washed with a solution of high salt concentration so that viable DNA proteins are removed.
- Now what is then left is a fibrous meshwork of proteins called the nuclear matrix.

5) PEN-PLUS' strategy: African health ministers adopt the PEN-PLUS strategy against **non-communicable diseases (NCDs)**.

- PEN-PLUS is basically a regional strategy to address serious non-communicable diseases at first-level referral health facilities, the strategy is aimed at bridging the access gap in treatment and care of patients with chronic and severe NCDs.
- By offering NCD care as a package of services available at primary and district health facilities, patients will find their expenses decrease as they spend less money on transportation, and lodging in cities and less time commuting to the health facilities.

30.8.22

1) UN High Seas Treaty: is also referred to as the '**Paris Agreement for the Ocean**'.

- The treaty aims to deal with **Biodiversity beyond National Jurisdiction**.
- The proposed treaty concerns the ocean existing beyond the Exclusive Economic Zones that lie from the coast of a country to about 200 nautical miles into the sea, till where it has special rights for exploration.
- The treaty was to be negotiated under the **United Nations Convention on Laws of the Sea (UNCLOS) of 1982**, which governs the rights of countries regarding marine resources.
- Later, a High Ambition Coalition, which now has more than 100 countries including India, the US and the UK, came about and put the focus on '30x30' goals - protecting 30% of the ocean by 2030.

2) Scheme for Economic Empowerment of DNTs (SEED): launched by The **Minister of Social Justice and Empowerment**

- Under the scheme, the government seeks to provide free coaching to students for civil services examinations, competitive exams for admission to professional courses; health insurance; livelihood support and housing.

- It has been formulated for families having income from all sources of Rs.2.50 lakh or less per annum and not availing any such benefits from similar Scheme of Centre Government or the State Government. The Scheme will be implemented through a portal.

3) NASA's Artemis Program: It is touted as the next generation of lunar exploration, and is named after the twin sister of Apollo from Greek mythology, along with JAXA, ESA and CSA.

- With the Artemis programme, NASA aims to land humans on the moon by 2024, and it also plans to land the first woman and first person of colour on the moon.
- Artemis I, formerly Exploration Mission-1, will be the first integrated flight test of NASA's Deep Space Exploration Systems:
- **Orion spacecraft:** Orion spacecraft is going to remain in space without docking to a space station, longer than any ship for astronauts has ever done before.
- **Space Launch System (SLS) rocket:** It is the most powerful rocket in the world — and travels 2,80,000 miles from the earth for over four to six weeks during the course of the mission.

4) Pileus Cloud: is also known as a 'cap cloud' or 'scarf cloud'.

- Actually, the rainbow-like pileus cloud is not a cloud in itself.
- The pileus cloud is an accessory cloud of small horizontal extent, in the form of a cap or hood above the top or attached to the upper part of a cumuliform cloud that often penetrates it. Several pileus may fairly often be observed in superposition.

5) Atal Bridge: This bridge is built on the banks of the **Sabarmati River** which flows through the city of Ahmedabad.

- Sabarmati River is a monsoon-fed river originating in Aravalli hills (Udaipur) and draining in the Gulf of Cambay in the Arabian Sea.
- Major Tributaries: Sei, Harnav, Wakal, Hathmati and Watrak

31.8.22

1) Indian Navy's ensign: The red cross on a white background is known as the Saint George's Cross and is named after a Christian Warrior Saint who is believed to have been a crusader during the third crusade. (This cross also serves as the flag of England)

- After Independence, on August 15, 1947, the Indian defence forces continued with the British colonial flags and badges and it was only on Jan 26, 1950, that a changeover to Indianised pattern was made, however, in the Navy's flag Union Jack was replaced with the Tricolour, and the George's Cross was retained.
- In 2014, the words 'Satyamev Jayate' were included on the flag below the Ashoka emblem in the Devanagri script.
- PM will unveil the new naval ensign (flag) for the Indian Navy in Kochi

2) Hyper lapse Consumerism: In 'hyper lapse consumerism', there is a clamour to be the fastest to reach the consumer. The ubiquitous growth of the Internet and the rise of e-commerce have fuelled hyper lapse consumerism, which refers not only to the kinds of products being sold but also to the ease with which consumers order them and the speed at which such products are delivered.

3) PARAKH: The proposed implementing agency is also part of the NEP 2020 proposal. It is also one of the components of World Banks' sponsored STARS Project (to improve the quality and governance of school education in Indian states)

- It aims to bring about "uniformity" across state and central boards which currently follow different standards of evaluation, leading to wide disparities in scores. PARAKH will help tackle the problem of students of some state boards being at a disadvantage during college admissions as compared to their peers in CBSE schools.
- It will develop and implement "technical standards for the design, conduct, analysis and reporting" of tests at all levels of school education.

4) Zombie Ice: Zombie Ice is the 'doomed ice' that, while still attached to thicker areas of the ice, is no longer getting replenished by parent glaciers now receiving less snow.

- Without replenishment, the doomed ice is melting from climate change and will inevitably raise seas.

5) Geneva Convention: It is an international treaty signed in 1949 that helps support the development and safety of **International Road traffic.**

- In adherence to the Convention of International Road Traffic of 1949 (also known as the Geneva convention), the Ministry of Road Transport and Highways have notified on standardizing the process for issuance of International Driving Permit (IDP)
- **India is a signatory** of the convention and is required to issue IDPs.



Places in News

1) Gaza:

- The Gaza Strip is an entirely artificial creation that emerged in 1948 when roughly three-fourths of Palestine's Arab population was displaced, in some cases expelled, during the course of Israel's creation
- The Gaza Strip and the West Bank are claimed by the de jure sovereign State of Palestine.

2) Bhima-Koregaon Battle:

A battle was fought in Bhima Koregaon between the Peshwa forces and the British on January 1, 1818.

- The British army, which comprised mainly of Dalit soldiers, fought the upper caste-dominated Peshwa army. The British troops defeated the Peshwa army.
- The defeat of Peshwa army was considered to be a victory against caste-based discrimination and oppression.
- It was one of the last battles of the Third Anglo-Maratha War, which ended the Peshwa domination

3) Agasthyamalai Elephant Reserve : India's 31 Elephant Reserve:

- This will be the 5th elephant reserve in Tamil Nadu.
- It will help connect the populations to other areas in the Srivilliputhur Meghamalai tiger reserve and with the Periyar landscapes.

4) Agasthyamalai Biosphere Reserve (ABR):

- ABR is situated at the southern-most end of the Western Ghats and spread over two southern states Kerala and Tamil Nadu.
- It is named after the Agastya Mala peak that rises up to almost 1868 metres above sea level, in Thiruvananthapuram, Kerala.
- In March 2016, it was included in the World Network of Biosphere Reserves of UNESCO.
- It covers Peppara and Shendurney wildlife sanctuaries and parts of the Neyyar sanctuary in Kerala and the Kalakad Mundanthurai Tiger Reserve of Tamil Nadu.
- It is home to the Kanikaran tribe, one of the oldest surviving ancient tribes in the world.

5) New Addition to the Ramsar Sites List:

India has added 21 more Ramsar sites, or wetlands that are of international importance, taking the number of such sites to 75.



| NAME | STATE | ABOUT |
|---|------------|---|
| Koonthankulam Bird Sanctuary | Tamil Nadu | This is the largest reserve for breeding resident and migratory water birds in South India. It is an Important Bird and Biodiversity Area forming part of the Central Asian Flyway. |
| Gulf of Mannar Marine Biosphere Reserve | Tamil Nadu | It is the first Marine Biosphere Reserve in South & South -East Asia |

| | | |
|-------------------------------------|------------|---|
| Vembannur Wetland Complex | Tamil Nadu | It is a human-made inland tank. It forms the southernmost tip of peninsular India further it forms part of the Important Bird and Biodiversity Area (IBA) |
| Vellode Bird Sanctuary | Tamil Nadu | The wetlands have been evaluated and prioritized considering factors like the ecology of the wetland, earlier bird counts, records of breeding, and roosting colonies. |
| Vedanthangal Bird Sanctuary | Tamil Nadu | It is one of the oldest bird-protected areas in Tamil Nadu. This site is also recognized internationally as an Important Bird and Biodiversity Area (IBA). |
| Udhayamarthandapuram Bird Sanctuary | Tamil Nadu | The site is an important staging and breeding ground for several species of waterbirds. The notable species observed at the site are oriental darter, glossy ibis, grey Heron & Eurasian spoonbill. |
| Chitrangudi Bird Sanctuary | Tamil Nadu | locally known as "Chitrangudi Kanmoli", is a protected area since 1989 and declared as Bird Sanctuary. |
| Suchindram Theroor Wetland Complex | Tamil Nadu | It is declared an Important Bird Area and lies at the southern tip of the Central Asian flyway of migratory birds. It was formed for birds' nesting purposes and it attracts thousands of birds every year. |
| Vaduvur Bird Sanctuary | Tamil Nadu | It is a large human-made irrigation tank and shelter for migratory birds as it provides a suitable environment for food, shelter, and breeding ground. While these irrigation tanks have socio-economic and cultural significance, very little is known of their ecological importance. |
| Kanjirankulam Bird Sanctuary | Tamil Nadu | It is notable as a nesting site for several migratory heron species that roost in the prominent growth of babul trees there. The site qualifies as an IBA as the threatened Spot-billed Pelican <i>Pelecanus philippensis</i> breeds here. |
| Satkosia Gorge | Odisha | It spreads along the magnificent gorge over the mighty river Mahanadi. Satkosia is the meeting point of two biogeographic regions of India, the Deccan Peninsula and the Eastern Ghats, contributing immense biodiversity. |
| Tampara Lake | Odisha | Tampara Lake is among the most prominent freshwater lakes in the State of Odisha situated in Ganjam district. The depression on the ground gradually filled with rainwater from catchment flow |

| | | |
|------------------------------------|-------------------|--|
| Hirakud Reservoir | Odisha | and was called “Tamp” by the British and subsequently termed “Tampra” by the locals. Hirakud Reservoir, the largest earthen dam in Odisha started operating in 1957. over 130 bird species have been recorded at this site, out of which 20 species are of high conservation significance. |
| Ansupa Lake | Odisha | It is the largest freshwater lake of Odisha situated in Banki The wetland is an oxbow lake formed by River Mahanadi and is spread over an area of 231 ha |
| Yashwant Sagar | Madhya Pradesh | Yashwant Sagar is one of the two Important Bird Areas (IBA) in the Indore region as well as one of the most important birding sites in Malwa region of Madhya Pradesh. Presently it is mainly used for water supply to the city of Indore and is also being used for fish culture on a commercial scale. Yashwant Sagar is considered to be a stronghold of the vulnerable Sarus Crane in central India. The lake backwaters have plenty of shallow areas, conducive for waders and other waterfowl |
| Sirpur Wetland | MP | It is not only important for its aesthetic value but it provides immense ecological services such as being an important source of water and helping groundwater recharge in the downstream areas. |
| Ranganathittu Bird Sanctuary | Karnataka | It has been enlisted as one of the Important Bird Areas (IBA) in Karnataka and India by Bombay Natural History Society. It is an ecologically important riverine wetland of India |
| Nanda Lake | Goa | It is considered to be critically significant for its ecosystem services and biodiversity values for the local communities and society at large. |
| Thane Creek | Maharashtra | There are several sources of fresh water to the creek, of which Ulhas River is the largest, followed by many drainage channels from various suburban areas of Mumbai, Navi Mumbai & Thane. It has been declared as Thane Creek Flamingo Sanctuary. Thane creek is fringed by mangroves on both banks & comprises around 20% of the total Indian mangrove species. The area is an important part of the wetland complex of the Central Asian Flyway of the birds and has been categorized as an Important Bird Area (IBA). |
| Hygam Wetland Conservation Reserve | Jammu and Kashmir | Hygam Wetland falls within the River Jhelum basin and plays a significant role as a flood absorption basin, biodiversity conservation site, eco-tourism site, and livelihood security for the local communities. It is also recognized as an Important Bird Area (IBA). |

| | | |
|--|-----|--|
| Shallbugh Wetland Conservation Reserve | J&K | Shallabugh Wetland plays a major role in the natural control, amelioration or prevention of flooding. It is also important for seasonal water retention for wetlands or other areas of conservation importance downstream. Large areas of the wetland dry up between September and March |
|--|-----|--|

Tamil Nadu has maximum no. of Ramsar sites (14 nos), followed by UP which has 10 nos. of Ramsar sites.

- 6) **Lake Garda:** Lake Garda, also called Benaco, the largest of the Italian lakes.
- It is separated from the Adige River valley by the narrow ridge of Mount Baldo.
- 7) **Puga hot spring area, Ladakh:** located at the junction of the Indian and Tibetan plates along the Indus Suture Zone, has the greatest potential for the near-term development of geothermal energy in the Indian subcontinent
- The top five countries in terms of geothermal power generation are the US, Philippines, Indonesia, Mexico and New Zealand
- 8) **RANGANATHITTU BIRD SANCTUARY:** located in the Mandya District, Karnataka. It is situated on the banks of river Cauvery
- It is the largest bird sanctuary in Karnataka.
- 9) **Poyang Lake:** Poyang Lake or Poyang Hu is China's biggest freshwater lake. It is a shallow lake. It is known as the "kidney" because of the role it plays in regulating the flow of the Yangtze River in central Jiangxi province.
- 10) **Vishnugad Pipalkoti Hydro Electric Project:** 444-MW VPHEP is being built by the Tehri Hydropower Development Corporation (THDC) (on river Alakananda (a tributary of river Ganga)). The project is primarily funded by the World Bank.
- 11) **Gibraltar:** Gibraltar finally joined the official list of British cities on Monday, after 180 years in which its status, granted by Queen Victoria, had been overlooked due to an administrative error.



- 12) **Falkland Island:** also called Malvinas Islands or Spanish Islas Malvinas, internally self-governing overseas territory of the United Kingdom in the South Atlantic Ocean. Sovereignty is disputed between Argentina and UK. India has favoured Argentina.

MCQ

1) Prime Minister Narendra Modi launched India's first International Bullion Exchange (IIBE):

- A. Gandhinagar
- B. Kochi
- C. Amritsar
- D. Kolkata

Answer : a) Prime Minister Narendra Modi launched India's first International Bullion Exchange (IIBE) at Gujarat International Finance Tech (GIFT) City in Gandhinagar.

- With the inauguration of IIBE, India can not only influence the gold pricing but also play a role in setting the gold prices.
- Prime Minister also launched NSE IFSC-SGX Connect and laid the foundation stone of the headquarters of the International Financial Services Centres Authority (IFSCA) at GIFT City.

2) Consider the following statements regarding Ramsar Convention.

1. Designation of a wetland under Ramsar Convention will lead to funding from the Ramsar secretariat.
2. The Ramsar designation for a wetland can be taken off if the country does not meet the required standards.
3. Not every Ramsar Site in India is a notified protected area under the Wildlife (Protection) Act, 1972.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Ans : c) Ramsar secretariat designating a wetland as wetland of global importance may not lead to any extra funding by the global body.

- But from the management point of view, it is like an accreditation. It is like an ISO certification. They can take you off the list as well if you don't meet their standards continuously.
- Not every Ramsar Site is a notified protected area under the Wildlife (Protection) Act, 1972, hence systematic protection and conservation regimes might not be in place there.

3) With reference to the Revamped Distribution Sector Scheme (RDSS), consider the following statements:

1. The scheme is aimed at improving the operational efficiencies and financial sustainability of the power distribution companies (discoms).
2. It mandates compulsory installation of smart meters across the country.

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 : c) The scheme is aimed at improving the operational efficiencies and financial sustainability of the power distribution companies (discoms).

- The scheme, with an outlay of over Rs 3.03 trillion in five years to FY26, will enable discoms to modernise and strengthen the distribution infrastructure and improve the reliability and quality of supply of power to end consumers.
- It also aims to reduce the AT&C (aggregate technical and commercial) losses to pan-India levels of 12-15% and ACS-ARR (average cost of supply-average revenue realised) gap to zero by 2024-25. REC and PFC have been nominated as nodal agencies for the scheme.
- RDSS mandates compulsory installation of smart meters across the country. The Centre has set an ambitious target of installing 250 million smart meters by 2025.
- With this new scheme coming into force, all other previous schemes such as Integrated Power Development Scheme, Deendayal Upadhyaya Gram Jyoti Yojana and Ujjwal Discom Assurance Yojana (UDAY) would stand subsumed.

4) Which of the following are the advantages of having a bullion exchange in India?

1. Bullion imports for domestic consumption can be channelized through the exchange.
2. It will offer the advantages of price discovery, transparency in disclosures, guaranteed centralised clearing and assurance of quality.
3. It will be an important step towards financialization of bullion-based products.

Select the correct answer code:

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Answer : d) The IIBX will be a gateway for bullion imports into India, where all bullion imports for domestic consumption shall be channelized through the exchange. In addition to providing a trading avenue to various participants, a bullion exchange will also offer the advantages of price discovery, transparency in disclosures, guaranteed centralised clearing and assurance of quality. A bullion exchange, apart from providing standardisation and transparent mechanism, will also be an important step towards financialization of bullion-based products.

5) With reference to the District Legal Services

Authorities, consider the following statements:

1. The first-ever national-level meet of District Legal Services Authorities (DLSAs) is being organized at Vigyan Bhawan by National Legal Services Authority.
2. They are headed by the Chief Justice of respective High Courts who acts as Chairman of the authority.

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 : a) The first-ever national-level meet of District Legal Services Authorities (DLSAs) is being organized at Vigyan Bhawan by National Legal Services Authority. The meeting will deliberate on the creation of an integrated procedure to bring homogeneity and synchronization across DLSAs.

- There are a total of 676 District Legal Services Authorities in the country. They are headed by the District Judge who acts as Chairman of the authority.

6) With reference to the PRS Legislative Research (PRS) finding on state legislature, consider the following statements:

1. Kerala, which slipped to the eighth slot in holding Assembly sittings during the first wave of the COVID-19 pandemic in 2020, returned to the top spot in 2021, with its House sitting for 61 days, the highest in the country.

2. Between 2016 and 2019, Kerala remained at the top with an average of 53 days.

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 : C) Kerala, which slipped to the eighth slot in holding Assembly sittings during the first wave of the COVID-19 pandemic in 2020, returned to the top spot in 2021, with its House sitting for 61 days, the highest in the country.

- The State's showing was impressive as 2021 saw the more virulent second wave of the pandemic. In fact, between 2016 and 2019, it remained at the top with an average of 53 days.

Despite enjoying the record of having the highest number of sittings in 2021, Kerala (where the Left Democratic Front is in power since May 2016) had promulgated 144 ordinances, also the highest in the country.

7) Consider the following statements regarding India International Bullion Exchange (IIBX).

1. It will be India's first bullion exchange at National Stock Exchange of India Limited (NSE) in Mumbai.
2. Qualified jewellers will be permitted to import gold through the IIBX.
3. The bullion exchange also has necessary infrastructure to store physical gold and silver.

Which of the above statements is/are correct?

- a) 1, 2
- b) 2, 3
- c) 1, 3
- d) 1, 2, 3

Answer: B) On July 29, Prime Minister Narendra Modi will launch India's first bullion exchange — the India International Bullion Exchange (IIBX) — at Gujarat's GIFT City (Gujarat International Finance Tec-City), India's maiden International Financial Services Centre (IFSC) located between Ahmedabad and Gandhinagar.

- The bullion exchange, which was announced in the 2020 Union Budget, has not only enrolled jewellers to trade on the exchange, but has also set up necessary infrastructure to store physical gold and silver.

- Qualified jewellers will be permitted to import gold through the IIBX.
- Apart from qualified jewellers, non-resident Indians and institutions will also be able to participate on the exchange after registering with the IFSCA. In the medium term, institutions such as Funds for Gold ETF are also expected to participate.

8) According to figures tabled in Lok Sabha which of the following state had the highest number of road accidents in 2020?

- A. Kerala
- B. Punjab
- C. Bihar
- D. Tamil Nadu

Ans: D

9) Gini coefficient or Gini ratio is associated with which one of the following measurements in an economy?

- a) Personal income
- b) Poverty index
- c) Rate of inflation
- d) Income inequality

Answer : D) In economics, the Gini coefficient, also known as the Gini ratio, is a measure of statistical dispersion intended to represent the income inequality or the wealth inequality within a nation or a social group.

- A Gini coefficient of 0 expresses perfect equality while a Gini coefficient of 1 expresses maximal inequality.

10) Which of the following union Ministry is implementing Mission Vatsalya?

- A. Ministry of Women and Child Development
- B. Ministry of Finance
- C. Ministry of Home Affairs
- D. None of the above

Answer : A) Ministry of Women and Child Development is implementing a centrally sponsored scheme through State/UT Governments namely Mission Vatsalya.

- Under it, a monthly grant of Rs. 4000/- per child is provided for family based non-institutional care including Sponsorship (kinship) or Foster Care or After Care.

- The Mission Vatsalya in partnership with States and Districts provides support to a 24x7 helpline service for children as defined under the JJ Act, 2015.

11) Tadoba Andhari Tiger Reserve (TATR), recently seen in news, is located in:

- A. Maharashtra
- B. Uttar Pradesh
- C. Bihar
- D. Gujarat

Ans: A

12) Consider the following statements.

1. The price rise which is the result of increase in the production cost is known as cost-push inflation.
2. Even if the price of one good has gone up, it is considered as inflation.
3. A mismatch between demand and supply can lead to inflation.

Which of the above statements is/are correct?

- a) 1, 3
- b) 1 only
- c) 1, 2
- d) 2, 3

Answer : A) A rise in the general level of prices is inflation. If the price of one good has gone up, it is not inflation; it is inflation only if the prices of most goods have gone up.

- A mis-match between demand and supply pulls up prices. Either the demand increases over the same level of supply, or the supply decreases with the same level of demand and thus the situation of demand-pull inflation arise.

An increase in factor input costs (i.e., wages and raw materials) pushes up prices. The price rise which is the result of increase in the production cost is cost-push inflation.

13) With reference to the Agriculture Infrastructure Fund, consider the following statements:

1. It was launched two years ago under the ambitious Aatmanirbhar Bharat Package as a dedicated Central Government scheme that provides medium-long term credit facility for investment in creation of post-harvest management infrastructure and community farming assets.
2. This facility comes with financial support by way of three per cent Interest subvention from Government

and credit guarantee by CGTMSE fee up to two crore rupees.

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

Ans: C) Agriculture Infrastructure Fund (AIF) was launched two years ago under the ambitious Aatmanirbhar Bharat Package as a dedicated Central Government scheme that provides medium-long term credit facility for investment in creation of post-harvest management infrastructure and community farming assets.

- This facility comes with financial support by way of three per cent Interest subvention from Government and credit guarantee by CGTMSE fee up to two crore rupees.
- This scheme can be converged with the existing Central Government and State Government schemes.
- This has immensely benefitted stakeholders in the agricultural ecosystem - Farmers, Agri-entrepreneur, FPO, SHG, JLG, PACS, APMC, Startup, Central, Marketing Cooperative Society, State Agencies etc.

14) With reference to the Cantonments Act, 2006, consider the following statements:

1. The Government of India has proposed amendments in the Cantonments Act, 2006 by incorporating provisions for imparting, inter-alia, greater democratisation to Cantonment Boards including direct election of Vice-President.
2. This will provide uniformity in local governance and greater ease of living for citizens in the process.

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

Ans : C) The Government of India has proposed amendments in the Cantonments Act, 2006 by incorporating provisions for imparting, inter-alia, greater democratisation to Cantonment Boards including direct election of Vice-President.

- This information was given by Defence Minister Rajnath Singh in a written reply in the Lok Sabha. He said the draft bill is under finalization. The elections

to Cantonment Boards are proposed to be held thereafter.

Defence Minister said a framework for cutting out civil areas of certain Cantonments and to merge them with neighbouring State municipalities is under consultation with concerned States. He said this will provide uniformity in local governance and greater ease of living for citizens in the process.

15) With reference to the MiG-21 Bison aircraft, consider the following statements:

1. There are four squadrons of MiG-21 Bison aircraft currently in service in the IAF with each squadron comprising 16-18 aircraft, including two trainer versions.
2. MiG-21 Bison will be phased out of IAF by 2025.

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

Ans: C) There are four squadrons of MiG-21 Bison aircraft currently in service in the IAF with each squadron comprising 16-18 aircraft, including two trainer versions. Out of these one squadron, Srinagar-based No 51 Squadron, is going to be retired from service or 'number plated' in IAF jargon on September 30 this year, leaving three squadrons in service. Out of these three squadrons, one will be number plated each year and, thus, MiG-21 Bison will be phased out of IAF by 2025. The IAF is looking towards reviving these squadrons back into service with the indigenous Light Combat Aircraft (LCA) Tejas.

16) With reference to the LUMPY SKIN DISEASE, consider the following statements:

1. Lumpy skin disease (LSD) is an infectious disease in cattle caused by a virus of the family Poxviridae, also known as Neethling virus.
2. The disease is characterized by fever, enlarged superficial lymph nodes and multiple nodules on the skin and mucous membranes.

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

Ans: C) Lumpy skin disease (LSD) is an infectious disease in cattle caused by a virus of the family Poxviridae, also known as Neethling virus.

The disease is characterized by fever, enlarged superficial lymph nodes and multiple nodules (measuring 2–5 centimetres (1–2 in) in diameter) on the skin and mucous membranes (including those of the respiratory and gastrointestinal tracts).

Infected cattle also may develop edematous swelling in their limbs and exhibit lameness.

The virus has important economic implications since affected animals tend to have permanent damage to their skin, lowering the commercial value of their hide.

17) Consider the following statements.

1. Between 1993-94 and 2018-19, agriculture's share in India's workforce has reduced by around 50 percent.
2. Between 1993-94 and 2020-21 the percentage of India's workforce in agriculture has been reducing steadily.
3. Structural transformation would involve the transfer of labour from farming to sectors particularly manufacturing and modern services where productivity, value-addition and average incomes are higher.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 3 only
- d) 2, 3

Ans: C) Overall, between 1993-94 and 2018-19, agriculture's share in India's workforce came down from 61.9% to 41.4%.

- Even the movement of workforce from agriculture that India has witnessed over the past three decades or more does not qualify as what economists call "structural transformation". Such transformation would involve the transfer of labour from farming to sectors – particularly manufacturing and modern services – where productivity, value-addition and average incomes are higher.

18) With reference to the African swine fever virus (ASFV), consider the following statements:

1. It is a large, double-stranded DNA virus in the Asfarviridae family.

2. The virus causes a hemorrhagic fever with high mortality rates in domestic pigs; some isolates can cause death of animals as quickly as a week after infection.

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

Ans: c) African swine fever virus (ASFV) is a large, double-stranded DNA virus in the Asfarviridae family.

- It is the causative agent of African swine fever (ASF).
- The virus causes a hemorrhagic fever with high mortality rates in domestic pigs; some isolates can cause death of animals as quickly as a week after infection.
- It persistently infects its natural hosts, warthogs, bushpigs, and soft ticks of the genus Ornithodoros, which likely act as a vector, with no disease signs.
- It does not cause disease in humans. ASFV is endemic to sub-Saharan Africa and exists in the wild through a cycle of infection between ticks and wild pigs, bushpigs, and warthogs.

19) Consider the following statements.

1. India does not have formal diplomatic ties with Taiwan.
2. While following the One-China policy, India has established India-Taipei Association (ITA) in Taipei for diplomatic engagements.
3. Taiwan Strait is a narrow body of water that separates the Taiwan from the mainland China.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Ans: d) India does not have formal diplomatic ties with Taiwan yet.

- While following the One-China policy, India has an office in Taipei for diplomatic functions — India-Taipei Association (ITA) is headed by a senior diplomat. Taiwan has the Taipei Economic and Cultural Center (TECC) in New Delhi. Both were established in 1995.

20) With reference to the AlphaFold, consider the following statements:

1. It is an AI-based protein structure prediction tool.
2. It used processes based on “training, learning, retraining and relearning” to predict the structures of the entire 214 million unique protein sequences deposited in the Universal Protein Resource (UniProt) database.

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

Ans: C) AlphaFold is an AI-based protein structure prediction tool. It used processes based on “training, learning, retraining and relearning” to predict the structures of the entire 214 million unique protein sequences deposited in the Universal Protein Resource (UniProt) database.

- The Indian community of structural biology needs to take advantage of the AlphaFold database and learn how to use the structures to design better vaccines and drugs.

21) With reference to the MIG-21, consider the following statements:

1. The MIG-21 was inducted into the IAF in the early 1960s.
2. Currently, there are 10 MIG-21 squadrons in service.

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

Ans: A) The MIG-21 was inducted into the IAF in the early 1960s. Currently, there are four MIG-21 squadrons in service. IAF officials have stated that there is technical life still left in them.

- The IAF has an authorised strength of 42 fighter squadrons. As time passes, the drawdown is increasing as the total technical life is completed.
- However, the rate of new inductions is not matching the drawdown, depleting the overall number of fighter squadrons.

In addition to the indigenous aircraft coming up, the IAF is confident that increasing the low availability rates of

Su-30 and other fighters in service will offset some of the shortfall in the interim

22) Consider the following statements.

1. Inflation is closely related to interest rates, which can influence exchange rates.
2. Low interest rates most commonly attract foreign investment.
3. Low interest rates spur consumer spending and economic growth.

Which of the above statements is/are correct?

- a) 1 only
- b) 1, 2
- c) 1, 3
- d) 1, 2, 3

Ans: C) Inflation is closely related to interest rates, which can influence exchange rates. Countries attempt to balance interest rates and inflation, but the interrelationship between the two is complex and often difficult to manage. Low interest rates spur consumer spending and economic growth, and generally positive influences on currency value. If consumer spending increases to the point where demand exceeds supply, inflation may ensue, which is not necessarily a bad outcome. But low interest rates do not commonly attract foreign investment. Higher interest rates tend to attract foreign investment, which is likely to increase the demand for a country's currency.

23) With reference to the Gati Shakti University bill, consider the following statements:

1. Gati Shakti Vishwavidyalaya is an autonomous Central university.
2. The Bill seeks to expand the scope of the university from beyond just the Railways to cover the entire transport sector and support growth and modernisation in the field.

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

Ans: C) Education Minister Dharmendra Pradhan introduced the Central Universities (Amendment) Bill, which seeks to convert the National Rail and Transportation Institute (NRTI), a deemed-to-be university, into the Gati Shakti Vishwavidyalaya, an autonomous Central university.

- The Bill seeks to expand the scope of the university from beyond just the Railways to cover the entire transport sector and support growth and modernisation in the field.
- The new university, once the Bill clears both Houses of Parliament, will be funded and administered by the Ministry of Railways.
- The Central Universities (Amendment) Bill, 2022 seeks to amend the Central Universities Act, 2009, inter alia, to provide for the establishment of Gati Shakti Vishwavidyalaya as a body corporate under the said Act.

24) With reference to the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, consider the following statements:

1. The first Bill will amend the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005.
2. The Bill proposes to empower the Central government to freeze, seize or attach funds or financial assets or economic resources for preventing financing of Weapons of Mass Destruction (WMDs) and to prohibit making available funds or resources for such activities.

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

Ans: C) The first Bill will amend the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005.

- The amendment seeks to prevent financing of prohibited activities related to nuclear, biological and chemical weapons.
- The Bill also proposes to empower the Central government to freeze, seize or attach funds or financial assets or economic resources for preventing financing of Weapons of Mass Destruction (WMDs) and to prohibit making available funds or resources for such activities.

25) Hellfire R9X missile, recently seen in news, belongs to

- a) Russia
- b) China

- c) USA
- d) Israel

Ans: C) The US military used its 'secret weapon' — the Hellfire R9X missile – to kill Al Qaeda chief Ayman al-Zawahiri on the balcony of a safehouse in Kabul on July 31.

26) With reference to the Indian Antarctic Bill, 2022, consider the following statements:

1. The Indian Antarctic Bill, 2022 seeks to allow the application of Indian laws to the country's research stations in Antarctica.
2. It aims to provide national measures to protect the Antarctic environment and associated ecosystems.

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

Ans: C) C) The Indian Antarctic Bill, 2022 seeks to allow the application of Indian laws to the country's research stations in Antarctica.

- It also aims to provide national measures to protect the Antarctic environment and associated ecosystems.
- The Bill will also give effect to the Antarctic Treaty, the Convention on the Conservation of Antarctic Marine Living Resources and the Protocol on Environmental Protection to the Antarctic Treaty.

27) With reference to the Monkeypox, consider the following statements:

1. The Union government has constituted a task force under V.K. Paul to monitor and provide guidance on the expansion of diagnostic facilities and to explore vaccination against the infection in the country.
2. Monkeypox is a zoonotic disease caused by the monkeypox bacteria.

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

Ans : A) The team will be headed by V.K. Paul, member (Health), NITI Aayog. India has reported six confirmed

cases of monkeypox so far — four in Kerala and two in Delhi.

- According to the World Health Organization (WHO), more than 18,000 cases have been reported from 78 countries.
- Monkeypox is a zoonotic disease caused by the monkeypox virus, which belongs to the same family of viruses that causes smallpox.

28) Which of the following is/are included in the calculation of National Income in India?

- 1) Exports of the IT sector
- 2) Salary of employees
- 3) Sale of Land

Select the correct answer code:

- a) 1, 2
- b) 2 only
- c) 1, 3
- d) 1, 2, 3

Ans: A) National Income is defined as the total monetary value of all goods and services produced within a country during a given period of time. Gains on sale of land will not be included in the estimation of National Income. Capital gains will not be included in the national income as they do not add to the current flow of goods and services in the economy.

29) With reference to the new districts, consider the following statements:

1. A new Sundarban district will be carved out of South 24-Parganas district.
2. Ranaghat, a city and municipality in Nadia district, will become the fourth new district

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

Ans: C) The West Bengal cabinet has approved the creation of seven new districts in the state. This will take the number of districts in West Bengal to 30 from the existing 23.

- A new Sundarban district will be carved out of South 24-Parganas district;
- two new districts will be created out of North 24-Parganas district — Ichhamati in Bongaon subdivision and a yet unnamed district in Basirhat;

Ranaghat, a city and municipality in Nadia district, will become the fourth new district.

30) With reference to the Mines and Minerals (Development and Regulation) Act (MMDR Act), consider the following statements:

1. It is an Act of the Parliament of India enacted in 1957, which forms the basic framework of regulating the mining sector in India and mandates the requirement for granting leases for mining operations.
2. The Ministry of Finance, Government of India, is responsible for the administration of the Act.

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

Ans: A) The Mines and Minerals (Development and Regulation) Act (MMDR Act):

- It is an Act of the Parliament of India enacted in 1957, which forms the basic framework of regulating the mining sector in India and mandates the requirement for granting leases for mining operations.
- The Ministry of Mines, Government of India, is responsible for the administration of the Act.
- It describes the procedure and terms for obtaining a mining or prospecting licence in India.
- Prior approval from the Ministry of Environment and Forests is required for mining on forest land.
- This act is applicable to all minerals except minor minerals (such as river sand, which is under the purview of state governments) and atomic minerals.

31) With respect to Tax-GDP ratio in India, consider the following statements:

1. It is a representation of the size of the government's tax revenue expressed as a percentage of the GDP.
2. A higher tax to GDP ratio means a better financial position of the country.
3. In India, it is around 10-11% of GDP and stayed at that level for the last 20 years.

Which of the statements given above are correct?

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

Ans: D) It is a representation of the size of the government's tax revenue expressed as a percentage of the GDP.

- A higher tax to GDP ratio means that an economy's tax buoyancy is strong as the share of tax revenue rises in sync with the rise in the country's GDP.
- The ratio represents that the government is able to finance its expenditure and reduces its dependence on borrowings.
- Although India has improved its tax-to-GDP ratio in the last six years, it is still far lower than the average OECD ratio which is 34%.
- In India, it is low at around 10-11% of GDP and it has stayed at close to that level for the last 20 years.

32) With reference to the Live-fire exercises, consider the following statements:

1. Live-fire exercises are exercises primarily used by military personnel, in which live ammunition is used to create training conditions that are as close to real combat scenarios as possible.
2. During live-fire training, soldiers are placed in simulated combat situations and are given the opportunity to use their weapons and equipment.

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

Ans: C) Live-fire exercises are exercises primarily used by military personnel, in which live ammunition is used to create training conditions that are as close to real combat scenarios as possible.

- Live-fire exercises are also used by law enforcement and firefighters as a form of field training, to train them to act calmly in real-life emergency situations in the future.
- During live-fire training, soldiers are placed in simulated combat situations and are given the opportunity to use their weapons and equipment (like ships, aircraft, tanks and drones).

33) Buoyancy of tax refers to:

- a) Relationship between the changes in government's tax revenue growth and the changes in Investment.
- b) Relationship between the changes in government's tax revenue growth and the changes in GDP.

c) Relationship between the changes in government's tax revenue growth and the changes in demand.

d) Relationship between the changes in government's tax revenue growth and the changes in Inflation.

Ans: B) Tax buoyancy explains this relationship between the changes in government's tax revenue growth and the changes in GDP. It refers to the responsiveness of tax revenue growth to changes in GDP. When a tax is buoyant, its revenue increases without increasing the tax rate.

34) Consider the following statements with respect to Coral reefs

1. Soft corals extract calcium carbonate from seawater to build corals whereas hard corals attach themselves with existing coral exoskeletons.
2. Hard corals are the engineers of reef ecosystems and the coral cover is measured by determining the increase in the hard corals.
3. Corals prepare their own food with the help of reactive oxygen produced by zooxanthellae.

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

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

Ans: A) Corals are of two types — hard corals and soft corals.

- Hard corals - It extract calcium carbonate from seawater to build hard, white coral exoskeletons.
- Hard corals are in a way the engineers of reef ecosystems and measuring the extent of hard coral is a widely-accepted metric for measuring the condition of coral reefs.
- Coral cover is measured by determining the increase in the cover of hard corals.
- Soft corals – It attach themselves to such skeletons and older skeletons built by their ancestors.
- Soft corals also add their own skeletons to diehard structure over the years.

These growing multiplying structures gradually form coral reefs

35) With reference to the Taiwan's "porcupine doctrine", consider the following statements:

1. The "porcupine doctrine", which was proposed in 2008 by US Naval War College research professor William S Murray.

2. It is a strategy of asymmetric warfare focused on fortifying a weak state's defences to exploit the enemy's weaknesses rather than taking on its strengths.

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

Ans: C) The "porcupine doctrine", which was proposed in 2008 by US Naval War College research professor William S Murray, is a strategy of asymmetric warfare focused on fortifying a weak state's defences to exploit the enemy's weaknesses rather than taking on its strengths.

It is about building defences that would ensure that Taiwan "could be attacked and damaged but not defeated, at least without unacceptably high costs and risks", Murray wrote in the Naval War College Review.

36) Pro-choice movement, recently seen in news, is related to the affairs of which of the following country?

- A. U.S.A
- B. China
- C. India
- D. France

Ans: A) The pro-choice movement secured a massive victory in the Republican state of Kansas on August 2, as voters overwhelmingly rejected the 'Value Them Both Amendment' that would have removed legal protections for abortion from the state's constitution.

- The 'Value Them Both Amendment' states there "is no Kansas constitutional right to abortion or to require the government funding of abortion."

37) Consider the following statements.

1. Under the Constitution, the Parliament has the exclusive jurisdiction to legislate in respect of personal laws.
2. The Constitution itself protects local customs of some of the states like Nagaland, Meghalaya and Mizoram.
3. Once a legislative field is occupied by parliamentary legislation, states do not have much freedom to enact laws.

Which of the above statements is/are correct?

- a) 1, 2
- b) 2, 3
- c) 3 only
- (d) 1, 2 and 3

Ans: B) Under the Constitution, the power to legislate in respect of personal laws rests with both Parliament and state Assemblies. Preservation of legal diversity seems to be the reason for inclusion of personal law in the Concurrent List (entry No. 5).

- Once a legislative field is occupied by parliamentary legislation, states do not have much freedom to enact laws. Such laws would require Presidential assent under Article 254.

The Constitution itself protects local customs of Nagaland, Meghalaya and Mizoram.

38) Consider the following statements:

1. The CJI and the judges of the Supreme Court are appointed by the President under Article 124 of the Indian Constitution.
2. The collegium of the CJI and two senior-most judges of the Supreme Court make recommendations for appointments to the apex court and High Courts.
3. The collegium can veto the government if the names are sent back by the latter for reconsideration.

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

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

Ans: C) The collegium of the CJI and 4 senior-most judges of the Supreme Court make recommendations for appointments to the apex court and High Courts.

- The collegium can veto the government if the names are sent back by the latter for reconsideration.
- The basic tenet behind the collegium system is that the judiciary should have primacy over the government in matters of appointments and transfers in order to remain independent.
- The CJI and the judges of the Supreme Court are appointed by the President under clause (2) of Article 124 of the Constitution.

The appointment to the office of the CJI should be of the senior-most judge of the Supreme Court considered fit to hold the office.

39) With reference to the Monetary Policy, consider the following statements:

1. Monetary Policy Committee (MPC) of the Reserve Bank of India unanimously decided to raise the policy repo rate by 50 basis points (bps) to 5.4%.

2. The RBI retained its inflation and GDP growth projections for the current fiscal year ending in March 2023 at 9% and 11%, respectively.

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

Ans: A) With inflation remaining at 'elevated levels', the Monetary Policy Committee (MPC) of the Reserve Bank of India unanimously decided to raise the policy repo rate by 50 basis points (bps) to 5.4%.

- The MPC also said it would remain focused on "withdrawal of accommodation" to ensure that inflation remains within the target, while supporting growth.
- The RBI retained its inflation and GDP growth projections for the current fiscal year ending in March 2023 at 6.7% and 7.2%, respectively.
- Consequently, the standing deposit facility (SDF) rate stands adjusted to 5.15%; and the marginal standing facility (MSF) rate and the Bank Rate to 5.65%.

40) Consider the following statements regarding National Tiger Conservation Authority.

1. The National Tiger Conservation Authority has been fulfilling its mandate within the ambit of the Wildlife (Protection) Act, 1972 for strengthening tiger conservation in the country.
2. It accords approval for declaring new Tiger Reserves.
3. It is headed by the Prime Minister of India.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Ans: A) The National Tiger Conservation Authority is a statutory body under the Ministry of Environment, Forests and Climate Change.

- The National Tiger Conservation Authority has been fulfilling its mandate within the ambit of the Wildlife (Protection) Act, 1972 for strengthening tiger conservation in the country by retaining an oversight through advisories/normative guidelines, based on appraisal of tiger status, ongoing conservation initiatives and recommendations of specially constituted Committees.
- Set up under the Chairmanship of the Minister for Environment and Forests

41) Consider the following statements with respect to Indian Virtual Herbarium

1. The portal aims to provide information on the rich floral & faunal diversity of India through online access.
2. It was developed by the Botanical Survey of India (BSI).

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

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

Ans: B) Indian Virtual Herbarium Portal

- It aims to provide complete information on herbarium specimens about the floral diversity of India and other countries stored in the cabinet of the herbarium building through online access
- The database created is the largest storage of information about plant diversity in India.
- It was developed by the scientists of the Botanical Survey of India (BSI).
- At present, the digital herbarium of the Botanical Survey of India has four categories – Cryptogam type specimens, Cryptogams general specimens, Phanerogam type specimens, and Phanerogams general specimens.
- It will also aid the research studies and provide valuable insight for global plant research.

42) With reference to the Energy Conservation (Amendment) Bill, 2022, consider the following statements:

1. The Bill seeks to amend the Energy Conservation Act, 2001.
2. It provides for the regulation of energy consumption by equipment, appliances, buildings, and industries.

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

Ans: C) The Bill seeks to amend the Energy Conservation Act, 2001. The Act promotes energy efficiency and conservation. It provides for the regulation of energy consumption by equipment, appliances, buildings, and industries.

- Obligation to use non-fossil sources of energy: The Act empowers the central government to specify

energy consumption standards. The Bill adds that the government may require the designated consumers to meet a minimum share of energy consumption from non-fossil sources.

- Carbon trading: The Bill empowers the central government to specify a carbon credit trading scheme. Carbon credit implies a tradeable permit to produce a specified amount of carbon emissions.
- Energy conservation code for buildings: The Bill provides for an 'energy conservation and sustainable building code'. This new code will provide norms for energy efficiency and conservation, use of renewable energy, and other requirements for green buildings.
- Applicability to residential buildings: Under the Bill, the new energy conservation and sustainable building code will also apply to the office and residential buildings meeting the above criteria. The Bill also empowers the state governments to lower the load thresholds.

43) Consider the following statements regarding Bird migration.

1. Bird migration is the regular seasonal movement, along a flyway, between breeding and wintering grounds.
2. Migrating birds navigate using celestial cues from the sun and stars, the earth's magnetic field, and mental maps.

Which of the above statements is/are correct?

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

Ans: C) Bird migration is the regular seasonal movement, often north and south along a flyway, between breeding and wintering grounds.

- It occurs mainly in the northern hemisphere, where birds are funnelled on to specific routes by natural barriers such as the Mediterranean Sea or the Caribbean Sea.
- The Arctic tern holds the long-distance migration record for birds, travelling between Arctic breeding grounds and the Antarctic each year.
- The timing of migration seems to be controlled primarily by changes in day length. Migrating birds navigate using celestial cues from the sun and stars, the earth's magnetic field, and mental maps.

44) Which of the following, best describes the term "Nadis", sometimes seen in the news recently?

- a. Water harvesting structure in Rajasthan
- b. Traditional folk dance of Himachal Pradesh
- c. Architecture style prevalent in North East India
- d. Official title of a higher official in Mauryan Period

Ans: A) Nadis or talabs (ponds) is a traditional water harvesting structure of western Rajasthan.

- These are shallow depressions across the rural landscape in the arid regions of Jodhpur and Barmer districts.

45) Duncan Passage lies between

- a) Car Nicobar and Little Nicobar
- b) Little Andaman and Car Nicobar
- c) South Andaman and Little Andaman
- d) North Andaman and South Andaman

Ans: C)

46) With reference to the Carbon markets, consider the following statements:

1. Carbon markets allow the trade of carbon credits with the overall objective of bringing down emissions.
2. The creation of a domestic carbon market is one of the most significant provisions of the proposed amendment The Energy Conservation (Amendment) Bill, 2022.

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

Ans: C) Carbon markets allow the trade of carbon credits with the overall objective of bringing down emissions. These markets create incentives to reduce emissions or improve energy efficiency.

- For example, an industrial unit which outperforms the emission standards stands to gain credits. Another unit which is struggling to attain the prescribed standards can buy these credits and show compliance to these standards. The unit that did better on the standards earns money by selling credits, while the buying unit is able to fulfill its operating obligations.
- Under the Kyoto Protocol, the predecessor to the Paris Agreement, carbon markets have worked at the international level as well.

47) Kerala witness heavy rains due to which of the following reasons?

1. Strong Westerly winds flowing-in from the Arabian Sea
2. Presence of an east-west shear zone located 10 degrees north over the southern peninsula.
3. Presence of a north-south trough running between Chhattisgarh and Comorin areas, which is located closer to south Kerala.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Ans: D) Kerala is presently under the influence of at least three rainfall triggering weather conditions.

- There are strong Westerly winds flowing-in from the Arabian Sea, and bringing moisture over Kerala.
- Another major cause for an increase in rainfall is the presence of an east-west shear zone located 10 degrees north over the southern peninsula. This vertical zone — that can prevail either in the lower, middle or upper atmospheric levels — allows active winds of high speeds to interact. This zone also allows monsoon winds to remain active, thus causing intense rainfall over the area under its influence.
- The IMD further stated that the presence of a north-south trough running between Chhattisgarh and Comorin areas, which is located closer to south Kerala is causing widespread rainfall.

48) With reference to the Health budget of India, consider the following statements:

1. The union government has set a target to increase the Health budget of the country to 2.5 percent of the GDP.
2. It is currently at 1 percent.

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

Ans: A) Union Health Minister Dr. Mansukh Mandaviya has said, the government has set a target to increase the Health budget of the country to 2.5 percent of the GDP, which is currently at 1.9 percent.

49) Consider the following statements.

1. The Indian Federation is a dual polity and dual judiciary.
2. The Supreme Court of India has held that the federalist nature of our country is part and parcel of the basic structure of the Constitution.
3. Confederalism is when the States are supreme, and are coordinated by a weak centre.

Which of the above statements is/are correct?

- a) 1, 3
- b) 2 only
- c) 2, 3
- d) 1, 2, 3

Ans: C) India is a union of States. The Supreme Court of India has held that the federalist nature of our country is part and parcel of the basic structure of the Constitution.

- Federalism is a midpoint between unitarism which has a supreme centre, to which the States are subordinate, and confederalism wherein the States are supreme, and are merely coordinated by a weak centre.
- Dr. B.R. Ambedkar stated in the Constituent Assembly: "The Indian Federation though a dual polity has no dual judiciary at all. The High Courts and the Supreme Court form one single integrated judiciary having jurisdiction and providing remedies in all cases arising under the constitutional law, the civil law or the criminal law."

50) Partition Horrors Remembrance Day, is observed on:

- A. August 14
- B. June 12
- C. July 22
- D. June 10

Ans: A) The University Grants Commission (UGC) has asked all Universities and Colleges to observe August 14 as Partition Horrors Remembrance Day.

51) With reference to the National Intellectual Property Awareness Mission (NIPAM), consider the following statements:

1. NIPAM, a flagship program to impart IP awareness and basic training, was launched on 8 Dec 2021 as a part of "Azadi Ka Amrit Mahotsav" celebrations.
2. The program is being implemented by Intellectual Property Office, the Office of Controller General of Patents, Designs and Trade Marks (CGPDTM), Ministry of Commerce and Industry.

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

Ans: c) NIPAM, a flagship program to impart IP awareness and basic training, was launched on 8 Dec 2021 as a part of "Azadi Ka Amrit Mahotsav" celebrations.

- The program is being implemented by Intellectual Property Office, the Office of Controller General of Patents, Designs and Trade Marks (CGPDTM), Ministry of Commerce and Industry.

52) Consider the following statements regarding United Nations Military Observer Group in India and Pakistan (UNMOGIP).

1. UNMOGIP emerged from U.N. Security Council Resolution that set up the U.N. Commission for India and Pakistan (UNCIP).
2. The Karachi Agreement of 1949 firmed up the role of UN-level military observers and permitted supervision of the Cease Fire Line established in Jammu and Kashmir.
3. Usually India officially lodges complaints with the UNMOGIP against Pakistan for ceasefire violations.

Which of the above statements is/are correct?

- a) 1 only
- b) 1, 2
- c) 1, 3
- d) 2, 3

Ans: b) UNMOGIP emerged from U.N. Security Council Resolution 39 of January 1948 that set up the U.N. Commission for India and Pakistan (UNCIP).

- The Karachi Agreement of July 1949 firmed up the role of UN-level military observers and permitted supervision of the Cease Fire Line established in Jammu and Kashmir.

India officially maintains that the UNMOGIP's role was "overtaken" by the Simla Agreement of 1972 that established the Line of Control. Pakistan however did not accept the Indian argument and continued to seek cooperation from the UNMOGIP. As a result of this divergent policies, Pakistan continues to lodge complaints with the UNMOGIP against alleged Indian ceasefire violations whereas India has not officially gone

to the UNMOGIP since 1972 with complaints against Pakistan.

53) Consider the following statements regarding river avulsion:

1. The land created by the deposition of sediment by the river is known as a lobe.
2. River avulsion is the phenomenon of change in the course of river flow, and as a result, one lobe is abandoned for another.
3. River avulsion is more frequent in the Mississippi River of the USA than in the Yellow River of China.

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

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

Ans: a) River Avulsion: It is the phenomenon of change in the course of river flow causing the abandonment of the old established river channel and the formation of a new channel.

- The land created by depositing sediment in the river is known as a 'lobe'.
- When rivers abruptly change course, a phenomenon known as 'river avulsion,' one lobe is abandoned for another.
- In other words, sediment deposition stops at the 'old' lobe and is diverted to another location, creating a new 'active' lobe.

River avulsion is an abrupt event, and occurs at different rates in different settings: avulsions take place only once in a millennium in the Mississippi River, USA, while they occur almost once in a decade in the Yellow River, China.

54) With reference to the Corbevax, consider the following statements:

1. It will be available as precaution dose after the completion of six months from the date of administration of the second dose of either Covaxin or Covishield vaccines for a population above 18 years.
2. It is licensed to Indian biopharmaceutical firm Biological E. Limited (BioE) for development and production.

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

Ans: c) Corbevax will be available as precaution dose after the completion of six months from the date of administration of the second dose of either Covaxin or Covishield vaccines for a population above 18 years.

- Corbevax is a protein subunit COVID-19 vaccine developed by Texas Children's Hospital Center for Vaccine Development and Baylor College of Medicine in Houston, Texas and Dynavax technologies based in Emeryville, California.
- It is licensed to Indian biopharmaceutical firm Biological E. Limited (BioE) for development and production.

55) RBI cancels the license of a Bank due to which of the following reasons?

1. The bank does not have adequate capital and earning prospects.
2. The bank has failed to comply with the requirements of Banking Regulation Act, 1949.
3. The bank with its present financial position would be unable to pay its present depositors in full.
4. Public interest would be adversely affected if the bank is allowed to carry on its banking business any further.

Select the correct answer code:

- a) 1, 2, 3
- b) 1, 2
- c) 1, 3, 4
- d) 1, 2, 3, 4

Ans: d) The RBI audits banks every year, and can take action if it notes an increase in bad debts or other suspicious activities in their books. It can cancel license on all the above mentioned grounds.

56) You are currently present in the Agasthiyamalai elephant reserve. From the below-listed elephant reserves, choose the ones that are located in the neighboring states of the Agasthiyamalai elephant reserve:

1. Dandeli Elephant Reserve
2. Singphan Elephant Reserve
3. Lemru Elephant Reserve
4. Periyar Elephant Reserve

Choose the correct option.

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

d. 2 and 3 only

Ans: c) India has 31 Elephant Reserves and in the last 3 years, Dandeli Elephant Reserve has been notified by the state of Karnataka, Singphan Elephant Reserve by Nagaland, and Lemru Elephant Reserve in Chhattisgarh.

- This has brought elephant reserves in India across 14 states of the country.

India will witness the establishment of one more Elephant Reserve, the Agasthiyamalai in Tamil Nadu.

57) With reference to the Langya Henipavirus, consider the following statements:

1. Henipaviruses are classified as biosafety level 4 (BSL4) pathogens.
2. They can cause severe illness in animals and humans, and as of now there are no licensed drugs or vaccines meant for humans.

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

Ans: c) The newly discovered virus is a "phylogenetically distinct Henipavirus". Henipaviruses are classified as biosafety level 4 (BSL4) pathogens. They can cause severe illness in animals and humans, and as of now there are no licensed drugs or vaccines meant for humans.

- The types of Henipaviruses that had been identified prior to this included Hendra, Nipah, Cedar, Mojiang and the Ghanaian bat virus. Langya, meanwhile, is known to cause fever.

58) Consider the following statements.

1. The Marshall Plan promoted the idea of shared interests and cooperation between the US and Europe.
2. The Vandenburg Resolution was the stepping stone to the formation of North Atlantic Treaty Organisation (NATO).
3. Collective defence lies at the very core of North Atlantic Treaty Organisation (NATO).

Which of the above statements is/are correct?

- a) 1, 2
- b) 2, 3
- c) 1, 2, 3
- d) 1, 3

Ans: c) Members of NATO are committed to mutual defence in response to an attack by any external party. Collective defence lies at the very heart of NATO. The European Recovery Programme, known as the Marshall Plan promoted the idea of shared interests and cooperation between the US and Europe. The USSR declined to participate in the Marshall Plan, and discouraged eastern European states in its sphere of influence from receiving American economic assistance.

59) Consider the following statements regarding the PeVatrons:

1. They are the source of the highest energy particles that flow across the milky way galaxy and strike our planet's atmosphere.
2. They consist of protons and also include atomic nuclei and electrons.
3. Their paths deviate as they go through the milky way galaxy's magnetic field.

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

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

Ans: d) They are the source of some of the highest energy particles that whip across our galaxy.

- Streams of particles called cosmic rays travel at breakneck speeds around our galaxy and strike our planet's atmosphere. They typically consist of protons but sometimes also include atomic nuclei and electrons.
- They all carry an electric charge, meaning their paths deviate and scramble as they go through our galaxy's magnetic field.
- This means that we cannot track the direction they originally came from, which effectively masks their birthplace.
- However, when the particles that are part of the cosmic rays collide with the gas near supernova remnants, they produce gamma rays.
- They pass through the supernova's shock wave multiple times and each time they do, they gain speed and energy.
- Eventually, they can no longer be held by the supernova remnant and will careen off into deep space.

60) With reference to the Open Network for Digital Commerce (ONDC), consider the following statements:

1. ONDC is an initiative aimed at promoting open networks for all aspects of exchange of goods and services over digital or electronic networks.
2. ONDC is to be based on open-sourced methodology, using open specifications and open network protocols independent of any specific platform.

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

Ans: c) ONDC is an initiative aimed at promoting open networks for all aspects of exchange of goods and services over digital or electronic networks.

- ONDC is to be based on open-sourced methodology, using open specifications and open network protocols independent of any specific platform.

It is being developed as a counter to the current duopoly in the Indian e-commerce market which is largely dictated by Amazon and Walmart-owned Flipkart.

61) Consider the following statements regarding Advisory Board for Banking and Financial Frauds.

1. It has been constituted by RBI.
2. It give inputs for policy formulation related to the banking fraud.
3. Lenders would refer all fraud cases to the ABBFF and on receipt of its recommendation the bank concerned would take further action in such matter.

Which of the above statements is/are correct?

- a) 1, 3
- b) 2, 3
- c) 2 only
- d) 1, 2, 3

Ans: c) Earlier the ABBFF was only looking into banking and financial frauds of Rs 50 crore and above.

- The CVC, in consultation with RBI, thereafter in August 2019 constituted the ABBFF.
- Lenders would refer all large fraud cases worth Rs 3 crore and above to the ABBFF and on receipt of its recommendation or advice, the bank concerned would take further action in such matter.
- The Central Bureau of Investigation (CBI) may also refer any case or matter to the board where it has any issue or difficulty or in technical matters with the PSB and PFI concerned.

62) Consider the following statements:

1. Calving is the process by which pieces of ice break away from the terminus of a glacier that ends in a body of water.
2. In Antarctica, the glacier loss caused by calving outpaced the natural ice shelf replenishment.

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

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

Ans: c) The net loss of Antarctic ice from coastal glacier chunks “calving” off into the ocean is nearly as great as the net amount of ice that scientists already knew was being lost due to thinning caused by the melting of ice shelves from below by warming seas.

- Ice shelves, permanent floating sheets of frozen freshwater attached to the land, take thousands of years to form and act like buttresses holding back glaciers that would otherwise easily slide off into the ocean, causing seas to rise.

63) With reference to the LiFE — Lifestyle for the Environment, consider the following statements:

1. It was announced by the Prime Minister at the UN Climate Change Conference (CoP 24).
2. The UN Climate Change Conference (CoP 26) held in Glasgow in November 2021.

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

Ans: b) LiFE — Lifestyle for the Environment — announced by the Prime Minister at the UN Climate Change Conference (CoP 26) held in Glasgow in November 2021.

64) With reference to the currency market, the term “Convertibility” is used to denote

1. Freedom to exchange currencies like commodities over the counter.
2. Freedom to residents to remit outside the country.
3. Freedom to invest globally.

Select the correct answer code:

- a) 1 only
- b) 3 only
- c) 2, 3
- d) None of the above

Ans: a) Convertibility is the quality that allows money or other financial instruments to be converted into other liquid stores of value.

- Convertibility is an important factor in international trade, where instruments valued in different currencies must be exchanged.

65) Consider the following pairs of air exercises India is part:

| EXERCISE | COUNTRY |
|----------------|----------------|
| Sindex | Singapore |
| Udarashakti | Malaysia |
| Indradhanush | United Kingdom |
| Eastern Bridge | South Korea |

How many of the above pairs are matched correctly?

- a. Only one pair
- b. Only two pairs
- c. Only three pairs
- d. All four pairs

Ans: c) An Indian Air Force (IAF) contingent left for Malaysia to participate in a four-day bilateral exercise ‘Udarashakti’ with the Royal Malaysian Air Force (RMAF).

- This continues the recent trend of India’s expanding defense and security cooperation with South East Asian countries.
- Other exercises: Sindex – Singapore
- Indradhanush- United Kingdom
- Eastern Bridge – Oman

66) Consider the following statements regarding Har Ghar Jal:

1. It is an initiative by the Ministry of Jal Shakti to provide water connections to every home.
2. While Goa is the first Har Ghar Jal State, Ladakh is the first ‘Har Ghar Jal’ certified UT in the country.

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

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

Ans: A) Jal Jeevan Mission is a flagship programme of Government of India.

- The mission aims to make provision of potable tap water supply in adequate quantity, of prescribed quality and on regular & long-term basis to every rural household of the country by 2024.

Goa and Dadra & Nagar Haveli and Daman & Diu (D&NH and D&D) becomes the first 'Har Ghar Jal' certified State and UT in the country respectively.

67) Consider the following statements regarding the All India Football Federation (AIFF):

1. It is the apex governing body of football in India under the jurisdiction of Ministry of Youth Affairs and Sports.
2. It is statutory body created by the National Sports and Recreation Act, 1988.
3. India, Chad, Kenya and Pakistan are the only countries to be banned by FIFA under the third party intervention category.

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

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

Ans : B) It is the apex governing body of football in India under the jurisdiction of Ministry of Youth Affairs and Sports.

- On the 23 June 1937 at the Army Headquarters, Shimla, the capital of Himachal Pradesh, AIFF was formed at a meeting of the representatives of football associations of six regions.
- The federation was one of the founding members of the Asian Football Confederation, the overseer of football in Asia.
- The AIFF sanctions and runs all competitive football tournaments and leagues at a national level. FIFA banned AIFF over third party interference.

68) The global strategy on human resources for health: workforce 2030 is based on which of the following declarations?

- a. Alma-Ata Declaration
- b. Astana Declaration
- c. Rome Declaration
- d. Recife Political Declaration

Ans: D) In line with the World health Organisation's (WHO's) global strategy on "Human Resources for Health: Workforce 2030", the Ministry of Health and Family Welfare issued draft guidelines to improve the working conditions of all categories of nurses in all healthcare institutions across India.

- In May 2014, the 67th World Health Assembly, adopted this resolution as a follow-up of the Recife

Political Declaration on Human Resources for Health.

69) Consider the following statements regarding the state of global air report:

1. The report is released by the United Nation Environment Program (UNEP) in collaboration with IQair.
2. India and Indonesia recorded the most severe increase in PM2.5 pollution between 2010 and 2019.
3. Delhi and Kolkata have the highest and second-highest levels of pollution globally in terms of Particulate Matter (PM) 2.5
4. All cities with the greatest decrease in PM2.5 pollution from 2010 to 2019 are located in China.

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

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

Ans: C) The State of Global Air is a collaboration between the Health Effects Institute (HEI) and the Institute for Health Metrics and Evaluation (IHME).

- Half of world's cities had PM2.5 levels above least-stringent WHO standards last decade.
- India and Indonesia recorded the most severe increase in PM2.5 pollution.
- All 20 cities with the greatest decrease in PM2.5 pollution from 2010 to 2019 were found to be located in China.
- However, China was also home to 15 of the top 20 cities with the highest PM2.5-linked deaths. Delhi and Kolkata have the highest and second-highest levels of pollution globally in terms of Particulate Matter (PM) 2.5.

70) Considered the following statements regarding Great Indian Bustards:

1. It is a bird species and is classified as critically endangered by the IUCN.
2. The female Great Indian Bustards have natural ability to lay only one egg at a time.
3. They are found only in the States of Rajasthan and Gujarat in India.

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

Ans: C) Listed in Schedule I of the Indian Wildlife (Protection) Act, 1972, in the CMS Convention and in Appendix I of CITES, and as Critically Endangered on the IUCN Red List.

- They breed mostly during the monsoon season from March to October, when females usually lay a single egg on open ground.
- Males play no role in the incubation and care of the young, which remain with the mother till the next breeding season.
- The GIB is now found in a small number only in western Rajasthan, while Gujarat claims to have a few females left in its Banni Grassland Reserve.
- The critically endangered bird species has adopted an altogether new habit of laying a clutch of two eggs at a time after having a diet with additional proteins during the monsoon season.

Scientists working on ex situ breeding of these endangered birds have discovered the new proclivity in Jaisalmer district's Desert National Park (DNP).

71) Consider the following statements with reference to India's stand on refugees:

1. India is not a signatory to the 1951 UN Convention relating to the Status of Refugees and the 1967 Protocol.
2. All foreign undocumented nationals are governed as per the provisions of The Foreigners Act, 1946, The Registration of Foreigners Act, 1939, The Passport (Entry into India) Act, 1920 and The Citizenship Act, 1955.

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

Ans: c) India is not a signatory to the 1951 UN Convention relating to the Status of Refugees and the 1967 Protocol.

- All foreign undocumented nationals are governed as per the provisions of The Foreigners Act, 1946, The Registration of Foreigners Act, 1939, The Passport (Entry into India) Act, 1920 and The Citizenship Act, 1955.

72) Founding Act on Mutual Relations, Cooperation and Security, 1997 was signed between

1. United States
2. Russia
3. NATO
4. European Union

Select the correct answer code:

- a) 2, 3
- c) 1, 2, 3
- c) 1, 3, 4
- d) 1, 2, 3, 4

Ans: A)

73) Consider the following statements regarding the Aranmula mirror:

1. It is from the State of Karnataka and is the first ever product to receive GI tag from the State.
2. The uniqueness of this mirror is its front reflection, unlike the back reflection in normal glass mirrors.

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

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

Ans: b) It literally means the mirror of Aranmula, a small town in Pathanamthitta district, Kerala.

- It was the first craft item from the state to receive a geographical indication tag in 2005.
- The uniqueness of this mirror is its front reflection, unlike the back reflection in normal glass mirrors.
- This means the reflective surface is placed on a back support, as opposed to regular mirrors where the reflective surface is behind glass.
- A first-surface mirror or front-surface mirror is a mirror with the reflective surface being above a backing.
- First-surface mirrors are made for applications requiring a strict reflection without a ghosting effect.

74) Mandala patterns are a centuries-old motif that are used to depict the cosmos, and have been adapted by artists the world over. The concept is believed to be primarily rooted in which religion?

- A. Zoroastrianism
- B. Taoism
- C. Buddhism
- D. Islam

Ans: c) Mandala patterns are a centuries-old motif that are used to depict the cosmos, and have been adapted by artists the world over, each of whom have added their own interpretation and painted it as their own.

- Literally meaning "circle" or "centre" in Sanskrit, mandala is defined by a geometric configuration

that usually incorporates the circular shape in some form. While it can also be created in the shape of a square, a mandala pattern is essentially interconnected.

- It is believed to be rooted in Buddhism, appearing in the first century BC in India. Over the next couple centuries, Buddhist missionaries travelling along the silk road took it to other regions.

75) Consider the following statements regarding Lymphatic filariasis.

1. Lymphatic filariasis, commonly known as elephantiasis, is a neglected tropical disease.
2. It is caused by parasites classified as nematodes (roundworms) of the family Filariodidea.
3. Under Lymphatic filariasis, Infection occurs when filarial parasites are transmitted to humans by direct contact.

Which of the above statements is/are correct?

- a) 1, 2
- b) 2, 3
- c) 1, 3
- d) 1, 2, 3

Ans: A) Lymphatic filariasis, commonly known as elephantiasis, is a neglected tropical disease. Infection occurs when filarial parasites are transmitted to humans through mosquitoes.

- Infection is usually acquired in childhood causing hidden damage to the lymphatic system.
- Lymphatic filariasis is caused by infection with parasites classified as nematodes (roundworms) of the family Filariodidea. There are 3 types of these thread-like filarial worms:
- *Wuchereria bancrofti*, which is responsible for 90% of the cases
- *Brugia malayi*, which causes most of the remainder of the cases
- *Brugia timori*, which also causes the disease.

76) Choose the correct statement associated with the term Farther India:

- a. It refers to the peninsula Southeast Asia, between India and China, consisting of Myanmar, Thailand, Laos, Cambodia, Vietnam, and Malaysia.
- b. It refers to the region spread across the South America and the Caribbean Islands were the Red Indians Originated.
- c. It is the term used in diplomatic relations to refer to the Indian diaspora present in the developed countries.

d. None of the above.

Ans: a) Farther India, or Ultraindia, is an old term, now rarely used, for Southeast Asia, seen in colonial days from Europe as the part of the Far East beyond the Indian subcontinent, but south of China.

- Geographically, it refers to Vietnam, Cambodia, Laos, Thailand, Myanmar and the Malay states. The Sanskrit, Buddhist, and Jain texts indicate that interactions between the two regions go back more than two thousand years ago.

77) Consider the following statements with reference to Flash Floods:

1. Excessive or continuous rainfall over a period of days, or during particular seasons can lead to stagnation of water and cause flooding. Flash floods refer to such a situation, but occurring in a much shorter span of time.
2. Flash floods can also be caused by factors apart from rainfall, like when water goes beyond the levels of a dam.

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

Ans: c) Excessive or continuous rainfall over a period of days, or during particular seasons can lead to stagnation of water and cause flooding.

- Flash floods refer to such a situation, but occurring in a much shorter span of time.
- For instance, the US's meteorological agency, the National Weather Service, says flash floods are caused when rainfall creates flooding in less than 6 hours.

It adds that flash floods can also be caused by factors apart from rainfall, like when water goes beyond the levels of a dam.

78) Consider the following statements regarding Human Immunodeficiency Virus (HIV).

1. HIV is an infection that attacks the immune system by destroying the body's CD4 cells.
2. Typically, the time between HIV transmission and AIDS diagnosis is 10-15 years, although it may occur sooner.
3. HIV does not spread through breastmilk from an infected mother to child.

Which of the above statement is/are correct?

- a) 1 only
- b) 1, 2
- c) 1, 3
- d) 1, 2, 3

Ans: b) Human immunodeficiency virus or HIV is an infection that attacks the immune system by destroying the body's immune cells called CD4, which help it respond to infection.

- Once HIV attacks the CD4 cells, it starts replicating and destroying the cells, weakening the body's immune system and making it more prone to certain "opportunistic infections" that take advantage of the weak immune system.
- Bodily fluids such as blood, semen, vaginal fluids, rectal fluids and breastmilk can be carriers for HIV.
- It can be transmitted through unprotected sex, transfusion of contaminated blood, sharing needles and syringes, and from a mother with HIV to her infant during pregnancy.
- Typically, the time between HIV transmission and AIDS diagnosis is 10-15 years, although it may occur sooner.

79) Consider the following statements regarding per- and Polyfluorinated Substances (PFAS):

1. They are naturally occurring substances used in coatings of products that resist heat, oil, stains, grease, and water.
2. These substances break down easily in the environment and are an alternate to the conventional coating materials.

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

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

Ans: d) They are hazardous man-made chemicals that spread globally in the atmosphere.

- They are used to make fluoropolymer coatings that can resist heat, oil, stains, grease and water.
- Products that use PFAs include clothing, furniture, adhesives, food packaging, non-stick cooking surfaces and electrical wire insulation.

- Many PFAS, including perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), are a concern because they:
 - do not break down in the environment,
 - can move through soils and contaminate drinking water sources,
 - Build-up (bio accumulate) in fish and wildlife.

80) Consider the following statements with reference to UN Security Council resolution:

1. The UN Charter specifies that a draft resolution on non-procedural matters is adopted if nine or more of the fifteen Council members vote for the resolution, and if it is not vetoed by any of the five permanent members.
2. Draft resolutions on "procedural matters" can be adopted on the basis of an affirmative vote by any nine Council members.

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

Ans:C)

81) Consider the following statements regarding Indian Ocean Rim Association (IORA).

1. The IORA is a regional forum, tripartite in nature, bringing together representatives of Government, Business and Academia, for promoting co-operation and closer interaction among them.
2. It is based on the principles of Open Regionalism for strengthening Economic Cooperation particularly on Trade Facilitation and Investment as well as Social Development of the region.
3. All the countries surrounding the Indian Ocean are the members of IORA.

Which of the above statements is/are correct?

- a) 1, 2
- b) 2 only
- c) 1, 3
- d) 1, 2, 3

Ans: a) The Indian Ocean Rim Association was set up with the objective of strengthening regional cooperation and sustainable development within the Indian Ocean Region

- The IORA is a regional forum, tripartite in nature, bringing together representatives of Government, Business and Academia, for promoting co-operation and closer interaction among them.
- It is based on the principles of Open Regionalism for strengthening Economic Cooperation particularly on Trade Facilitation and Investment, Promotion as well as Social Development of the region.
- Not all countries surrounding the Indian Ocean are the members of IORA.

82) Consider the following statements on GST Appellate Tribunals (GSTAT):

1. It is the forum of second appeal in GST laws and the first common forum of dispute resolution between Centre and States.
2. The appellate body will be constituted under the Central Goods and Services Tax Act, 2017.

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

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

Ans: c) Goods and Services Tax Appellate Tribunal is the forum of second appeal in GST laws and the first common forum of dispute resolution between Centre and States.

- The appeals against the orders in first appeals issued by the Appellate Authorities under the Central and State GST Acts lie before the GST Appellate Tribunal, which is common under the Central as well as State GST Acts.
- Being a common forum, GST Appellate Tribunal will ensure that there is uniformity in redressal of disputes arising under GST, and therefore, in implementation of GST across the country.

83) Union government has recently awarded Geographical Indication (GI) tag to

- A. Namakkal Makkal Pattirangal
- B. Taleigao brinjal
- C. Coconut Feni
- D. Mithila Makhana

Ans: d) Union government has awarded Geographical Indication (GI) tag to Mithila Makhana.

- Mithila Makhana or Makhan (botanical name: *Euryale ferox* Salisb.) is a special variety of aquatic

fox nut cultivated in Mithila region of Bihar and Nepal.

- Once a product gets this tag, any person or company cannot sell a similar item under that name. This tag is valid for a period of 10 years following which it can be renewed.

84) Contributing to one world, one health: a strategic framework for reducing risks of infectious diseases at the animal–human–ecosystems interface, is a global initiative of

1. World Health Organization
2. United Nations Environment Programme
3. Food and Agriculture Organization

Select the correct answer code:

- a) 2 only
- b) 1, 2
- c) 2, 3
- d) 1, 2, 3

Ans: d) India's 'One Health' vision derives its blueprint from the agreement between the tripartite-plus alliance comprising the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE), the World Health Organization (WHO) and the United Nations Environment Programme (UNEP) — a global initiative supported by the United Nations Children's Fund (UNICEF) and the World Bank under the overarching goal of contributing to 'One World, One Health'.

85) Consider the following statements:

1. The increase in deficit of trade balance due to rising imports leads to a decrease in domestic inflation.
2. Increase in inflation leads to increased spending, and thereby increasing GDP in the short term and dissaving in the long term.

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

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

Ans: a) The increase in deficit of trade balance caused by rising imports can lead to higher domestic inflation level due to the impact of imported inflation on domestic price levels.

- When inflation is increasing, people will spend more money because they know that it will be less valuable in the future.
- This causes further increases in GDP in the short term, bringing about further price increases.
- If such a situation continues over longer period of time it leads to dis-savings.
- This devaluation means that the future value of the rupee will be lesser than what it is today.
- This, hence, erodes stock market gains due to declining profits and purchasing power of the currency.

86) Which of the following statements best describe the Hayabusa-2 mission, recently seen in news?

- Mission for exploring the south pole of the Moon
- Mission to study the sun's outer most layers
- Mission to study the asteroid Ryugu
- Mission to understand the dynamics of the Sun-Earth connection

Ans: The Hayabusa-2 mission was launched in December 2014 when the spacecraft was sent on a six-year voyage to study the asteroid Ryugu.

- Samples from the asteroid Ryugu, collected by the Japan Aerospace Exploration Agency's (JAXA) Hayabusa-2 probe, which had brought 5.4 grams of rocks and dust from the asteroid to Earth in December 2020.

87) Which of the following statement(s) is associated with the term Moonlighting?

- It is the practice of working in a second job outside normal business hours.
- It is the practice of turning the clock ahead as cooler weather approaches in order to make better use of time.
- It is the sunlight that shines on the moon which then bounces off and reflects on the Earth.
- None of the above.

Ans: a) The concept of "moonlighting" essentially connotes employees taking up other 'side' jobs in addition to their regular employment.

- While most companies have legal contracts with their employees insisting that they cannot work for anybody else, the pandemic loosened things up.

- Companies are concerned about productivity, data breach, and conflict of interest due to moonlighting activities by their employees.

88) Consider the following statements regarding Ghadar Party.

- Ghadar Party was established by Indians mostly belonging to Punjab, living abroad.
- Its aim was to lead a revolutionary fight against the British in India.
- Pandurang Khankhoje was one of the founding members of the Ghadar Party.

Which of the above statements is/are correct?

- 1, 2
- 1, 3
- 2, 3
- 1, 2, 3

Ans: d) Lok Sabha Speaker Om Birla, who is currently in Canada for the 65th Commonwealth Parliamentary Conference, will travel to Mexico where he will unveil statues of Swami Vivekananda and Maharashtra-born freedom fighter and agriculturalist Pandurang Khankhoje (1883-1967).

- Khankhoje was one of the founding members of the Ghadar Party, established by Indians living abroad in 1914, mostly belonging to Punjab. Its aim was to lead a revolutionary fight against the British in India.

89) Consider the following statements regarding the Benami Transactions (Prohibition) Act of 1988:

- Benami transaction refers to the transaction in which property transferred to one person is paid by another person.
- Under this act property refers to any kind, whether movable or immovable, tangible or intangible.
- Section 3 of the benami act permits retrospective arrest of individuals involved in benami transactions.

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

- 1 and 2 only
- 1 and 3 only
- 2 and 3 only
- 1, 2 and 3

Ans: a) The 1988 Act was made to prohibit 'benami' transactions and the right to recover property that is held to be 'benami'.

- Benami transaction refers to the transaction in which property transferred to one person is paid by another person.
- Under this act property refers to any kind, whether movable or immovable, tangible or intangible.
- The Supreme Court struck down one of the provisions of the Benami Transactions (Prohibition) Act of 1988.
- The Section 3(2) provides for the punishment of a maximum jail term of three years or a fine or both for those indulging in 'benami' transactions
- Section 3 of the statute deals with the issue of Prohibition of benami transactions.
- The sub-section (2) says: Whoever enters into any benami transaction shall be punishable with imprisonment for a term which may extend to three years or with fine or with both.

90) Consider the following statements.

1. When the value of the currency is made cheaper by the central bank it is called devaluation of the currency, and when the market forces bring down the value of the currency due to falling demand it is called depreciation of the currency.
2. In the Balance of Payments, the movements of money without exchange for goods or services and charities are part of Capital account.

Which of the above statements is/are incorrect?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Both 1 and 2

Ans: b) Exchange rate of a currency may be fixed by a central bank or left to the market forces of demand and supply. When the value is changed by the central bank it is called devaluation. If market forces bring down the value due to demand falling behind supply of the currency, it leads to depreciation.

- In the Balance of Payments, the movements of money without exchange for goods or services called 'remittances' and charities are part of Current account.

91) Consider the following statements regarding Homogeneous Precipitation Zones (HPZ):

1. It is classified on the basis of monsoon data rather than focusing on the yearly rainfall data.

2. India already has a zoning system called Homogenous Monsoon Regions (HMR).
3. The windward side of the Western Ghats receives much higher precipitation than the west-central or the peninsular India.

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

Ans: b) Homogeneous Precipitation Zones (HPZ) It is proposed by the researchers to classify climate zones in India.

- HPZ is classified on the basis of yearly rainfall data rather than merely focusing on monsoon rainfall data.
- India already has a zoning system called homogenous monsoon regions.
- The homogenous monsoon region separates the country into four primary zones, northwest, east and North East, central and southern peninsular India.
- The existing system contains certain limitations, the whole of south India, for instance, is categorised as a single zone.
- The Homogenous Precipitation Zones (HPZ) separates the country into six zones.

92) E-waste contain potentially harmful materials such as

1. Lead
2. Phosphors
3. Brominated flame retardants
4. Beryllium
5. Cadmium

Select the correct answer code:

- a) 1, 3, 4, 5
- b) 2, 3, 4, 5
- c) 1, 2, 3, 5
- d) 1, 2, 3, 4, 5

Ans:D)

93) Consider the following statements regarding the Tiangong space station:

1. It is China's permanent space station, with its own power propulsion, life support systems and living quarters.

2. China is only the third country after US and Russia to have put both astronauts into space and to build a space station.
3. India has installed an indigenously made spectroscope aboard the space station.

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

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

Ans: c) China is only the third country in history to have put both astronauts into space and to build a space station, after the Soviet Union (now Russia) and the US.

- China hopes Tiangong will replace the International Space Station (ISS), which is due to be decommissioned in 2031.
- Indian astrophysicists are involved in an ambitious project to install an India-made spectroscope aboard the developing Chinese space station, Tiangong.
- The project, called Spectrographic Investigation of Nebular Gas (SING), involves collaboration with the Institute of Astronomy, Russian Academy of Sciences, and has been designed and developed by research students at the IIA.
- The plan is to have it ready by the year end so that it can be launched in the summer of 2023.

94) Katkari Tribes, sometime seen in the news are largely found in?

- a) Maharashtra
- b) Tamil Nadu
- c) Odisha
- d) Andhra Pradesh

Ans: a) Katkari is one of the 75 Particularly Vulnerable Tribal Groups (PVTGs). Katkaris are located primarily in Raigad and in parts of Palghar, Ratnagiri and Thane districts of Maharashtra as well as in some places of Gujarat.

95) Consider the following statements regarding the Vertical Launch Short Range surface-to-air missile (VL-SRSAM):

1. It is a ship-borne weapon system, used in neutralising aerial threats at close ranges, including sea-skimming targets.

2. Sea skimming is the technique where anti-ship missiles and some fighter jets fly as close as possible to the sea surface to avoid radar and infrared detection.

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

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

Ans: c) The VL-SRSAM, a ship-borne weapon system, is meant for neutralising various aerial threats at close ranges, including sea-skimming targets.

- Sea skimming is the technique where anti-ship missiles and some fighter jets fly as close as possible to the sea surface to avoid radar and infrared detection.
- VL-SRSAM is likely to replace Barak-I surface-to-air missile deployed on Indian naval warships.
- During the test launch, flight path and vehicle performance parameters were monitored using flight data.
- These parameters were captured by various range instruments such as Radar, Electro-optical tracking system (EOTS) and Telemetry systems.

96) Consider the following statements regarding the Malvinas Island:

1. It is an internally self-governing overseas territory of the United Kingdom and is located in the Pacific Ocean.
2. It is a disputed territory between the UK and Argentina and is located to the east of the Strait of Magellan.

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

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

Ans: b) Falkland Islands, also called Malvinas Islands or Spanish Islas Malvinas, internally self-governing overseas territory of the United Kingdom in the South Atlantic Ocean.

- It lies northeast of the southern tip of South America and a similar distance east of the Strait of Magellan.
- It is a disputed Island between the UK and Argentina.

97) Consider the following statements regarding Lumpy Skin Disease.

1. Lumpy Skin Disease (LSD) is a viral infection of cattle.
2. The LSD spreads through houseflies and mosquitoes.
3. There are no reported cases of Lumpy Skin Disease in India.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Ans: a) LSD is caused by the lumpy skin disease virus (LSDV), which is a virus of the capripoxvirus genus in the poxviridae family. Sheeppox virus and goatpox virus are the other members of the genus capripoxvirus. The LSDV mainly affects cattle — cow and its progeny, and the Asian water buffaloes.

- According to the FAO report, LSD was long restricted to sub-Saharan Africa. However, over the past decade, it spread to the Middle East and Turkey. From 2015 onward, it has impacted the Balkan (southeast Europe) countries, Caucasus (eastern Europe) and Russia. LSD entered India, Bangladesh and China in July 2019. Since then, outbreaks of the disease have been reported from 20 Indian states.
- The LSDV spreads through blood-sucking vectors like ticks and mites like houseflies, mosquitoes, etc. It also spreads through contaminated water, fodder and feed.

98) With reference to the Indian diaspora, consider the following statements:

1. E-chip and a few more features will be added to the passport book which will provide security upgradation of the Indian passport and enable machine reading.
2. 87 billion dollars have been remitted to India by diaspora last year, compared to the 83 billion dollars in the previous year.

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

Ans:C)

99) Which of the following will be considered as lending under Weaker Sections category for Priority sector loans?

1. Small and Marginal Farmers
2. Artisans, village and cottage industries where individual credit limits do not exceed ₹10 lakh.
3. Self Help Groups
4. Scheduled Castes and Scheduled Tribes
5. Persons with disabilities

Select the correct answer code:

- a) 1, 3, 4, 5
- b) 1, 2, 4, 5
- c) 2, 4, 5
- d) 1, 2, 3, 4, 5

Ans:A)

100) Consider the following statements regarding the INS Vikrant Aircraft Carrier:

1. At present, India has only one aircraft carrier, INS Vikramaditya, which is built on a Russian platform.
2. INS Vikrant was built by India's state-run Cochin Shipyard Limited (CSL).

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

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

Ans: c) It is India's first indigenous aircraft carrier and the largest warship to have ever been built in India.

- With the construction of 'Vikrant', India has joined a select group of nations such as the US, the UK, Russia, China and France, having the niche capability to indigenously design and build an aircraft carrier.
- Many experts consider having an aircraft carrier as essential to be considered a "blue water" navy, that is, a navy that has the capacity to project a nation's strength and power across the high seas.
- An aircraft carrier generally leads as the capital ship of a carrier strike/ battle group.

101) With reference to the Moonlighting, consider the following statements:

1. It is the act of working at an extra job beyond regular working hours, usually without the knowledge of the employer.
2. The term gained popularity when workers in the US started seeking a second job beyond their regular 9-to-5 work for additional income.

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

Ans: c) Moonlighting is the act of working at an extra job beyond regular working hours, usually without the knowledge of the employer. Since the side job was mostly at nighttime or on weekends, it was referred to as moonlighting.

- The term gained popularity when workers in the US started seeking a second job beyond their regular 9-to-5 work for additional income.

102) World Happiness Report is released by

- a) UNESCO
- b) United Nations Development Programme
- c) Sustainable Development Solutions Network
- d) United Nations Research Institute For Social Development

Ans: c) The year 2022 marks the 10th anniversary of the World Happiness Report, which uses global survey data to report how people evaluate their own lives in more than 150 countries worldwide.

- The report is a publication of the Sustainable Development Solutions Network, a global initiative of the United Nations.

103) Consider the following statements regarding the Forest Laws in India:

1. According to the Indian Forest Act, 1927, State Forest Departments do not have the jurisdiction over Reserve Forests (RF) and Protected Forests (PF).
2. The Forest Act 1980, applies to all kinds of forests, whether under the control of the Forest or the Revenue Department.
3. Clearance for non-forest use of forestland under the Forest Conservation Act, 1980 requires giving back twice the area for compensatory afforestation (CA) from Revenue Department to Forest Department.

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

Ans: 3) Broadly, state Forest Departments have jurisdiction over two types of forests notified under the Indian Forest (IF) Act, 1927:

- Reserve Forests (RF), where no rights are allowed unless specified.
- Protected Forests (PF), where no rights are barred unless specified.
- Certain forests are managed by state Revenue Departments.
- The FC Act, 1980, applies to all kinds of forests, whether under the control of the Forest or the Revenue Department, and it requires statutory clearance before forests can be used for any non-forest purpose such as industry, mining, or construction.
- In 1976, forests were included in List III (Concurrent List) under the Seventh Schedule of the Constitution.
- Compensatory Afforestation (CA): Clearance for non-forest use of forestland under the FC Act requires giving back twice the area for compensatory afforestation (CA) from Revenue Department to Forest Department.
- Conversion of Forest to Revenue land has been exempted from CA under exceptional circumstances in the past.

104) With reference to the Competition (Amendment) Bill, 2022, consider the following statements:

1. It seeks to amend the Competition Act, 2002.
2. The bill broadening the scope of anti-competitive agreements and inclusion of a party facilitating an anti-competitive horizontal agreement under such agreements.

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

Ans: c) The Competition (Amendment) Bill, 2022, inter alia, provides for the following, namely:

- changes in certain definitions like “enterprise”, “relevant product market”, “Group”, “Control”, etc., to provide clarity;
- broadening the scope of anti-competitive agreements and inclusion of a party facilitating an anti-competitive horizontal agreement under such agreements;
- provisions for reduction of time-limit for approval of combinations from two hundred and ten days to one hundred and fifty days and forming a prima facie opinion by the Commission within twenty days for expeditious approval of combinations;
- provisions for “value of transaction” as another criteria for notifying combinations to the Commission;
- limitation period of three years for filing information on anti-competitive agreements and abuse of dominant position before the Commission;
- appointment of the Director General by the Commission with the prior approval of the Central Government;

105) Consider the following statements regarding Montreux Convention.

1. Montreux Convention, is an international agreement regarding the Regime of the Straits.
2. Under Montreux Convention, Turkey has control over both the Bosphorus and Dardanelles straits.
3. In the event of a war, the pact gives Turkey the right to regulate the transit of naval warships and to block the straits to warships belonging to the countries involved in the conflict.

Which of the above statements is/are correct?

- a) 1, 3
- b) 2, 3
- c) 1, 2
- d) 1, 2, 3

Ans: d) According to the 1936 Montreux Convention Regarding the Regime of the Straits, often referred to simply as the Montreux Convention, Turkey has control over both the Bosphorus and Dardanelles straits.

106) Consider the following statements regarding the Community Forest Resource Rights (CFRR):

1. The community forest resource area is common forest land traditionally protected for sustainable use by a particular community.

2. These rights allow the community to formulate rules for forest use by itself and others.
3. Nistar rights are the concession granted to agriculturists and villagers is part of the CFRR.

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

Ans: d) The community forest resource area is the common forest land that has been traditionally protected and conserved for sustainable use by a particular community.

- The community uses it to access resources available within the traditional and customary boundary of the village; and for seasonal use of landscape in case of pastoralist communities.
- Each CFR area has a customary boundary with identifiable landmarks recognised by the community and its neighboring villages.
- It may include forest of any category, revenue forest, classified & unclassified forest, deemed forest, DLC land, reserve forest, protected forest, sanctuary and national parks etc.

107) With reference to the SCO defence ministerial meeting, consider the following statements:

1. India and Pakistan became its permanent members in 2017.
2. The SCO was founded at a summit in Moscow in 2001.

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

Ans: a) The SCO is an influential economic and security bloc and has emerged as one of the largest transregional international organisations.

- India and Pakistan became its permanent members in 2017.
- The SCO was founded at a summit in Shanghai in 2001 by the presidents of Russia, China, the Kyrgyz Republic, Kazakhstan, Tajikistan and Uzbekistan.
- India has shown a keen interest in deepening its security-related cooperation with the SCO and its Regional Anti-Terrorism Structure (RATS), which

specifically deals with issues relating to security and defence.

108) The joint military exercises titled the 'Ulchi Freedom Shield', recently in news is held by

- a) China and Russia
- b) Pakistan and China
- c) South Korea and United States
- d) United States and Japan

Ans: c) South Korea and the United States began their largest joint military drills since 2017. These joint military drills are designed to test readiness against North Korea's missile tests.

- The drills, called the Ulchi Freedom Shield, are scheduled to run until September 1. They are tri-service drills involving thousands of troops as well as live-fire exercises.

109) Consider the following statements:

1. Increase the sales of e-vehicles by 60% by 2030.
2. Achieve 50% cumulative electric power installed from non-fossil fuel by 2030.
3. Propagate a healthy and sustainable way of living based on traditions and values.
4. Maintain 45% of the total area of the country under forest cover.

Which of the above is not part of India's Nationally Determined Contributions (NDC)?

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

Ans: c) The Centre submitted its updated 'nationally determined contributions' (NDCs) to the United Nations Framework Convention on Climate Change (UNFCCC).

- The NDCs cover a period up to 2030 and are a step towards the country's long-term goal of reaching net zero by 2070.

- The country has submitted eight key NDCs, of which two are updates on our existing targets.
- India had last submitted its NDC in 2016.
- India's NDCs "do not bind it to any sector-specific mitigation obligation and target."
- India has updated its target to reduce emission intensity of its GDP by 45% by 2030, from 2005, which was earlier 30%.
- It has also updated the target of capacity addition from non-fossil fuel sources.
- India said it will achieve about 50% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.
- India will propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation, including through a mass movement for 'LIFE', 'Lifestyle for Environment', as a key to combating climate change.
- The country has added a new target of creating an additional carbon sink of 2.5 to 3 billion tonnes of carbon dioxide equivalent through additional forest and tree cover by 2030.

110) With reference to the National Food Security Act (NFSA), consider the following statements:

1. The Supreme Court (SC) has directed the Centre to increase coverage under the National Food Security Act (NFSA).
2. The coverage under the NFSA is still decided by the population figures of the 2011 census.

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

Ans:C)