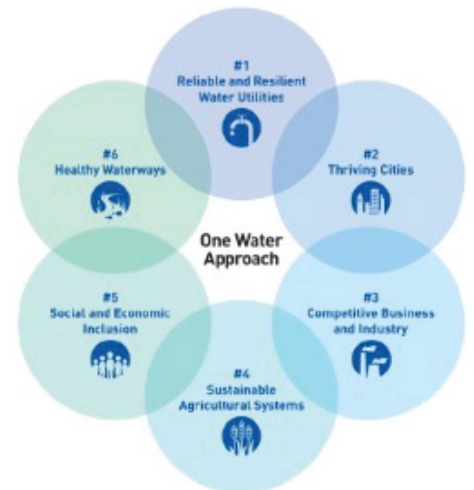
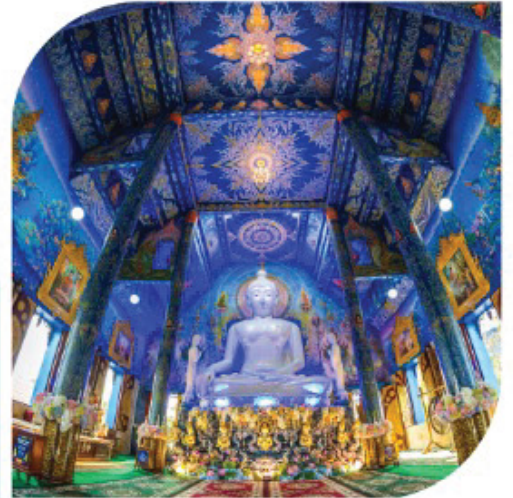


CURRENT AFFAIRS MAGAZINE

OCTOBER 2022

- Neo Buddhism
- China Wolf Warrior Era
- One Water Approach
- Life Mission
- FM Calls For Industrial Investment



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1. Climate change altering Indian Monsoon

- The Indian Meteorological Department (IMD) has clearly sighted that **2022** has seen the **second highest extreme** events since 1902.
- An alarming case as incidents of floods and droughts have increased, there is more evidence coming our way on how global warming has been impacting the Indian monsoon
- Most of the monsoon weather systems have been travelling across **central parts of the country**, changing the area of rainfall.

HOW CLIMATE CHANGE IMPACTS SUMMER MONSOON RAINFALL?

- Places that once recorded **excess rainfall** are today **rainfall deficit**.
- Madhya Pradesh, Gujarat, Rajasthan and parts of Maharashtra have recorded excess rainfall this year.
- In contrast, **West Bengal, Jharkhand and Bihar did not receive normal rains**.
- Back-to-back active monsoon systems in the Bay of Bengal in July led to excess rainfall to the tune of 8% — actual rainfall recorded was 472.8 mm as against the normal of 437.2 mm.
- While summer monsoon rainfall each year is unique, there has been a large regional and temporal variability in rainfall this year

IMPACT:

- **Kharif Crops** - One of the major impacts of changes in track of monsoon systems can be seen on kharif crops, particularly rice production. They form a significant share of more than 50% of total food grain production during this period. The fall in Kharif output may keep rice prices at elevated levels. **Bihar, West Bengal and Uttar Pradesh**, which account for a third of the country's total rice production, have been highly deficit despite an active monsoon current in July and August.
- **Food security** - Monsoon rainfall became less frequent but more intense in India during the latter half of the 20th century. Scientists and food experts believe that a better rainfall scenario could have helped increase the harvest. However, India's hundreds of millions of rice producers and consumers are being affected negatively with these unprecedented changes which are also raising concerns over food security.
- **Quality of Grains** - These uneven distribution rains may impact the quality of the grain as well as the nutrition value. According to a study, 'Climate change, the monsoon, and rice yield in India', very high temperatures (> 35°C) induce heat stress and affect plant physiological processes, leading to spikelet sterility, non-viable pollen and reduced grain quality.

WAY FORWARD

- India needs to **invest more resources** in better prediction of Monsoon forecast in order to achieve reliability and sustainability.
- With a warming climate, more moisture will be held in the atmosphere, leading to heavier rainfall, consequently, inter-annual variability of the monsoon will increase in future. **The country needs to prepare** for this change.
- Thus, to secure and bring sustainability to the climate pattern of India we need to take effective and timely steps not just at the domestic front (National Action Plan on Climate Change) but also at the international front (UN Framework Convention on Climate Change), as we live in a shared world with a shared future.

2. How China Beat Extreme Poverty; And What Lessons It Holds For India

- According to the latest World Bank report on global poverty, India has the most number of poor people.

- The report found that the number of Indians living in extreme poverty— surviving on less than Rs 46 a day — increased by 56 million (5.6 crores) in 2020.
- **China**, comparable in population size, alleviated poverty at historically unprecedented speed and scale between **1978** and **2018**.

China's Achievement

- The World Bank found that between **1978** and **2018**, China's poverty head-count dropped from 770million to 5.5 million people.
- It means that on average, for 40 years on the trot, every year China pulled 19 million people out of extreme poverty.

EXTREME POVERTY:

The World Bank (WB): Anyone living on less than \$2.15 a day is considered to be living in extreme poverty. About 648 million people globally were in this situation in 2019.

The very first international poverty line — a dollar a day — was constructed in 1990 using the 1985 prices.

The \$2.15 one is based on 2017 prices

CHINA'S POVERTY REDUCTION SUCCESS RELIED ON MAINLY ON TWO PILLARS-

| | |
|---|---|
| <p>The first pillar was rapid economic growth, supported by broad- based economic transformation.</p> <p>Reforms began in the agricultural sector, where poor people could benefit directly from improvements in productivity associated with the introduction of market incentives.</p> <p>The development of low-skilled, labour-intensive industries provided a source of employment for workers released from agriculture.</p> <p>Urbanisation helped migrants take advantage of the new opportunities in the cities, and migrant transfers boosted incomes of their relatives remaining in the villages.</p> <p>Public investment in infrastructure improved living conditions in rural areas but also connected them with urban and export markets.</p> | <p>The second pillar was government policies to alleviate poverty, which initially targeted areas disadvantaged by geography and a lack of economic opportunities, but subsequently focused on poor households irrespective of location.</p> <p>A component of these policies was social protection policies for poor households, including programmes in social assistance, insurance, and welfare.</p> |
|---|---|

OTHER FACTORS:

- China's size necessitated decentralised implementation arrangements, with significant scope for local experimentation and a high degree of competition among local governments.
- China also benefited from favourable **conditions** at the time of opening up, such as a relatively high level of **human capital endowments**.
- In 1949, 7 percent of those aged 15–64 had completed primary school in China.
- Massive **investment** in **education** and expansion of health care since the **1950s** resulted in real achievements.

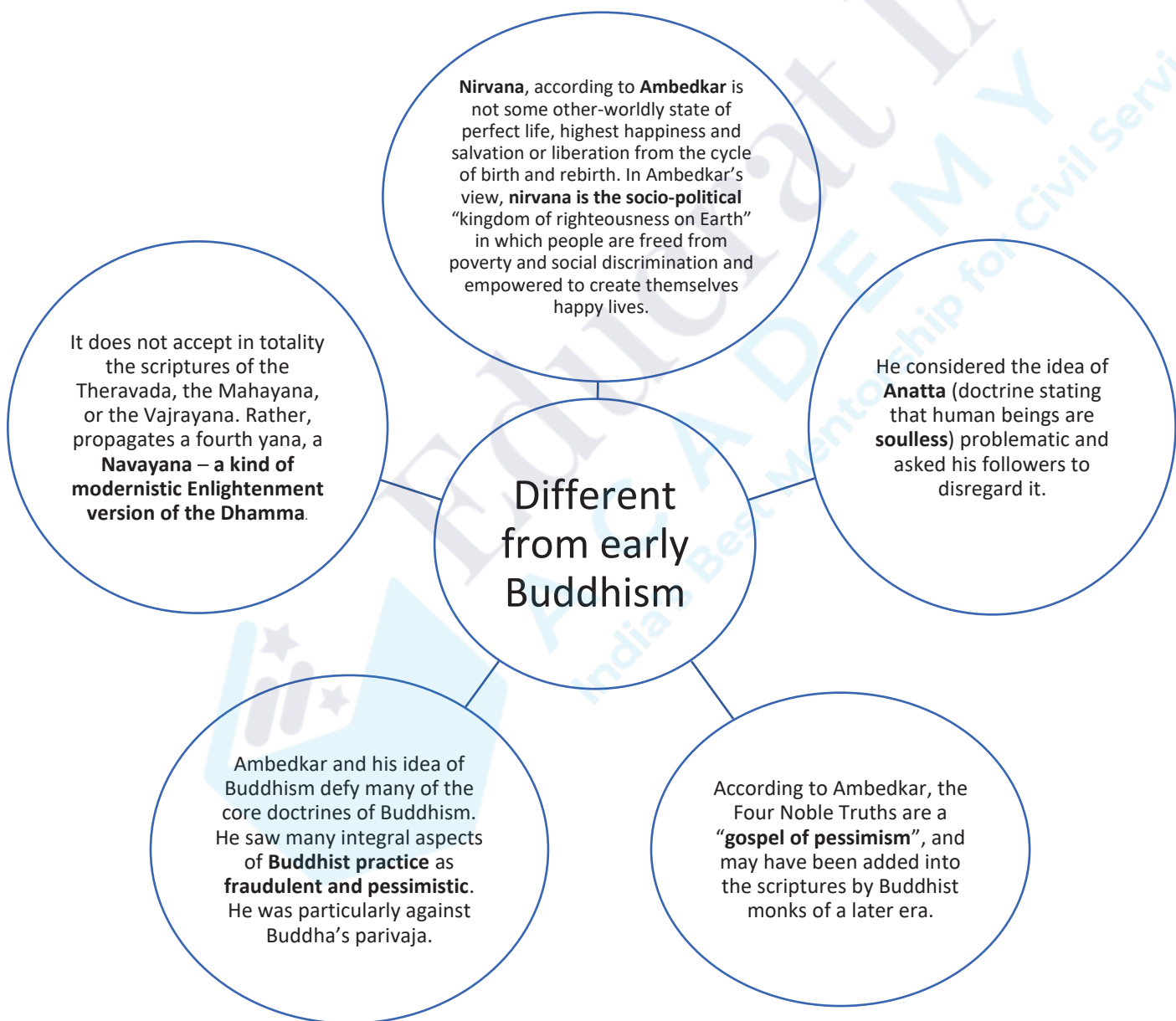
3. Neo-Buddhism

- The Neo Buddhist movement (also known as the Buddhist movement for Dalits, Ambedkarite Buddhist movement or Modern Buddhist movement) is a religious as well as a socio-political movement among Dalits in India which was started by B. R. Ambedkar.

- **Aim:** It was proposed as a mass movement that would elevate **former ‘Untouchables’** and help them achieve self-respect. It was hoped that Buddhist principles would mobilise them into a robust community to battle the ruling Brahmanical elites.

ROLE OF NEO BUDDHISM:

- Neo-Buddhism emerged as a maverick phenomenon that offered **strong psychological solace** to the struggling Dalit masses.
- It is the creative application of the **neo-Buddhist identity** and ideology that has structured the Dalit movement as an autonomous political force in Maharashtra. Deeksha Bhoomi in Nagpur, the place where Ambedkar embraced Buddhism, has emerged as a monumental heritage site, attracting millions of visitors every year.
- Here, Buddhism was resurrected not only as a part of India’s cultural and civilisational heritage but also as a tool to escape the caste hierarchical cultural hegemony and social hostility.
- The urban Buddhists marked by educational achievements – have offered vital leadership to Dalit politic
- Conversion to Buddhism also helped Dalits to find a robust meaning about their **cultural past**. They reinvented the Buddhist cultural symbols, rituals and practices as the proud markers of their new social identity



ISSUES :-

The Dalit socio-political movements in States including Uttar Pradesh, Bihar, Tamil Nadu and Karnataka have not promoted conversion to Buddhism and there is hesitation in suggesting religious conversion as an alternative to fight the battle for social justice.

Today, the Buddhist population in India is one of the smallest minorities. Its ideological challenge against the Hindu social order has not been taken seriously, and even within the Dalit community, conversion to Buddhism is not perceived as a suitable path to achieve social emancipation.

India's neighbouring Buddhist countries also have **not identified** neo-Buddhists as **significant partners** in their theological engagements.

A large majority (**close to 80%**) of **Indian Buddhists resides in Maharashtra**. However, it is mainly the Mahar caste, Matang and the Maratha castes which have identified themselves as neo-Buddhists. Other socially marginalised groups are still defined by Hindu caste nomenclatures and traditional occupations.

Buddhist cultural assertions and claims over public spaces became the symbols of their rejection against Hindu cultural hegemony and its social tentacles. Such assertiveness often put them in opposition with right-wing ideologies.

Even in States where the Scheduled Caste population is relatively high, such as in Punjab, West Bengal and Odisha, Dalits have **shown restraint in adopting Buddhism to challenge their social location**.

MEASURES:

- In overseas diplomatic gatherings, Prime Minister of India has frequently invoked India's ancient Buddhist identity and shared Buddhist heritage with countries, especially **China, Nepal, Myanmar and Japan**.
- He also visited Deekshabhoomi in 2017, paid rich tributes to Ambedkar and announced multiple developmental projects.
- Prime Minister inaugurated **Kushinagar International Airport in Uttar Pradesh**, which will help connect important Buddhist pilgrimage sites. Kushinagar is an important Buddhist pilgrim destination.
- It is his government that proposed a **Buddhist Circuit**.

RELATED TOPIC: The Ashoka Vijaya Dashami Controversy

BUDDHIST CONVERSION DAY EVOLVE?

- In 1935, Ambedkar, as president of the '**Yeola Conversion Conference**' near Nasik, announced his decision to renounce **Hinduism to contest the Hindu caste order**.
- He advised the members from the depressed castes to leave Hinduism and embrace another religion.
- After 2 decades, he reached a conclusion that Buddhism is an appropriate choice as
- It had challenged the **Brahmanical caste-based** social hierarchies in the past
- It focused on modern ethical values and a scientific temperament
- It preached peace and compassion for social coexistence
- Under the presence of monk Chandramani, Ambedkar and his wife took the Buddhist vows and **embraced Buddhism at Nagpur's Deekshabhoomi**.
- He then recited the **three jewels (Trisharan)**, five precepts (Panchsheel), pronounced the self-crafted 22 vows and renounced Hinduism.
- The event is marked as the **renaissance of Buddhism** in India.
- Ambedkar called his version of Buddhism Navayana (followers are called neo-Buddhists)

Every year, **Dussehra** is also celebrated as **Ashoka Vijaya Dashami** to commemorate **Buddhist Conversion day**.

WHY ARE THE 22 VOWS CONTROVERSIAL?

- The 22 vows refer to a list of pledges Ambedkar had prescribed to his followers after converting from Hinduism to Buddhism on 14 October, 1956 in Nagpur.
- The vows are divided into three major sections.
- First part- It pledges to refuse to worship the Hindu pantheon or to follow Hindu religious dogmas (vows no. 1, 2, 3, 5 and 21).
- Second part- It challenges the authority of the Brahmin priest (vows no. 4, 6, 8 and 19).
- Third part- The rest promises to follow Buddhist principles.

4. Does India Need a Population Policy?

The United Nations' World Population Prospects (WPP), 2022, forecasts India becoming the most populous country by 2023, surpassing China, with a 140 crore population.

- India has a very good population policy, which was designed in 2000. And States also have their population policies.
- We just need to tweak these and add ageing to our population policy focus. But otherwise, the national population policy is the right policy. We need more investments in family planning and need to think about the population more broadly.
- As in the WPP 2022, **India will have one of the largest workforces globally**, i.e., in the next 25 years, one in five working-age group persons will be living in India.
- This working-age bulge will keep **growing till the mid-2050s**, and India must make use of it.

Issue of ageing:

- In the case of the elderly, the estimates show that **12% of India's total population by 2025** is going to be the elderly.
- Every fifth Indian by 2050 will be over the age of 65.
- So planning for these segments merits equal consideration.

Way forward:

- We also need to start focusing on other challenges that go along with enhancing reproductive health, which is not just the provision of family planning services.
- We need to change our discourse around the population policy. Although we use the term population policy, **population control still remains a part of our dialogue.**
- We need to maybe call it a policy that enhances population as resources for India's development, and change the mindset to focus on ensuring that the population is a happy, healthy, productive.
- Perhaps it is time to think about getting rid of some of the archaic notions around population control, which continue to persist.
- Our arguments and discussions have not gone beyond the two-child norm. The two-child norm indicates a **coercive approach to primarily one community.**

5. This Hindi – and Hindi alone – counsel is flawed

- The 11th volume of the Report of the Official Language Committee was submitted to the President of India.
- Mains recommendations in the report:
- Hindi should replace English as the language of examinations for recruitment to the government
- Hindi should be the only medium of instruction: In Kendriya Vidyalayas, Indian Institutes of Technology (IITs), Indian Institutes of Management (IIMs) and central universities

- Constitutional binding: It should be constitutionally binding on State governments to propagate Hindi, etc

Issues with recent report:

- Hindi should totally replace English as the medium of instruction: The committee is not mandated to recommend the medium of instruction in universities and professional institutions.
- Parliament has declared by law: English shall continue along with Hindi.
- A statutory committee constituted under the Act has no mandate to recommend the discontinuation of English.

Issues of Hindi replacing English:

- **South Indian upsurges:** The provision allowing English to be used indefinitely helped solve upsurges in south India.
- **Emotionally divide people:** Language issues have the potential to emotionally divide people.
- Language used in All India services: Once Hindi replaces English, the language used in the examination for recruitment to the All India Services will be Hindi alone.
- Candidates from the non-Hindi States will face a great disadvantage.
- **Against Article 344(3):** The commission on official language shall have “due regard to the just claims and interests of persons belonging to the non-Hindi speaking areas in regard to public services”.
- The mood of the Constituent Assembly was in large measure influenced by the freedom struggle. That mood slowly changed over the years as India began interacting with the world. By the 1960s, the political class realised that English was crucial in acquiring knowledge in science and technology as well as in other fields of human activity. Therefore, Parliament decided to continue with English. A changing world requires English use

Way Forward

- Maulana Azad: “we have got to admit that so far as language is concerned North and South are two different parts. The union of North and South has been made possible only through the medium of English. If today we give up English then this linguistic relationship will cease to exist”.
- The idea of one official language may not foster the unity of the people: It may give rise to serious imbalances in regional representation in the All India Services in the long run as well as the personnel structure of the Union government.

6. An online fight where children need to be saved

Although Child Sexual Abuse Material (CSAM) are illegal and constitute an offense under Section 67(B), IT Act 2000, many such instances still exist

Global efforts:

- INHOPE, a global network of 50 hotlines (46 member countries), provides the public with a way to anonymously report CSAM.
- It provides secure IT infrastructure, ICCAM (I- “See” (c)-Child-Abuse-Material) hosted by Interpol. It also facilitates the exchange of CSAM reports between hotlines and law enforcement agencies.
- ICCAM is a tool to facilitate image/video hashing/fingerprinting and reduce the number of duplicate investigations.
- The Optional Protocol to the United Nations Convention on the Rights of the Child that addresses child sexual exploitation encourages state parties to establish liability of legal persons.

India’s initiatives:

- **‘Aarambh India’:** a Mumbai-based NGO, partnered with the IWF, and launched India’s first online reporting portal in September 2016 to report images and videos of child abuse.

- National **cybercrime** reporting portal: launched by the Ministry of Home Affairs (MHA) in September 2018 in compliance with Supreme Court directions for filing online complaints pertaining to child pornography and rape-gang rape. The portal was later extended to all types of cybercrime.
- National Crime Records Bureau (MHA) signed a memorandum of understanding with the NCMEC in April 2019 to receive CyberTipline reports to facilitate action against those who upload or share CSAM in India.
- The NCRB has received more than two million CyberTipline reports which have been forwarded to the States for legal action.
- **Jairam Ramesh Committee recommendation (2020):**
- legislative front: widening of the definition of 'child pornography', proactive monitoring, mandatory reporting and taking down or blocking CSAM by ISPs.
- Technical front:
- building partnerships with industry to develop tools using artificial intelligence for dark-web investigations
- tracing the identity of users engaged in cryptocurrency transactions to purchase child pornography online and liaising with financial service companies to prevent online payments for purchasing child pornography.
- As part of the "**Megh Chakra**" pan-Indian operation, the **Central Bureau of Investigation (CBI)** carried out searches throughout the States and Union Territories.
- This operation was against the online circulation and sharing of Child Sexual Abusive Material (CSAM) using cloud-based storage.

| | |
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| <p>American model:</p> <p>CyberTipline. It allows public and Electronic Service Providers (ESPs) to report incidents of suspected child sexual exploitation.</p> <p>Internet Service Providers (ISPs) are mandated to report the identity and the location of individuals suspected of violating the law. Additionally, NCMEC may notify ISPs to block transmitting online CSAM.</p> | <p>British model:</p> <p>Internet Watch Foundation (IWF), a non-profit organisation has the goal of disruption of CSAM availability and removal of such content hosted in the UK.</p> <p>The IWF engages the analysts to actively search for criminal content and not just rely on reports from external sources. However, the U.K. laws not specifically require the reporting of suspected CSAM. ISPs may be held responsible for third party content if they host or caches such content on their servers.</p> |
|--|---|

Challenges of CSAM in India

- Unfair exemption to **ISPs**: In India, viewing adult pornography in private is not an offence.
- But seeking, browsing, downloading or exchanging child pornography is an **offence punishable under the IT Act**.
- However, Internet Service Providers (ISPs) are exempted from liability for any third-party data if they do not initiate the transmission.
- Absence of legislative enforcement of CSAM requirements: Due to low public reporting of circulation of online CSAM and absence of automatic electronic monitoring, India's enforcement agencies are dependent on foreign agencies for the requisite information.
- As per 9th edition (2018) report of International Centre for Missing and Exploited Children on Child Sexual Abusive Material, more than 30 countries now require mandatory reporting of CSAM by ISPs.
- India also figures in this list, though, the **law does not provide for such mandatory reporting**.

Suggestions

- India needs to enforce mandatory reporting of CSAM by making a new law.

- India needs to collaborate with ISPs and financial companies by establishing an independent facility such as the IWF or NCMEC.
- India should join INHOPE and establishes its hotline to utilise Interpol’s secure IT infrastructure.

GS II

1.India-Made Cough Syrups and Deaths in Gambia

Recently, the World Health Organisation (WHO) issued an alert about four Indian-manufactured cough syrups that it said could potentially be linked to acute kidney injury in children and 66 deaths in the small West African nation of The Gambia.

- In its alert, the WHO said laboratory analysis of samples of each of these products had confirmed the presence of “unacceptable amounts of **diethylene glycol** and **ethylene glycol** as contaminants”.

WHY ARE THE SYRUPS NOT SOLD IN INDIA?

- A drug regulatory expert who was part of the investigation into the 2020 J&K deaths said India has phased out syrups in favour of suspensions.
- In syrup, the **Active Pharmaceutical Ingredient (API)** is completely mixed in the solvent — imagine a sugar solution.
- In a **suspension**, on the other hand, API particles are suspended uniformly in a solvent — imagine cooked dal.
- That is why it says on labels on the bottles, ‘shake well before use’, otherwise the API will settle at the bottom.
- **APIs** such as **paracetamol** and others contained in the four syrups are not water-soluble, and hence need a base solvent like propylene glycol. “Propylene glycol is available in two varieties — one type is meant for industrial use, the other for pharmaceutical use.
- To save on costs, some companies use the industrial propylene glycol that may contain **diethylene glycol** and **ethylene glycol** as contaminants.
- Suspensions do not need propylene glycol as the active ingredient does not have to be dissolved. They use a liquid base called carboxymethylcellulose (CMC), with no risk of containing the two contaminants.

WHAT ARE THE RELATED REGULATIONS IN INDIA?

| <u>Central Drugs Standard Control Organisation(CDSCO):</u> | <u>The Drugs and Cosmetics Act:</u> | <u>Drugs Controller General of India:</u> |
|---|--|--|
| <p>The Central Drugs Standard Control Organisation(CDSCO) under Directorate General of Health Services, Ministry of Health & Family Welfare, Government of India is the National Regulatory Authority (NRA) of India.</p> <p>Prescribes standards and measures for ensuring the safety, efficacy and quality of drugs, cosmetics, diagnostics and devices in the country.</p> <p>Regulates the market authorization of new drugs and clinical trials standards.</p> <p>Supervises drug imports and approves licences to manufacture the above-mentioned products.</p> <p>CDSCO regulates export of drugs in India, any manufacturer with the certification from CDSCO can export drugs outside India.</p> | <p>The Drugs and Cosmetics Act, 1940 and Rules 1945 have entrusted various responsibilities to central and state regulators for regulation of drugs and cosmetics.</p> <p>It provides the regulatory guidelines for issuing licenses to manufacture Ayurvedic, Siddha, Unani medicines.</p> <p>It is mandatory for the manufacturers to adhere to the prescribed requirements for licensing of manufacturing units & medicines including proof of safety & effectiveness, compliance with the Good Manufacturing Practices (GMP).</p> | <p>DCGI is the head of department of the CDSCO of the Government of India responsible for approval of licences of specified categories of drugs such as blood and blood products, IV fluids, vaccines and sera in India.</p> <p>DCGI also sets standards for manufacturing, sales, import, and distribution of drugs in India.</p> |

Decoding the regulatory norms

Who can export drugs from India?

Any manufacturer with a certification from the Central Drugs Standard Control Organisation (CDSCO) – the apex regulatory body for cosmetics, pharmaceuticals and medical devices.

Do drugs manufactured in India for export need to be tested domestically?

At the time of issuing license, drugs inspectors assigned by the Indian regulator may lift samples in any phase of manufacturing for quality checks. It is, however, not mandatory; and rarely done

What safety norms need to be adhered to?

First point of testing is at a manufacturer's level, to ensure that the drug adheres to the safety norms prescribed by the Indian Pharmacopoeia, and the regulatory requirement of the country of export. However, generally speaking, destination countries expect nations of origin to strictly follow the norms prescribed by the pharmacopoeia under which the sale is governed.

What are the intn'l drug safety norms?

Drug regulatory norms are usually country-specific and are enforced at the level of individual countries. The US, Japanese, British, European and Chinese pharmacopeias act as reference points for uniform preparations for the most commonly used drugs – with tests to ensure their quality, potency and purity. The WHO's prequalification programme is another criterion wherein the UN body certifies sale of drugs/vaccines under the UN programmes.

Are destination nations responsible for safety?

Some countries do internal testing at the point of entry, but it is not mandatory and varies by the country.

For sale domestically

What are the checks in place to ensure the safety of drugs in India?

The CDSCO and state drugs regulators are responsible for ensuring quality of drugs that are manufactured, sold or distributed in Indian markets.



Maiden Pharma controversies

KERALA: Maiden Pharmaceuticals' drugs – Metomin, Easiprin, and Maical-D – were lifted from the markets after they were found to be substandard

BIHAR: The state health department blacklisted the firm for 5 years in 2011 after six batches of two of its drugs were found "not of standard quality"



Diethylene glycol and ethylene glycol: Both are chemical contaminants that may be present in the solvent that is used in the syrups.

It is toxic to humans, and can result in abdominal pain, vomiting, diarrhoea, inability to pass urine, headache, and altered mental state.

It can also lead to acute kidney injury that may be fatal in children.

2. How Election Commission decides on party symbols?

The Election Commission of India is right to freeze the "bow and arrow" symbol of the Shiv Sena, which has been claimed by rival groups after a split in the party, until it decides which faction constitutes the "real Shiv Sena". Convention and precedent support this decision.

- Recently, the **Supreme Court** too had ruled that the **EC** is the **proper authority** to adjudicate on such matters.

ELECTION SYMBOLS

- The Election **Symbols** (Reservation and Allotment) Order, **1968** empowers the **EC** to recognise political parties and allot symbols.
- Under Paragraph 15 of the Order, the EC is the only authority to decide issues on a dispute or a merger. The Supreme Court upheld its validity in Sadiq Ali and another vs. ECI in 1971.

- **Recognised parties-** ECI can decide disputes among rival groups or sections of a recognised political party staking claim to its name and symbol. The decision of the Commission shall be binding on all such rival sections/groups.
- This applies to disputes in recognised national and state parties.
- **Unrecognised parties-** For splits in registered but unrecognised parties, the ECI usually advises the warring factions to resolve their differences internally or to approach the court.
- **Testing the majority-** In almost all disputes decided by the ECI so far, a clear majority of party delegates/office bearers, MPs and MLAs have supported one of the factions.
- The EC allocated the symbol to the group that secured this majority.
- Whenever the EC could not test the strength of rival groups based on support within the party, it relied **on testing majority** only among **elected MPs and MLAs**.
- **Claiming for same symbol-** In the case of two or more parties vying for the same symbol, the ECI breaks the tie on a **first come first serve basis**, but there have been exceptions.

WHO CAN APPLY FOR ELECTION SYMBOLS?

- Before 2009, for a political party to be eligible for an election symbol, it had to prove itself a “serious party” by contesting at least 2 elections.
- Only **recognized national and state-level** parties were entitled to a symbol.
- However, in 2009, following a Supreme Court ruling directing the ECI to allot a symbol to a registered but unrecognised political party, the criterion was amended in 2011.
- ECI can now give symbols to a new party, provided that they are big enough and can put up candidates in 10% of the constituencies.

WHAT ABOUT THE GROUP THAT DOESN'T GET THE PARENT PARTY'S SYMBOL?

- The ECI in 1997 did not recognise the new parties as either state or national parties.
- The ECI introduced a new rule under which the splinter group (other than the group that got the party symbol), had to register itself as a separate party.
- It could lay claim to national or state party status only on the **basis of its performance** in state or central elections after registration.

Intra party democracy can be defined as the minimum set of rules for decision making, **internal power distribution**, forming organizational rules and grievance redressal. These minimum rules should provide for a **bottom-up approach** decentralizing decision making.

Constituents of Intra-party democracy

- Elections for party posts
- Party candidate selection by democratic means
- Decentralised decisions on organizational policies & programmes
- Transparency in working, ability of members to question these decisions
- Inclusive membership

3. Intra party democracy:

Election Commission of India has indicated that it will take up the matter of inner democracy with the political parties. The ECI had recently taken action against the Registered Unrecognised Political Parties (RUPP) for failing to comply with norms.

- ECI has sought to delist the RUPPs for not informing the EC of the change in address, PAN, office bearers and other details, which are mandated by the Representation of the People Act, 1951.
- Post this ECI has also decided to take on recognised parties for not complying with the provisions.
- The Constitution does not define political parties or any provisions related to them.
- They are governed under the Representation of People's Act 1950 & 1951
- The RPA does not mandate internal elections for the political parties.

- However, the EC's guidelines for parties applying for registration under the Act state that the applicant should submit a copy of the party constitution.

| STATE OF INTRA-PARTY DEMOCRACY IN INDIA | IMPACTS OF POOR INTRA PARTY DEMOCRACY |
|--|--|
| <p>Parties lack organization – Due to lack of organization, there is no constitution to guide its working; decisions are often taken by a central figure.</p> <p>Not Inclusive- The procedure for determining the leadership and composition of the parties are not completely open and inclusive.</p> <p>Leader Centric – In the absence of internal democracy, decisions are often taken by a central/powerful leader or elite group within the organization and there is little possibility of appeal against such decisions.</p> <p>Nepotism – The leadership of the party mostly constitutes of loyalists of the central figure making it unrepresentative</p> <p>Candidate selection – Since candidate selection is done undemocratically, without an election, arbitrary, opportunistic norms are used in selection. Eg caste, financial capacity, muscle power become determining factors.</p> <p>Succession planning – Central figures capture top layer of leadership. The second plank is made up of loyalists. In case of death or incapacitation of the top leader, the party falls in disarray</p> | <p>Affects democracy - India's democracy is governed by political parties more than the legislature as government formation, elections for important offices like President; law making is controlled by political parties. Hence poor intra-party democracy is directly affecting India's democracy.</p> <p>Communal tendencies – Mobilization of many political parties in India is done on the basis of religion, caste, and region. Lack of democratic setup skews the party in favour of such elements. This leads to raising of divisive issues, focus on issues irrelevant to development.</p> <p>Criminalisation – Party membership and leadership is selected basis money and muscle capacity. This gives entry to criminal elements in the political parties and by extension in the entire legislature.</p> <p>Extra constitutional activities – Parties resort to extra-constitutional means to acquire and hold power. Eg engineered resignations, cash-for-vote, resort politics.</p> <p>Multiplicity of parties - India has the highest number of parties in the world. Due to lack of grievance redressal mechanism, opportunity to raise contrary views within the party, members split to form new organisations.</p> <p>Focus on electoral gains – Parties have become over-focused on winning elections. This has led to short sighted decision making that neglects other aspects of democracy.</p> |

WAY FORWARD:

- Legal prerequisites for candidature – Declaration of assets and criminal antecedents is mandatory.
- SC judgement – The recent SC judgement has stated that parties must disclose the selection criteria other than winnability and display it on the party website.
- **Reservation policies** - Mandating reservation of seats for SC, ST, OBC & women provides opportunity for more inclusive representation.
- ECI action - against the Registered Unrecognised Political Parties.
- Legal recognition and mandates for parties - In India the political parties lack legal recognition. There must be a law to recognize parties and set minimum standards for their structure and functioning as recommended by the Law Commission report in 1999. Revival of the draft Political Parties (Registration and Regulation of Affairs) Act, 2011 will start discussion in that regard.
- **Empower ECI** - ECI lacks power to take punitive action against registered political parties for violating the principles of inner-party democracy. Sufficient powers must be provided to it for the same. ECI must also have the **power to deregister** parties.
- Amend the 10th schedule - Disqualification must not apply in case of voting in legislature and members must enjoy freedom to develop their own stand on issues independent of party line.

4. Gubernatorial procrastination is unreasonable

GUBERNATORIAL PROCRASTINATION:

Governor's action of unnecessarily and voluntarily delaying or postponing something despite knowing that there will be negative consequences for doing so.

WHAT ARE THE CONSTITUTIONAL PROVISIONS IN THIS REGARD?

- A Bill passed by the State Assembly becomes law only after the Governor gives assent.
- Article 200 of the Indian constitution contains provisions related to the Governor giving assent to state bills.
- He may give assent or he can send it back to the Assembly requesting it to reconsider. In this case, if the Assembly passes the Bill without making any change and sends it back to the Governor, he will have to give assent to it.
- He may reserve the Bill for reconsideration by the President. Bill can be reserved for the consideration of the President only if it would endanger the position of the High Court.
- He may withhold the assent. But it is not normally done by any Governor because it would be an extremely unpopular action. The legislature reflects the will of the people. It would be against the spirit of the constitution.
- These provisions affirm the primacy of the legislature in the legislative exercise.

INTERNATIONAL PRACTICE:

- In Britain, assent by the monarch is necessary for a Bill to be passed by Parliament to become law. It has also the power to withhold the Bill. But it is a dead letter and not followed in Practice.
- In the United States, the President is empowered to return a Bill to the House. **But if the Houses again pass it with two third majority**, the Bill becomes law.

ISSUES:

- A Governor or President cannot be sued by the court for any actions taken while acting within the scope of their authority, according to **Article 361** of the Constitution. They enjoy complete immunity from court proceedings.
- There is **no time limit** for governor to give assent to the bill. He can wait for however long he wants before taking any action as the Constitution does not specify a deadline for him to decide whether to assent.
- It should be underlined that the Governor must state his reasoning for withholding assent when announcing his decision. Being a high constitutional power, the Governor is required to provide justification for withholding assent and cannot act arbitrarily.
- The Governor's refusal **may be declared unconstitutional** if its reasons reveal **ulterior motives**, superfluous factors, or supra vires. In Rameshwar Prasad and Ors. v. Union of India a Constitution bench of the Supreme Court decided this issue.

WAY FORWARD

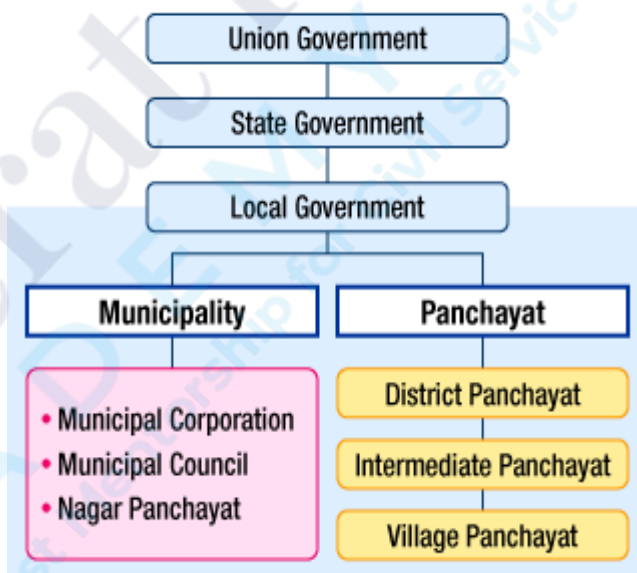
- The Governor cannot sit on a bill that has been enacted by an Assembly indefinitely just because no deadline has been set. Such a choice is not provided for in Article 200.
- One of the options listed in that Article must be used by the Governor. All constitutional powers are obligated to behave sensibly. Activities that are unreasonable are not legal acts.

5. Throttled at the grass roots: how to strengthen decentralised governance

A study for the Fourteenth Finance Commission by the Centre for Policy Research, shows that **all States have formally devolved powers with respect to five core functions of water supply, sanitation, roads and communication, streetlight provision and the management of community assets to the gram panchayats.**

WHAT ARE KEY ISSUES WITH PANCHAYATS?

- **Funding**– The local bodies have inadequate funds. The money provided to them is not flexible. They are mostly tied grants with conditionalities attached to them. They cannot raise their own taxes and other charges.
- **Violation of constitutional mandate**– The elections are not held regularly at intervals of five years. In Tamil Nadu, panchayat elections have not been held for over two years now, resulting in the State losing finance commission grants from the Union government.
- In 2005, when the Gujarat government postponed the Ahmedabad corporation elections, a Supreme Court constitutional bench held that under no circumstances can such postponements be allowed.
- **Centralising tendencies**– The current Union government has further centralised service delivery by using technology. Panchayats are nothing more than **front offices** for several Union government programmes. These tendencies also exist in the case of urban governance. The Smart city programme does not devolve its funds to municipalities.
- **Corruption**– Criminal elements and contractors win elections by bribing the voters. There operates a nexus between elected representatives and officials.



WHAT IS THE WAY FORWARD?

- **Empowering of Gram Sabhas**- Gram Sabhas and ward committees need to be strengthened. Consultations with the Gram Sabha could be organised through smaller discussions where everybody can really participate. Even new systems of Short Message Services, or social media groups could be used for facilitating discussions between members of a Gram Sabha.
- **Organisation**– Local government organisational structures have to be strengthened. Local governments must be enabled to hold State departments accountable and to provide quality, corruption free service to them, through service-level agreements.
- **Taxation powers**– They should have taxation powers. It will introduce accountability for local governments.
- **The transfer of 3F (funds, functions and functionaries)** has been nominal (with notable exceptions such as Kerala). Integrating Institutional reforms in local governance with economic reforms was Gandhiji's far-sighted vision of 'Poorna Swaraj'.

6. China's "Wolf Warrior" Era

Xi Jinping's worldview carries with it an inherent contradiction — that of a world that is simultaneously China's to lead and one that is apparently full of external threats. This paradox, more than any other factor, has shaped China's diplomacy in the past decade

- China's foreign policy appears to be caught between, on the one hand, presenting itself as the saviour of the UN-centred world order and globalisation — building, as Mr. Xi has christened, “a community of shared destiny” — and on the other, pursuing China's core interests ever more aggressively, regardless of the consequences.

A term that gained popularity, especially after Xi became President, “**wolf warrior diplomacy**” is a tactic for the Chinese government to extend its ideology beyond China and counter the West and defend itself. It is an **unofficial term** for the more aggressive and confrontational style of communication that Chinese diplomats have taken to in the last decade.

Belt and Road Initiative (BRI):

- It was announced by the Chinese President Xi Jinping-led regime in 2013.
- It encompassed five kinds of activities:
- Policy coordination, Trade promotion, Physical connectivity, Renminbi internationalization, People to people contacts.
- The initiative envisioned a Chinese Investment of over \$1 trillion in partner countries by 2025.
- More than 60 countries have now joined BRI agreements: with China, with infrastructure projects under the initiative being planned or under construction in Asia, Africa, Europe, and Latin America.
- Loans at commercial interest rates: To finance BRI projects, China offers huge loans at commercial interest rates that countries have to pay within a fixed number of years.
- But more than the infrastructure projects and investments in connectivity, the biggest success of the BRI — which ten years later remains an amorphous and hard-to-define initiative, more an idea than an actual project — has been in furthering a narrative of the inevitability of China's rise.
- But Beijing today is facing criticism for rising debt levels in many partner countries and for unsustainability in some of its projects.
- The fact that indebted partners have only returned to Beijing for more assistance underlines the reality of China's economic muscle, as well as an apparent push to evolve the BRI away from a hard-infrastructure focus to a wider array of financial assistance.
- Consider Pakistan and Sri Lanka, which have received more than \$26 billion from China in the past five years, and dealing with financial crises, are turning not only to the International Monetary Fund (IMF) but again, to Beijing.

Relationship with India:

- Two “informal summits: **Wuhan** (2018), **Mamallapuram** (2019)
- Chinese mobile phone brands have been well-established in the Indian market.
- Indian companies are also actively expanding the Chinese market, with a cumulative investment of nearly \$1 billion in China.
- The two countries have established 14 pairs of sister cities and provinces, with two-way personnel exchanges exceeding one million.
- Negative developments: **Ongoing border** crisis: triggered by the Chinese military's multiple transgressions.
- Article 370: India has protested comments by Chinese officials on the government's move to amend Article 370

Way Forward

- Relations with India: It has been shaped increasingly by the all-consuming focus of Chinese diplomacy on its great rivalry with the U.S, which has become the lens through which Beijing has come to view relations with much of the world, including India.
- Tension with west: The coming five years under Mr. Xi are likely to bring an ever-sharper period of tensions with the West
- **Participatory Alternatives:** Alternative projects must be launched by more advanced countries which are also participatory in nature keeping into account the interests of the host/recipient countries.
- Unless there is a partnership with the host country, the success of the project is not assured.

- India's Role: India will have to work **with its partners in the region to offer alternative connectivity** arrangements to its neighbours.
- India stepping forward to enhance interconnectedness will provide a new theater for geopolitical competition with China in South Asia and the Indian Ocean.
- **Connectivity also** presents India with an opportunity to reestablish its **regional primacy**.
- Diplomatic maneuvering: Appropriate diplomatic maneuvering and economic and military assertion is vital for the implementation of India's interests in the region along with leveraging the space as a building block for a multipolar world order.
- Supporting Indo-Pacific governments: There needs to be support for Indo-Pacific governments, boost their capacity to make independent political choices by helping partners root out corruption, including through foreign-assistance and development policies.

7. Revisiting Lessons of the Cuban Missile Crisis

There is an urgent need to revisit the sobering lessons of the Cuban Missile crisis to end the Russia Ukraine War.

Cuban Missile Crisis: Course of Events

- An important precursor of the Cuban missile crisis was the **failed Bay of Pigs invasion of 1961**.
- In this, US-backed Cuban counter-revolutionaries attempted to overthrow **Fidel Castro's regime in the country** and establish a non-communist government friendly to the US.
- After successfully fending off the operation, Castro turned increasingly towards the USSR and its premier Khrushchev, to deter any future invasion by the US.
- USSR's missile installation in Cuba: Having promised to defend Cuba with Soviet arms, the Soviet premier Nikita Khrushchev initiated the installation of Soviet medium- and intermediate-range ballistic missiles in Cuba.
 - Such missiles could hit much of the eastern United States within a few minutes if launched from Cuba.
 - US Action & Naval "quarantine": Kennedy announced that U.S. forces would seize "offensive weapons and associated matériel" that Soviet vessels might attempt to deliver to Cuba.
 - After deliberating with his core group of advisers, he rejected the idea of an invasion or a nuclear threat against Moscow, and on October 22, declared a naval 'quarantine' of Cuba.
 - In this, US destroyers and submarines were placed around Cuba in order to prevent military supplies being brought to the island.
 - Standoff: As the two superpowers hovered close to the brink of nuclear war, On October 28 **Khrushchev capitulated**, informing **Kennedy** that Work on the missile sites would be halted and the **missiles already in Cuba would be returned to the Soviet Union**.
 - In return, Kennedy committed the United States to never invading Cuba.



Present context:

- Russia's large-scale exercises: Involving 'strategic forces', and placing nuclear forces on 'special combat alert'.
- Bombing: Russia cited U.S. bombing of Hiroshima and Nagasaki in 1945 as a precedent.
- Partial mobilization: announced referendums in the four regions of Luhansk, Donetsk, Kherson and Zaporizhzhia, warned that Russia has 'more modern weapons' and 'will certainly make use of all weapon systems available'.

Lessons from Cuban Missile crisis:

- Keeping it below the nuclear threshold: Two nuclear superpowers should steer clear of any direct confrontation even as their rivalry played out in other regions, thereby.

Deterrence theorists called it stability-instability-paradox

- Nuclear war games: They over decades remained unable to address the challenge of keeping a nuclear war limited once a nuclear weapon was introduced in battle.

Way forward:

- The United Nations appears paralysed: Therefore, it is for other global leaders who have access and influence, to convince Mr. Putin that nuclear escalation would be a disastrous move.
- SCO Meet: In a bilateral meeting with the Russian President, the PM of India emphasized that "now is not the era of war".
- G20 meet: India and Indonesia are well placed to take a diplomatic initiative to persuade Mr. Putin to step away from the nuclear rhetoric.
- Deterrence: Emphasizing the deterrent role of nuclear weapons and not expanding it
- Reiterating Russia's official declaratory position: that restricts nuclear use for "an existential threat
- It reduces growing fears of escalation and also provides a channel for communication and opens the door for a dialogue that can lead to a ceasefire.

8. Reframing the Guidelines of Capital Punishment

Capital punishment, sometimes called death penalty, is execution of an offender sentenced to death after conviction by a court of law for a criminal offense.

Background of capital punishment

- **Bachan Singh case:** In 'Jagmohan Singh vs State of UP' (1973), then in 'Rajendra Prasad vs State of UP' (1979), and finally in 'Bachan Singh vs State of Punjab' (1980) the Supreme Court affirmed the constitutional validity of the death penalty.
- Punishment according to **fair procedure:** It said that if capital punishment is provided in the law and the procedure is a fair, just and reasonable one, the death sentence can be awarded to a convict.
- **Rarest of rare case:** This will, however, only be in the "rarest of rare" cases, and the courts should render "special reasons" while sending a person to the gallows.

Issues:

- **Arbitrary sentencing:** There has long been a judicial crisis in death penalty sentencing on account of unprincipled sentencing, arbitrariness and worrying levels of subjectivity. The crisis has been acknowledged by the Supreme Court, the Law Commission of India, research scholars and civil society groups.
- **Crime-centric nature:** Death penalty sentencing has been, by and large, crime-centric. This approach goes against the requirements imposed on sentencing judges by the Supreme Court in Bachan Singh (1980).
- Nature of crime a dominant consideration: An important reason for the breakdown is that factors relating to the crime the nature of the crime and its brutality are often dominant considerations, and there is barely any **consideration of mitigating** factors.

- Little discussion on mitigating factors: There has been very little discussion on bringing the socioeconomic profile of death row prisoners as a mitigating factor into the courtroom.

New guidelines:

- Considering Potential mitigating circumstances: The focus here is on reframing 'Framing Guidelines Regarding Potential Mitigating Circumstances to be Considered While Imposing Death Sentences.
- Seeking remedies beyond Legislative and judicial limitation: a reference to a larger Bench would constitute yet another step in the direction of death penalty sentencing justice reform such as the legislative limitation flowing from Section 354(3) in the Code of Criminal Procedure; judicial limitation flowing from the 'rarest of rare' case; and 'oral hearing' after all the remedies to the condemned are exhausted.
- **Mitigating factors** are important: Justice Ravindra Bhat required the sentencing court to take the trouble of balancing the aggravating factors and mitigating factors, as per the full Bench ruling.
- The following observations of the Court are significant: "It is also a fact that in all cases where imposition of capital sentence is a choice of sentence, aggravating circumstances would always be on record, and would be part of [the] prosecutor's evidence, leading to conviction, whereas the accused can scarcely be expected to place mitigating circumstances on the record, for the reason that the stage for doing so is after conviction.
- Granting real and **meaningful opportunity**: The three judge Bench decision seems to have gone beyond sentencing incongruities when it observes: "This court is of the opinion that it is necessary to have clarity in the matter to ensure a uniform approach on the question of granting real and meaningful opportunity, as opposed to formal hearing to the accused/convict on the issue of sentence."

The principles of what would constitute the "rarest of rare" were laid down by the top court in the landmark judgment in 'Bachan Singh'.

Two prime questions, the top court held, may be asked and answered:

First: is there **something uncommon** about the crime which renders the sentence of imprisonment for life inadequate and calls for a death sentence?

Second: are there circumstances of the crime such that there is **no alternative** but to impose the death sentence.

9. Are there anti-superstition laws in India?

The brutal murders of two women as part of "ritualistic human sacrifices" in the Pathanamthitta district of Kerala have left the country in shock.

- Black magic is also known as Witchcraft is usage of supernatural power for evil and selfish purposes and to perform malicious practices to destroy someone physically or mentally or financially.
- Black magic makes humans victims of baseless fears, reverses fortunes and confusions.
- As per the 2021 report of the **National Crime Records Bureau (NCRB)**, six deaths were linked to human sacrifices, while witchcraft was the motive for 68 killings
- The maximum number of **witchcraft cases** were reported from Chhattisgarh (20), followed by Madhya Pradesh (18) and Telangana (11).

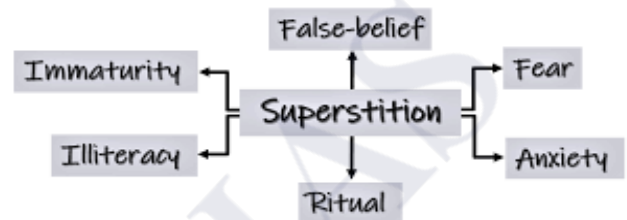
Laws prevailing:

- In India, there is **no central law** that exclusively deals with crimes **related to witchcraft, superstition, or occult-inspired activities**.
- Bihar: **Bihar was the first State to enact a law to prevent witchcraft**, identification of a woman as a witch and "eliminate torture, humiliation and killing of women.
- A similar law was passed in Jharkhand in 2001 the Prevention of Witch (Daain) Practices Act.
- Chhattisgarh: the State enacted the Chhattisgarh Tonahi (witch) Pratadna Nivaran Act only in 2005. As per the law, a person convicted for identifying someone as a witch can be sentenced to up to three years of rigorous imprisonment with a fine

- Other states with similar laws: Odisha, Maharashtra, Rajasthan, Assam etc.

Need for an anti-superstition act:

- Allowing the unhindered continuance of such practices violates an individual's fundamental right to equality and right to life under Articles 14 and 21 of the Indian Constitution respectively.
- Such acts also violate several provisions of various international legislations **to which India is a signatory**, such as the '**Universal Declaration of Human Rights, 1948**', '**The International Covenant on Civil and Political Rights, 1966**', and '**Convention on the Elimination of All Forms of Discrimination against Women, 1979**'.
- **Only eight states in India have witch-hunting legislations so far.**
- These include Bihar, Chhattisgarh, Jharkhand, Odisha, Rajasthan, Assam, Maharashtra and Karnataka.
- In the absence of measures to tackle superstitions, unscientific and irrational practices such as faith healing, quackery, and misinformation regarding medical procedures can also balloon up, which can have severe detrimental effects on public order and health of citizens.



GS III

1. Breakthrough Agenda Report

The Breakthrough Agenda Report 2022 is a new report by **the International Energy Agency (IEA)**, the International Renewable Energy Agency (IRENA) and the UN Climate Change High-Level Champions, focused on supporting stronger international collaboration to drive faster **reductions in global greenhouse gas emissions**.

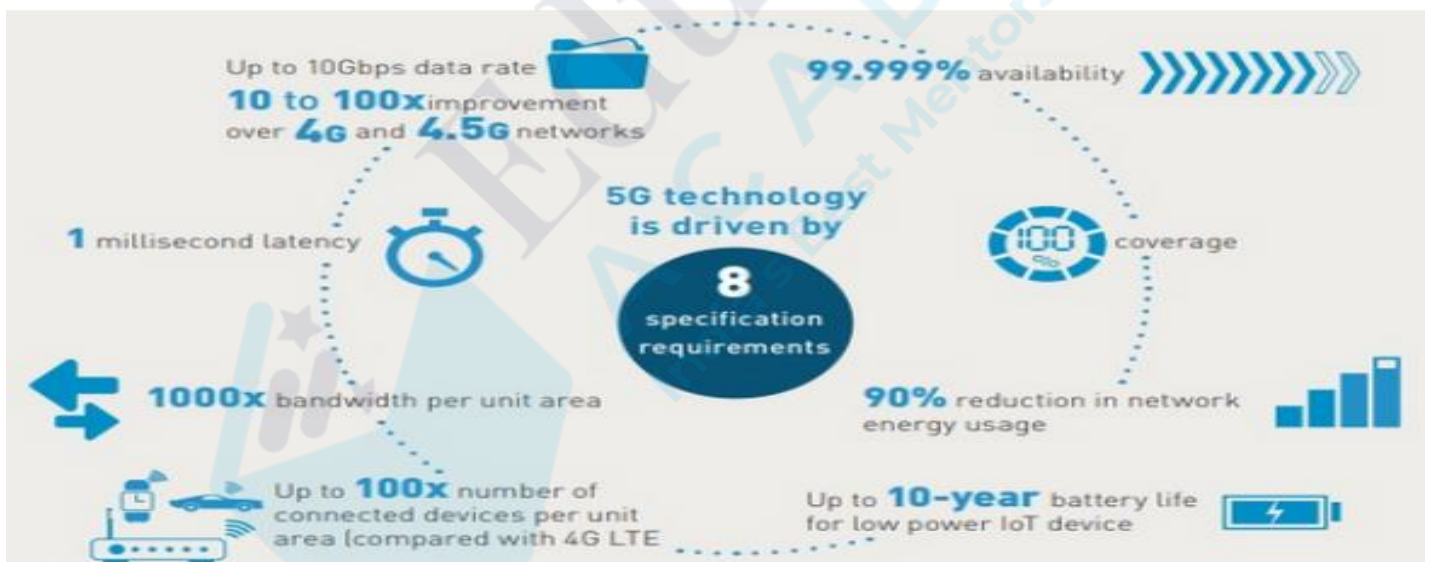
- This is a **first-of-its-kind annual progress report**, requested by world leaders at the UN Climate Change Conference COP26 in November 2021 as part of the launch of the **Breakthrough Agenda**.
- The Breakthrough Agenda currently covers more than two-thirds of the global economy, with endorsement from 45 world leaders, including those of the G7, China and India.
- This inaugural report assesses progress on reducing emissions in five key sectors – **power, hydrogen, road transport, steel and agriculture**.

RECOMMENDATION REGARDING INTERNATIONAL COLLABORATION

- International collaboration will be critical to success, given the global scale and fast pace of change required.
- By aligning and coordinating actions internationally, countries and businesses can accelerate innovation, create stronger signals for investment and larger economies of scale, and establish level playing fields where needed to ensure that competition is a driver of the transition, and not a brake.

| | |
|----------------|--|
| POWER | Governments, working with companies, multilateral development banks (MDBs) and investors, should agree a clear set of strategic priority projects to demonstrate and test power system flexibility solutions, including but not limited to energy storage, in a wide variety of contexts. |
| ROAD TRANSPORT | Governments should collectively agree a common understanding of the technologies that are consistent with the goal of zero emissions road transport, in order to send a clear and unambiguous signal to industry. This will accelerate economies of scale for key technologies , accelerating the pace of innovation and cost reduction, making ZEVs affordable sooner for more people. |
| CROSS CUTTING | Countries should work to agree the international fora and institutions through which they will take forward each of the recommendations for collaborative action contained in this report, and should then invest in those fora both politically and financially. Existing institutional frameworks should be used wherever these are appropriate to the task. |
| AGRICULTURE | Priority should be given to innovations that can reduce food waste, limit emissions from livestock and fertilisers, improve alternative proteins , develop climate-resilient crops and livestock, and protect soil and water resources. This will accelerate the development and eventual cost-effective deployment of technologies and solutions that can reduce emissions across multiple regions |
| HYDROGEN | Governments and companies should agree a comprehensive portfolio of international standards and associated certification schemes for renewable and low carbon hydrogen, addressing emissions accounting, safety, and operational issues, including leakage. This should be supported by a programme that provides a clear direction and sufficient resources to relevant technical bodies. |

2. 5G technology launched



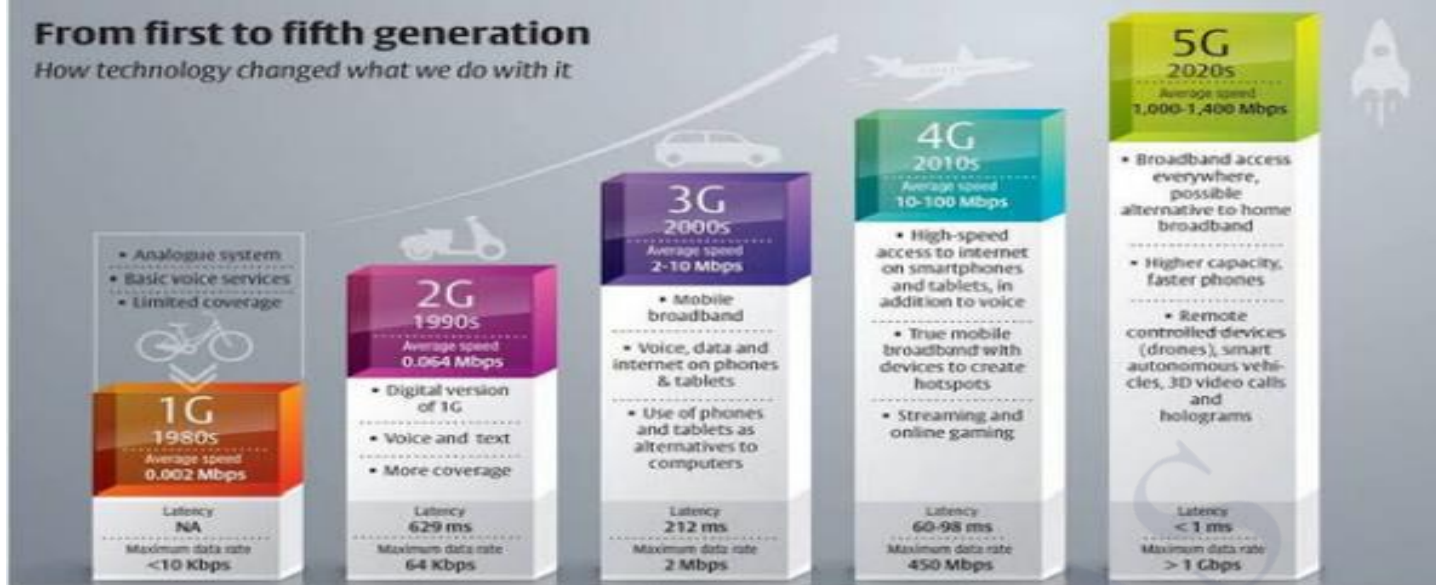
- PM called the launch “a revolution”: A new India – the country is no longer just a consumer of technology but a contributor to its development too.
- At the time of the launch of 2G, 3G and 4G services, India was dependent on other countries. But with 5G, the country is setting foot in a new historical era and is leading globally.

ABOUT 5G TECHNOLOGY

- It is the latest upgrade in the Long-Term Evolution (LTE) mobile broadband networks with reduced latency than 4G.

From first to fifth generation

How technology changed what we do with it



- 5G technology offers an **extremely low latency rate**, the delay between the sending and receiving information.
- From 200 milliseconds for 4G, 5G brings it down to 1 millisecond(1ms).
- **5G technology will provide seamless coverage**, high data rate, low latency, and **highly reliable**. It will increase energy efficiency, spectrum efficiency and network efficiency.
- It works in three **bands of the spectrum** with their respective pros and cons.

LOW BAND SPECTRUM

- It shows great promise in terms of coverage and speed of internet and data exchange with a maximum speed limited to 100 Mbps (Megabits per second).
- Telcos can **use and install** it for commercial cellphone users who may not have specific demands for very high-speed internet. It may not be optimal for the specialised needs of the industry.

MID-BAND SPECTRUM

- It offers higher speeds compared to the low band but has limitations in terms of coverage area and penetration of signals. It may be used by industries and specialised factory units for building captive networks that can be moulded into the needs of that particular industry.

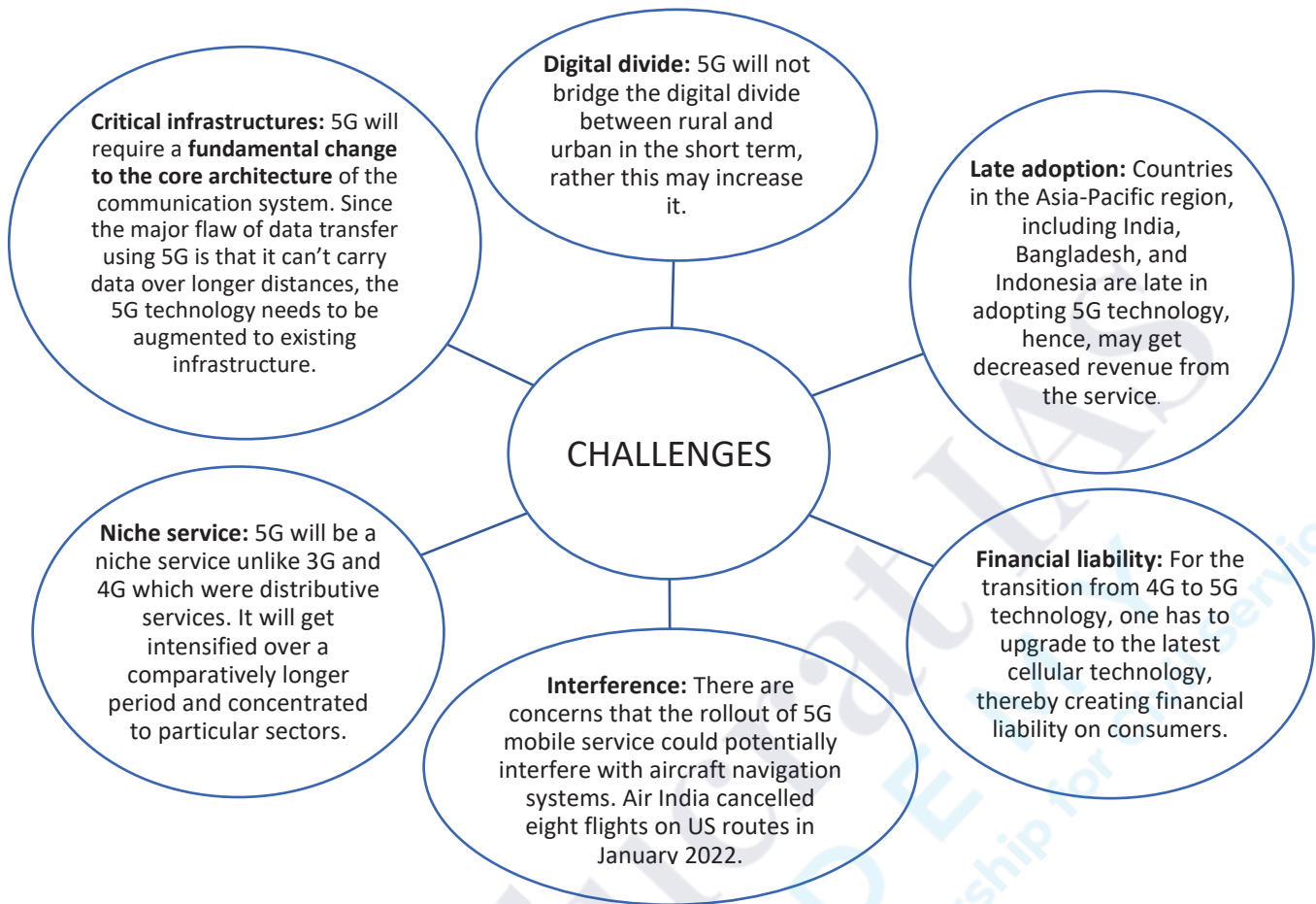
HIGH-BAND SPECTRUM

- It **offers the highest speed of all three bands**, but has extremely limited coverage and signal penetration strength. Internet speeds have been tested to be as high as **20 Gbps** (gigabits per second).

ADVANTAGES:

- 5G technology can be **used for agriculture and smart farming in the future**. Using smart RFID sensors and GPS technology, farmers can track the location of livestock and manage them easily. Smart sensors can be used for irrigation control, access control, and energy management.
- It will support **medical practitioners to perform advanced medical procedures** with a reliable wireless network connected to another side of the globe. Scientists are working on smart medical devices which can perform remote surgery. Smart medical devices like wearables will continuously monitor a patient's condition and activate alerts during an emergency.
- The Indian policy-makers can educate and empower citizens and businesses, and transform existing cities **into smart and innovative cities**.
- 5G networks could improve the accessibility of **services such as mobile banking and healthcare**, and enable exponential growth in opportunities for unemployed or underemployed people to engage in fulfilling and productive work.
- It will enable the development, testing and proliferation of 5G technology system components, cross-sectoral use cases, besides setting up the foundation for the development of the "6G Technology landscape" in the country.
- **Public Safety**: A vast network and rapid response times mean that public works can respond to incidents and emergencies in seconds rather than minutes, and municipalities can react fast and with reduced costs. Autonomous

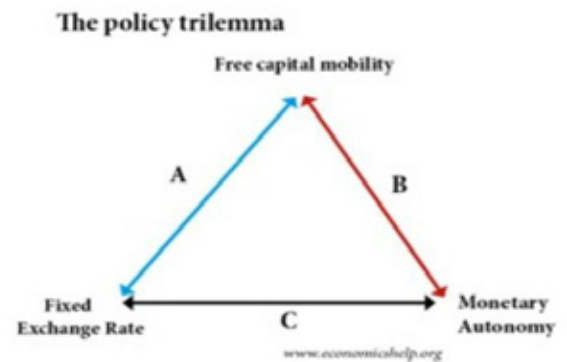
vehicles: 5G will allow vehicles to communicate between themselves and with infrastructure on the road, improving safety and alerting drivers to travel conditions and performance information.



3. The impossible trinity: how the free movement of capital comes with a cost

Recently, the U.S. Federal Reserve has been raising interest rates to fight rising prices. This brought the focus back to the impossible trinity or the trilemma.

- In a world where capital is largely free to move across borders, the Fed rate hike has led many investors to pull money out of the rest of the world and rush to the U.S. in search of higher yields. Thus putting pressure on many currencies such as the Indian rupee.
- **Policymakers in all sophisticated economies face this trilemma,** forcing them to make choices about which targets they are going to pursue.
- The RBI has tried to avoid these choices: It has tried to pursue all three objectives simultaneously in an especially aggressive manner since the pandemic struck.
- It has **reduced its policy interest rate to negative levels in real terms.**
- It has **bought government securities** to push down long-term interest rates.
- It has allowed large capital inflows, then intervened in the foreign exchange market to **prevent the appreciation of the rupee.** These actions are incompatible, and will eventually generate a serious policy dilemma.
- One of the corners of the trilemma has to do with capital inflows. In the first few months of the pandemic and the associated lockdown, the Indian economy **witnessed a net outflow of foreign portfolio investment (FPI).** However, this trend has reversed in recent months.



- At the same time, the combination of weak economic growth, lacklustre domestic demand, and low oil prices have shifted the current account balance from deficit into surplus. Imports have fallen more than exports suggesting that India is doing worse than its trading partners. These factors have changed the balance of supply and demand in the foreign exchange markets as a result of which the currency has begun to face appreciation pressures against the dollar. **This brings us to another corner of the trilemma — currency stability.**
- Retail inflation has now breached the upper limit of 6 per cent for more than three quarters. Core inflation has been rising and inflation expectations have jumped sharply. And while credit to the private sector remains depressed, credit to the government has been strong, implying that overall broad money is growing rapidly.

4. One Water Approach

- The UNESCO United Nations World Water Development Report of 2022 has encapsulated global concern over the sharp rise in freshwater withdrawal from streams, lakes, aquifers and humanmade reservoirs, impending water stress and also water scarcity being experienced in different parts of the world.
- **The Water Scarcity Clock**, an interactive webtool, shows that over two billion people live in countries now experiencing **high water stress**.

What is One Water Approach?

‘One Water’ is the recognition that all water has value, regardless of its source.

It includes managing that source in an integrated, inclusive and sustainable manner by including the community, business leaders, industries, farmers, conservationists, policymakers, academics and others for ecological and economic benefits.

The new water management approach, is also referred to as Integrated water resources management (IWRM).

IWRM is an “integrated planning and implementation approach to managing finite water resources for long-term resilience and reliability meeting both community and ecosystem needs”, according to research organization Water Research Foundation.

- **A NITI Aayog report, ‘Composite Water Management Index’ (2018)** has sounded a note of caution about the worst water crisis in the country, with more than 600 million people facing acute water shortages.
- The United Nations has estimated that by the year 2050, four billion people will be seriously affected by water shortages, which might lead to multiple conflicts between countries over water sharing.

NEED FOR ADOPTING ONE WATER APPROACH

- Differences in regional water availability, pricing and affordability,
- The seasonal and inter-annual variation in supply, water quality and quantity,
- Unreliability of the water resource poses great challenges.
- Aged infrastructure
 - Supply-centric management
 - Polluted water bodies
- Agricultural and industrial expansion following changes in consumption and production patterns, a changing climate and disproportionate distribution of the water.

ADVANTAGES OF IWRM (Integrated Water Resources Management) OVER CONVENTIONAL WATER MANAGEMENT APPROACHES

- In the conventional water management approach, drinking water, wastewater and stormwater are managed separately, whereas in **‘One Water’**, all the water systems, regardless of its source, are connected intentionally and managed **meticulously for water, energy and resource**.

- **Water is recycled and reused several times in IWRM**, in contrast to a one-way route from supply to use, treatment and disposal.
- **Stormwater** is utilised as a valuable resource to fight against water scarcity, recharge groundwater and support natural vegetation.
- The water system includes green infrastructures and a mix of grey and green infrastructure that form a hybrid system as compared to grey infrastructure in conventional water management.
- The interconnectedness of surface water, groundwater, stormwater and wastewater is collectively recognised and managed by these separate but connected entities.
 - Active collaborations with industry, agencies, policymakers, business leaders and various stakeholders is a regular practice in the 'One Water' approach, whereas collaboration is need-base in conventional water management systems.

5. International Year Of Millets

- The **United Nations General Assembly has declared the year 2023** as the International Year of Millets. This was adopted by a United Nations Resolution for which India took the lead
- India is poised to become the global hub for millets with a production of **more than 170 lakh tonnes and producing more than 80 % of the millets produced in Asia**. Earliest evidence for these grains have been found in Indus civilization and were one of the first plants domesticated for food.

ABOUT MILLETS CROP

- Millets are a group of highly variable **small-seeded grasses**, widely grown around the world as cereal crops or grains for human food and as fodder.
- Climate: Generally the Millets are **grown in tropical as well as sub-tropical upto an altitude of 2,100m**.
- It is a heat loving plant and for its germination the minimum temperature required is **8-10°C**.
- A mean temperature range of **26-29°C** during the growth is best for proper development and good crop yield.
- It is grown where **rainfall ranges from 500-900mm**.
- Millet has **wide adaptability to different soil** from very poor to very fertile and can tolerate a certain degree of alkalinity. The best soils are alluvial, loamy and sandy soil with good drainage.

BENEFITS

- The scientists motivated the farmers to take up millets cultivation during the summer, explaining that the **quantum of water required** for raising millets would be **much less** compared to the requirement of paddy varieties which means it is also a drought resistant crop. Thus, the cultivators could realize a better profit in short term given the marketing prospects of the value-added products of millets.
- **It is cultivated both as food & fodder**, thus providing food/livelihood security to millions of households and contributing to the economic efficiency of farming.
- Further, millets by the virtue of their nutritious value serve as an excellent tool to combat malnutrition and was well received by the consumers. Example - Ragi is rich in amino acids which are vital in normal functioning of the body and are essential for repairing body tissues.
- Millets help in mitigating climate change as compared to Paddy or Wheat
- Challenges: Preference for other Crops + **Not yet integrated with NFSA**

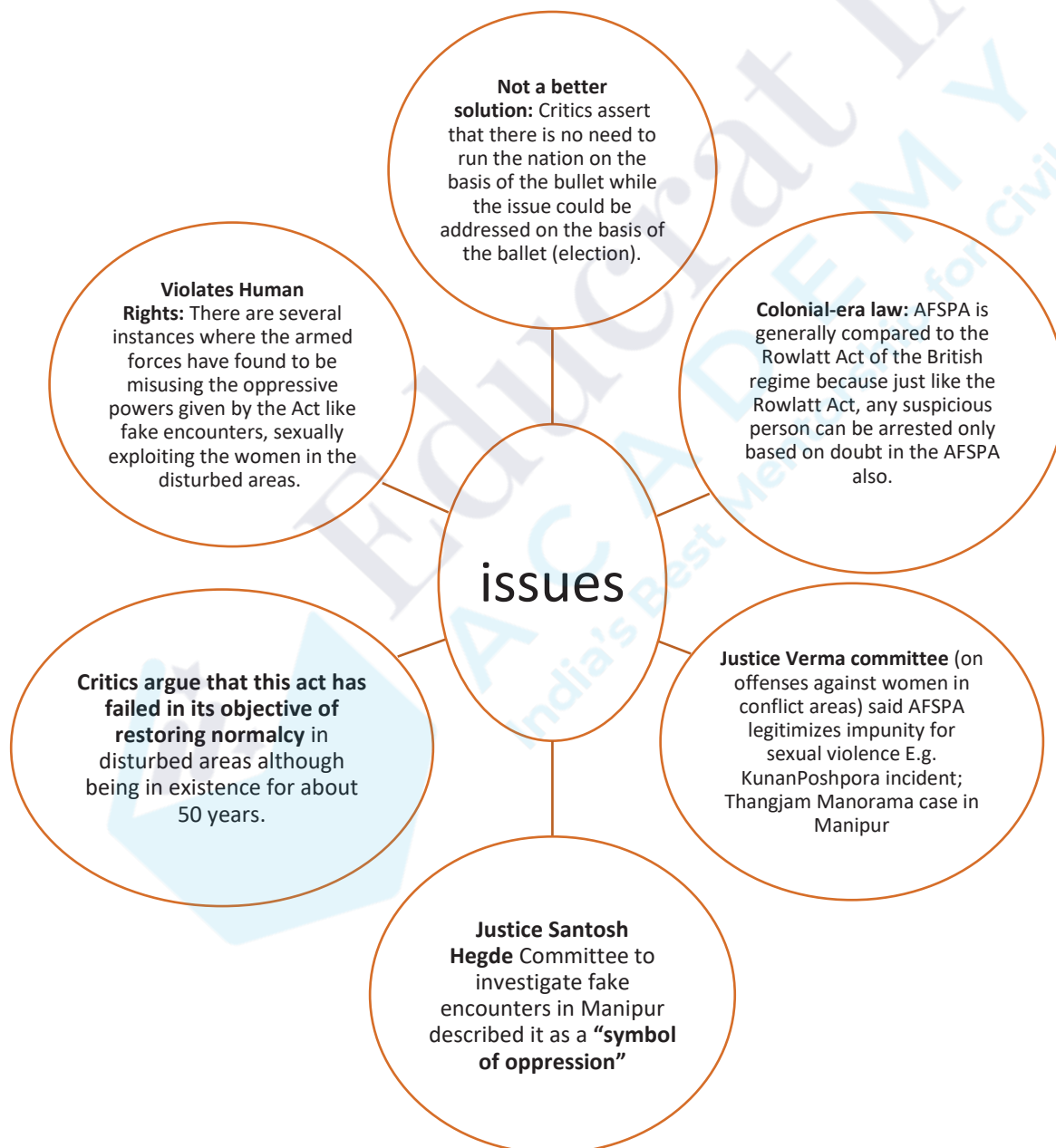
MILLET PRODUCTION – BASICS

- **The Department of Agriculture and Farmers Welfare (DA&FW)** is implementing a Sub-Mission on Nutri-Cereals (Millets) under **National Food Security Mission (NFSM)** to enhance area, production & productivity of millets including bajra.

- **India, Nigeria and China are the largest producers of millets in the world**, accounting for more than 55% of the global production.
- For many years, India was a major producer of millets.
- However, **in recent years, millet production has increased dramatically in Africa.**
- In India, pearl millet is the fourth-most widely cultivated food crop after rice, wheat and maize.
- Millets are available almost across India. India currently has around 14 million hectares of land under millets cultivation and produces around 14 million tonnes a year with Rajasthan, Maharashtra, and Karnataka leading in millet farming
- The country grows close to a dozen varieties of millets and widely consumed among them include pearl millet, foxtail millet, sorghum, finger millet, and kodo millet.

6. Armed Forces (Special Powers) Act (AFSPA)

Recently, the Ministry of Home Affairs (MHA) has extended the Armed Forces (Special Powers) Act (AFSPA) in parts of Arunachal Pradesh and Nagaland for another six months.



RATIONALE BEHIND IMPOSITION OF AFSPA:

- **Effective functioning:** It is essential for the armed forces to function effectively in insurgency and militancy affected areas.
- **Security of nation:** Provisions of this act have played a crucial role in maintaining law and order in disturbed areas. Thus, protecting sovereignty and security of the nation.
- **Protection of member of armed forces:** It is crucial to empower members of armed forces who constantly face threat to their lives at the hands of insurgents and militants. Its withdrawal would result in poor morale.
- **Operational requirements:** Absence of such a legal statute would adversely affect organisational flexibility and the utilisation of the security capacity of the state = armed forces cannot fulfill their assigned role.
- There are adequate safeguards provided by the Act and the Army's guidelines as follows
- Section 5 of the Act mandates that arrested civilians should be handed to the nearest police station with a 'least possible delay' in addition to a 'report of circumstances that led to the arrest'.
- Army HQ has also mandated that all suspects who are arrested will be handed over to civilian authorities within 24 hours.

WAY FORWARD:

- It needs to be emphasized that human rights compliance and operational effectiveness are not contrarian requirements. In fact, adherence to human rights norms and principles strengthens the counter insurgency capability of a force.
- Protection for the armed forces must be accompanied by provisions that ensure responsibility and accountability, within the parameters of law. It is for this reason that robust safeguards need to be incorporated in the existing or any new law.
- The terms like "disturbed", "dangerous" and "land forces" need to be clearly defined to ensure greater clarity.
- Greater transparency in communicating the status of existing cases to include its display on the army and government websites.

7. Building resilient mineral supply chain:

- In his Independence Day address, Prime Minister Narendra Modi emphasised the need to have Aatmanirbharta in energy by focusing on clean energy technologies.
- The Indian government established **Khanij Bidesh India Limited (KABIL)** in 2019 with the mandate to **secure mineral supply for the domestic market.**

NEED:

- The Ukraine crisis has shone a spotlight on the fragility of **non-fuel mineral supply chains.**
- Concerns over the **pricing and availability of oil and gas continue** to fuel global policy debates on energy security.
- The fragility of clean energy supply chains obscures pathways for countries **to reduce dependence on fossil fuels.**
- Particularly for India, pressure of importing of volatile oil and gas poses risk to macroeconomic growth and stability.
- In this context, there is need to secure access to key minerals such as lithium, cobalt, nickel and rare earth metals which is critical for building indigenous supply chains for clean energy technologies.
- There is a huge gap between the domestic reserves of major minerals used in electrochemical storage technologies and their expected demand by 2030.
- For e.g., for cobalt, India doesn't have any proven or probable reserves.
 - Existing cobalt deposits in Odisha do not meet the criterion of economic viability, i.e., India has to import its cobalt requirements
 - Same is the case for nickel, India's demand is met via imports.
- However, unlike lithium, cobalt, and nickel, India is well endowed with reserves of other minerals such as manganese, graphite, phosphorus, and iron.
- These reserves could provide a **substantial portion of the raw materials required** to scale up domestic storage manufacturing.

CHALLENGES TO BUILD RESILIENT MINERAL SUPPLY CHAINS:

- First, reserves are often concentrated in regions that are geopolitically sensitive or fare poorly from an ease of doing business perspective.
- Second, a portion of existing production is controlled by geostrategic competitors.
- For example, China wields considerable influence in cobalt mining in the Democratic Republic of Congo through direct equity investments and its Belt and Road Initiative.
- Third, future mine production is often tied up in offtake agreements, in advance, by buyers from other countries to cater to upcoming demand.

SUGGESTIONS TO BUILD RESILIENT MINERAL SUPPLY CHAINS:

Figure out the mineral requirements of the domestic industry. Creating five-year road maps with clear targets for deployment and indigenous manufacturing across clean energy applications would provide visibility to domestic investors.

Develop policies on urban mining aimed at recycling mineral inputs from deployments that have completed their useful life. These could help further reduce dependence on international sourcing.

Coordinate with the domestic industry to determine where strategic interventions by the government would be necessary for the purpose. KABIL could collaborate with industry to bolster its market intelligence capabilities for tracking global supply-side developments

If conducive investments opportunities don't exist, KABIL should pre-emptively sign offtake agreements with global mineral suppliers to secure future production.

Support technologies that utilise domestically available materials. The deployment of technologies such as sodium-ion batteries could reduce requirements for sourcing minerals from beyond India's borders.

8. Jal Jeevan Mission

- About the Jal Jeevan Mission: Launched by: **Ministry of Jal Shakti in 2019.**
- Objective: The aim is to provide safe and adequate drinking water through individual household tap connections by **2024 to all households in rural India.**
- The goal of the mission: The goal is to have 'Har Ghar Jal'- every house in the village is to be provided with a Functional tap connection.

KEY FEATURES:

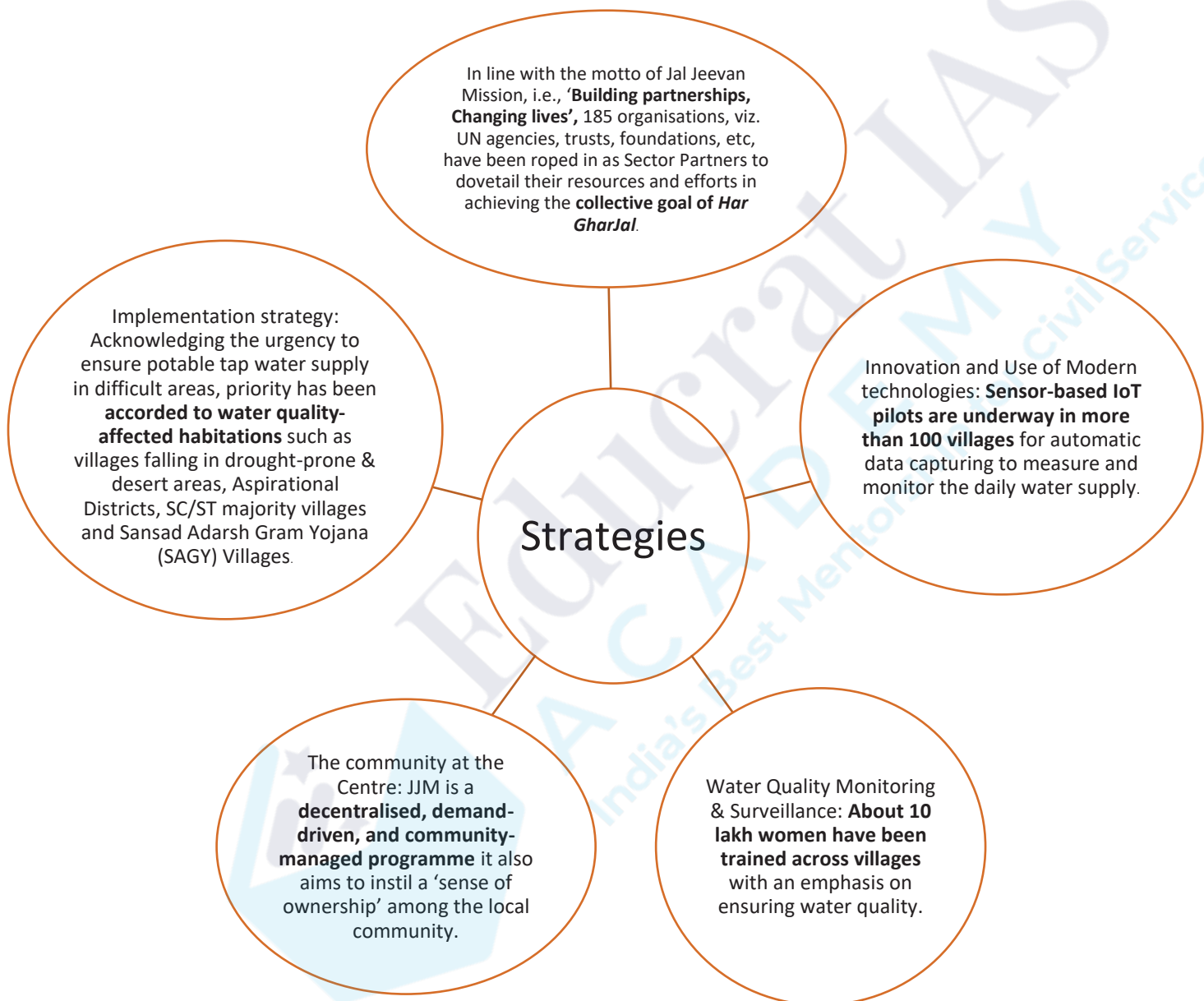
- Firstly, the mission is a **decentralized, demand-driven and community-managed programme.** The Gram Panchayat will play a key role in planning and implementation.
- Secondly, the mission includes extensive Information, Education and Communication (**IEC**) as a **key component** of the mission.
- Thirdly, the mission will also implement source sustainability measures as mandatory elements. This includes **measures such as recharge and reuses through greywater management,** water conservation, and rainwater harvesting.



- Fourthly, it prescribes a '**bottoms-up**' **five-year village action plan** through the formation of village water and sanitation committee (VWSCs) or Pani Samiti, under the gram panchayat.
- Further, States will give priority to,
 - (1) **Water quality-affected** areas;
 - (2) Villages in **drought-prone** and desert areas;
 - (3) Scheduled caste/scheduled tribe **majority villages**;
 - (4) **Aspirational districts** and **Sansad Adarsh Gram Yojana** villages.

Jal Jeevan Mission Urban

The JJM (Urban) has been designed to provide universal coverage of water supply to all households through functional taps in all 4,378 statutory towns in accordance with Sustainable Development Goal- 6. The mission also provides coverage of sewerage/septage management in 500 AMRUT cities is the other focus area.



WHAT HAVE BEEN THE ACHIEVEMENTS OF JJM SO FAR?

- At the time of the announcement of the JJM, out of a total of **18.70 crore rural households**, only **3.23 crore (17%)** households had the **provision of tap water supply**.
- At present, there are **19.32 crore rural households across 21 different** climatic conditions in the country. Currently, about 9 crores (46%) of rural households in the country have assured provision of a clean tap water supply. Every rural household **in 101 districts and 1.40 lakh villages is getting a clean tap water supply**.
- Three States, viz. **Goa, Haryana, Telangana**, and three UTs, viz. Andaman & Nicobar Islands, Daman & Diu, Dadra & Nagar Haveli, and Puducherry have become 'Har Ghar Jal' States/UTs.

WHAT ARE THE CHALLENGES ASSOCIATED WITH JAL JEEVAN MISSION?

- **Geographical diversity:** In India, conditions vary from cold to hot desert, Indo-Gangetic plains to mountains, vast alluvial mainland to forested areas, more than 7,000 km long coastal belt to many islands. Each such region has its own unique challenges.
- **Fluctuation in the rainfall pattern:** Western Rajasthan receives 100 mm rainfall per year, on the other hand, Mawsynram in North East receives 11,000 mm annual rainfall.
- **Overexploitation of groundwater:** India has the highest groundwater consumption in the world with about 10 abstraction structures every km, which indicates the over-exploitation of groundwater sources.
- As per the Central Ground Water Board report, 2017, about 50% of groundwater sources either **have quality or quantity issues**, which means simple in situ water supply systems based on groundwater may not work on a long-term basis in half of the country.
- **Creation of water supply infrastructure:** To ensure clean tap water supply to 83% of rural households on a long-term basis, huge amount of water supply infrastructure has to be created. The scale of the work is so huge that the number of tap water connections provided every year will have to be equivalent to the total number of taps provided accumulatively in the last 70 years.

WAY FORWARD:

- **Adopt innovative technologies:** The government need to adopt innovative technologies, especially sewage treatment, in-situ combustion/energy production from human excreta, etc. This will reduce the consumption of freshwater to flush tanks, often seen in urban areas.
- With the massive deployment of sensor-based IoT systems for measurement & monitoring of water supply, testing of water samples for quality and dashboard for data integration and analysis will **ensure transparency, assured service delivery, and grievance redressal**.
- **Water Security for Development:** India should work on groundwater **replenishing methods without polluting the sources**.
- **Convergence with other schemes:** To ensure the long-term sustainability of JJM, the mission has to converge with other schemes such as MGNREGS, Atal Bhujal Yojana, Pradhan Mantri Krishi Sinchayee Yojana, etc., to dovetail resources at the village level.

9. Solutions by the People, for the People

Economic science has played a dominant role in public policy since the 20th century.

There have been debates among economists favouring the "welfarists" model with government intervention and the ones who favour a free-market economy model.

Need for a shift from present economic model:

- Early in **1972 Club of Rome** showed that pursuit of GDP growth was destroying the earth's capacity to renew itself and provide resources for unbridled economic growth.
- These thinkers introduced an economic model which took the health of the planet into calculations of profit and growth.

- In recent times the market based economic model has prevailed and has undermined environmental impact.

Challenges of present market based economic model

- The **neo-liberal economic** model undermines the common citizens who work for their livelihoods rather than business and investment.
- The **2008 global financial crisis** led to failure of under-regulated markets and various governments had to take measures to stabilize the financial system.
- They bailed out the **“too large to fail”** institutions but millions of common citizens, who lost homes and livelihoods, were barely compensated.
- **Austerity measures** were imposed on some countries like Greece which further harmed common citizens.
- The **low inflation** and **balanced budget** provisions have led to **waves of protest**.
- Citizens complain that the **system favours wealthiest people** and raise demand to include the needs of people in economic policy.

A new out-of-box economic model

- A new economic model has been proposed by **“Earth for All: A Survival Guide for Humanity”** which stresses upon **improving People, Planet, and Profit simultaneously**.
- The guide is produced collaboratively by **economists, ecologists, and social scientists** and they model the economy as a ‘whole system’ rather than a closed system.
- The model is based on the **“3P”** slogan — People, Planet, and Profit.
- The model includes feedback loops between the economy, the natural environment, and social systems.
- The five tracks for their solutions are:
 - *Ending poverty.*
 - *Addressing gross inequality*
 - *Empowering women.*
 - *Making food systems healthy for people and ecosystems.*
 - *Transitioning to clean energy.*

“Too Little Too Late” vs “Big Leap”

The model incorporates two novelties the Social Tension Index and the Average Well-Being Index which help in estimating whether policies related to income redistribution might cause social tensions to rise or fall.

The report projects outcomes of the present pattern of solutions which it calls as “Too Little Too Late” and compares them with alternative approach “Big Leap” which will facilitate change.

It underscores that the future will be **better off if the “Big Leap” model is implemented**.

Present “Too Little Too Late” is plagued with problems such as Businesses go after profits through exploitation of natural resources which is making the world miserable for the next generation. An imminent environmental and societal collapse will occur

The “Big Leap” which is based on the same technological solutions has many advantages

- *It promotes **equitable access to technologies***
- *Provides solutions **depending on local demands**.*
- *Promotes more **equitable distribution of economic wealth and social power***
- *Avoids a need for disruptive **political revolutions**.*

Way forward

- Policymaking must become more inclusive and less dominated by the powerful and the wealthy on the top.
- GDP must be recoupled with nature and society to make common people a larger stakeholder.
- On the economic front, recoupling monetary policy with fiscal policy is necessary but insufficient.

10. Living Planet Report 2022

Recently, the World Wide Fund for Nature (WWF) released Living Planet Report 2022.

Major challenges:

- **Habitat loss** and barriers to migration routes were responsible for about half of the threats to monitored migratory fish species.
- **WWF identified six key threats** to biodiversity: agriculture, hunting, logging, pollution, invasive species and climate change to highlight 'threat hotspots' for terrestrial vertebrates.
- **Land-use change is still the biggest** current threat to nature: destroying or fragmenting the natural habitats of many plant and animal species on land, in freshwater and in the sea.
- We are facing the double emergencies of human-induced climate change and biodiversity loss: threatening the well-being of current and future generations.
- **Many mangroves are degraded** by overexploitation and pollution, alongside natural stressors such as storms and coastal erosion.
- **Climate change in India will impact** key areas, such as water resources, agriculture, natural ecosystems, health and the food chain.
- **Agriculture is the most** prevalent threat to amphibians (animals that live both on land and in water), whereas hunting and trapping are most likely to threaten birds and mammals.

Others:

- About 50% of warm water corals have already been lost and a warming of 1.5 degrees Celsius will lead to a loss of 70-90% of warm water corals.
- The Bramble Cay melomys, a small Australian rodent, was declared extinct after sea-level rise.
- Mangroves continue to be lost to aquaculture, agriculture and coastal development at a rate of 0.13 percent per year.
- 41% land-use change is the biggest current threat to nature.

Way forward:

- **A nature-positive future:** It needs transformative, game-changing shifts in how we produce, how we consume, how we govern and what we finance.
- **All-inclusive collective approach:** There is a need for an all-inclusive collective approach that can put us on a more sustainable path and ensures that the costs and benefits from our actions are socially just and equitably shared.

11. Reading IMF economy report:

Recently, the International Monetary Fund (IMF) released the latest edition of World Economic Outlook 2022.

- **The WEO is a report by the IMF** that analyzes key parts of the IMF's surveillance of economic developments and policies in its member countries.
- **It also projects developments in the global financial** markets and economic systems.
- The report comes out twice every year — April and October.
- It is based on a wide set of assumptions about a host of parameters — such as the international price of crude oil — and set the benchmark for all economies to compare one another with.

Reports by IMF:

- **Global Financial Stability Report.**

- **World Economic Outlook.**



IMF’s Recommendations:

- Current global targets are not aligned with global temperature goals. Meeting these goals will require emission cuts of at least 25% by the end of the decade.
- Without price stability, any gains from future growth are at risk of being eaten up by a renewed cost-of-living squeeze. Fiscal policy also needs to support monetary policy in softening demand in economies with excess aggregate demand and overheating labor markets.

The priority must be to tackle inflation, normalize central bank balance sheets, and raise real policy rates above their neutral level fast enough and for long enough to keep inflation and inflation expectations under control.

12. India’s Fight Against Illegal Goods

India’s wholesale inflation has made consumer to look for alternatives. The War against illegal goods the market being flooded with inferior or spurious fake brands, giving a dream run to the parallel economy players.

- A **parallel economy** means the functioning of an **unsanctioned sector in the economy** whose objectives run parallel and in contradiction with the objectives of official or sanctioned.
- The **unaccounted money** that is being hidden from the tax administrators is known as the black money.
- This is where the China angle comes in. The parallel economy dealers need access to seemingly similar functioning cheaper goods during the festive seasons.
- The illicit market is thriving in five key Indian industries, including:
- Mobile phones, Fast-moving consumer goods (FMCG) – household and personal goods, FMCG-packaged foods, Tobacco products, Alcoholic beverages
- The size of the illicit market in these industries was valued at RS2,60,094 crore in 2019-20.

ISSUES:

- Tax evasion: The fact that this is done at the expense of taxes to the government, depriving the nation of the fuel needed to spur social reform, makes it much more painful.
- **Loss of taxes:** The anticipated amount of tax revenue lost by the government as a result of illicit items in these businesses is 58,521 crore.

- The **analysis also finds that alcohol** and tobacco products, two heavily taxed and regulated businesses, account for 49% of the government's entire tax loss.
- **Employment losses:** According to the CASCADE research, illegal trade in the aforementioned industries results in a 15.96 lakh total estimated loss of legitimate jobs.

Steps to be taken

- **Rationalization of levies:** The government must maintain rational levies in the industries with the highest rates of smuggling in order to reduce the cost arbitrage incentive for smugglers and to actively support local industry. As a result, there would be less reliance on foreign producers.
- **Promotion of local businesses:** The need to promote local business by rationalising taxes and offering incentives to local manufacturers so they can produce high-quality goods that can compete with international brands.
- **India-specific pricing:** Providing that they can offer India-specific pricing and are not permitted to send royalties and earnings on products that Indians buy outside of the country, allowing international companies to produce in India is still important.
- India can give in **by enabling MNCs to bring profits** from goods sold outside of India back home. This would help India become a major manufacturing hub, and MNCs will be able to achieve their financial objectives. It's time to negotiate a better deal now that India's economy is gaining strength and appeal as one that is expanding quickly.
- **Use of technology:** The use of cutting-edge technologies, including artificial intelligence, blockchain, and location technology, can enhance enforcement, claims CASCADE. This will aid in boosting the amount of illegal goods seized.
- **Consumer Awareness:** The government must also raise consumer awareness to encourage consumers to avoid purchasing counterfeit, smuggled, and subpar goods.
- The **Government should place** added focus on producing goods in bulk at the lowest possible cost under the Atmanirbharta agenda. For example, Indian Toy Industry.

Recent government initiatives

Quality Standards of Products: The government of India has taken a number of steps to improve the quality standards of products manufactured under the Atmanirbhar Bharat Abhiyan.

Quality Control Orders (QCOs): For ensuring the availability of quality products to consumers, QCOs are issued by various Ministries/Departments of the Government of India.

Standard mark (ISI mark): BIS grants a license to manufacturers to use the Standard mark (ISI mark) on the product conforming to the relevant Indian Standards.

Production-Linked Incentive (PLI) Scheme: To provide a major boost to manufacturing, the government has launched the Production-Linked Incentive (PLI) Scheme for 13 sectors with an outlay of Rs 1.97 lakh crore over the next five years.

UdyogManthan: First-of-its-kind brainstorming exercise to enhance productivity & quality in Indian industry.

13. The heaviness of rockets, why it matters in space flight

The Indian Space Research Organisation (ISRO) crossed an important milestone with the successful launch of the LVM3 M2/One Web India-1 mission.

The LVM3 rocket carried almost 6 tonnes of payload into lower-earth orbit, the most that any ISRO mission has delivered into space to date.



- India currently has three operational launch vehicles:
- Polar Satellite Launch Vehicle or PSLV: It has been the most commonly used having carried as many as 53 successful missions since 1993. Only two flights of PSLV have failed.
- Geosynchronous Satellite Launch Vehicle or GSLV Mk-II: It has been used in 14 missions, of which four have ended in failures, most recently in 2021.
- Launch Vehicle Mark-3 or LVM3: It has been flown five times, including the Chandrayaan 2 mission.
- In addition, ISRO has been working on a reusable launch vehicle (RLV). Unlike other rockets, the RLV would not end up in space as waste. Instead, it can be brought back and refurbished for use multiple times.

What are the constraints of launch vehicles?

- Tyranny of the rocket equation— The size of a launch vehicle is dictated by: The destination in space it is headed towards, and the kind of fuel mix that is being used (solid, liquid, cryogenic) and The size of the payload.
- – The choice of any two of these variables places severe restrictions on the flexibility of the third, which is popularly referred to as the “tyranny of the rocket equation”.
- Gravity till LEO— Most of a rocket’s energy is burnt in travelling to the lower earth orbit because the force of gravity is the strongest here.
- The gravity of the destination – If a space mission is headed towards any celestial body, more energy would be expended compared to simply attaining a space orbit.

Solutions:

- The rockets can make multiple trips, carrying components of larger structures that can be assembled in space, similar to the International Space Station being built.
- The other is the possibility of the use of resources available in situ on the Moon and Mars

14. A Renewable Energy Revolution, Rooted in Agriculture

Recently, the first bio-energy plant of a private company commenced commercial operations in Sangrur district of Punjab.

It will produce Compressed Bio Gas (CBG) from paddy straw, thus converting agricultural waste into wealth.

Significance of CBG from paddy straw

- **Environmental impact:** This would reduce greenhouse gas (GHG) emissions by about 9.7 million tonnes of CO₂ equivalent and around 66,000 tonnes of PM_{2.5}.
- **The slurry or fermented organic** manure from the plant (CBG) will be useful as compost to replenish soils heavily depleted of organic matter, and reduce dependence on chemical fertilizers.
- **Economic impact:** Pellets can be used in thermal power plants as a substitute for coal and CBG as a transport fuel.
- Straw from many other crops **contains higher energy than paddy straw** which could be more beneficial in future.
- **Circular economy and increase in income:** Farmers can expect to earn between ₹550 and ₹1,500 per ton of rice straw sold, depending on market conditions.
- The plant will also **provide employment opportunities to rural youth** in the large value chain, from paddy harvest, collection, baling, transport and handling of biomass and in the CBG plant
- It could also **increase local entrepreneurship**, increase farmers' income and reduce open burning of rice straw.

Compressed Bio Gas (CBG) is the mixture of hydrocarbon gases and vapours consisting mainly of Methane in gaseous form.

It is produced by the decomposition of animal and plant waste.

It is purified and compressed for use as an automotive fuel and industrial application.

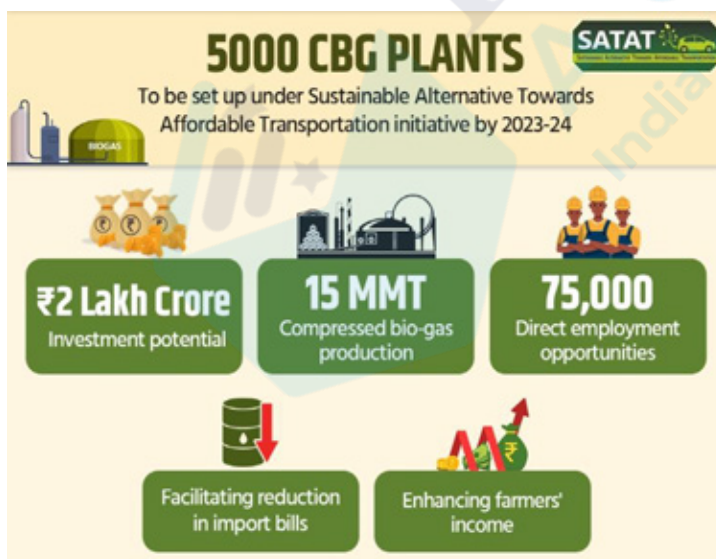
Chemically, CBG is the same as CNG — both are compressed methane — and have the same calorific value.

The difference is that while CNG is a by-product of petroleum, CBG can be produced from any biomass.

This makes CBG a commercially viable option as it can be directly used to replace CNG in transportation fuel.

Other Waste-to-Energy technology:

- Landfill Gas (LFG) recovery: Methane gas is extracted from solid waste deposited in a landfill.
- Torrefaction: It involves heating straw, grass and sawmill residue to over 250-degree C.
- Polycrack Technology: It converts feedstocks into hydrocarbon liquid fuels, gas, carbon, and water.



15. The making of Sabka Vikaas: Direct Benefit Transfer

The International Monetary Fund (IMF) lauded India's **Direct Benefit Transfer (DBT)** Scheme as a "logistical marvel" that has reached hundreds of millions of people and specifically benefited women, the elderly and farmers.

- It was started on **1st January, 2013**. The process of directly transferring the subsidy amount and making other transfers directly into the account of beneficiaries rather than providing it to government offices is known as DBT. In this context, transfer can be defined as the payment that the government makes directly to the beneficiary without receiving any returns. Some of the examples of transfers are scholarships and subsidies.

Success:

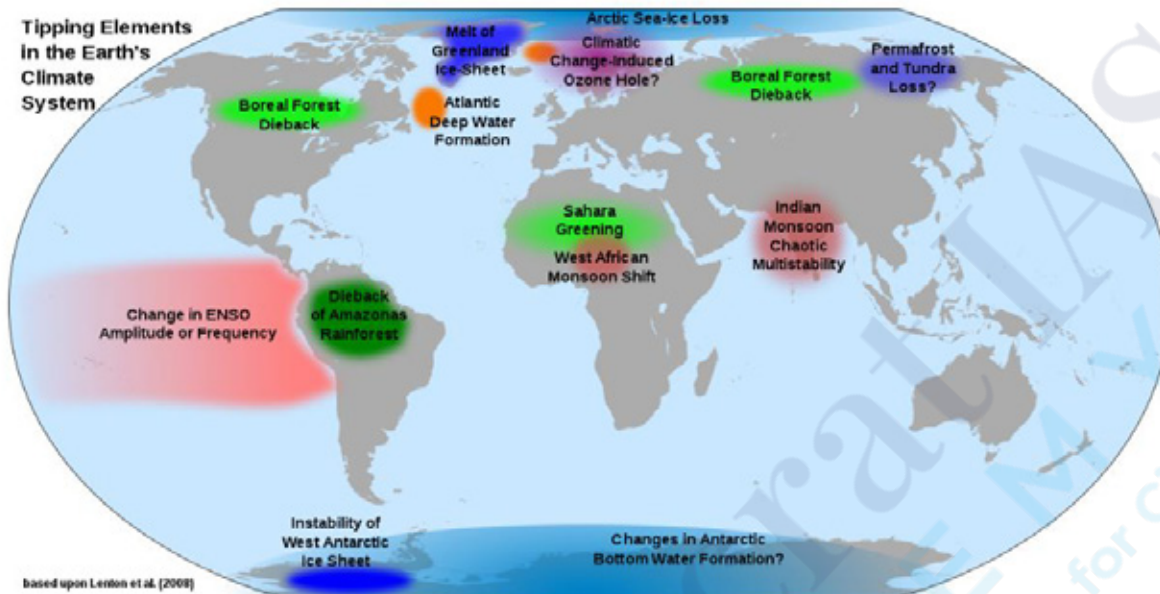
- Rural Areas: In rural Bharat, **DBT has allowed the government to provide** financial assistance effectively and transparently to farmers with lower transaction costs – be it for fertilisers or any of the other schemes.
- Urban India: In urban India, the PM Awas Yojana and LPG Pahal scheme successfully use DBT to transfer funds to eligible beneficiaries.
- **Various scholarship schemes** and the National Social Assistance Programme use the DBT architecture to provide social security.
- **DBT under rehabilitation programmes** such as the Self Employment Scheme for Rehabilitation of Manual Scavengers opens new frontiers that enable social mobility of all sections of society.
- Pandemic: The efficacy and robustness of the DBT network were witnessed during the pandemic. It aided the government to reach the last mile and support the most deprived in bearing the brunt of the lockdown.
- From free rations to nearly 80 crore people under the Pradhan Mantri Garib Kalyan Yojana, fund transfers to all women Jan Dhan account holders and support to small vendors under PM-SVANidhi, DBT helped the vulnerable to withstand the shock of the pandemic.
- More than Rs 24.8 lakh crore has been transferred through DBT mode since 2013.
- Rs 6.3 lakh crore in FY 2021-22 alone; on an average >90 lakh DBT payments are processed daily (in FY 2021-22).

Way forward:

| <u>Benefits of the DBT scheme</u> | <u>Issues:</u> |
|--|---|
| <p>The DBT scheme prevents fraud. The Government sends the funds straight to the beneficiaries' account, which removes the possibility of fraud through a middleman.</p> <p>The beneficiaries can be recognized with the use of their Aadhaar number. Because Aadhaar is a universal ID, the Government can easily verify the beneficiaries using their Aadhaar details.</p> <p>DBT promotes accountability in subsidy distribution. As a result, it aids in the elimination of inconsistency and delay in payments.</p> <p>DBT aids in the distribution of subsidies to deserving applicants living below the poverty level. It helps the Government reach out to the intended beneficiaries with ease.</p> <p>The scheme eliminates pilferage in the distribution of money and reduces the misuse of public funds.</p> | <p>Despite its widespread use and applicability, it can be noted that DBT has a few structural issues that need to be taken into account in due course.</p> <p>Approximately 91% of the population in the nation has currently registered for an Aadhar card. Since DBT and Aadhar are linked for programs, it is necessary to increase the Aadhar connection to 100% to ensure that no one is excluded.</p> <p>A low level of digital literacy in people living in rural areas poses one of the significant challenges in implementing this mechanism.</p> <p>Around 81% of Indians now have access to financial services, which may disqualify those from rural backgrounds. People won't be able to access financial facilities if they are inadequate.</p> <p>Reaching those without bank accounts is extremely difficult for bank correspondents.</p> |

- Digital and financial literacy, robust grievance redressal, enhancing awareness and an empowering innovation system are some of the aspects that would require continued focus.
- This would play a vital role for India in meeting the diverse needs of its population and ensuring balanced, equitable and inclusive growth.

16. Tipping points of global warming



A study has found that even at the current levels of warming in the world, several climate 'tipping points' could be crossed, setting off **irreversible, catastrophic, and self-perpetuating changes**.

Tipping points at work

- **Rising temperatures are causing** large-scale changes in the climatic systems.
- It has also intensified the Glacial melt, thinning of Arctic ice, and rise in sea levels.
- However, it is still possible, at least theoretically, to arrest these changes, or even reverse them over time.
- According to the IPCC assessment report, with the current level of efforts, the world is on the path to becoming more than 2 degrees warmer by the year 2100.
- Threats to **permafrost**: The softening or melting of permafrost layers is already releasing some carbon into the atmosphere.
- Permafrost layers hold as much as 1,700 billion tonnes of carbon, mainly in the form of carbon dioxide and methane.
- In comparison, the global emissions of carbon in a year are in the range of 40 billion tonnes
- **Self-sustaining and cyclic system**: Once the tipping point is crossed, this becomes a self-sustaining and cyclic system. The system does not reverse even if the global temperatures stop rising.
- **Intergovernmental Panel on Climate Change (IPCC)**, sixth assessment reports suggest that most of these tipping points would be crossed between 1 and 2 degree Celsius temperature rise.

17. A new lease of LIFE for climate action

What is the Lifestyle for Environment perspective announced by PM Modi at CoP26?

- **Importance of individual efforts:** Mission LiFE makes environmental protection and conservation a participative process and recognizes the importance of each effort no matter how small or big.
- **Changing utilization attitude:** The idea promotes an environmentally conscious lifestyle that focuses on 'mindful and deliberate utilization' instead of 'mindless and wasteful consumption'.
- **Creating social networks:** The LIFE movement, additionally, also seeks to leverage the strength of social networks to influence social norms surrounding climate.
- **Creating Pro-planet people:** The Mission plans to create and nurture a global network of individuals, namely 'Pro-Planet People' (P3), who will have a shared commitment to adopt and promote environmentally friendly lifestyles.
- **Seeks to behavioral change and individual actions:** Through the P3 community, the Mission seeks to create an ecosystem that will reinforce and enable environmentally friendly behaviors to be self-sustainable. LIFE recognizes that small individual actions can tip the balance in the planet's favour.

What is the case for India's leadership on climate change?

- **Environment friendly culture:** India constitutes 17 per cent of the world's population, but our contribution to global carbon emissions is only four per cent.
- **Less carbon footprint per head:** Against the developed world's carbon footprint of four tonnes per head, the carbon footprint of an average Indian counts to only 1.5 tonnes.
- **Multiple global initiatives:** such as the International Solar Alliance, the One Sun One World One Grid initiative, and the Coalition for Disaster Resilient Infrastructure.
- **Mindful utilization of resources:** India offering knowledge from its religious and cultural ethos to the world, Mission LiFE aims to pull the world away from a "mindless and destructive" consumerist approach towards a "mindful and deliberate utilization" of resources.
- **Shift towards sustainable policies:** India is already working towards building a circular economy and moving towards a stage where all our energy requirements are met through the use of renewables.

Need

- Environmental degradation and climate change are global phenomena where actions in one part of the world impact ecosystems and populations across the globe.
- Over the last two decades, several macro measures have been implemented globally to address environmental degradation and climate change, including policy reforms, economic incentives and regulations.
- Despite their enormous potential, actions required at the level of individuals, communities and institutions have received limited attention.
- Changing individual and community behaviour alone can make a significant dent in the environmental and climate crises.
- According to the United Nations Environment Programme (UNEP), if one billion people out of the global population of eight billion adopt environment-friendly behaviours in their daily lives, global carbon emissions could drop by approximately 20 per cent.

18. How is the energy crisis in Europe shaping up

The gas field in Groningen, the Netherlands, has again come under the spotlight amid concerns over energy supplies. The Dutch government announced that the field would be shut down by the end of 2024 due to the stress and suffering caused by earthquakes and tremors connected to gas extraction in the area.

The Groningen gas field is a natural gas field in Groningen province in the northeastern part of the Netherlands. It is the largest natural gas field in Europe

The region saw multiple earthquakes throughout the 1980s. The Dutch government said it would close the field in response to protests by locals. The closing date was moved up from 2030 to 2022.

However, the unsure geopolitical developments have prompted the Dutch government to refrain from permanently closing any wells this year.

Can oil or gas exploration cause earthquakes?

- The damming of rivers to build reservoirs, the extraction of oil and gas, and mining are some examples of human activities that could lead to '**induced seismicity**'.
- For instance, to enhance energy extraction, wastewater, sand and chemicals are injected into the earth at high pressure to create fractures in the rocks. This process is called "**hydraulic Fracturing**".
- This process helps improve the interconnectivity of the pores in order to enhance oil and gas extraction. In some cases, fluid is injected into pores connected to the fault which may substantially increase the pore pressure within the **fault to counteract** the effective frictional forces. This **may trigger earthquakes**.

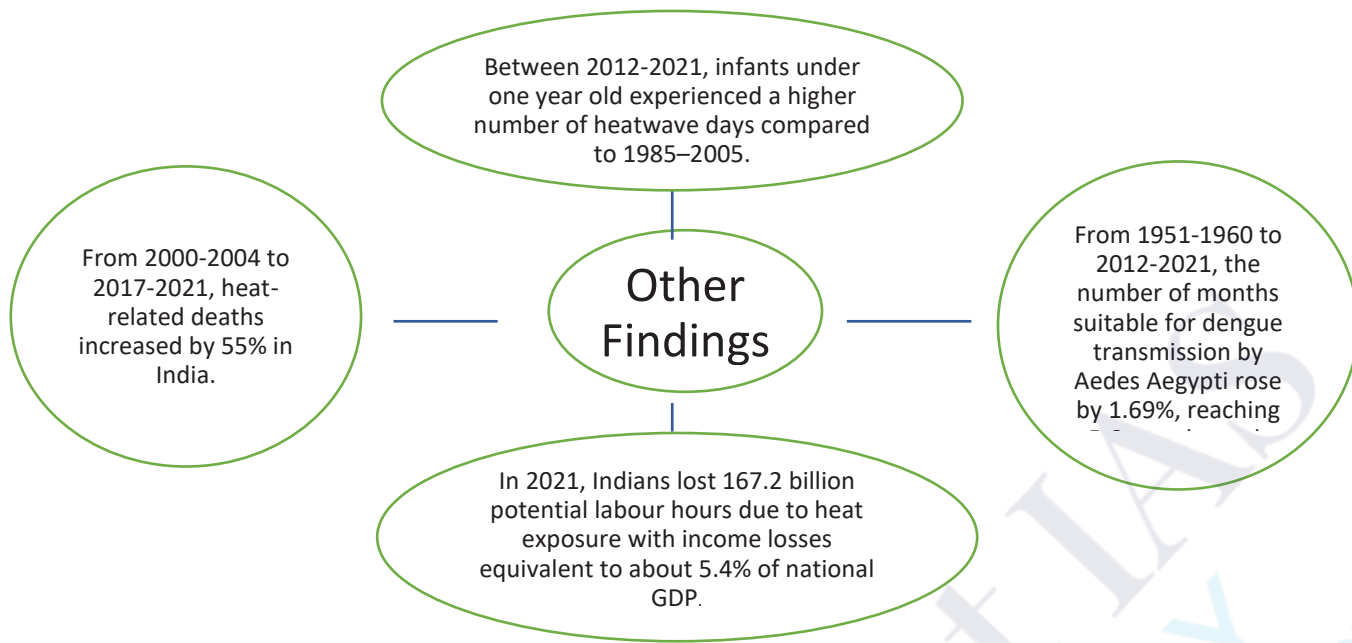
Should India be concerned about the energy crisis in Europe?

- India's domestic gas price is determined from the average of four global indices viz U.S.'s Henry Hub, the U.K.'s National Balancing point, Canada's Alberta and Russian gas.
- Compared with **pre-pandemic times**, the average domestic price of gas **has more than doubled**.
- Imports alone accounted for close to **50% of consumption**.
- The decline in exports to Europe: The decline in purchasing power in the EU27 will have an effect on India's exports, which are primarily intended for final consumption. The **dip in exports may widen India's current account deficit**.
- Rise in cost of Intermediate goods: Exports of intermediate items will be impacted by further manufacturing disruption.
- **Rise in cost of transportation and city gas**: The current high gas prices will impact the cost of transportation using CNG as a fuel. The high cost of sourcing will affect city gas distribution businesses and urban demand.
- **Inflation**: The present gas crisis in Europe will bring about new inflationary pressures on food and transportation costs.
- **Rise in fertilizer subsidy**: The Center's annual fertilizer subsidy expenditure is anticipated to rise because to the sharp increase in gas prices.

19. The Lancet Countdown on Health and Climate Change

Findings:

- **Subsidies Causing Global Problems**: Subsidies to fossil fuel consumption in many countries are causing global problems, including deterioration of air quality, decline in food output and increased risk of infectious disease linked to higher carbon emissions.
- In 2019, India spent a net **USD 34 billion** on fossil fuel subsidies, accounting for 5% of total national health spending.
- Over 3,30,000 people died in India in 2020 as a result of exposure to fossil fuel pollutants



Recommendations:

- Firstly, improvement in air quality will help in preventing **deaths resulting from exposure to fossil** fuel-derived particulate matter.
- Secondly, develop **climate solutions** that are proportionate to the scale of the problem.
- Thirdly, the government **should invest more resources** in environmental protection.
- Fourthly, the **burning of dirty fuels needs to be minimized** as soon as possible to reduce the accompanying health impacts.

20. The FM's Call for Industrial Investment

Recently, Finance Minister Sitharaman called on the private sector in India to make greater investments in manufacturing, a key to the future growth of the Indian economy.

The government hoped for revitalizing private investment after the government cut tax rate in September 2019 30% to 22%.

What is present situation of private investment?

- **Tax cut rate of domestic companies:** In the hope of revitalizing private investment, the government had in September 2019 cut the tax rate for domestic companies from 30% to 22% if they stopped availing of any other tax SOP (standard operating procedure).
- **Weak private investment:** Expert says that Indian private sector investment has been weak for almost a decade now. If we look at drivers of economic growth right now, there are amber lights flashing. The export story will be under threat because of the global slowdown, the government's ability to support domestic demand would also be limited as the fiscal deficit comes down.
- **Impact of k-shaped recovery:** Because of the K-shaped recovery, private consumption is only concentrated in some parts of the income pyramid.

What is Consumer's demand situation?

- Average Consumer sentiment index: Private companies invest when they are able to estimate profits, and that comes from demand. The Centre for Monitoring Indian Economy's (CMIE) consumer sentiment index is still below pre-pandemic levels but is far higher than what was seen 12-18 months ago.
- Buoyant Aggregate demand: RBI's Monetary policy report dated September 30 says, Data for Q2 (ended Sept) indicate that aggregate demand remained buoyant, supported by the ongoing recovery in private consumption and investment demand. It shows that seasonally adjusted capacity utilization rose to 74.3% in Q1 the highest in the last three years.
- High household savings: Along with household savings intentions remaining high, might hold the key to the investment cycle kicking in.

Significance of Investing in Manufacturing Sector in India

- Manufacturing has emerged as one of India's fastest growing industries.
- A globally competitive manufacturing sector has the greatest potential to drive economic growth and job creation in India this decade.
- India has a significant potential to engage in international markets due to factors such as power growth, long-term employment prospects, and skill routes for millions of people. Several factors contribute to their potential.
- First, these value chains are well positioned to benefit from India's advantages **in raw materials, industrial expertise, and entrepreneurship.**
- Second, they can **capitalise on four market opportunities:** expanding exports, localising imports, internal demand, and contract manufacturing.
- Technology has today **sparked creativity**, with **digital transformation** being a critical component in achieving an advantage in this fiercely competitive industry.
- The manufacturing sector in India is gradually shifting to more **automated and process-driven** manufacturing, which is expected to boost efficiency and production.
- Through initiatives like the **National Manufacturing Policy**, which aims to increase the share of **manufacturing in GDP to 25% by 2025**, and the PLI scheme for manufacturing, which was launched in 2022 to develop the core manufacturing sector to global manufacturing standards, India is gradually progressing on the road to Industry 4.0.

21. Oil and Dollar, Rising Prices and Impact on India

The two major irritants for India this year have been **oil and the dollar**. Their impact is being felt across bond and stock markets, affecting the entire system. As a result, the RBI and the government have had to work overtime to mitigate the adverse effects on the economy.

What is the current oil prices situation?

- **Unpredictable Prices:** When the Ukraine war broke out, oil crossed the \$120 mark (in April and again in June). However, the range of \$100-110.
- **Rising requirement of Europe:** With the winter months approaching and Europe dependent on natural gas for heating, which now appears to be in jeopardy due to Russia turning off the taps, oil has received a boost even though the continent is looking more at coal.
- **Reduction in production by OPEC:** OPEC and its allies have decided to lower production by 2 million barrels a day. This shock is external over which neither the government nor RBI have any control.
- **Growing Import Bills:** Crude has a share of 30-33 per cent in total imports and any hike in prices increases the import bill. With exports declining due to the slowdown in global growth and imports increasing due to oil, the trade deficit and current account deficit will widen.

- Balance of Payment: This creates a problem for the current account deficit with components like software and remittances slowing down due to the recession in the west. Therefore, a **balance of payments problem will surface**.
- Increasing Inflation: If the government allows the market to correct without intervention inflation will increase as it will also feed into intermediary costs such as freight.
- **Windfall tax may increase**: The government would probably once again revisit the windfall tax on crude (as has been recently done).
- **Rising bond yields**: Bond yields move up every time oil prices rise while stock markets turn volatile normally in the downward direction.

How rising dollar prices affects India?

Rupee is weakening: As the Fed tightens rates, which will carry on through 2023, the dollar will become stronger. There is no escape as the RBI intervention in any form can only temporarily support the decline in the rupee. In the last month or so, since the rupee crossed the 80 mark and gone past 83.

Volatile investors: The critical reaction will be that of investors. If foreign portfolio investors withdraw then there will be further pressure on the rupee while inflows would help to cushion the rupee.

Trade deficit will rise: Imports are unlikely to slow down as a growing economy requires inputs and raw materials. This will mean further pressure on the trade deficit.

The weak rupee may not quite help exports because the competitive advantage that normally comes along with such depreciation would be low given that other currencies are also declining.

Imported inflation: The rupee depreciation also leads to importing inflation. All goods imported will come in at a higher rupee cost which will in turn push the RBI to act further.

The recent news, for example, of global players deciding not to include Indian bonds in global indices might add to the negative sentiment in the market and exert pressure on the rupee.

22. Today's weapon of choice, its expanding dimensions

What are the new dimensions of cyber threats?

- Increasing Grey Zone Operations: **Grey zone Operations which fall outside** traditional concepts of conflicts have become the new battleground, especially in regard to cyber warfare. It is defined as “**competitive interactions** among and within state and non-state actors that fall between the traditional war and peace duality.
- Pervasive nature of cyber threat: In the wake of the Russia-Ukraine conflict, the world seems awash with papers on artificial intelligence (**AI**)-**driven military innovations** and potential crisis hot zones, along with stray references to **new forms of hybrid warfare**.
- **Weaponization of everything**: Ignored also is the new reality of the weaponization of everything’ which has entered the vocabulary of threats. The latter clearly demands a ‘**proto-revolutionary**’ outlook on the part of policymakers
- **Becoming a Multi-dimensional threat**: Lost in translation is also the nature of today’s weapon of choice, viz., cyber. This lack of awareness is unfortunate at a time when states clearly lack the necessary resilience to face a variety of multi-vector threats.
- **Cyber weapon as symbol of national Power**: Cyber space has been described by Lt. Gen. Rajesh Pant (retired), India’s current national cyber security coordinator, as a “superset of interconnected information and

communication technology, hardware, software processes, services, data and systems". Viewed from this perspective, it constitutes a critical aspect of our national power.

- Simultaneous attacks in multiple dimensions: Cyber threats are not confined to merely one set of conflicts such as Ukraine, where no doubt cyber tools are being extensively employed extending well beyond this and other conflicts of a varied nature. The **cyber threat** is in this sense **all-pervading**, embracing **many regions** and operating on **different planes**.

Cyber threats: They are a superset of interconnected information and communication technology, hardware, software processes, services, data and systems". Viewed from this perspective, it constitutes a critical aspect of our national power.

Types of Cyber Threats:

Malware, Viruses, Trojans, Spywares, Backdoors: which allow remote access.

DDoS (Distributed Denial of Service): which floods servers and networks and makes them unusable.

DNS (Domain Name System): poisoning attacks which compromises the DNS and redirect websites to malicious sites.

Steps taken by India to strengthen cyber security:

- **Section 66F of ITA:** Specific provision dealing with the issue of cyber terrorism that covers denial of access, unauthorized access etc.
- **National Critical Information Infrastructure Protection Centre (NCIIPC):** It has been setup to enhance the protection and resilience of Nation's Critical information infrastructure. It functions under the National Technical Research Organization (NTRO).
- **CERT-IN:** Organization under the Ministry of Electronics and Information Technology with an objective of securing Indian cyberspace. The purpose of CERT-In is to respond to computer security incidents, report on vulnerabilities and promote effective IT security practices throughout the country.
- **Cyber Surakshit Bharat Initiative:** It was launched in 2018 with an aim to spread awareness about cybercrime and build capacity for safety measures for Chief Information Security Officers (CISOs) and frontline IT staff across all government departments.
- **The Defense Cyber Agency (DCyA):** It is a tri-service command of the Indian Armed Forces. The agency is tasked with handling cyber security threats. The DCyA draws personnel from all three branches of the Armed Forces. The head of the DCyA is an officer of two-star rank, and reports to the Chief of Defense Staff (CDS) through the Integrated Defense Staff (IDS)

23. Blue Transformation Roadmap (2022-2030)

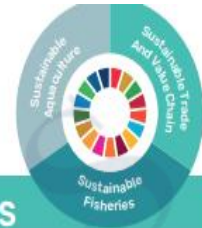
Blue Transformation is a **targeted effort** by which **agencies, countries and dependent communities**, use existing and emerging knowledge, tools and practices to secure and sustainably maximize the contribution of aquatic (both marine and inland) food systems to food security, nutrition and affordable healthy diets for all.

Key highlights of the report-

- This document outlines a roadmap for the transformation of aquatic food systems – 'Blue Transformation', **providing a vision for the FAO's** work on aquatic food systems for the period 2022–2030.
- This roadmap for Blue Transformation aligns with the 2021 Declaration for Sustainable Fisheries and Aquaculture of the Committee on Fisheries (COFI) of the Food and Agriculture Organization of the United Nations (FAO) and FAO's Strategic Framework 2022–2031.
- It focuses on the elements that would maximize the contribution of **aquatic food systems** to the Sustainable Development Goals (SDGs).
- The roadmap recognizes the importance of aquatic food systems as drivers of employment, economic growth, social development and environmental recovery, which all underpin the SDGs.

- It also recognizes the need to support the 2030 Agenda through the transformation to more efficient, inclusive, resilient and sustainable aquatic food systems for better production, better nutrition, a better environment, and a better life, leaving no one behind.
- It provides an overall framework to support planning, implementation, monitoring and communication of FAO Fisheries and Aquaculture Division (NFI)'s work.

BLUE TRANSFORMATION ROADMAP



| AQUACULTURE | FISHERIES | VALUE CHAINS |
|--|--|---|
| <p>Objective: Sustainable aquaculture intensification and expansion satisfies global demand for aquatic food and distributes benefits equitably.</p> | <p>Objective: Effective management of all fisheries delivers healthy stocks and secures equitable livelihoods</p> | <p>Objective: Upgraded value chains ensure the social, economic and environmental viability of aquatic food systems.</p> |
| <p>Targets:</p> <p>Effective global and regional cooperation, planning and governance Blue Transformation</p> <p>Innovative technology and management support the expansion of sustainable and resilient aquaculture systems</p> <p>Equitable access to resources and services delivers new and secures existing aquaculture-based livelihoods</p> <p>Aquaculture operations minimize environmental impact and use resources efficiently</p> <p>Regular monitoring and reporting of the growth and the ecological, social and economic impacts of aquaculture development</p> | <p>Targets:</p> <p>Effective policies, governance structures and institutions support fisheries</p> <p>Equitable access to resources and services enhance the livelihoods of fishers and fish workers</p> <p>Effective fisheries management systems address ecological, social and economic objectives, while considering tradeoffs</p> <p>Fishing fleets are efficient, safe, innovative and profitable</p> | <p>Targets:</p> <p>Efficient value chains that increase profitability and reduce food loss and waste</p> <p>Transparent, inclusive and gender-equitable value chains support sustainable livelihoods</p> <p>Fisheries and aquaculture products access international markets more effectively</p> <p>Increased sustainable consumption of sustainable aquatic food, particularly in areas with low food and nutrition security</p> <p>Increased access to healthy, safe and high quality aquatic food</p> |

24. Emissions Gap Report 2022: UNEP

Ahead of COP27, the **United Nations Environment Programme (UNEP)** released a report titled ‘Emissions Gap Report 2022: The Closing Window — Climate Crisis Calls for Rapid Transformation of Societies’.

This is the 13th edition of the UNEP Emissions Gap Report. It assesses the gap between anticipated emissions in 2030 and levels consistent with the 1.5°C and 2°C targets of the Paris Agreement. Every year, the report features ways to bridge the gap.

Key findings:

The report warned that the world is falling short of achieving the goals set under the 2015 Paris Agreement and recommended an urgent system-wide transformation and GHG emission reduction by unprecedented levels in the next 8 years.

- The current policies will **lead to a 2.8°C temperature rise by 2100**. Implementation of current climate pledges will only reduce this to a 2.4 to 2.6°C temperature rise by the end of this century.

- **GHG emissions must be reduced by 45 percent by 2030 to achieve the Paris Agreement goals.**
However, the report shows that the emissions are at dangerous and record-high levels and are still rising.
- The latest report recommended remedial actions in 6 areas – electricity supply, industry, transport and building sectors, and food and financial systems.
- It estimates that the global transformation to a low-carbon economy would require 4 to 6 trillion USD in investment each year.
- The top 7 emitters (China, the EU27, India, Indonesia, Brazil, the Russian Federation and the United States of America) plus international transport accounted for 55% of global GHG emissions in 2020.

United Nations Environment Programme: It is a leading global environmental authority established on 5th June 1972.

It sets the global environmental agenda, promotes sustainable development within the United Nations system, and serves as an authoritative advocate for global environment protection.

Headquarters: Nairobi, Kenya.

Major Reports: Emission Gap Report, Adaptation Gap Report, Global Environment Outlook, Frontiers, Invest into Healthy Planet.

Major Campaigns: Beat Pollution, UN75, World Environment Day, Wild for Life.

Recommendations:

- It recommended six sets of measures to increase resources for the creation of such an economy. These measures include carbon pricing and the creation of a market for low-carbon technologies.
- The world needs to reduce greenhouse gasses by unprecedented levels over the next eight years.
- There is a need for alternative technologies in heavy industry, to reverse the rise in carbon intensity of global steel production.
- Unconditional and conditional NDCs (Nationally Determined Contributions) are expected to reduce global emissions by 5% and 10%, respectively, by 2030, when compared to current policies.
- To be on the most cost-effective path to limiting global warming to 2°C or 1.5°C, these percentages must reach 30% and 45%.

GS IV

1. Should Governments Sell Liquor And Run Lotteries?

Government policies and interventions for development in various sectors and issues arising out of their design and implementation.)

Recently, Kerala Governor Arif Mohammed Khan criticized the State government for relying heavily on liquor and lottery to generate revenue.

According to him, the State government was making poor people spend their earnings on lottery tickets and getting them addicted to alcohol.

| Arguments against | Argument for |
|---|--|
| <p>Welfare state: The consumption of sin goods is linked to 'public bad' however, the role of the state is to provide public goods.</p> <p>Health: The sinful goods have a negative impact on weaker sections of society. Historically, the state's engagement in sinful products has been driven by a need to generate income. Here the goal of maximizing revenue takes precedence above the interest of the general population.</p> <p>Limitation: There are restrictions on utilizing taxes or high costs as the only means of limiting the use of sinful products. Even though the cost of alcohol is high, a household will suffer if an alcoholic cannot kick the habit. Therefore, it's crucial to use additional tools, such as public campaigns against alcohol misuse.</p> <p>Although they can reduce consumption, sin taxes have a regressive impact on the poor. This is due to the fact that such taxes affect the poor more through their income than through a direct pricing effect. The poor may want to switch to illegal, lower-quality alcohol that is less expensive but harmful to their health.</p> <p>Changing preferences: There has been an increase in the demand for alcohol over the past 20 years. There is a limit to how much demand we can control with sin taxes alone, regardless of the sin tax, if the demand is moving outwards.</p> | <p>Regulator: The sale and consumption of sinful commodities can be positively regulated by the state.</p> <p>Taxes: According to studies, increasing the tax rates on sin products and hence their prices will make people less likely to consume them over time.</p> <p>In addition, the state receives a sizable portion of its revenue through taxes, which can be put toward programs that promote development. Some contend that these sin taxes result in a win-win scenario.</p> <p>Since the implementation of the GST, the State governments can only independently decide the tax rates for a small subset of goods and services, mostly alcohol and petroleum products. Therefore, the fact that alcohol taxes are becoming a bigger part of state budgets is mostly due to the States' limited financial autonomy.</p> |

Way forward:

- Measures to limit the consumption of tobacco: It should go hand in hand with steps for **providing alternative livelihood opportunities** for those engaged in tobacco farming and processing.
- It is important to deploy other instruments too such as public campaigns against the abuse of intoxicants.
- There is a limit to control demand simply through sin taxes: Government need to take lessons from the **Temperance movement**.
- Temperance movement(1880s): It was the **lower castes and tribes' movement against** the role of the British **Imperial state in encouraging the sale** of alcohol.

Places in News

1. Sittanavasal:

- It is considered by historians to be one of the oldest inhabited areas in the district and a major centre of Jain influence.
- This is the only place in Tamil Nadu where we can see Pandya paintings.
- The artwork on the ceiling of the sanctum and the Ardha mandapam of Arivar Kovil is an early example of post-Ajanta cave paintings of the fourth to sixth centuries, done using the fresco-secco technique.
- The ceiling paintings show 'bhavyas' (exalted souls who work to achieve moksha or spiritual liberation) enjoying themselves in a pool, full of blooming lotuses; today much of it is obscured by patchy plastering.
- Faint outlines linger of dancing girls on the 'Ardha mandapam' pillars.

2. Thamiraparani River: District administration of Tirunelveli in Tamil Nadu along with Bengaluru-based non-profit ATREE are using a 'hyper local' approach to restore one of south Asia's oldest rivers, the Thamirabarani. The restoration project is called TamiraSES.

- It is the only perennial river in Tamil Nadu. The shortest river in the state (Tamil Nadu).
- It originates and ends in TN: It originates in the Pothigai Hills of the Western Ghats in the Tirunelveli district. The river flows through and ends in the Gulf of Mannar.

3. Madhav National Park (MNP): 60 years after they were last seen, tigers are being reintroduced to Madhya Pradesh's Madhav National Park.

- It has a diverse ecosystem consisting of lakes (Sakhya Sagar and Madhav Sagar), dry deciduous & dry thorn forests
- It is part of the Ranthambhore-Kuno-Madhav (Madhya Pradesh and Rajasthan) Tiger Corridor of Central India & Eastern Ghats landscape.
- Home to Particularly Vulnerable Tribal Groups (PVTG)s like Saharia

4. Neelakurinji Flower: The flower has bloomed in Chandradrona Mountains in Chikkamagaluru (Karnataka) for 12 years.

- It is endemic to Western Ghats (areas around TN, Kerala and Karnataka) at the altitude of 1300 to 2400m once every 12 years.

5. Seti Hydroelectric Project: Recently, Nepal has signed a Memorandum of Understanding (MoU) with India to develop the West Seti and Seti River (SR6) projects to enhance the cross-border power exchanges.

- India is already involved in the projects of Nepal including
- The Mahakali Treaty (6,480 MW)
- The Upper Karnali Project (900 MW)
- The Arun Three projects (900 MW)

6. Ranipur Wildlife Sanctuary (RWS): The Uttar Pradesh (UP) cabinet approved the notification of the state's fourth tiger reserve in the Ranipur Wildlife Sanctuary (RWS) in Chitrakoot district, the state government stated in a statement. The State cabinet approved the notification under Section 38 (v) of the Wild life (Protection) Act of 1972

- RWS has no tigers of its own.
- The other tiger reserves in Uttar Pradesh includes Dudhwa, Pilibhit, and Amangarh (buffer of Corbett Tiger Reserve).

7. India abstained on a draft resolution at the United Nations Security Council (UNSC) condemning referenda organized by Russia across four regions of Ukraine.

- Four regions annexed by Russia:
- Kherson
- Zaporizhzhia
- Luhansk
- Donetsk

8. Burkina Faso witnesses second coup of the year.

- Burkina Faso is a landlocked country in West Africa, bordered by Mali to the northwest, Niger to the northeast, Benin to the southeast, Togo and Ghana to the south, and the Ivory Coast to the southwest.
- It was previously called Republic of Upper Volta.
- Its capital and largest city is Ouagadougou.



9. Bosnia's presidential and parliamentary elections were held recently amid its worst political crisis since the end of the 1992-95 war.

Bosnia and Herzegovina is country situated in the western Balkan Peninsula of Europe.



10. Modhera (GUJARAT): Country's first round-the-clock solar-powered village

- During the day time, the village will get solar power and at night, it will be powered by BESS (Battery Energy Storage System).
- Modhera is known for Sun Temple. It was built after 1026-27 CE during the reign of Bhima I of the Chaulukya dynasty. Situated on the banks of Pushpavati River.

11. Avalanche on Draupadi Ka Danda II peak: Draupadi ka Danda (Draupadi's Hill) are two peaks in the Gangotri range of Garhwal Himalayas, Uttarakhand.

- These two peaks are situated in the Indian state of Uttarakhand. Dokriani glacier is situated at the northern slope

12. Nord stream pipeline: Recently, leaks were found in the pipelines comprising the Nord Stream pipelines (Nord Stream 1 and Nord Stream 2) located near Denmark and Sweden.

- The leaks happened just before the ceremonial launch of the Baltic Pipe carrying gas from Norway to Poland, which is an effort by Poland to decrease its dependence on Russia for energy.

The Baltic Sea is artificially linked to the White Sea by the White Sea Canal and to the North Sea by the Kiel Canal.

- The Baltic Sea is a marginal sea of the Atlantic Ocean
- It is enclosed by Finland, Sweden, Denmark, Estonia, Latvia, Lithuania, Russia, Poland, Germany, and the North and Central European Plain.
- It connects with the Gulf of Bothnia, the Bay of Bothnia, the Gulf of Finland, the Gulf of Riga.

13. Mahakaleswar Corridor: The Prime Minister is to inaugurate the Mahakaleswar Corridor constructed in Madhya Pradesh's Ujjain

- The temple in its present form was built by the Maratha general Ranoji Shinde in 1734 CE.
- Mahakal Maharaj Mandir Parisar Vistar Yojana is a plan for the expansion, beautification, and decongestion of the Mahakaleswar temple and its adjoining area in Ujjain district.
- This will include the 17 hectares of Rudrasagar lake.
- Mahakaleswar, which means the 'Lord of time', refers to Lord Shiva.
- As per Hindu mythology, the temple was constructed by Lord Brahma and is presently located alongside the holy river Kshipra.
- Mahakaleswar Jyotirlinga in Ujjain is one of the 12 jyotirlingas considered the most sacred abodes of Shiva.
- The temple's Mahakal Lingam is believed to be Swayambhu (self-manifested) and unlike any other jyotirlingas in the country, the idol of Mahakaleswar faces south.

14. Kerch bridge: The 19-km (12-mile) Crimea Bridge over the Kerch Strait is the only direct link between the transport network of Russia and the Crimean Peninsula, which Moscow annexed from Ukraine in 2014.

- The Kerch Strait is a crucial part of the regional grain trade connecting the Azov Sea with the Black Sea.
- The sea of Azov is bounded by Russia on the southeast and by Ukraine on the northwest.
- It is the shallowest sea in the world.

15. River Sukapaika: Following the directions from the National Green Tribunal (NGT), a small river which stopped flowing 70 years ago in Odisha's Cuttack district is set to be rejuvenated

- The Sukapaika River originated from another river, the Mahanadi, near Ayatpur village.
- During the 1950s, the state's water resource engineers closed the Sukapaika river mouth, enabling the development of the Taladanda Canal System.

16. Mangarh Dham: Mangarh Dham is known for the massacre of tribals that took place six years before Jallianwala Bagh and is sometimes referred to as the "Adivasi Jallianwala".

- British forces killed hundreds of Bhil tribals on November 17, 1913, in the hills of Mangarh on the border of Rajasthan and Gujarat.

17. Mullaperiyar Dam: it is located on the confluence of the Mullayar and Periyar rivers in Kerala's Idukki district.

- It is operated and maintained by the Tamil Nadu for meeting the drinking water and irrigation requirements of five of its southern districts.



- According to a 999-year lease agreement made during the British rule the operational rights were handed over to Tamil Nadu.
- The dam intends to divert the waters of the west-flowing river Periyar eastward to the arid rain shadow regions of the Tamil Nadu.

18. Juglot: is a small town located in the Gilgit–Baltistan region. It is the meeting point of three world famous mountain ranges: The Karakoram, The Hindu Kush and The Himalayas

It is the meeting point of two rivers: R. Gilgit and Indus.



Prelims Booster

1.10.22

1. Lecanemab: it is an antibody that cleans protein deposits on brain cells and is used to treat Alzheimer's

Known as the "amyloid hypothesis," a thesis holds that clumps of the protein beta-amyloid accumulate in toxic proportions as the disease progresses.

Not only did lecanemab clear the amyloid build-up in the brain cells of participants in the 18-month long trial, it also demonstrated a significant effect on their cognitive functions.

More than 50 million people have Alzheimer's worldwide. In the past 20 years, mortality caused by the disease has shot up by more than 120 per cent.

2. Black Cocaine: It is a rare drug, which is a mixture of regular cocaine and other chemicals. This turns it in to turn black in colour.

It is used by drug peddlers coming to India from South American countries.

Mixture of cocaine hydrochloride with pigments can make drug sniffing dogs undetectable.

It neutralises the smell of cocaine so that it can pass through checkpoints easily.

Pure cocaine base can be recovered from the mixture by extraction of methylene chloride or acetone.

3. Enceladus Ocean: Enceladus is one of the moons of Saturn.

It is discovered that beneath its icy surface are oceans.

It is rich in dissolved phosphorus, an essential ingredient for life.

The space craft Cassini, which orbited Saturn for nearly 13 years, discovered Enceladus's subsurface liquid water.

From the cracks of moon's icy surface, plumes of ice grains and water vapour erupted into space. The plume contains almost all the basic requirements of life.

4. International Day of Older Persons: This year, the theme for the International Day of Older Persons is "Resilience of Older Persons in a Changing World"

The day was introduced by the United Nations General Assembly with an aim of honouring the contribution of older persons and looking into the problems that they face.

The United Nations General Assembly passed a resolution on December 14, 1990, to establish October 1 as the International Day of Older Persons.

Later in 2002, the Second World Assembly on Ageing embraced the Madrid International Plan of Action on Ageing.

5. Swachh Survekshan 2022: Indore has been adjudged the cleanest city of India for the sixth year in a row, while Madhya Pradesh is the cleanest state in the country.

Surat is the second cleanest city and Navi Mumbai comes a close third in the category of cities with a population more than a lakh.

Swachh Survekshan was introduced by MoHUA in 2016 as a competitive framework to encourage cities to improve the status of urban sanitation while encouraging large scale citizen participation.

Over the years, Swachh Survekshan has emerged as the largest Urban sanitation survey in the world.

3.10.22

1. UAE's visa rules: Under UAE's new immigration laws, the five-year green visa will allow foreigners to sponsor themselves without any help from UAE nationals or their employers. Now, green visa holders can sponsor their family members themselves.

If the permit for a green visa holder expires, they will be given a period of up to six months to renew it.

A 10-year expanded residency is also offered under the golden visa. Investors, entrepreneurs, and individuals with exceptional talents are eligible for a golden visa.

According to the new immigration laws, golden visa holders will also enjoy the benefit of 100% ownership of their business.

Tourist visas will allow the visitors to stay in UAE for 60 days, as per new rules.

A five-year multi-entry tourist visa will allow visitors to stay in the UAE for up to 90 days in a row.

2. Light Combat Helicopter: The Indian Air Force (IAF) is set to induct its first batch of indigenously-developed Light Combat Helicopter (LCH) in a major boost to its combat prowess- Prachand.

It is the only attack helicopter in the world which can land and take off at an altitude of 5,000 meters with a considerable load of weapons and fuel, meeting the specific requirements laid out by the Indian Armed Forces.

The helicopter uses radar-absorbing material to lower radar signature and has a significantly crash-proof structure and landing gear. A pressurised cabin offers protection from nuclear, biological and chemical (NBC) contingencies.

The helicopter is equipped with a countermeasure dispensing system that protects it from enemy radars or infrared seekers of the enemy missiles.

LCH is powered by two French-origin Shakti engines manufactured by the HAL.

3. Swachh Survekshan Gramin, 2022 award: Telangana won the first prize under the Large States category under Swachh Survekshan Gramin (SSG) 2022 followed by Haryana and Tamil Nadu.

The Swachh Survekshan Gramin-2022 award: It ranks States and districts on the basis of their performance attained on key quantitative and qualitative Swachh Bharat Mission Gramin (SBM-G)

Among the smaller States and Union Territories: Andaman and Nicobar secured the first position followed by Dadra and Nagar Haveli, Daman and Diu and Sikkim.

4. Swachh Bharat Mission (Grameen) Phase-II: SBM-U 2.0, announced in Budget 2021-22, is the continuation of SBM-U first phase. The government is trying to tap safe containment, transportation, disposal of faecal sludge, and septage from toilets.

It will be implemented over five years from 2021 to 2026

It focuses on source segregation of garbage, reduction in single-use plastic and air pollution, by effectively managing waste from construction and demolition activities and bioremediation of all legacy dump sites.

Under this mission, all wastewater will be treated properly before it is discharged into water bodies, and the government is trying to make maximum reuse a priority.

The fund sharing pattern between Centre and States will be 90:10 for the North-Eastern States and the Himalayan States and UT of J&K; 60:40 for other States; and 100% for other Union Territories.

Implementation: SBM is being implemented by the Ministry of Housing and Urban Affairs (M/o HUA) and by the Ministry of Jal Shakti for urban and rural areas respectively.

5. Stockholm Convention: It listed 'Dechlorane Plus' (flame retardant) and UV-328 (stabilizer) under Annex A of the Stockholm Convention.

Stockholm Convention is a global treaty to protect human health and the environment from POPs. It is legally binding and ratified by India (2006). In view of this ratification, India notified "Regulation of POP Rules" (2018) under Environment (Protection) Act, 1986.

Persistent organic pollutants (POPs) (also called "forever chemicals") are organic compounds that are resistant to environmental degradation through chemical, biological, and photolytic processes.

4.10.22

1. MGNREGS to fund work to reverse desertification: The government is now planning to bring convergence between MGNREGS and the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY).

Desertification and Land Degradation Atlas (Published by the Environment Ministry in 2021): At least 30% of India's total geographical area is under the category of "degraded land".

States with more than 50% of land area undergoing desertification or degradation: Jharkhand, Rajasthan, Delhi, Gujarat and Goa.

States with less than 10% land degradation: Kerala, Assam, Mizoram, Haryana, Bihar, Uttar Pradesh, Punjab and Arunachal Pradesh.

2. Pahari Community: The Pahari community is a linguistic group mainly residing in the Pir Panjal valley comprising Rajouri and Poonch districts in J&K.

Gujjars, Bakerwals and Paharis are non-Kashmiri speaking population of J&K.

Paharis comprise both Hindus and Muslims.

Union Home Minister Amit Shah has announced Scheduled Tribe (ST) status for the Pahari community in Jammu and Kashmir.

3. Kappaphycus Alvarezii: Centre's Multi-purpose Seaweed Park project promotes cultivation of Exotic Kappaphycus seaweed in TN's coastal villages, which poses threat to coral reefs.

Kappaphycus alvarezii is a red alga but, its actual live colour is green or yellow.

The seaweed is native to the Indo-Pacific region. It has been widely introduced and cultivated in tropical regions for commercial purposes.

The invasive seaweed Kappaphycus is an IUCN red-listed species.

It is used in the production of an industrially lucrative polymer called Carrageenan. Carrageenan a substance extracted from red and purple seaweeds, which is used as a thickening or emulsifying agent in food products.

4. SASTRA Ramanujan Prize for 2022: Will be awarded to Yunqing Tang.

The award, instituted by the Shanmugha Arts, Science, Technology & Research Academy (SASTRA) in 2005 with a cash prize of \$10,000, is presented annually to individuals aged 32 and below, who made outstanding contributions in the field of mathematics, influenced by Srinivasa Ramanujan in a broad sense.

Srinivasa Ramanujan: Ramanujan made substantial contributions to the analytical theory of numbers and worked on elliptic functions.

He also worked on the partition of the whole number, hypergeometric series and Euler's constant. In India, December 22nd is celebrated as National Mathematics Day in the memory of Srinivasa Ramanujan.

5. Pradhan Mantri Awaas Yojana –Gramin (PMAY-G): Over 69% houses constructed under PMAY in rural India are owned by women

Objective: To provide pucca houses to all who are houseless and living in dilapidated houses in rural areas by 2022.

Cost sharing: The cost is shared between Central and State Governments in the ratio 60:40 in plain areas and 90: 10 for North Eastern and Himalayan States. Selection of beneficiaries: Based on housing deprivation parameters of Socio-Economic and Caste Census (SECC), 2011, subject to 13 point exclusion criteria, followed by Gram Sabha verification.

The beneficiary is entitled to 90 days of unskilled labour from MGNREGA.

The beneficiary would be facilitated to avail loan of up to Rs.70,000/- for construction of the house which is optional.

5.10.22

1. herSTART' Platform: herSTART' is the initiative of Gujarat University Startup and Entrepreneurship Council aims at supporting women-led startups.

The platform has been launched with the aim that it will not only boost innovation and start-up efforts of women entrepreneurs but also help them connect with government as well as private enterprises. Through this platform, free resources and training modules free will be provided to aspiring women entrepreneurs. It will build a digital community and also a digital publication to spread their success stories.

2. Mangalyaan mission over: The ISRO confirmed that the Mars Orbiter craft has lost communication with ground stations and the Mangalyaan mission has attained end-of-life.

Objectives: Study of Martian atmosphere, Study of Martian Surface Features, Morphology, Mineralogy. Launch vehicle →PSLV C25 from Sriharikota, Andhra Pradesh

Mangalyaan was India's first interplanetary mission. The indigenously-built space probe has been in Martian orbit since 2014. The mission made India the first Asian country and the fourth in the world after Roscosmos, NASA, and the European Space Agency, to get to the planet.

3. Global News Forum 2022: Global News Forum 2022 is the Asia-Pacific Broadcasting Union (ABU)'s flagship three days annual NEWS event hosting around 80 foreign participants from the field of Media & Journalism from different broadcasting organizations.

ABU was established in 1964 as a non-profit, non-governmental, non-political, professional association with mandate to assist the development of broadcasting organisations in the region currently Headquartered at Kuala Lumpur, Malaysia.

ABU promotes the collective interests of television and radio broadcasters as well as key industry players and also facilitate regional and international media cooperation for members. Doordarshan (DD) & All India Radio (AIR) both are Full Members of ABU

4. World Habitat Day 2022: The United Nations observes the first Monday of October as World Habitat Day.

This year, World Habitat Day will be observed on October 3.

Theme: "Mind the Gap. Leave No One and Place Behind".

It seeks to draw attention to the growing inequalities and vulnerabilities in cities and human settlements that have been exacerbated by the triple 'C' crises — COVID-19, climate and conflict.

5. Purchasing Managers' Index: The Manufacturing Purchasing Managers' Index, compiled by S&P Global, fell to 55.1 in September from 56.2 in August 2022.

It is a survey-based measure that asks the respondents about changes in their perception of key business variables as compared with the previous month

It is calculated separately for the manufacturing and services sectors and then a composite index is also constructed. The PMI is a number from 0 to 100. A print above 50 means expansion, while a score below that denotes contraction.

A reading at 50 indicates no change. It is usually released at the start of every month. It is, therefore, considered a good leading indicator of economic activity. PMI is compiled by IHS Markit for more than 40 economies worldwide

6.10.22

1. Sugarcane: India emerges as the world's largest producer and consumer of sugar and world's 2nd largest exporter of sugar.

A highly water intensive crop cultivated of tropical and subtropical areas.

It grows well in hot and humid climate with a temperature of 21°C to 27°C and an annual rainfall between 75cm and 100cm.

It is the main source of sugar, jaggery, khandsari and molasses (raw material for ethanol production).

Maharashtra, Uttar Pradesh, Karnataka, Gujarat, Andhra Pradesh, Tamil Nadu and Telangana are Sugarcane producing states in India.

The Fair and Remunerative Price (FRP) is the minimum price that sugar mills have to pay to sugarcane farmers. It is approved by the Cabinet Committee on Economic Affairs (CCEA).

2. OPEC+ cuts Oil Production: Organization of Petroleum Exporting Countries (OPEC) is a permanent intergovernmental organization of 13 oil-exporting developing nations.

The OPEC coordinates and unifies the petroleum policies of its Member Countries.

They usually meet every month to determine how much oil the member states will produce.

The non-OPEC countries which also produce and export crude oil, affiliated with OPEC are termed as OPEC+. It include Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan.

India is the world's third-largest consumer of crude with 5.35 million barrels per day (mbpd), behind the US (21.2mbpd) and China (15.1mbpd).

3. Nobel Prize in Chemistry 2022: was awarded to Carolyn R Bertozzi, Morten Meldal and K Barry Sharpless “for the development of click chemistry and bioorthogonal chemistry”

Click chemistry is a functional field where molecules snap together quickly and efficiently – literally like a click. It is defined as a “set of powerful, highly reliable, and selective reactions for the rapid synthesis of useful new compounds and combinatorial libraries through heteroatom links”.

4. Impossible trinity: The impossible trinity, or the trilemma, refers to the idea that an economy cannot pursue independent monetary policy, maintain a fixed exchange rate, and allow the free flow of capital across its borders at the same time.

According to economists, any economy can choose to pursue only two out of the three policy options noted above simultaneously in the long run. The idea was proposed independently by Canadian economist Robert Mundell and British economist Marcus Fleming in the early 1960s.

5. Dengue: Last week, a total of 412 Dengue cases were reported in the capital – more than twice the figure recorded last year in September with 217 cases.

Dengue is a mosquito-borne tropical disease caused by the dengue virus (Genus Flavivirus), transmitted by several species of mosquito within the genus Aedes, principally Aedes aegypti. This mosquito also transmits chikungunya, yellow fever and Zika infection.

There are 4 distinct, but closely related, serotypes (separate groups within a species of microorganisms that all share a similar characteristic) of the virus that cause dengue (DEN-1, DEN-2, DEN-3 and DEN-4). There is no specific medicine to treat dengue infection.

7.10.22

1. Laws regarding Moonlighting: Moonlighting refers to a state where employees work for remuneration with entities other than their employer.

The Factories Act of 1948 places a restriction on the double employment of workers.

However, this is limited only to ‘Factories’ and is not applicable to ‘Companies’ which are regulated by the Companies Act 2013.

The Supreme Court in Glaxo Laboratories Limited vs Labour Court, Meerut held that the employer is not empowered to regulate the behaviour of workers outside duty hours.

Since moonlighting is not defined under any statute, it is subject to the court's interpretation and the law of the land.

2. One District One Product scheme (ODOP): ODOP was launched by the Ministry of Food Processing Industries, to help districts reach their full potential, foster economic and socio-cultural growth, and create employment opportunities, especially, in rural areas.

This initiative is carried out with the 'Districts as Exports Hub' initiative by the Directorate General of Foreign Trade (DGFT), Department of Commerce.

There may be more than one cluster of ODOP products in one district. The States would identify the food product for a district, keeping in perspective the focus of the scheme on perishables.

The ODOP product could be a perishable Agri produce, cereal-based product, or a food product widely produced in a district and their allied sectors.

3. Vyommitra: ISRO's humanoid Vyommitra's skills get a lift-off with digital grey matter.

Vyommitra', is a humanoid designed and developed by the ISRO to fly aboard unmanned test missions ahead of the Gaganyaan human space-flight mission, is undergoing pre-flight ground tests.

ISRO Inertial Systems Unit (IISU) has successfully integrated it with a computer 'brain' which enables it to 'read' control panels aboard the unmanned test flights and communicate with the ISRO ground stations.

The AI-enabled robot, which can withstand vibrations and shock during the flight, has been designed to resemble a human with facial expressions and speech and sight capabilities. It is a half-humanoid lacking lower limbs.

4. Super Apps: A super app is an omnichannel digital platform, i.e.- a platform developed by a company offering various services and products under one umbrella.

For example, China's WeChat, which started out as a messaging app, expanded into payments, cabs, shopping, food ordering, cab services to become a super app.

A physical world analogy of a super app would be a mall, which allows retail space to various brands and shops across businesses and verticals.

5. Humanoid robot – Optimus: Tech billionaire Elon Musk has presented the latest prototype of a humanoid robot being developed by his Tesla electric car company.

People were shown a video of Optimus performing simple tasks, such as watering plants, carrying boxes and lifting metal bars.

8.10.22

1. Aatmanirbhar in defence production: India ranks fourth among 12 Indo-Pacific nations in self-reliant arms production capabilities, according to a study released this month by the Stockholm International Peace Research Institute (SIPRI).

The 12 countries in the study were selected because they have the highest military spending in the region.

The study, which measures self-reliance until 2020, is based on three indicators of self-reliance in each country: Arms procurement, Arms industry, Uncrewed maritime vehicles

China tops the list, Japan is second, South Korea is in third place, and Pakistan is number 8.

India is ranked as the second-largest importer of arms for its armed forces in 2016-20.

Of India's total volume of procurement in 2016–20, 84 per cent was of foreign origin

2. Panel to study the status of Dalits post-conversion: the government has set up a 3-member commission headed by former CJI K.G Balakrishnan to study the possibility of according SC status to Dalits who have converted to religions other than Buddhism and Sikhism.

The Constitution (Scheduled Castes) Order 1950 provides that only those belonging to Hindu, Sikh and Buddhist communities can be categorised as SCs.

Originally it was limited to only Hindus. However subsequent amendments in 1956 and 1990 included Sikhs and Buddhists

3. E-rupee pilot: e-rupee is akin to sovereign paper currency but in digital form, exchangeable at par with the existing currency and will be accepted as a medium of payment, legal tender and a safe store of value.

e-rupee appears as a liability on a central bank's balance sheet.

e-rupee can be structured as 'token-based' or 'account-based':

A token-based CBDC: whosoever holds the tokens at a given point in time would be presumed to own them, similar to banknotes. The person receiving a token will verify that his ownership of the token is genuine It is preferred for retail payments.

An account-based system: would require maintenance of the record of balances and transactions of all holders of the CBDC and indicate the ownership of the monetary balances, similar to Bitcoins. An account-based CBDC, an intermediary verifies the identity of an account holder. More preferred for wholesale payments.

4. Agri-credit societies to be set up in all panchayats: The co-operation ministry is working on a plan to set up multi-purpose PACS in panchayats over the next five years

PACS are the ground-level cooperative credit institutions that provide short-term, and medium-term agricultural loans to the farmers for the various agricultural and farming activities. They confer equal rights to all its members without considering their holding of share and their social standing.

PACS are the lowest unit in a three-tier structure: The other two tiers — State Cooperative Banks (StCB) and District Central Cooperative Banks (DCCB) — have already been automated by the NABARD and brought on the Common Banking Software (CBS).

5. Weapon System branch for officers in the Indian Air Force (IAF): The government has approved the creation of a Weapon System branch for officers in the Indian Air Force (IAF) which will bring all weapon systems operators of the force under one roof.

This is the first time since Independence that a new operational branch is being created.

Creation of the new branch would entail unification of all weapon system operators under one entity dedicated to the operational employment of all ground-based and specialist airborne weapon systems.

This will essentially be for manning of four specialised streams of Surface-to-Surface missiles, Surface to Air Missiles, Remotely Piloted Aircraft and weapon system operators in twin and multi crew aircraft.

10.10.22

1. Graded Response Action Plan (GRAP): The GRAP is a step-by-step plan to counter Delhi-NCR's deteriorating air quality. It was formulated by the Environmental Pollution Prevention and Control Authority (EPCA) jointly with the Delhi government in 2017.

it is an emergency response mechanism and is only enforced when air pollution reaches a certain threshold. Moreover, the plan is incremental and adaptable

It has been prepared for implementation under different Air Quality Index (AQI) categories namely, Moderate & Poor, Very Poor, Severe, Severe+ and Emergency as per National Air Quality Index.

2. Rosetta Stone: it is a large stone slab believed to be a piece of a bigger rock. It was discovered by the French military leader Napoleon's army in Northern Egypt and was taken by British following Napoleon's defeat as per the provisions of the 1801 Treaty of Alexandria.

The rock slab has inscriptions of the same text in three different scripts – hieroglyphs, demotic (an ancient Egyptian script) and ancient Greek.

The inscription of the slab conveys a decree or public message. This is similar to the Mauryan Emperor Ashoka's edicts that featured Buddha's teachings and victories in wars.

The Rosette Stone was used by French philologist Jean-Francois Champollion to decipher hieroglyphs. His work helped improve the understanding of ancient Egyptian language and culture.

3. United Nations Peacekeeping Forces (UNPKF): UN peacekeepers (often referred to as Blue Berets or Blue Helmets because of their light blue berets or helmets) can include soldiers, police officers, and civilian personnel. Peacekeeping forces are contributed by member states on a voluntary basis.

UN Peacekeeping began in 1948 when the UN Security Council authorized the deployment of UN military observers to the Middle East.

It helps countries navigate the difficult path from conflict to peace. India has been among the largest troop-contributing countries to the UN peacekeeping missions

4. Smart Contracts: A smart contract is a self-executing contract with the terms of the agreement between buyer and seller being directly written into lines of code. The code and the agreements contained therein exist across a distributed, decentralized blockchain network. The code controls the execution, and transactions are trackable and irreversible.

Crypto exchanges, decentralized apps (dApps), the automated buying or selling of orders, and even NFT-based games often rely on smart contracts to run smoothly.

To create them effectively, programming languages are a must: C++, Java, Solidity, Rusk, Python, Rholang, PHP, and Haskell.

A smart contract failure can cause platform outages, and exploitation of the codes could devalue the entire ecosystem.

5. Decline in corporate investment in India: even though, the Government reduced corporate tax (from 30% to 22% and to 15% for new manufacturing companies), India's investment rate has declined to about 31% of GDP as an average of 2015-16 to 2019-2020 from its peak of 39% in FY2012.

Corporate sector accounts for only about half of total investments, amounting to about 15% of GDP. Private investment accounts for close to 75% of total capital formation in the economy

11.10.22

1. Foreign direct product rule: Recently, US officials applied the foreign direct product rule to China's advanced computing and supercomputer industry to stop it from obtaining advanced computing chips. It was introduced in 1959 by the US government to control the trading of the US technologies.

It essentially says that if a product was made using American technology, the US government has the power to stop it from being sold – including products made in a foreign country.

It mandates country-based licensing requirements and list-based restrictions apart from imposing traditional export controls. The rule is currently applied in Russia and Belarus

2. Light pollution: Light pollution, or artificial light at night, is the excessive or poor use of artificial outdoor light, which can have serious environmental consequences for humans, wildlife, and our climate.

Impact on birds: Induce Migration mistiming, change migration pattern, change seasonal behaviours, and disrupt biological clocks.

Components of light pollution include: Glare: visual sensation caused by excessive and uncontrolled brightness, Skyglow: Brightening of the night sky over inhabited areas, Light trespass: it occurs when spill light is cast where it is not wanted, Clutter: Bright, confusing and excessive groupings of light sources.

3. JATE Manesar Anti-terror 2022: It is an annual counter-terrorist exercise held within the framework of the SCO RATS. Pakistan has been invited to the closing ceremony

The National Security Guard (NSG) is hosting the multinational JATE “Manesar Anti-Terror 2022”, under the framework of the SCO Regional Anti-Terrorist Structure (RATS).

The present one is stage 2 of the exercise. Stage 1 of the Exercise was by the National Counterterrorist Forces of SCO Member Countries in their respective territories.

The exercise is aimed at exchanging expertise, best practices and building synergy between the Counterterrorism Forces of the SCO RATS member countries

4. Belligerent occupation: it means that the occupying power exercises provisional and temporary control over foreign territory. Under international law, Russia’s control over the four Ukrainian regions, before the so-called referendums, is known as ‘belligerent occupation’.

Rules on belligerent occupation are explained under the Hague Convention of 1899 — the first treaty that laid down the laws of war.

Article 43 of the Convention states that if “the authority of the legitimate power over territory” has “passed into the hands of the occupant, the latter shall take all steps in his power to re-establish and ensure public order and safety”. Russia’s unilateral action of merging the four Ukrainian territories with it is a flagrant violation of Article 43.

The Article clearly states that Russia, being the occupier, only has ‘authority’ and not ‘sovereignty’ over these regions.

5. Chandrayann-2 gauges sodium content on Moon’s surface: Scientists from the Indian Space Research Organisation (ISRO) have mapped out the global distribution of sodium on the Moon’s surface. They used the CLASS instrument (Chandrayaan-2 large area soft X-ray spectrometer)

Sodium is the only element apart from potassium that can be observed through telescopes in the lunar atmosphere (its exosphere). This new map of sodium would enable an understanding of the surface-exosphere connection. It can also be used as a tracer of the volatile history of the moon.

12.10.22

1. Crypto-Assets Reporting Framework (CARF): OECD has given final shape to CARF. It will enable the cross-border report and exchange of information regarding crypto assets.

Entities or individuals providing services in crypto assets will be obliged to report under CARF. It will create a level playing field among countries regarding the use and investments of crypto assets.

The CARF will target any digital representation of value that relies on a cryptographically secured distributed ledger or a similar technology to validate and secure transactions.

In 2021, the G20 mandated the OECD to develop a framework providing for the automatic exchange of tax-relevant information on Crypto-Assets.

2. Automatic Exchange Of Information: The guidelines and parameters for the AEOI are set by OECD

AEOI allows every country to obtain data from Financial Institutions (FIs) and “automatically” exchange it with countries with which AEOI agreements are in order, every year.

The information exchanged relates to individuals, corporate (shell companies) and trusts.

The information received under the annual exercise of AEOI, is used extensively in probes of suspected tax evasion, money laundering and terror funding.

Under the OECD's guidelines, no details of the quantum of funds or the names of account holders are to be publicised.

In India, the information received is kept in the custody of and for action by the Central Board of Direct Taxes (CBDT).

3. Kurds: The Kurds are members of a large, predominantly Muslim ethnic group and live mostly in a mountainous region straddling the borders of Armenia, Iraq, Iran, Syria and Turkey.

After World War I, Western powers promised Kurds their own homeland in the agreement known as the Treaty of Sèvres. But later the Treaty of Lausanne, ratified in 1924, divided the Kurds among the new nations of the Middle East.

Today, there are more than 30 million Kurds living across the region, with about half of them in Turkey.

Iraq is the only country in the region to have established an autonomous Kurdish region, known as Iraqi Kurdistan. Its parliament was founded in 1992.

4. 5+1 collegium: In the two-year tenure of Justice Chandrachud as CJI, a potential CJI candidate (Justice Khanna) is unlikely to be in the collegium until May 2023. So, Justice Khanna will be the sixth member of the collegium from November 9, 2022 itself. This was also done in 2007.

The ruling in the Third Judges Case gave legal backing to the current system of appointment of judges and created the collegium of the CJI and four senior-most judges. Generally, one or more of the four senior judges in the collegium would be a potential CJI candidate.

5. Non-traditional livelihoods included in 'Beti Bachao Beti Padhao' scheme: New aims in the scheme: Secondary education: Ensuring a 1% increment in enrolment at the secondary level, particularly in STEM (Science, Technology, Engineering, Mathematics) subjects, Skilling: girls and women every year, Raising awareness: about safe menstrual hygiene, Promulgating elimination of child marriages.

13.10.22

1. Slender Loris: In a first in the country, the Tamil Nadu government notified Kaduvur slender loris sanctuary. They are small nocturnal mammals that are arboreal in nature as they spend most of their life on trees.

The species acts as a biological predator of pests in agricultural crops and benefits farmers.

It is native to India and Sri Lanka. In India, the animal is largely found in the Eastern Ghats.

It is listed as an endangered species by the International Union for Conservation of Nature (IUCN) and protected under Schedule 1 of the Indian legislation of the Wildlife (Protection) Act (WPA), 1972.

2. Living Planet Report 2022: It is published biennially by World Wide Fund for Nature (WWF).

It is a comprehensive study of trends in global biodiversity and the health of the planet.

According to it, Wildlife populations decline by 69% in 50 years.

The highest decline (94 per cent) was in the Latin America and the Caribbean region, followed by Africa and Asia.

It identified six key threats to biodiversity — agriculture, hunting, logging, pollution, invasive species and climate change — to highlight 'threat hotspots' for terrestrial vertebrates.

3. World Sloth Bear Day: The first World Sloth Bear Day was observed on October 12.

Sloth bears are endemic to the Indian sub-continent with small populations in Nepal and Sri Lanka and 90% of the species population is found in India.

They are classified as 'Vulnerable' on the IUCN Red List. Listed under Schedule I of the (Wildlife Protection) Act of India, 1972 the species has the same level of protection as tigers, rhinos and elephants.

They are found in all parts of the country except Jammu and Kashmir and north-eastern States.

4. Committee of Parliament on Official Language: The Committee was set up in 1976 under Section 4 of The Official Languages Act, 1963. The 11th volume of the report has been submitted.

Section 4 of the Act says "there shall be constituted a Committee on Official language, on a resolution to that effect being moved in either House of Parliament with the previous sanction of the President and passed by both Houses".

The Committee is chaired by the Union Home Minister, and has, in accordance with the provisions of the 1963 Act, 30 members — 20 MPs from Lok Sabha and 10 MPs from Rajya Sabha.

The mandate of the Committee is to review the progress made in the use of Hindi for official purposes, and to make recommendations to increase the use of Hindi in official communications.

5. Interpol Red Corner Notice: is issued to alert police forces across the world about fugitives who are wanted internationally. They are accessible only to law enforcement agencies.

They can only be issued after a competent court has taken cognizance of a chargesheet against the fugitive. The Red Corner Notice acts as a request to all law enforcement agencies worldwide to locate and provisionally arrest a person pending extradition, surrender, or similar legal action. Interpol cannot force law enforcement authorities in any country to arrest the individual in question. It is up to member countries to decide on actions.

14.10.22

1. Conference on Interaction and Confidence Building Measures in Asia (CICA): is a multi-national forum for strengthening cooperation towards promoting peace, security and stability in Asia.

It was founded by the first President of Kazakhstan in 1992, at UNGA session.

India is one of the founding members. To be a member of CICA, a state must have at least a part of its territory in Asia.

The CICA Summit is convened every four years. The Meeting of the Ministers of Foreign Affairs is required to be held every two years.

The CICA Secretariat - administrative body of CICA - is located in Nur-Sultan, Kazakhstan.

2. Logistics Ease Across Different States (LEADS) 2022 survey report: Union Minister for Commerce and Industry, Consumer Affairs, Food and Public Distribution and Textiles recently launched it.

It is an indigenous data-driven index to assess logistics infrastructure, services, and human resources across all 36 States and UTs.

The index aims at enhancing the focus on improving logistics performance across states which is essential for improving the country's trade and reducing transaction cost.

Three performance categories namely: Achievers: States/UTs achieving 90% or more percentage: Andhra Pradesh, Assam and Gujarat

Fast Movers: States/UTs achieving percentage scores between 80% to 90%: Kerala, Madhya Pradesh, Rajasthan etc.

Aspirers: States/UTs achieving percentage scores below 80% have been made: Bihar, Chhattisgarh, Goa, Mizoram, Andaman and Nicobar Islands etc.

3. Rythu Bharosa Kendras: Set up for the first time in the country in Andhra Pradesh, they are a one-stop solution to all farmers' needs and grievances. RBKs sell pre-tested quality seeds, certified fertilisers and animal feed.

Farmers can purchase or hire farm equipment, and even sell their produce at the prevailing MSP in the RBKs. The RBKs provide services like soil testing etc.

4. Namdapha National Park: located in the State of Arunachal Pradesh, it is the 4th largest national park. The first three are Hemis National Park in Ladakh, Desert National Park in Rajasthan, and Gangotri National Park in Uttarakhand.

The park is located between the Dapha bum range of the Mishmi Hills and the Patkai range.

It lies in close proximity to Indo-Myanmar-China trijunction.

It is also on the Tentative Lists of UNESCO World Heritage Sites in India. It is also a part of biodiversity hotspot. Hoolock Gibbons, the only 'ape' species found in India is found.

It is only park in the World to have the four Feline species of big cat namely the Tiger, Leopard, Snow Leopard and Clouded Leopard.

5. Kamikaze drones: These are small unmanned aircraft packed with explosives that can be flown directly at a tank or a group of troops that are destroyed when it hits the target and explodes.

The name comes from the World War 2 era's feared Japanese kamikaze pilots, who conducted suicide attacks.

The US kamikaze drones are cheaper and of 2 sizes. Switchblade 300 suicide drone and Switchblade 600 ("loitering missile") that can hover around an area for some time and target armoured vehicles.

15.10.22

1. Next Generation Launch Vehicle (NGLV): ISRO is developing NGLV, which will replace its 'trusted work horse' PSLV in the future.

ISRO's NGLV will be a three-stage reusable heavy-lift vehicle.

Payload capacity will be around 10 tonnes to Geostationary transfer orbit (GTO) and twice the capacity to Low earth orbit (LEO).

Potential applications: areas of deep space missions, launching communication satellites, future human missions and cargo missions.

NGLV will feature semi-cryogenic propulsion for the booster stages which is cheaper and more efficient. It allows bulk manufacturing and the turnaround time is minimal.

2. Paddy straw pelletisation and torrefaction plants: The Union Environment Ministry recently released guidelines for grant of one-time financial support of ₹50-crore for utilisation of paddy stubble in thermal power plants and industries.

Pelletisation: Paddy straw made into pellets that can be mixed along with coal in thermal power plants. This saves coal as well as reduces carbon emissions

Torrefaction aims to enhance the fuel quality by addressing issues such as energy density, grindability, and storability. It is costlier but can deliver a product whose energy content is much higher and theoretically substitute for more coal in a power plant.

3. Split verdict: The Supreme Court recently delivered a split verdict in the Karnataka hijab ban case.

A split verdict is passed when the Bench cannot decide one way or the other in a case, either by an unanimous decision or by a majority verdict. It can only happen when the Bench has an even number of judges.

In case of a split verdict, the case is heard by a larger Bench, or an appeal can be preferred before the Supreme Court.

4. Global Hunger Index 2022: It is an annual report jointly published by two European NGOs, Concern Worldwide and Welthungerhilfe. Global Hunger Index was first published in 2006.

Each country's score is calculated based on a formula that combines four indicators:

Undernourishment, Child Stunting, Child wasting and Child mortality

Sub-Saharan Africa and South Asia are the regions with the highest hunger levels

India has fallen to the 107th position from its 2021 position of 101st. Among the South Asian countries, India is ranked below Sri Lanka (64), Nepal (81), Bangladesh (84), and Pakistan (99)- serious category.

Globally, the progress against hunger has largely stagnated in recent years, there is only a slight improvement. However, the 2022 GHI score is still considered "moderate".

Belarus, Bosnia & Herzegovina, Chile, China and Croatia are the top five countries in GHI 2022.

5. Bio age: The increased integration of biotechnology in human life will bring in the bio age.

Integration of life sciences with modern technology through the production of genetically modified organisms (GMOs), engineering of genes to enhance disease resistance, gene editing, and more, indicate that biotechnology is most likely to pervade our lives in the future.

It will mark the end of the digital Information Age

17.10.22

1. Aluminium freight rake- Union Minister for Railways Ashwini Vaishnaw inaugurated India's First Aluminium Freight Rake (61 BOBRNALHSM1) at Bhubaneswar Railway Station.

It has been fully designed and developed indigenously in collaboration with RDSO, HINDALCO, and Besco Wagon. Designed under the Make in India program, and have lock-bolted construction with no welding on the superstructure.

Rakes have 180 tons extra carrying capacity than the traditional ones resulting in higher throughput per wagon. It is 3.25 tons lesser in weight in comparison to normal steel rakes.

It will reduce the carbon footprint as lower consumption of fuel in empty directions and more transport of freight in a loaded condition. A single rake can save over 14,500 tonnes of CO₂ over its lifetime. However, the indigenously designed aluminium freight rake will be 35% more costly than the normal steel rake.

2. Deep technology (deep tech) or hard tech- Prime Minister Narendra Modi is making a concerted push for self-reliance in military technology, semiconductors, and science-based businesses.

Deep Tech is a classification of organization, or more typically startup company, with the expressed objective of providing technology solutions based on engineering challenges

Deep tech innovations are often radical or may disrupt existing markets. Such companies often address big societal and environmental challenges and have the potential to impact everyday life. Silicon chips are an example of this innovation-led model of business.

About 18 per cent of all startups in India are into deep tech such as AI (artificial intelligence), ML (machine learning), IoT (Internet of Things) AR/VR (augmented reality/virtual reality)

3. BhashaKendras (BK) -22 BKs will be established under the Union Ministry of Education's Indian Knowledge System (IKS) initiative

These language centres will be in line with the National Education Policy (NEP) 2020 which emphasizes promoting regional languages. The goal is to provide instructional materials for students at the school and undergraduate levels.

The program aims to promote interdisciplinary research on all aspects of 'Indian Knowledge Systems' (Bharatiya Gnaana Parampara)

4. Kampala Principles- It promotes ownership of private sector engagement (PSE) through development cooperation by partner countries.

They were endorsed by the Steering Committee of the Global Partnership in Kampala, Uganda in March 2019.

The five mutually reinforcing Principles are 1. Inclusive country ownership 2. Results and targeted Impacts: through mutual benefits. 3. Inclusive partnership 4. Transparency and Accountability 5. Leave no-one behind

5. Mock Meat- Mock meat is a term used for alternative meat options. It can be created from plant-based proteins to resemble the real deal in taste, colour and texture. Ingredients like soybean, wheat protein, tempeh and pea protein are used. 'Plant-based' refers to products that bio-mimic or replicate meat, seafood, eggs, and milk derived from animals. Plant-based meat is likely to have a niche market relevant to the top 1%.

These innovations are made possible through biotechnology.

18.10.22

1. The Pradhan Mantri Awas Yojana (PMAY)- It is an initiative of the Government of India which aims at providing affordable housing to the urban poor by the year 2022. The scheme was first launched on 25 June 2015. The interest rate for the PMAY scheme starts at 6.50% p.a. and can be availed for a tenure of up to 20 years. The implementation period of the PMAY-Urban scheme has been extended until 31 December 2024.

The Union Housing and Urban Affairs Ministry said that more than 1 crore houses have been grounded and over 61 lakh houses completed and delivered to the beneficiaries. (2022)

2. Oral rehydration therapy- This therapy is a type of fluid replacement used to prevent and treat dehydration, especially due to diarrhoea. It involves drinking water with modest amounts of sugar and salts, specifically sodium and potassium.

Dilip Mahalanabis, the doctor (from Bengal) who helped prove the effectiveness of oral rehydration solution (ORS) by administering it to a large number of cholera patients at a refugee camp in Bongaon during the 1971 war, passed away recently.

3. Nostro and Vostro accounts- Nostro and Vostro are accounting terms used to distinguish an account held for another entity from an account another entity (bank) holds.

To distinguish between the two sets of records of the same balance and set of transactions, banks refer to the accounts as Nostro and Vostro. Speaking from the point of view of the bank whose money is being held at another bank: A Nostro is our account of our money (in which country you are staying), held by the other bank or "Foreign Bank". A Vostro is our account of other bank / "Foreign Bank's" money, held by us (by your country's bank)

4. Omicron BF. 7- It is the latest sub-variant of the Omicron variant, first detected in Northwest China's Inner Mongolia Autonomous Region.

Also known as the 'Omicron spawn', this new variant is fast spreading and has even infiltrated the walls of several other countries including the United States, UK, Australia and Belgium.

5. NeoBank- A Neobank (also known as an online bank, internet-only bank, virtual bank or digital bank, or challenger bank) is a type of direct bank that operates exclusively online without traditional physical branch networks. Their services may be accessed by clients through their respective computers or mobile devices.

Freo, Fi Money, Jupiter, MahilaMoney, Niyu, RazorpayX, Jupiter, etc are some examples of it in India.

19.10.22

1. International Mobile Equipment Identity (IMEI number)- IMEI is a unique number to identify GSM, WCDMA, iDEN, and satellite phones. Most phones have one IMEI number, but dual SIM phones have two.

The Department of Telecommunications (DoT) has made it mandatory for mobile phone manufacturers to register the IMEI of all handsets made in India with the Indian Counterfeited Device Restriction portal of the Government of India.

Given the rising cases of mobile phone snatching, the Bangalore Police is looking for a system to block the International Mobile Equipment Identity (IMEI) number of stolen cell phones.

2. Revenue Police System- The demand to replace the Revenue Police System in Uttarakhand has once again gained ground in the wake of the murder of 19-year-old Ankita Bhandari.

The system of Revenue Police was brought by the British over a century ago when crime in the hilly areas was low. The motive was to save resources by not deploying regular police. Under this system, civil officials of the revenue department have the powers and functions of the regular police.

Whenever a crime takes place, the Revenue Police of the area files an FIR, investigates the case, arrests the accused and also files a charge sheet in the local court. In the case of heinous crimes, the case is transferred to the regular police.

3. Interpol- The 90th General Assembly of Interpol is going to be held in New Delhi from 18th October to 21st October 2022. The General Assembly is taking place in India after 25 years.

The International Criminal Police Organisation (INTERPOL) is the world's largest international police organisation. It is an inter-governmental organisation with 195 member countries including India. It enables the police to share and access information on crimes and offenders and provides technical and operational support. This organisation has its headquarters in Lyon, France, as well as a global complex for innovation in Singapore and several satellite offices across the world.

4. Multidimensional Poverty Index- On the lines of Global MPI, the NITI Aayog started publishing India-specific MPI in 2021.

The report presents an in-depth analysis of the headcount ratio and intensity of multidimensional poverty at the national, State/UT, and district levels. The index is based on the reference period of 2015-16 of the National Family Health Survey (NFHS) – 4

5. Doctrine of Pleasure- The Punchhi Commission was constituted by the Government of India in 2007 as a Commission on Centre-State relations. As per the recommendations of the committee, The Doctrine of Pleasure should be deleted from the Constitution.

With its origin in England, the Crown is regarded as the Executive head and the civil services are part of the Executive.

The Doctrine of Pleasure means that the Crown has the power to terminate the services of a civil servant at any time they want without giving any notice of termination to the servant. Thus the civil servants work at the pleasure of the Crown which can remove them at any time. The same doctrine has come into the picture as the Governor from Kerala appeared to threaten to sack ministers at his 'will' using Article 164 (1).

20.10.22

1. Swadesh Darshan Scheme 2.0- (SD2.0) was recently revamped to develop sustainable and responsible destinations with destination centric approach.

The new domestic tourism policy moves away from theme-based tourist circuits to destination tourism. (Idea of theme-based circuits is not dropped completely; the focus in SD2.0 is towards destination-based tourism)

Fifteen States are part of the first phase which includes Madhya Pradesh, Karnataka, Tamil Nadu, Uttar Pradesh, and Maharashtra.

The Swadesh Darshan scheme is 100% centrally funded with the mantra of “vocal for local”. SD1.0 was launched in 2014-15 for the integrated development of theme-based tourist circuits.

2. Exercise Kakadu-2022- India’s indigenously designed INS Satpura and P-8I Maritime Patrol Aircraft participated in the multinational Exercise Kakadu-2022.

Exercise Kakadu is a joint-enabled, biennial exercise hosted by the Royal Australian Navy and supported by the Royal Australian Air Force.

It was started in 1993.

INS Satpura is an indigenously designed and built 6000-tonne guided-missile stealth frigate.

3. The National Credit Framework (NCrF): NCrF aims to bring all school students under a unified credit system. Aside from class tests, activities such as festival celebrations and school cleaning will earn credits that will be stored in the Academic Bank of Credit (ABC), just like in higher education

The framework's goal is to develop a unified credit accumulation and transfer system for general and vocational education from school to higher education.

Aadhaar will be used for student registration, and each candidate will be assigned an academic bank account number, where degrees and credits will be accumulated.

4. Indian Ocean Region Plus Defence Ministers' Conclave: Recently, IOR Plus Defence Ministers’ Conclave was held at Gandhinagar, Gujarat.

It is an initiative to promote dialogue in an institutional and cooperative environment that can foster peace, stability & prosperity in the IOR.

The forum has been named IOR+ as the idea of this conclave is shared responsibility and prosperity. Through this, India seeks to promote the objectives of SAGAR, highlighted by the dynamic five ‘S’ vision – Samman (Respect); Samvaad (Dialogue); Sahyog (Cooperation); Shanti (Peace) and Samridhhi (Prosperity).

5. Mission DefSpace- Recently, the Prime Minister launched ‘Mission DefSpace’ at the ongoing DefExpo. (2022)

The mission aims to develop innovative solutions for the Defence Forces in the domain of space through startups and industry.

This initiative would enable the industry to offer solutions to the armed forces for future offensive and defensive requirements.

21.10.2022

1. Financial Action Task Force- FATF is an intergovernmental organization formed in 1989 by the Paris G7 summit to develop policies to combat money laundering. Since 2000, FATF started maintaining the FATF blacklist & grey list, & from 2001, its mandate was expanded to include terrorism financing. FATF has 39 members.

23 countries in the grey list. 3 countries on the black list. On 21/10/22, Myanmar was added to the black list, Pakistan & Nicaragua were removed from the grey list, & Congo, Tanzania, and Mozambique were added to the grey list. Pakistan was in grey list since 2018.

T. Raja Kumar (Indian Origin) began a two-year term as President of the FATF on 1 July 2022.

2. Lokayukta (Lok Ayukta)-It is an Indian Parliamentary Ombudsman, executed into power, through and for, each of the State Governments of India. It is brought into effect in a state, after passing the Lokayukta Act in the respective state Legislature and a person of reputable background is nominated to the post.

Once appointed, Lokayukta cannot be dismissed or transferred by the government, and can only be removed by passing an impeachment motion by the state assembly

In 1968 a Bill (after ARC recommendation) was introduced for the appointment of Lok-Pal (National level) and Lokayukta (for the States.)

The provisions of the Lokayukta Acts varied from one State to another.

3. Parole, Furlough and Remission- While these are all different, they all offer relief — temporary or permanent — from a prison term. 'Prisons' is a State subject under the State List of the Seventh Schedule of the Constitution.

The Prisons Act says that only states can make rules regarding the release of prisoners on furlough, parole and remission. However, in 2016, the Centre released a comprehensive Model Prison Manual for States to review their rules on this. There is no uniform legislation to deal with furlough or parole.

Furlough is granted as a matter of right to prisoners. Parole, by contrast, is not seen as a matter of right.

Remission is a reduction in sentence as opposed to a break from prison life.

4. Climate Transparency Report- The Report provides a concise overview of the climate performance of the G20 in a comparative stocktake. The review is based on 100 indicators.

As per the report, India suffered an income loss of \$159 billion, 5.4% of its gross domestic product, due to extreme heat in 2021. The report is published annually by Climate Transparency, a global partnership of 14 climate research organisations and NGOs from the majority of G20 (Germanwatch)

5. Hate Speech- Recently, Supreme Court directed the police to take "immediate" suo motu action by lodging criminal cases without waiting for formal complaints in cases of Hate Speech.

Sections 153A (promotion of enmity between different groups) and 505 of the Indian Penal Code (offence to making "statements conducing to public mischief".) are generally taken to be the main penal provisions that deal with inflammatory speeches.

Provisions in clauses (2) to (6) of Article 19 authorize the State to restrict the exercise of the freedom guaranteed under article 19. There is no specific legal definition of 'hate speech'.

22.10.22

1. Advanced Light Helicopter- Recently, Army's Advance Light Helicopter crashed in Arunachal Pradesh.

The indigenously designed and developed Advanced Light Helicopter (ALH-DHRUV) is a twin-engine, multi-role, multi-mission new-generation helicopter in the 5.5-ton weight class. It is a multi-role chopper with a Shakti engine manufactured by Hindustan Aeronautics Limited (HAL).

HAL conceptualised the Advanced Light Helicopter programme in 1984. The helicopter also has a host of advanced avionics, making it truly an all-weather aircraft. Earlier, HAL secured a \$45.2 million deal with Ecuador for Dhruv choppers. This was seen as a big milestone for India's defense industry.

IN pilots have long flogged the HAL for poor workmanship, and lackadaisical engineering.

2. Mission LiFe- PM Modi described Mission LiFe as a global initiative by India to help the world in its fight against climate change. the Mission LiFE emboldens the spirit of the P3 model, i.e., Pro Planet People, as it is premised on the basic principles of 'Lifestyle of the planet, for the planet and by the planet'.

India is ranked fourth in wind energy and fifth in solar energy. India's renewable energy capacity has increased by about 290 % in the last 7-8 years. Achieved the target of 40% of the electric capacity from non-fossil-fuel sources.

3. Agni Prime – India successfully tests new-gen nuclear-capable 'Agni Prime' ballistic missile. The 'Agni-P', is a nuclear-capable new-gen advanced variant of the Agni class of missiles; it is a two-stage canisters missile with a maximum range of 2,000 km.

It weighs 50 per cent less than the Agni 3 missile and has new guidance and propulsion systems. Can be launched from rail or road, be stored for longer periods and can be transported as per operational requirements.

4. Recent Export Trends- Engineering exports, which comprise about a quarter of total outbound shipments, fell by 11% last month, dragged down primarily by lower iron and steel exports. The share of engineering good exports in total merchandise exports fell to 23.69% in September from 27.85% in the same month last year.

The decline in steel exports was mainly because of the imposition of a 15% export duty on iron and steel products from May. Among the 25 key markets for engineering goods, exports to 15 countries recorded a decline Iron and steel exports fell nearly 37% during the April to September period.

5. Rani Chennamma (Kittur Rani Chennamma) (1778-1829)- The statues of Kittur Rani Chennamma and the military chief of Kittur Princely state, Sangolli Rayanna will be installed in Belagavi (Karnataka).

She was the Indian Queen of Kittur, a former princely state in present-day Karnataka. She defeated the Company (in defiance of Paramourty) in the first revolt, but died as a prisoner of war after the second rebellion. As one of the first and few female rulers to lead rebel forces against British colonisation, she continues to be remembered as a folk hero in Karnataka.

25.10.22

1. Dirty Bomb: Russia recently claimed that Ukraine is planning to use a dirty bomb.

It is a bomb that contains radioactive material, such as uranium, which is scattered through the air when its conventional explosive detonates. It doesn't need to contain highly refined radioactive material, as is used in a nuclear bomb. Instead, it could use radioactive materials from hospitals, nuclear power stations etc.

Thus, it is much cheaper and quicker to make than nuclear weapons. They can also be carried in the back of a vehicle. However, as weapons, they are very unreliable.

For the radioactive material in a dirty bomb to be scattered across its target zone, it has to be reduced to powder form. But if the particles are too fine or released into strong winds, they will scatter too widely to do much harm.

2. Partial Solar Eclipse: An eclipse happens when the moon while orbiting the Earth, comes in between the sun and the Earth, due to which the moon blocks the sun's light from reaching the Earth, causing an eclipse of the sun or a solar eclipse.

3. Total solar eclipse: This happens when the sun, moon and Earth are in a direct line. The dark silhouette of the Moon completely covers the intense bright light of the Sun. Only the much fainter solar corona is visible during a total eclipse which is known as a Totality.

Partial solar eclipse: This happens when the sun, moon and Earth are not exactly lined up. The shadow of the moon appears on a small part of the sun.

Annular solar eclipse: This happens when the moon is farthest from the Earth, which is why it seems smaller. In this type of an eclipse, the moon does not block the sun completely, but looks like a “dark disk on top of a larger sun-colored disk” forming a “ring of fire”.

4. New Basmati Varieties: Five new Basmati varieties, developed by a group of scientists from Indian Agriculture Research Institute (IARI), in 2020 and 2021

Three of the five varieties can resist two common diseases of paddy. Bacterial leaf blight (BLB) and blast (leaf and collar) diseases caused by the fungus Magnaporthe Oryzae.

India is known for its Basmati rice, with the produce from seven States — Jammu and Kashmir, Himachal Pradesh, Punjab, Haryana, Delhi, Uttar Pradesh and Uttarakhand — earmarked for Geographical Indication.

5. Sandalwood Spike Disease (SSD): It is caused by phytoplasma — bacterial parasites of plant tissues — which are transmitted by insect vectors. The disease was first reported in Kodagu in 1899.

It is being classified as “vulnerable” by the IUCN in 1998. Presently, there is no option but to cut down and remove the infected tree to prevent the spread of the disease.

Between 1 and 5% of sandalwood trees lost every year due to the disease.

6. ISRO’s heaviest rocket LVM3-M2: ISRO has renamed the Geosynchronous Satellite Launch Vehicle (GSLV) Mark -III as Launch Vehicle Mark-III, mainly to identify its task of placing satellites into a variety of orbits. LVM3 -M2 is the dedicated commercial satellite mission of New Space India Limited (NSIL), CPSE under the Department of Space, Government of India.

It can carry up to 8 tonnes into low earth orbit (LEO-up to 1,200 km above the Earth). The rocket is a three-stage launch vehicle consisting of two solid propellant S200 strap-ons on its sides and core stage comprising L110 liquid stage and C25 cryogenic stage. The PSLV is much lighter and can carry between 1.4 and 1.75-tonne payloads.

26.9.22

1. L.69 Group: The L.69 group is of pro-reform member states, including primarily developing countries from Africa, Latin America and the Caribbean, Asia and the Pacific.

The Group is bound by the firm conviction that expansion in both the permanent and non-permanent categories of membership of the UNSC is imperative to better reflect contemporary world realities.

Members - The group currently has 42 countries as its members.

India is also the member of the group.

2. Operation Megh Chakra: The Central Bureau of Investigation (CBI) conducted searches across India, as part of a pan-India drive against the circulation and sharing of Child Sexual Abuse Material (CSAM).

The Operation Megh Chakra was carried out following the inputs from Interpol’s Singapore special unit.

The Operation Carbon is also a similar exercise conducted by the Central Bureau of Investigation (CBI).

3. Moon Wobble: The 'wobble' is a fluctuation in its gravitational pull that influences tidal activity. It is a result of the moon's elliptical orbit.

The process is cyclical and takes place every 18.61 years.

During one half of this cycle, Earth's regular tides are suppressed while the other half produces amplified tidal activity.

Findings of the Study - Now, the study has found that these long-phase tidal cycles play an important role in the regulation of tidal wetland ecosystems - such as the growth of mangrove forests.

4. Neurodiversity: Neurodiversity in the workplace refers to including people with neurodivergent conditions such as attention-deficit/hyperactivity disorder, autism spectrum disorders, dyslexia, dyspraxia, dyscalculia and Asperger's Syndrome.

Harvard Health Publishing defines neurodiversity as a notion that every person interacts and experiences their surroundings differently; there is no right way of thinking, learning, or/and behaving. These differences should not be construed as defects or disorders.

According to a recent report, nearly 2 million people in India suffer from this neurological and developmental disorder and are therefore identified as autistic.

5. Water Trading: Niti Aayog will bring out a policy for trading in Water on commodity exchange in India, similar to Gold, Silver and Oil. It aims to ensure better price discovery of water, efficient use and more investment into water resources.

Water trading is the process of buying and selling water access entitlements, also often called water rights.

Water trade allows water holders to decide whether they need to buy or sell water at a particular time.

1st tradable water price futures index was launched on the Chicago stock exchange in 2020.

It is in practice in Australia, Chile, USA Etc.

27.9.22

1. Surjapuri and Bajjika dialects: Bihar State education department is to set up academies for the promotion of the Surjapuri and Bajjika dialects on the lines of the Hindi and Urdu academies.

Surjapuri is spoken mainly in Kishanganj and other parts of Seemanchal in northeastern Bihar. The dialect, a mix of Bangla, Urdu, and Hindi, is also spoken in parts of West Bengal.

Bajjika, one of five dialects spoken in Bihar, is a mix of Hindi and Maithili and is spoken mainly in Vaishali, Muzaffarpur, and parts of Sitamarhi, Sheohar and Samastipur. Bajjika is not as well-known as other dialects such as Bhojpuri and Maithili.

2. Coffee-ring Effect: When a drop of spilt coffee dries up, the outermost edge of the dried drop is a little darker than the centre, forming a darker 'ring'. This is called the 'coffee ring effect'.

This is caused by the outward drift of suspended coffee particles from the centre, causing a denser, darkened rim. Gapped coffee ring - The inward movement takes place because the particles are 'squished' between the solid plate and the evaporating liquid interface.

Hence, the 'coffee' ring is not formed at the point where the liquid touches the solid, but there is a small gap between the outermost edge and the ring.

Using the theory of evaporating drops, the researchers could calculate the rate at which the liquid interface gets flattened.

3. Avalanche Monitoring Radar: An avalanche monitoring radar (the 1st of its kind) has been installed in North Sikkim by the Army and Defence Geoinformatics and Research Establishment (DGRE), a lab under the Defence Research Development Organisation (DRDO).

The radar has the capability to detect avalanches within 3 seconds of its trigger in the super high-altitude areas. This radar can also be employed to detect landslides.

The radar can see through snow, fog as well as in the night, making it an all-weather solution.

4. NavIC: Navigation in Indian Constellation (NavIC) is an Indian Regional Navigation Satellite System (IRNSS), developed by the Indian Space Research Organization (ISRO).

IRNSS consists of eight satellites, three satellites in geostationary orbit and five satellites in geosynchronous orbit. The main objective is to provide reliable position, navigation and timing services over India and its neighbourhood.

It works just like the established and popular U.S. Global Positioning System (GPS) but within a 1,500-km radius over the sub-continent.

5. Rotterdam Convention: International trade of two new hazardous pesticides — Iprodione and Terbufos — has been recommended for “prior informed consent” (PIC) procedure under the Rotterdam convention.

The Rotterdam Convention is an international treaty designed to facilitate informed decision-making by countries with regard to trade in hazardous chemicals.

Terbufos is a soil insecticide used commonly on sorghum, maize, beet and potatoes. It has also been found to pose risk to aquatic organisms due to its toxicity. In India, the use of these chemicals was permitted by the 2015 Anupam Verma committee report. The country is among the largest exporters of Terbufos.

Iprodione, a fungicide used on vines, fruits, trees and vegetables, has been classified as carcinogenic and toxic for reproduction.

28.9.22

1. Malthusian Trap: Malthus contended that the world’s population was growing more rapidly than the available food supply. He argued that the food supply increases in an arithmetic progression (1, 2, 3, 4, and so on), whereas the population expands by a geometric progression (1, 2, 4, 8,..)

According to him, the population could increase by multiples, doubling every twenty-five years. He said the gap between the food supply and population will continue to grow over time.

Malthusian Trap: In the long run, the population will not be growing because of food shortages; this situation is also called the Malthusian trap.

Neo Malthus theory: It supported the preventive check to avoid food shortages for the current population and for the future population.

2. AgriAdapt: it was developed by the World Resources Institute (WRI) and National Agro Foundation

The aim of the tool is to direct farmers towards potential farming activities that change in climate. This tool make farmers to understand the conditions that impact their farm, so to make more business.

It communicates the data to farmers through maps in the regional language.

Satellites and International organisations deliver data’s from collecting information on climate and land suitability.

The tool’s feature is to target three crops: Rice (Tamil Nadu), Cotton (Andhra Pradesh), Coffee (Colombia)

3. Silphion: The resin of the silphion was extensively used as a spice, perfume, aphrodisiac, contraceptive and medicine. It occupied an important place in the export economy of ancient Cyrene, an old Greek and later Roman colony near north-eastern Libya

it was used to treat various health problems, including goitre, sciatica (nerve pain), toothache etc.

Its stalks were eaten as a vegetable, while the roots were consumed raw. Overharvesting may have driven the plant into extinction.

4. JALDOOT App: JALDOOT app has been jointly developed by the Ministry of Rural Development and Panchayati Raj.

This app will be used across the country to capture the water level of selected 2-3 wells in a village. The app will work in both online and offline mode.

The data will be used in making plans for groundwater augmentation under Gram Panchayat Development Plan (GPDP) and Mahatma Gandhi NREGA.

5. Fund of Funds for Start-Ups India Investment: Ministry of Commerce and Industry has committed over 7000cr for Alternate Investment Funds (AIF). AIF will use the money to invest in the Start-Ups.

This facility is available only to SEBI-registered AIFs.

Alternative Investment Funds are those funds created or established in India as a privately pooled investment vehicle in order to collect funds from specific investors as per a previously defined investment policy.

Fund of the Fund for Start-Ups comes under the Start-Up India scheme (2016) to mobilize domestic capital for the Indian start-up ecosystem. It will help start-ups avail funds at the early and seed stage and reduce their dependence on foreign capital.

29.10.22

1. Tulu and Kodava: Speakers have opposed the draft of the Kannada Language Comprehensive Development Bill, 2022 to ensure the “extensive use” of Kannada. Both are Dravidian languages.

The native speakers of Tulu are referred to as Tuluva or Tulu people and the geographical area is unofficially called Tulu Nadu. Separated early from Proto-South Dravidian, Tulu has several features not found in Tamil–Kannada. At present, Tulu is not an official language in the country. Tulu has a rich oral literature tradition with folk-song forms like paddana, and traditional folk theatre yakshagana.

Kodava, which is also called Coorgi, is spoken mainly in Kodagu district.

2. IMT TRILAT: The first edition of India-Mozambique-Tanzania Trilateral Exercise (IMT TRILAT), a joint maritime exercise among the Indian, Mozambique and Tanzanian navies commenced at Dar Es Salaam, Tanzania

Indian Navy is represented by the guided missile frigate, INS Tarkash, a Chetak helicopter and MARCOS (Special Forces).

3. Salmonella typhimurium DT104: It is a disease caused by the bacteria Salmonella.

Salmonella Typhimurium and salmonella typhi are two types of salmonella bacteria.

It is usually characterized by acute onset of fever, abdominal pain, diarrhoea, nausea and sometimes vomiting.

According to a recent study, multi-drug resistant Salmonella typhimurium DT104 causes infections in humans and cattle.

4. Kalanamak Rice: it is a traditional variety of paddy with black husk and strong fragrance.

It is considered a gift from Lord Buddha to the people of Sravasti when he visited the region after enlightenment. It is protected under the Geographical Indication (GI) tag system.

Grown in Terai region of north-eastern Uttar Pradesh and in Nepal, the traditional variety has been prone to 'lodging', a reason for its low yield. (Lodging is a condition in which the top of the plant becomes heavy because of grain formation, the stem becomes weak, and the plant falls on the ground.)

2 new varieties developed by IARI: Pusa Narendra Kalanamak 1638 and Pusa Narendra Kalanamak 1652.

5. Kushan coinage: According to historians, the Kushans, who hailed from the Central Asian region and ruled till 3rd century AD, were the first to use the image of Goddess Lakshmi on their coins, along with Ardochsho, the Iranian Goddess of wealth.

The Kushans also depicted Oesho [Shiva], moon deity Miro and Buddha in their coinage.

Closer home, the Vijayanagara kings used coinage with Hindu idols. Harihara –II (1377-1404) introduced coins that had Brahma-Saraswati, Vishnu-Lakshmi and Shiva-Parvati.

coins with Goddess Lakshmi were also issued by Mohammed bin Sam, known to us as Mohammed Ghori after defeating Prithviraj Chauhan in the battle of Terrain in 1192 AD.

30.9.22

1. Encyclopedia of Tribes in Odisha: Odisha became the first state in the country to start an encyclopedia on tribal communities to document their age-old and unique traditions.

The purpose of this book is to preserve the rapidly changing cultural identity of tribal communities in the state. It brings together both published and unpublished data regarding the tribes' ethnography and development over the years, covering their past as well as the present.

2. Global Innovation Index 2022: India rose to 40th among 132 countries in the Global Innovation Index 2022, jumping six places from a year ago, according to the rankings released by the World Intellectual Property Organisation (WIPO).

Reasons: Improvement in information and communication technologies (ICT) services exports, venture capital recipients' value as well as finance for start-ups.

Switzerland, the US, Sweden, the UK and the Netherlands are the world's most innovative economies, with China on the threshold of the top 10.

3. World's first CNG terminal: Prime Minister laid the foundation stone for the "world's first CNG (Compressed Natural Gas) terminal" at Bhavnagar in Gujarat.

The Bhavnagar port is in close vicinity to the Dholera Special Investment Region (SIR) and is expected to serve the industries that set up base in the region.

It is already connected to the northern hinterland through a railway line that extends to the existing berths at the port.

CNG is obtained by compressing NG under high pressure. Reduces its volume.

>90% is Methane and 3-4% is Ethane. CNG is also very light, so if there is a leak, it will dissipate rapidly into air but LPG will settle on ground. This makes CNG a safer choice over LNG. CNG releases less GHGs.

4. 50 Textiles listed in the UNESCO document: under the title "Handmade for the 21st Century: Safeguarding Traditional Indian Textile".

The UNESCO document lists the histories and legends behind the textiles, describes the complicated and secret processes behind their making, mentions the causes for their dwindling popularity, and provides strategies for their preservation.

From North: Khes from Panipat, Chambarumals from Himachal Pradesh, Thigma or wool tie and dye from Ladakh and Awadh Jamdani from Varanasi.

From the south: Ilkal and Lambadi or Banjara embroidery from Karnataka, Sikalnayakanpet Kalamkari from Thanjavur, Toda embroidery and Sungadi from Tamil Nadu and Himroo weaves from Hyderabad.

Other states: Kunbi weaves from Goa, Mashru weaves and Patola from Gujarat, Himroo from Maharashtra and Garad-Koirial from West Bengal and Bandha tie and dye weaving from Sambalpur in Odisha.

5. Single women get equal abortion rights: In a historic judgment, the Supreme Court allowed unmarried and single women whose pregnancies are between 20 and 24 weeks to access safe and legal abortion care on par with their married counterparts.

Violation of the right to equality before law and equal protection (Article 14): Prohibiting single or unmarried pregnant women while allowing married women with the same term of pregnancy.

31.10.22

1. Machchhu River: Machchhu River originates from Madla hills (Jasdan) and meets in little Rann of Kuchchh. It is a North flowing river of Saurashtra in Gujarat state.

There are 2 dams located on river Machchhu River - Machchhu-I & Machchhu-II.

The newly-restored colonial-era suspension bridge, Morbi Bridge, Locally known as the Julto Pool, over Machchhu River collapsed after 5 days of reopening.

2. OneWeb Satellites: ISRO has successfully conducted an acceptance hottest of the CE-20 engine that will be used to launch the next batch of 36 OneWeb satellites into Low Earth Orbit

It is a global communications network, powered from space, enabling connectivity for governments, businesses, and communities. OneWeb has teamed up with NewSpace India Limited (NSIL)

OneWeb Constellation operates in a LEO Polar Orbit

Satellites are arranged in 12 rings (Orbital planes) with 49 satellites in each plane. Each satellite completes a full trip around the earth every 109 minutes.

3. Gangetic River Dolphin: It is primarily found in the Ganges and Brahmaputra Rivers and their tributaries in India, Bangladesh and Nepal.

IUCN Status: Endangered, CITES: Appendix I, Wildlife (Protection), Act 1972: Schedule 1

They prefer deep waters in and around the confluence of rivers and can be an indicator of the health of the freshwater ecosystem as they can only live-in freshwater.

The female Gangetic Dolphins are larger than males. They are generally blind, using echolocation to detect their prey.

They are popularly known as 'Susu' which refers to the noise the dolphin is said to make when it breathes.

The Government of India has recognised them as National Aquatic Animal and is the official animal of the Indian city of Guwahati.

It is also among the four freshwater dolphins in the world- the other three are: Baiji (likely extinct) found in Yangtze River in China, the Bhulan in the Indus river of Pakistan, and the Boto in the Amazon river in Latin America.

4. Myositis: It is a rare condition that causes muscles to become weak, painful and tired. Myo means muscle, itis means inflammation. When muscles are inflamed, they may be swollen and susceptible to pain.

Causes: It is usually caused by a problem with the immune system, where it mistakenly attacks healthy tissue. In most cases, the exact cause of myositis is unknown and therefore considered idiopathic.

Since there is no one medical treatment that fits all, immunosuppressant drugs are recommended along with physical therapy, exercise, stretching, and yoga

5. Amur falcons: The world's longest travelling raptors. Locally known as Akhuipaina, the bird arrives mainly in Manipur and Nagaland on its southbound migration from breeding grounds in North China, Eastern Mongolia and far-east Russia en-route to its wintering grounds in South Africa.

Amur falcon is protected under the Wildlife Protection Act 1972 and included under its Schedule IV. IUCN status is Least Concern.

PIB

1/10/2022

ULIP: Unified Logistics Interface Platform (ULIP), launched by Prime Minister Shri Narendra Modi, as part of the 'National Logistics Policy (NLP)' is the promising initiative in the logistics sector that aims to bring ease of doing business in the logistics sector by simplifying the logistics processes, improving its efficiency, bringing in transparency and visibility, and reducing logistics cost & time. ULIP to provide direct and indirect benefits like monitoring of cargo movement, consignment tracking, inventory management thereby helping in structured planning to the stakeholders.

Technology telecom development fund: Universal Service Obligation Fund (USOF), a body under the Department of Telecommunications, officially launched Telecom Technology Development Fund (TTDF) Scheme. The scheme is aligned with Prime Minister, Shri. Narendra Modi's clarion call of adding Jan Anusandhaan in the new phase of Amrit Kaal. Telecom Technology Development Fund (TTDF) aims to fund R&D in rural-specific communication technology applications and form synergies among academia, start-ups, research institutes, and the industry to build and develop the telecom ecosystem.

SPARSH: SPARSH is a web-based system for processing the pension claims and crediting the pension directly into the bank accounts of defence pensioners without any external intermediary. It is an end-to-end solution to all pension-related processes, from claim initiation to disbursement. Pensioners can log on to the portal and get their pension-related issues resolved.

DARPAN: The Defence Accounts Receipts and Payment System is a unified solution for third party bill payment and accounting. Its real-time processing will provide comprehensive insights into various accounting and financial performances of the defence sector.

Essential commodities: There is no specific definition of essential commodities in the Essential Commodities Act, 1955. Section 2(A) of the Act states that an "essential commodity" means a commodity specified in the Schedule of the Act. The Centre, if it is satisfied that it is necessary to do so in the public interest, can notify an item as essential, in consultation with state governments.

The ECA 1955 is used to curb inflation, prevent hoarding and black marketing of foodstuffs.

3/10/2022

National Means-cum-Merit scholarship scheme: Under the 'National Means-cum-Merit Scholarship Scheme' scholarships are awarded to meritorious students of economically weaker sections to arrest their drop out at class VIII

and encourage them to continue their education at secondary stage. One lakh fresh scholarships are awarded to selected students from class IX every year and their continuation / renewal in classes X to XII for students studying in State Government, Government-aided and local body schools. The amount of scholarship is Rs. 12000/- per annum. The National Means cum Merit Scholarship Scheme (NMMSS) is boarded on the National Scholarship Portal (NSP) - a one stop platform for scholarship schemes given to students.

NMMSS scholarships are disbursed directly into the bank accounts of selected students by electronic transfer through Public Financial Management System (PFMS) following DBT mode. This is a 100% centrally sponsored scheme.

Network planning group: Infrastructure projects, entailing investment of over ₹500 crore, would now route through the network planning group (NPG) constituted under the PM Gati Shakti initiative with the Finance Ministry issuing the necessary instructions and creation of the national masterplan digital platform.

NPG consists of heads of the network planning wing of respective infrastructure ministries.

Khadi and Village industries commission: The Khadi and Village Industries Commission (KVIC) is a statutory body formed in April 1957 by the Government of India, under the Act of Parliament, 'Khadi and Village Industries Commission Act of 1956'. It is an apex organisation under the Ministry of Micro, Small and Medium Enterprises, with regard to khadi and village industries within India, which seeks to - "plan, promote, facilitate, organise and assist in the establishment and development of khadi and village industries in the rural areas in coordination with other agencies engaged in rural development wherever necessary."

YUVA 2.0: YUVA 2.0 - Prime Minister's Scheme for Mentoring Young Authors, an Author Mentorship programme to train young and budding authors (below 30 years of age) in order to promote reading, writing and book culture in the country, and project India and Indian writings globally. In view of the significant impact of the first edition of YUVA with large scale participation from young and budding authors in 22 different Indian languages and English, YUVA 2.0 is now being launched.

The national book trust, India, under the ministry of education as the implementing agency will ensure phase-wise execution of the scheme under well-defined stages of mentorship.

4/10/2022

Operation Sewa: With a view to provide safe and comfortable journey, RPF personnel assist the elderly citizens, women, physically disabled and provide amenities like wheelchairs, stretchers, medical help, ambulances, Infant food etc. under operation "SEWA".

In furtherance of the pledge of "Sewa Hi Sankalp" by RPF, a pan India month long drive under the code name SAMSAR (SAMAJIK SAROKAR) incorporating the elements of several focused operations namely Operation "SEWA", Operation "Dignity", Operation "Nanhe Fariste", Mission "Jeewan Raksha" and Operation "Matrishakti" was conducted in the month of September 2022.

SFURTI: The Ministry of MSME is implementing a Scheme of Fund for Regeneration of Traditional Industries (SFURTI) with a view to organize traditional industries and artisans into clusters to make them competitive and increase their income. Khadi and Village Industries Commission (KVIC) is the nodal Agency for promotion of Cluster development for Khadi as well as for Village Industries products.

Dholera: Dholera to become Semicon hub, will usher in for Gujarat's Techade. Shri Narendra Modi is building a New India for Young India with reimagined ambitions so that we can achieve our target of One Trillion USD Digital economy/ 5T USD Economy and also emerge as a trusted partner in technology.

Pakhwada: Pakhwada includes variety of activities such as Rallies, Prabhat Pheri, Distribution of Pamphlets, Wall Writing, Seminars, Lectures by Resource Persons, and other community activities.

Swachhtapakhwada is an occasion to pledge the support of the higher educational institutions for spreading the message of cleanliness not only among the students but also in the surrounding areas. This is one of the key programmes under the Swachh Bharat Mission.

NAFED: National Agricultural Cooperative Marketing Federation of India (NAFED) was established on Gandhi Jayanti on 2 October 1958. NAFED is registered under the Multi State Co-operative Societies Act. It was setup with the object to promote co-operative marketing of agricultural produce to benefit the farmers. Agricultural farmers are the main members of NAFED, who have the authority in the form of members of the General Body in the working of the body. Recently MoU signed between Department of Agriculture & Farmers Welfare and NAFED to boost International Year of Millets (IYOM)-2023.

5/10/2022

Quality council of India: Quality Council of India was set up in 1997, jointly by the Government of India and the Indian Industry represented by the three premier industry associations i.e. Associated Chambers of Commerce and Industry of India (ASSOCHAM), Confederation of Indian Industry (CII) and Federation of Indian Chambers of Commerce and Industry (FICCI), with Mr Ratan Tata as its first Chairman.

It is an autonomous body attached to the Department of Industrial Policy & Promotion, Ministry of Commerce and Industry.

The Chairman of QCI is appointed by the Prime Minister on recommendation of the industry to the government.

Sugar production: India emerges as the world's largest producer and consumer of sugar and world's 2nd largest exporter of sugar.

Sugar is a labour-intensive industry. Sugar production is a seasonal industry with a short crushing season varying normally from 4 to 7 months in a year. Rangarajan committee (2012) was set up to give recommendations on regulation of sugar industry.

US-INDIA strategic clean energy partnership: The revamped USISCEP was launched in accordance with U.S.-India Climate and Clean Energy Agenda 2030 Partnership at the Leaders' Summit on Climate held in April 2021.

The partnership continues to advance energy security and innovation; scaling up emerging clean energy technologies; and deploying technical solutions through 5 pillars:

(i) Responsible Oil and Gas Pillar (ii) Power and Energy Efficiency Pillar (iii) Renewable Energy Pillar (iv) Sustainable Growth Pillar (v) Emerging Fuels and technologies.

Pradhan Mantri Krishi Sinchayee Yoiana: PMKSY is a Centrally Sponsored Scheme (Core Scheme) launched in 2015. Centre- States will be 75:25 per cent. In the case of the north-eastern region and hilly states, it will be 90:10.

Its objectives are:

Convergence of investments in irrigation at the field level.

To expand the cultivable area under assured irrigation (Har Khet ko pani).

To improve on-farm water use efficiency.

To enhance the adoption of precision-irrigation.

Port Al-Shuwaikh: The ships of First Training Squadron (1TS) comprising INS Tir, Sujata and CGS Sarathi arrived at Port Al-Shuwaikh, Kuwait. The ships are deployed in the Persian Gulf as part of their training deployment.

The ships of 1TS, based at Kochi, are part of the Southern Naval Command, Indian Navy's Training Command.

6/10/2022

Hydrogen cofiring: State-run National Thermal Power Corporation (NTPC) has signed an MoU with GE Gas Power to explore the feasibility of hydrogen (H₂) co-firing blended with natural gas in GE's gas turbines installed at NTPC's Kawas gas power plant in Gujarat.

Co-firing is the combustion of two different types of materials at the same time. One of the advantages of co-firing is that an existing plant can be used to burn a new fuel, which may be cheaper or more environmentally friendly.

Ayushman Bharat scheme: The government-sponsored health insurance scheme will provide free coverage of up to Rs 5 lakh per family per year at any government or even empanelled private hospitals all over India for secondary and tertiary medical care facilities.

There is no restriction on the basis of family size, age or gender.

Ayushman Bharat is unlike other medical insurance schemes where there is a waiting period for pre-existing diseases. All kinds of diseases are covered from day one of the Ayushman Bharat policy. The benefit cover includes both pre and post hospitalization expenses.

Lok Adalat: NALSA along with other Legal Services Institutions conducts Lok Adalats. Lok Adalat is one of the alternative dispute redressal mechanisms, it is a forum where disputes/cases pending in the court of law or at pre-litigation stage are settled/ compromised amicably. Lok Adalats have been given statutory status under the Legal Services Authorities Act, 1987.

Under the said Act, the award (decision) made by the Lok Adalats is deemed to be a decree of a civil court and is final and binding on all parties and no appeal against such an award lies before any court of law.

Bureau of Indian Standard: The Bureau of Indian standards (BIS) Act 2016 establishes the Bureau of Indian Standards (BIS) as the National Standards Body of India.

BIS act provides enabling provisions for making hallmarking of precious metal articles mandatory.

The Act enables the Central Government to appoint any authority/agency, in addition to the BIS, to verify the conformity of products and services with the established standard and issue certificate of conformity.

International film festival of India: It is biggest state-backed international film festival in India. It is conducted jointly by Union Ministry of Information and Broadcasting, Directorate of Film Festivals and Government of Goa.

It was started in 1952 and since then held annually in Goa. It aims at providing common platform for cinemas of world to project the excellence of the film art. It also seeks to contribute to create awareness for understanding and appreciation of film cultures of different nations.

7/10/2022

Artificial Intelligence: Recently 3rd edition of Global Artificial Intelligence Summit & Awards was held. It was proclaimed that Artificial Intelligence to act as a catalyst in India's development journey and help realise goal of becoming a developed nation by 2047.

'Make in India' initiative juxtaposed with AI technology, will enable India to become the factory of the world.

AI being used to effectively distribute food to the poor under PMGKY, monitor performance of fair price shops, help map needs of the poor.

Credit guarantee scheme for startups: The Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry has notified the establishment of the Credit Guarantee Scheme for startups (CGSS) for providing credit guarantees to loans extended by Scheduled Commercial Banks, Non-Banking Financial Companies and Securities and

Exchange Board of India (SEBI) registered Alternative Investment Funds (AIFs).

CGSS is aimed at providing credit guarantee up to a specified limit against loans extended by Member Institutions (MIs).

The credit guarantee cover under the Scheme would be transaction based and umbrella based.

Cheetah task force: Ministry of Environment, Forest and Climate Change has constituted a Task Force for monitoring Cheetah introduction in Kuno National Park, Madhya Pradesh and other suitable designated areas.

The National Tiger Conservation Authority (NTCA) would facilitate the working of Cheetah Task Force and render all necessary help. The Task Force shall be in-force for a period of two years.

This task force may appoint a subcommittee to regularly visit the Cheetah introduction area as and when decided by them.

Pradhan Mantri Rashtriya Bal Purushkar Award: The Pradhan Mantri Rashtriya Bal Puraskar (Prime Minister's National Award for Children) is a civilian honour in India. It is administered by the Ministry of Women and Child Development. The award has two categories: Bal Shakti Puraskar, awarded to Indian citizens under the age of 18 for outstanding achievement in innovation, scholastic achievements, social service, arts and culture, bravery, or sports, and Bal Kalyan Puraskar, to individuals or organisations that have made outstanding contributions in child development, child protection, or child welfare. It is conferred by the President of India in the week preceding Republic Day.

Cyber Jagrukta Diwas: Cyber Jaagrukta Diwas is an initiative launched by the Ministry of Home Affairs that requires all government organizations to spread cybersecurity awareness. It is observed on first Wednesday of every month. The purpose is to create awareness and sensitize the Internet users on safeguarding against cyber frauds and cybercrimes.

8/10/2022

Weapon system branch: In a historic step for the Indian Air Force (IAF), Government has approved the creation of a new branch, called the Weapon Systems (WS) branch. The creation of WS branch would entail unification of all weapon system operators under one entity dedicated to the operational employment of all ground-based and specialist airborne weapon systems.

The branch would encompass operators in four specialised streams of Surface-to-Surface missiles, Surface-to-Air missiles, Remotely Piloted Aircraft and Weapon System Operators in twin/multi-crew aircraft.

Pneumococcal conjugate vaccine: Pneumonia is one of the major causes of child mortality. Pneumococcal Conjugate Vaccine (PCV) was introduced by Govt. of India in 2017 in a phased manner across the most affected five states of India viz., Bihar, Himachal Pradesh, Madhya Pradesh, Rajasthan and Uttar Pradesh. Thereafter, the PCV under the Universal Immunization Programme (UIP) has been expanded throughout the country.

The PCV is now an integral part of India's Universal Immunization Programme (UIP) and is available free of cost to the entire birth cohort of 27.1 million. It is given in three dose schedule (6 weeks, 14 weeks and booster at 9-12 months).

Agni tattva campaign: Power Foundation of India in association with Vijnana Bharati (VIBHA) is currently running a campaign to create awareness on Agni Tattva under LiFE - Lifestyle for environment. This campaign includes conferences, seminars, events, and exhibitions across the country involving educational institutions, communities, and relevant organisations to create awareness of the core concept of Agni Tattva, an element that is synonymous with energy and is amongst the five elements of Panchmahabhoot.

The first conference of the Agni campaign was organised in Leh on the theme of 'Sustainability and Culture'.

The Agni Tattva campaign - Energy for LiFE, an initiative under the umbrella campaign of Sumangalam, was launched by Union Minister of Power and New & Renewable Energy, in New Delhi.

Indian Air Force Day 2022: IAF Marks 90 Years with Celebration in Chandigarh. Indians proudly celebrate October 8 as the day to pay tribute to the air warriors of the Indian Air Force (IAF) who tirelessly defend the nation by securing the Indian airspace and conducting rescue operations during natural calamities

Aspirational district programme: It was launched in 2018 which aims to transform districts that have shown relatively lesser progress in key social areas.

Aspirational Districts are those districts in India, that are affected by poor socio-economic indicators.

It is based on-

Convergence (of Central & State Schemes)

Collaboration (of Central, State level 'Prabhari' Officers & District Collectors),

Competition among districts through monthly delta ranking.

10/10/2022

National conference on skilling in non-traditional livelihood for girls: Ministry of Women and Child Development (MWCD) will organize National Conference on Skilling in Non- Traditional Livelihood (NTL) for Girls “Betian Bane Kushal” under the banner of Beti Bachao Beti Padhao on the occasion of the International Day of the Girl Child on 11th October, 2022.

The conference will emphasize convergence between ministries and departments to ensure that girls build their skills and enter the workforce in a diverse set of professions, including science, technology, engineering and mathematics (STEM), where girls have historically been under-represented.

The event will witness signing of MoUs with the Ministry of Skill Development and Entrepreneurship (MSDE) and Ministry of Minority Affairs for Skilling of young Girls for their increased, equal and empowered participation in the workforce.

Handicraft online portal: The Office of the Development Commissioner (handicrafts) has initiated the process of inviting applications to participate in the marketing events through online portal. This provides fully digitized marketing platform to handicraft artisans.

The online process starting from application to selection and finally stall allotment is completely computerised, without any human interface. The online process will provide equal, fair and transparent opportunity to all artisans.

Quantum entanglement: Experiments on the quantum entanglement (where several particles behave like a single unit even when they are separated), which received the Nobel Prize in Physics in 2022 has seen a major achievement by Indian scientists, who have found a simpler way to quantify the amount of entanglement in higher dimensional systems. Entangled state is a crucial state of quantum mechanics and can be used as a resource for quantum communication, quantum computation and information processing tasks that are impossible for classical systems.

Tele-MANAS: Establishing a new milestone in the field of mental health on the occasion of World Mental Health Day, Tele Mental Health Assistance and Networking Across States (Tele-MANAS) initiative of Union Ministry of Health & Family Welfare was launched. Tele-MANAS aims to provide free tele-mental health services all over the country round the clock, particularly catering to people in remote or under-served areas. The programme includes a network of 23 tele-mental health centres of excellence, with NIMHANS being the nodal centre. The Union Government aims to open at least one Tele-MANAS Cell in each State/UT.

4th heli-India summit 2022: Ministry of Civil Aviation inaugurated 4th Heli-India Summit 2022 with the theme ‘Helicopters for last Mile Connectivity’ at Sher-e-Kashmir International Conference Centre, Srinagar.

He announced Project Sanjeevani to be incubated by deploying a helicopter to provide emergency medical services at AIIMS Rishikesh. Jammu & Kashmir has set an example of the best use of helicopter service when it erected transmission lines and towers using heli-cranes (sky cranes) on the Pir Panjal Mountain range.

11/10/2022

Sanjeevani-lifestyle clinics: An integrated facility, aptly named the “Sanjeevani – Lifestyle Clinic” to provide advice on diet, exercise and behavioural counselling thereby rendering comprehensive preventive and curative care on lifestyle diseases to all serving & retired personnel and their dependents has been inaugurated at the Armed Forces Clinic, New Delhi. The aim of “Sanjeevani - Lifestyle Clinic” is to sensitise Armed Forces personnel and dependents identified to be at risk, regarding lifestyle disorders, prevent and manage chronic disorders like diabetes, hypertension and obesity etc, without pharmacologic interventions by promoting a healthy lifestyle through dietary education, exercise and positive motivation. This novel initiative is taken by the Indian army.

Shri Guru Ram Das: Guru Ram Das (1534 – 1581) was the fourth of the ten Gurus of Sikhism. Guru Ram Das is credited with founding the holy city of Amritsar in the Sikh tradition. He shifted his official base to lands identified by Guru Amar

Das as Guru-ka-Chak. This newly founded town was eponymous Ramdaspur, later to evolve and get renamed as Amritsar.

United nation geospatial information congress 2022: Recently, the second United Nations World Geospatial Information Congress (UNWGIC) was held in Hyderabad, India.

About UNWGIC:

Organised By: United Nation Committee of Experts on Global Geospatial Information Management (UN-GGIM)

Objective: To enhance international collaboration among the Member States and relevant stakeholders in Geospatial information management and capacities.

Timeframe: It is conducted every four years. The first UNWGIC was organized by China in October 2018.

Theme of Second UNWGIC: Geo-enabling the Global Village.

India-UAE High level joint task force: The tenth meeting of the UAE-India High Level Joint Task Force on Investments ('The Joint Task Force') took place in Mumbai.

The Joint Task Force was established in 2013 to promote trade, investment and economic ties between the UAE and India. This was the first meeting of the Joint Task Force since the signing of the India-UAE Comprehensive Economic Partnership Agreement (CEPA) and unveiling of the Joint UAE-India Vision Statement in February 2022.

The two sides acknowledged the importance of using the Joint Task Force as a forum to address specific issues and difficulties faced by the companies when investing into each other's countries. India has set up a UAE Plus Desk in 2018 and established a Fast Track Mechanism in 2019 to identify, resolve and expedite issues faced by the UAE companies and investors in India.

13/10/2022

Vande Bharat express: Hon'ble Prime Minister Shri Narendra Modi flagged off the inaugural run of the new Vande Bharat Express from Amb Andaura, Una to New Delhi. In the Union Budget for 2022-2023, the Finance Minister has proposed the development and manufacture of 400 new Vande Bharat trains in the next three years. It is an indigenously designed and manufactured semi high speed, self-propelled train that is touted as the next major leap for the Indian Railways in terms of speed and passenger convenience since the introduction of Rajdhani trains. The Vande Bharat was India's first attempt at adaptation of the train set technology.

Exercise powerEX: Indian Computer Emergency Response Team (CERT-In) in collaboration with Power-CSIRTs (Computer Security Incident Response Teams in Power sector), successfully designed & conducted the Cyber Security Exercise "PowerEX" for 193 invited Power Sector Utilities.

The Objective of the exercise was to "Recognize, Analyse & Respond to Cyber Incident in IT & OT Systems".

Theme: "Defending Cyber induced disruption in IT & OT Infrastructure".

Exercise Prasthan: An offshore security exercise, 'Prasthan' was conducted in the Krishna Godavari Basin Offshore Development Area (ODA) under the aegis of Headquarters, Eastern Naval Command. Conducted every six months, this exercise is an important element of ensuring offshore security and aims to integrate the efforts of all maritime stakeholders involved in offshore defence. Led by the Navy, the exercise saw participation from the various oil operators, like ONGC, RIL, Vedanta, and other stakeholders in the domain of maritime security in the Offshore Defence Area off Kakinada.

Indo-US Vaccine Action Programme: The Department of Biotechnology (DBT) is implementing a focused bilateral collaborative programme known as the Indo-US Vaccine Action Programme (VAP), jointly with the National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), USA, since July 1987.

The current five-year VAP Joint Statement has been extended till 2027, noting the Science and Technology Agreement between United States of America and the Republic of India, with due approval from the Hon'ble Minister of Science & Technology and the Ministry of External Affairs.

Bulk drug park: The Prime Minister, Shri Narendra Modi laid the foundation stone of Bulk Drug Park at Una, Himachal Pradesh.

The Union Cabinet has approved two schemes, namely the scheme on Promotion of Bulk Drug Parks and Production Linked Incentive (PLI) Scheme to promote domestic manufacturing of critical Key Starting Materials/Drug Intermediates. APIs, also called bulk drugs, are significant ingredients in the manufacture of drugs. The Hubei province of China is the hub of the API manufacturing industry.

India is heavily import-dependent for APIs from China. India's API imports stand at around \$3.5 billion per year, and around 70% come from China.

14/10/2022

INS Arihant: INS Arihant carried out a successful launch of a Submarine Launched Ballistic Missile (SLBM). The missile was tested to a predetermined range and impacted the target area in the Bay of Bengal with very high accuracy. All operational and technological parameters of the weapon system have been validated.

INS Arihant is a 'Ship Submersible Ballistic Nuclear Submarine' (SSBN). SSBN's are that class of submarines which can go deep beneath the ocean making them virtually undetectable for months, they also carry nuclear-tipped ballistic missiles.

East Asia Summit: The East Asia Summit (EAS) is a regional forum held annually by leaders of, initially, 16 countries in the East Asian, Southeast Asian, South Asian and Oceanian regions, based on the ASEAN Plus Six mechanism.

Membership expanded to 18 countries including Russia and the United States at the Sixth EAS in 2011.

Since its establishment, ASEAN has held the central role and leadership in the forum. EAS meetings are held after the annual ASEAN leaders' meetings, and plays an important role in the regional architecture of Asia-Pacific.

The 12th East Asia Summit (EAS) Foreign Ministers' Meeting was convened on 5th August 2022 in Phnom Penh, Kingdom of Cambodia.

PM SHRI scheme: 14,500 schools across states and Union Territories will be redeveloped to reflect the key features of the NEP, 2020 under the centrally sponsored scheme known as PM SHRI Schools (PM Schools for Rising India).

While there are exemplary schools like Navodaya Vidyalayas, Kendriya Vidyalayas, the PM SHRI will act as "NEP labs". PM SHRI schools will be an upgrade of existing schools run by the Centre, states, UTs and local bodies.

This essentially means that PM SHRI schools can either be KVs, JNVs, state government schools or even those run by municipal corporations.

Coal and energy: While addressing MINCON 2022 – a Conference on Mines, Minerals and Metals in Nagpur today, ministry said that Government's target is to produce 900 million tonnes of coal in the current year and 163 mines will be auctioned.

He added that the Foundation of the Vidarbha region's development is based on mining and forest, and only mining-based industries can accelerate the progress of the Vidarbha region. The Vidarbha region has 75% of mineral and 80% of the forest resources of Maharashtra and proper utilization of these will increase the Vidarbha region's share in the energy sector. It was also stated that Import of thermal coal in the country to be completely stopped by 2024-2025.

SVEEP (Systematic Voters' Education and Electoral Participation): Started in 2009, as the flagship program of the ECI for voter education. Primary goal is to build an inclusive & participative democracy by encouraging all eligible citizens to vote and make an informed decision & ethical choice

15/10/2022

INS SUNAYNA: INS Sunayna entered Port Victoria Seychelles to participate in the annual training exercise Operation Southern Readiness of Combined Maritime Forces (CMF). It is Indian Navy's Maiden Participation in Combined Maritime Forces Exercise.

CMF is a multinational maritime partnership, which exists to uphold the Rules-Based International Order (RBIO) by countering illicit non-state actors on the high seas and promoting security, stability, and prosperity.

CMF is Commanded by a U.S. Navy Vice Admiral.

Port Gentil: INS Tarkash made a port call at Port Gentil, Gabon as part of her ongoing deployment in the Gulf of Guinea for anti-piracy patrol. This marks the first visit by any Indian Naval Ship to Gabon.

PAREKH: Union government is planning to set up a national regulator PAREKH (Performance Assessment, Review and Analysis of Knowledge for Holistic Development) for achieving a benchmark framework to assess students at the secondary and higher secondary level.

PARAKH, is also part of the National Education Policy (NEP) 2020. PAREKH is a proposed regulator, which will act as a constituent unit of the NCERT, and will also be tasked with holding periodic learning outcome tests like the National Achievement Survey (NAS) and State Achievement Surveys.

Objectives: Setting norms, standards and guidelines for student assessment and evaluation for all recognized school boards of India.

It will encourage and help school boards to shift their assessment patterns towards meeting the skill requirements of the 21st century

Bathukamma: It is a flower festival celebrated predominantly in Telangana and parts of Andhra Pradesh. Every year this festival is celebrated as per Sathavahana calendar for nine days usually in September–October of Gregorian calendar. PM Narendra Modi greets especially the nari shakti of Telegana on this occasion.

Jaldoot app: Ministry of Rural Development and Ministry of Panchayati Raj has jointly developed “JALDOOT App” to be used across the country, to capture the water level of selected wells in a village. The Jaldoot app will enable Gram Rojgar Sahayak (GRS) to measure the water level of selected wells twice a year (pre-monsoon and post-monsoon).

This app will be used across the country to capture the water level of selected 2-3 wells in a village. The app will work in both online and offline mode.

17/10/2022

Pradan Mantri Kisan Samruddhi Kendras: The Prime Minister inaugurated 600 Pradhan Mantri Kisan Samruddhi Kendras (PMKSK) under the Ministry of Chemicals & Fertilisers. Under the scheme, the retail fertiliser shops in the country will be converted into PMKSK in a phased manner.

PMKSK will cater to a wide variety of needs of the farmers and provide agri-inputs (fertilisers, seeds, implements), testing facilities for soil, seeds, and fertilisers; generate awareness among farmers; provide information regarding various government schemes and ensure regular capacity building of retailers at block/district level outlets. More than 3.3 lakh retail fertiliser shops are planned to be converted into PMKSK.

Pradhan Mantri Bhartiya Jan Urvarak Pariyojana: The Prime Minister also launched Pradhan Mantri Bhartiya Jan Urvarak Pariyojana - One Nation One Fertiliser. Under the scheme, Prime Minister launched Bharat Urea Bags, which will help companies market fertilisers under the single brand name ‘Bharat’.

The single brand name for UREA, DAP, MOP and NPK etc. would be BHARAT UREA, BHARAT DAP, BHARAT MOP and BHARAT NPK etc. respectively for all Fertiliser Companies, State Trading Entities (STEs) and Fertiliser Marketing Entities (FMEs). It will result in reducing the cost of fertilisers and increase their availability to the farmers.

Scheme of Assistance to Disabled Persons for Purchase/Fitting of Aids and Appliances (ADIP Scheme): Under the Ministry of Social justice and Empowerment, the ADIP Scheme is in operation since 1981 with the main objective to assist the needy disabled persons in procuring durable, sophisticated and scientifically manufactured, modern, standard aids and appliances that can promote their physical, social and psychological rehabilitation by reducing the effects of disabilities and enhance their economic potential.

Assistive devices are given to PwDs with an aim to improve their independent functioning and to arrest the extent of disability and occurrence of secondary disability.

Anubhav Portal: On the directions of the Prime Minister of India, Department of Pension & Pensioners’ Welfare (DoPPW) had launched an online platform entitled ‘Anubhav’ in March 2015.

It is a means for retiring employees to showcase significant achievements made during their service period. It also provides them with an opportunity to convey information related to their contribution in enhancing the effectiveness of the various Government policies.

It is envisaged that this culture of leaving notes by retirees will become the foundation stone of good governance and administrative reforms in future.

90th INTERPOL General Assembly: The General Assembly is INTERPOL's supreme governing body and meets once a year to take key decisions related to its functioning. The INTERPOL General Assembly meeting is taking place in India after a gap of about 25 years – it was last held in 1997. India's proposal to host the INTERPOL General Assembly in 2022 at New Delhi coinciding with celebrations for 75th year of India's independence was accepted by the General Assembly with overwhelming majority. The event provides an opportunity to showcase best practices in India's law and order system to the entire world.

18/10/2022

Uniform tourist police scheme: Ministry of Tourism in co-ordination with Ministry of Home Affairs and Bureau of Police Research and Development (BPR&D) is organizing National Conference of Director Generals/ Inspector Generals (DGs/IGs) of Police Department of all States/UTs in connection with implementation of Uniform Tourist Police Scheme. Uniform Tourist Police Scheme at pan India level for developing the tourist specific policing with suitable roles and responsibility and training aspects, to provide safer ecosystem to the foreign and domestic tourists in and around tourist destinations, as safety and security and the first & foremost priority of any tourist.

National Metallurgists Award Scheme: National Metallurgists Day Awards, was instituted in 1962 by the then Ministry of Steel & Mines to recognize and honor outstanding contributions of Metallurgists in the metallurgical field covering operation, research, design, education, waste management and energy conservation. The awards are given on an annual basis, only to Indian nationals. The first award was given in 1963 and subsequently every year thereafter. Over the years, the number of categories and the award money were revised upwards. Nominations for the award shall be invited online on the Ministry of Steel's Portal or the centralized portal being developed by MHA.

WISER programme: This is a first-of-its-kind programme, launched to promote women in the field of research and development by lateral entry. It was launched by Indo-German Science & Technology Centre (IGSTC) to encourage women researchers in R&D projects.

WISER programme will enable gender equality as well as participation of women in Science & Technology through IGSTC's program. This programme was launched in addition to the ongoing flagship 2+2 program of the IGSTC. This program of IGSTC is a joint initiative of Department of Science & Technology (DST), India and Federal Ministry of Education & Research (BMBF) of Germany.

Global Housing technology challenge (GHTC) India: For promoting new and innovative construction technologies and systems, Global Housing Technology Challenge- India (GHTC-India) was initiated in January 2019 with an aim to identify and mainstream globally best available proven construction technologies that are sustainable, green and disaster resilient through a challenge format to bring technology transition in construction sector.

The Prime Minister has laid the foundation of LightHouse Projects (LHPs), as part of the Global Housing Technology Challenge-India (GHTC-India) initiative. Six LHPs consisting of about 1,000 houses each with physical & social infrastructure facilities are being constructed at six places across the country.

Increase In MSP for all rabi crops: The increase in MSP for Rabi Crops for Marketing Season 2023-24 is in line with the Union Budget 2018-19 announcement of fixing the MSP at a level of at least 1.5 times of the All-India weighted average Cost of Production, aiming at reasonably fair remuneration for the farmers. The Cabinet Committee on Economic Affairs chaired by Hon'ble Prime Minister Shri Narendra Modi has approved the increase in the Minimum Support Prices (MSP) for all mandated Rabi Crops for Marketing Season 2023-24.

19/10/2022

HTT-40 aircraft: Prime Minister Shri Narendra Modi unveiled HTT-40, an indigenous trainer aircraft designed and developed by Hindustan Aeronautics Limited (HAL). The aircraft has state-of-the-art contemporary systems and has been designed with pilot-friendly features. With over 60 per cent in-house parts and collaboration of private industry, it is a shining example of the vision of 'Aatmanirbhar Bharat'. The HTT-40 would be used for basic flight training, aerobatics, instrument flying and close formation flights whereas its secondary roles would include navigation and night flying. It is a testament to the cutting-edge technology designed to meet primary training requirements of the Indian defence services. It boasts of unique features like running change-over of pilots, hot-refuelling and short-turnaround time.

India- Africa Security Fellowship Programme: The India-Africa Defence Dialogue (IADD) was held on the sidelines of DefExpo 2022. It charted out new areas for enhancing the India-Africa defence and security partnership. During the IADD, 'India-Africa Security Fellowship Programme' was launched. The fellowship will give an opportunity to African scholars to pursue research on defence and security issues in India.

Fit India Movement: It was launched in 2019 to make fitness an integral part of the daily lives of the people of India. Its mission is to bring about behavioral changes and move towards a more physically active lifestyle. It is implemented by the Ministry of Youth affairs and sports.

SATAT scheme: The scheme sustainable alternative for affordable transportation is under the Ministry of Petroleum and Natural Gas.

SATAT has following four objectives:

- Utilising more than 62 million metric tonnes of waste generated every year in India,
- Cutting down import dependence,
- Supplementing job creation in the country, and
- Reducing vehicular emissions and pollution from burning of agricultural / organic waste

20/10/2022

Tekhhand Waste to Energy Plant: The Union Home and Cooperation Minister inaugurated the Tekhhand Waste to Energy Plant, which generates electricity from Municipal Corporation of Delhi waste in New Delhi. With the commissioning of this plant, the capacity for disposal of garbage per day in Delhi will further increase by 2,000 metric tonnes and this plant will also generate up to 25 MW of Green Energy.

AMRUT Mission: Atal Mission for Rejuvenation and Urban Transformation was launched in 500 cities on 25 June 2015, with an aim to provide universal coverage of water supply in 500 selected AMRUT cities and substantial improvement in sewerage coverage.

Concerned Ministry: Housing and Urban Affairs.

It is a centrally sponsored scheme. It covered over 60% urban population for 5 years from FY 2015-16 to FY 2019-20. AMRUT has now been merged with AMRUT 2.0 and ongoing projects will be funded till 31st March, 2023.

Elimination of Single Use plastics: The Ministry of Environment, Forest & Climate Change (MoEF&CC) issued Notification on August 12, 2022 banning production, sale, stocking & distribution, import and usage of identified Single Use Plastic (SUP) items including cutlery items, thin packaging films, candy & ice-cream sticks w.e.f. July 01, 2022.

The Ministry had already banned polythene bags under 75 microns in September 2021, expanding the limit from the earlier 50 microns. From December 2022, the ban will be extended to polythene bags under 120 micron.

According to the Plastic Waste Management Rules, 2016, there is also a complete ban on sachets using plastic material for storing, packing or selling gutkha, tobacco and pan masala. Digital interventions including development of SUP Compliance Monitoring Portal & SUP Public Grievance App were taken up to facilitate the enforcement of ban.

National service scheme: Presented by president of India. Center sector scheme, launched in 1969 under ministry of youth affairs and sports. Ministry of Youth Affairs & Sports, Department of Youth Affairs confers every year the National

Service Scheme Award to recognize and reward outstanding contributions towards voluntary community service made by the Universities/ +2 Council, Programme Officers/NSS Units and NSS Volunteers, with a view to further promote NSS in the country.

Swachh Vayu Sarvekshan-Ranking of Cities under National Clean Air Programme: Under the guidance of the Minister for Environment, Forest and climate Change, the Ministry launched Swachh Vayu Sarvekshan that promotes ranking of 131 cities in the country for implementing City Action Plans prepared as part of National Clean Air Programme (NCAP) for reducing air pollution upto 40% by 2025-26.

Cities are required to do the self-assessment as per the framework provided on PRANA online portal. This assessment is carried out annually.

21/10/2022

Indo-Australian bilateral Relation: Both India and Australia are members of the G-20, Commonwealth, IOR-ARC, ASEAN Regional Forum, Asia Pacific Partnership on Climate and Clean Development, and have participated in the East Asia Summits.

Defence Cooperation between India and Australia has expanded significantly in recent years. An MoU on Defence Cooperation has been signed as well as a Joint Declaration on Security Co-operation was signed.

Australia and India concluded the Mutual Logistic Support Arrangement (MLSA) in 2020.

The agreement facilitates more sophisticated operational cooperation, enabling increasingly complex military engagement, and greater combined responsiveness to regional humanitarian disasters.

The Export Promotion Council for Handicrafts (EPCH): The Export Promotion Council for Handicrafts (EPCH) was established under Companies Act in the year 1986-87. It is a non-profit organisation, with an object to promote, support, protect, maintain and increase the export of handicrafts.

It is an apex body of handicrafts exporters for promotion of exports of Handicrafts from the country. Indian handicrafts exports projected growth of 29 percent(approx) than previous year in 2021-22.

Telecom Regulatory Authority Of India (TRAI):The Telecom Regulatory Authority of India (TRAI) is a regulatory body set up under the Telecom Regulatory Authority of India Act, 1997. It is the regulator of the telecommunications sector in India. It consists of a Chairperson and not more than two full-time members and not more than two part-time members. The TRAI Act was amended by an ordinance, effective from 24 January 2000, establishing a Telecom Disputes Settlement and Appellate Tribunal (TDSAT) to take over the adjudicatory and disputes functions from TRAI. It is under the jurisdiction of Department of Telecommunications, Ministry of Communications, Government of India.

Indian Meteorological Department: The India Meteorological Department (IMD) is an agency of the Ministry of Earth Sciences of the Government of India. It is the principal agency responsible for meteorological observations, weather forecasting and seismology.

IMD is headquartered in Delhi. IMD is also one of the six Regional Specialised Meteorological Centres of the World Meteorological Organisation.

It has the responsibility for forecasting, naming and distribution of warnings for tropical cyclones in the Northern Indian Ocean region, including the Malacca Straits, the Bay of Bengal, the Arabian Sea and the Persian Gulf.

DefEXPO2022:The 12th and largest-ever defence exhibition – DefExpo 2022 – has marked the emergence of India’s defence industry as a sunrise sector for investment on the global scale in line with the theme of the expo – ‘Path to Pride’. In line with AtmaNirbhar Bharat, the Prime Minister Shri Narendra Modi made a number of announcements, including the 4th positive indigenisation list; laid the foundation stone of Air Force Station Deesha, unveiled the HAL-designed & developed HTT-40 trainer aircraft; launched Mission DefSpace etc.

22/10/2020

National Cadet Corps (NCC): The National Cadet Corps (NCC) is the youth wing of the Indian Armed Forces with its headquarters in New Delhi, India. It is open to school and college students on voluntary basis as a Tri-Services Organisation, comprising the Army, the Navy and the Air Force, engaged in developing the youth of the country into disciplined and patriotic citizens.

The soldier youth foundation in India is a voluntary organization which recruits cadets from high schools, higher secondary, colleges and universities all over India.

The cadets are given basic military training in small arms and drill. The officers and cadets have no liability for active military service once they complete their course.

Bhabha Atomic Research Centre (BARC):The Bhabha Atomic Research Centre (BARC) is India's premier nuclear research facility, headquartered in Trombay, Mumbai, Maharashtra, India.

It was founded by Homi Jehangir Bhabha as the Atomic Energy Establishment, Trombay (AEET) in January 1954 as a multidisciplinary research program essential for India's nuclear program.

It operates under the Department of Atomic Energy (DAE), which is directly overseen by the Prime Minister of India.

BARC's core mandate is to sustain peaceful applications of nuclear energy. It manages all facets of nuclear power generation.

Pradhan Mantri Awas Yojana-Gramin (PMAY-G): To achieve the objective of "Housing for All" by 2022, the erstwhile rural housing scheme Indira Awaas Yojana (IAY) was restructured to PMAY-G w.e.f. 1st April, 2016.

It is under the Ministry of Rural development.

Aim: To provide a pucca house with basic amenities to all rural families, who are homeless or living in kutcha or dilapidated houses by the end of March 2022.

Beneficiaries: People belonging to SCs/STs, freed bonded labourers and non-SC/ST categories, widows or next-of-kin of defence personnel killed in action, ex-servicemen and retired members of the paramilitary forces, disabled persons and minorities.

Selection of Beneficiaries: Through a three-stage validation - Socio Economic Caste Census 2011, Gram Sabha, and geo-tagging.

Cost Sharing: The cost of is shared between Central and State Governments in the ratio 60:40 in plain areas and 90:10 for North Eastern and hilly states.

Rozgar Mela Drive: Hon'ble Prime Minister Shri Narendra Modi today launched the first phase of "Rozgar Mela", a recruitment drive for 10 lakh central government jobs. "Rozgar Mela" is an important step towards fulfilling the Prime Minister's continued commitment to provide employment opportunities to the youth and ensure the welfare of the citizens.

As per instructions of the Prime Minister, all Ministries and Departments are working to fill existing vacancies against sanctioned posts in mission mode.

24/10/2022

Chief of Defence staff: Its creation was recommended in 2001 by a Group of Ministers (GoM) that was tasked with studying the Kargil Review Committee (1999) report. He heads the newly created Department of Military Affairs (DMA) in the Ministry of Defence. As the head of DMA, CDS is also the Permanent Chairman-Chiefs of Staff Committee. The CDS

is also vested with the authority to provide directives to the three chiefs. However, he does not enjoy any command authority over any of the forces.

CDS is first among equals, he enjoys the rank of Secretary within the DoD (Department of Defence) and his powers will be confined to only the revenue budget. He will also perform an advisory role in the Nuclear Command Authority (NCA).

SCALE (Skill Certification Assessment for Leather Employees): The SCALE app was launched by the Minister of Education and Skill Development Dharmendra Pradhan during his visit to the Council of Scientific and Industrial Research (CSIR)-Central Leather Research Institute (CLRI) on September 20, 2022. The newly launched app provides a one-stop service for skilling, learning, assessment and job opportunities for the leather industry. The application was developed by the Leather Skill Sector Council (LSSC). It provides online live streaming classes from a studio at the LSSC's office. These classes can be accessed by anyone interested in the leather crafts.

Railway Protection Force: The contingent of RPF is an Armed Force of the Union of India. It is a security force under the ownership of Indian Railways, Ministry of Railways. The history of the RPF dates back to 1882 when various railway companies appointed their own guards for protection of railway property. The force was declared as statutory force in the year 1957 by an enactment of Parliament subsequently declared as an Armed Force of the Union of India in the year 1985.

Windfall Tax: Windfall taxes are designed to tax the profits a company derives from an external, sometimes unprecedented event— for instance, the energy price-rise as a result of the Russia-Ukraine conflict. These are profits that cannot be attributed to something the firm actively did, like an investment strategy or an expansion of business.

A windfall is defined as an “unearned, unanticipated gain in income through no additional effort or expense”. Governments typically levy a one-off tax retrospectively over and above the normal rates of tax on such profits, called windfall tax.

Central Bureau of Narcotics: In one of the biggest destruction operations conducted over 2 weeks in Himachal Pradesh, officers of Central Bureau of Narcotics (CBN) destroyed 1032 hectares (12,900 bighas) of illicit cannabis (ganja) cultivation. Central Bureau of Narcotics is affiliated with India's Department of Revenue and regulated by the country's Central Board Indirect Taxes and Customs. The main function of CBN is to stop opium production and trade, and to issue licenses for production of legal synthetic drugs.

26/10/2022

Blue flag certification: Recently Minicoy, Thundi Beach and Kadmat Beach both in Lakshadweep make it to coveted list of Blue Beaches, an eco-label given to the cleanest beaches in the world.

It is an internationally recognised eco-label that is accorded based on 33 criterias. These criterias are divided into 4 major heads namely, Environmental education and information, Bathing water quality, Environmental management, Conservation and safety services in the beaches. It is accorded by the international jury composed of eminent members - United Nations Environment Programme (UNEP), United Nations World Tourism Organisation (UNWTO), Denmark-based NGO Foundation for Environmental Education (FEE) and International Union for Conservation of Nature (IUCN).

Indian coast guard: ICG was established in August 1978 by the Coast Guard Act, 1978 as an independent Armed force of India. It is the fourth largest Coast Guard in the world.

It is an Armed Force, Search and Rescue and Maritime Law Enforcement agency under the Ministry of Defence. It is headquartered in New Delhi. The concept of forming ICG came into being after the 1971 war. For effective command and control, the Maritime Zones of India are divided into five Coast Guard Regions, namely, North-West, West, East, North-East and Andaman & Nicobar.

The Asian Infrastructure Investment Bank (AIIB): It is a multilateral development bank with a mission to improve social and economic outcomes in Asia.

It is headquartered in Beijing and began its operations in January 2016.

Membership in the AIIB is open to all members of the World Bank or the Asian Development Bank and is divided into regional and non-regional members. Unlike other MDBs (multilateral development bank), the AIIB allows for non-sovereign entities to apply for AIIB membership, assuming their home country is a member. China is the largest shareholder with 26.61 % voting shares in the bank followed by India (7.6%), Russia (6.01%) and Germany (4.2 %). India is a Founding Member. India also has the largest project portfolio within AIIB.

The 7th ASEAN-India Ministerial Meeting: The 7th ASEAN-India Ministerial Meeting (AIMMAF) on Agriculture and Forestry was held recently.

In the meeting, the progress in implementation of various programs and activities under the Medium-Term Action Plan of ASEAN-India Cooperation (Year 2021-2025) was reviewed. The meeting also welcomed the 30th anniversary of ASEAN-India relations. In the meeting, the commitment to ASEAN-India cooperation in agriculture and forestry was reaffirmed. Union Minister Shri Tomar committed to enhance India's cooperation with ASEAN in food security, nutrition, climate change adaptation, digital farming, nature-friendly agriculture, food processing, value chain, agricultural marketing and capacity building.

Har Ghar Jal state: Gujarat has been declared Har Ghar Jal state by Gujarat state Ministry. Goa and Dadra & Nagar Haveli and Daman & Diu (D&NH and D&D) became the first 'Har Ghar Jal' certified State and UT in the country respectively. The people from all the villages have declared their village as Har Ghar Jal through a resolution passed by Gram Sabha, certifying that all households in the villages have access to safe drinking water through taps.

27/09/2022

Dadasaheb Phalke award: The Dadasaheb Phalke Award is India's highest award in the field of cinema. It is presented annually at the National Film Awards ceremony by the Directorate of Film Festivals, an organisation set up by the Ministry of Information and Broadcasting. The recipient is honoured for their "outstanding contribution to the growth and development of Indian cinema"[1] and is selected by a committee consisting of eminent personalities from the Indian film industry.[2] The award comprises a Swarna Kamal (Golden Lotus) medallion, a shawl, and a cash prize of ₹1,000,000.

Integrated Cryogenic Engine Manufacturing: President of India Inaugurates Integrated Cryogenic Engine Manufacturing Facility of Hindustan Aeronautics Limited. Sincere efforts and dedication of ISRO have made India emerge as the sixth country in the world to have Cryogenic Engine Manufacturing Capabilities.

Exercise Kakadu: P8I Long Range Maritime Patrol Aircraft of the Indian Navy participated in the Multinational Maritime Exercise Kakadu 2022 hosted by Royal Australian Navy in Darwin along with INS Satpura.

VSHORADS (very short-range air defence system): VSHORADS is a Man Portable Air Defence System (MANPAD) designed and developed indigenously by DRDO's Research Centre Imarat (RCI), Hyderabad in collaboration with other DRDO laboratories and Indian Industry Partners.

VSHORADS missile incorporates many novel technologies including miniaturized Reaction Control System (RCS) and integrated avionics. The missile, meant for neutralizing low altitude aerial threats at short ranges is propelled by a dual thrust solid motor. The design of the missile including launcher has been highly optimized to ensure easy portability.

SymphoNE: The Game-Changer for Tourism Sector in North Eastern Region Concludes. Sympho-NE will serve as a milestone in the development of tourism potential in the region. Sympho-NE is a great platform to assimilate the best of ideas and best practices that would boost and unleash the potential of tourism sector in the north-eastern region.

29/09/2022

Council of scientific and industrial research (CSIR): CSIR was set up in 1942. It is one of the largest R&D organisations of India. This year the council is celebrating its 81st Foundation Day. CSIR covers a wide spectrum of science and technology – from oceanography, geophysics, chemicals, drugs, genomics, biotechnology and nanotechnology to mining, aeronautics, instrumentation, environmental engineering and information technology. It is under the ministry of science and technology.

India- Singapore bilateral ties: Singapore has emerged as the top source nation in terms of foreign direct investment (FDI) equity flows into India for the financial year 2021-22. They both are part of numerous groupings like G20, Commonwealth, IORA (Indian Ocean Rim Association), East Asia Summit, and IONS (Indian Ocean Naval Symposium). Following the conclusion of Comprehensive Economic Cooperation Agreement (CECA) of 2005, this robust relationship was elevated to a Strategic Partnership in 2015.

AMRUT 2.0: Hon'ble Prime Minister launched AMRUT 2.0 in 2021 with a vision to make all cities water secure and provide universal coverage of water supply services in all the urban areas of the country. One of the outcomes of AMRUT 2.0 is to provide 24x7 water supply with drink from tap facility in at least one ward or one DMA in all 500 AMRUT cities.

The Ministry has constituted National Task Force (NTF) on 24x7 water supply systems at National level and State-level Task Force (STF) on 24x7 water supply systems at State level respectively.

Electoral bond scheme 2018: As per provisions of the Scheme, Electoral Bonds may be purchased by a person who is a citizen of India or incorporated or established in India.

An individual can buy Electoral Bonds, either singly or jointly with other individuals. Only the Political Parties registered under Section 29A of the RPA, 1951 and which secured not less than one per cent of the votes polled in the last General Election to the House of the People or the Legislative Assembly of the State, shall be eligible to receive the Electoral Bonds.

State Bank of India (SBI), has been authorised to issue and encash Electoral Bonds through its 29 Authorized Branches. The Electoral Bond deposited by an eligible Political Party in its account shall be credited on the same day.

Senior citizens saving schemes: Launched in 2004 is a scheme of Department of Economic Affairs, Ministry of Finance and is operated through post offices or designated branches of banks.

It assists senior citizens in saving for retirement and receiving quarterly interest payments. SCSS offers an interest rate of 7.4% for the quarter ending 31 March 2022. You can open an SCSS account with a minimum deposit of Rs.1,000.

31/10/2022

PPP grievance Redressal Forum: As part of the Special Campaign for Disposal of Pending Matters (SCDPM) 2.0 all Major Ports under the Ministry of Ports, Shipping and Waterways organized workshops with their PPP stakeholders to resolve pending grievances. As a part of Special Campaign 2.0, ports also implemented several 'Best Practices' which includes not only cleaning activities in and around the office premises, awareness workshops, digitization of files and records, sapling plantation, implementation of E-Cars etc. but also simplifying various rules and regulations.

Vigilance Awareness Week: Central Vigilance Commission observes Vigilance Awareness Week during the week in which 31st October, the birthday of late Sardar Vallabhbhai Patel falls. This year, Vigilance Awareness Week is being observed from 31st October to 6th November, 2022 with the theme of "Corruption Free India for a developed nation".

During this Vigilance Awareness Week, various events will be organized around the theme of anti-corruption and maladministration.

HARIT Aaykar: The Income Tax Department has launched the HARIT Aaykar (Hariyali Achievement Resolution by Income Tax) initiative. Under this initiative, the Department resolves to increase the green cover by planting trees and creating micro-forests in and around Income Tax Department's buildings and other public areas.

To support this initiative further, the Department would continue to welcome dignitaries at events and programmes organized by it, with potted plants or a single stalk of a flower.

CAPF- eAWASPortal: Union Home and Cooperation Minister, Shri Amit Shah launched the "CAPF e-AWAS" web portal.

The Union Home Minister said a system had been created in the CAPFs under which only personnel of the Force for which houses had been constructed could be allotted these houses. This had left many thousands of houses vacant.

This has now been changed through the e-Awas portal and houses lying vacant will also be available for personnel of other CAPFs. This will increase the Housing Satisfaction Ratio by 13 percent without even constructing a building.

Operation Narcos: Railway Protection Force as one of the law enforcing agency has gained prominence in recent times. RPF has been empowered to conduct search, seizure and arrest under NDPS Act since April 2019 and has been actively participating in the efforts of Government to restrict this illegal trade.

In order to bring attention to the menace of NDPS, a month-long pan India drive against smuggling of narcotics through rail, was launched under code name Operation "NARCOS" in the month of June-2022.

Under this operation RPF has performed excellently against the carriers/transporters of Narcotics product through Indian Railways. RPF intensified its checks in trains and in identified black spots across the country in coordination with NCB.

MCQ

1) Consider the following statements regarding Breakthrough Agenda Report 2022:

1. It is an international clean technology plan to help keep 5°C in reach.
2. It has been released by the World Resources Institute and Intergovernmental Panel on Climate Change.

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) The Breakthrough Agenda is an unprecedented international clean technology plan to help keep 1.5°C in reach.

- It provides a framework for countries and businesses to join up and strengthen their actions every year, in every sector.
- It is done through a coalition of leading public, private and public-private global initiatives, and

signposts the leading global initiatives that will help ensure success.

- It has been released by the International Energy Agency, the International Renewable Energy Agency and the UN Climate Change High-Level Champions.

2) Operation Octopus, Operation Double Bull and Operation Thunderstorm are related to:

- a) Protection of Critically endangered species
- b) Promoting handcrafted products from the tribal people
- c) Operations carried out by Border Security Force (BSF) along the international boundary.
- d) Anti-Naxal operation by CRPF

Ans: d) Considerable success was achieved in 2022 in Bihar, Jharkhand and Chhattisgarh as the CRPF launched Operation Octopus, Operation Double Bull, Operation Thunderstorm and Operation Chakarbandha in the three States. The operations led to the arrest or surrender of 592 Maoists.

3) Consider the following statements regarding Langkhon Festival.

1. It is an annual festival where farmers pray for a good harvest.
2. It is celebrated mainly by Tiwa tribal people in the Karbi Anglong district of Assam.

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. During the annual festival, farmers pray for a good harvest. Tiwa is an ethnic group mainly inhabiting the states of Assam and Meghalaya in northeastern India. In this festival, Tiwa folk music, dance, and songs are displayed. The cultural groups from interior villages of old Karbi Anglong district (that includes Karbi Anglong and newly formed West Karbi Anglong district) comes with their unique dances and related traditions and presented on stage.

4) Consider the following statements about Millets

1. The Food and Agriculture Organization has recently declared the year 2023 as the International Year of Millets.
2. A mean temperature range of 26-29°C during the growth is best for proper development and good crop yield.
3. Millet has wide adaptability to different soil from very poor to very fertile and can tolerate a certain degree of alkalinity.

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. All of the above

Ans: b) United Nations General Assembly has recently declared the year 2023 as the International Year of Millets. India is the largest producer of millet in the world, accounting for 20 % of global production and 80 % of Asia's production.

- According to the Food and Agriculture Organisation (FAO), the aim for 2023 is to increase awareness about millet in food security and nutrition.

- The crop does not require much water and gets ready in a short time. Millets are called the super grain because of their high nutritional value.
- Specifically, millet contains 7-12 % protein, 2-5 % fat, 65-75% carbohydrates and 15-20% dietary fibre.
- Due to their high density of nutrients including vitamins, minerals, phytochemicals and dietary fibre, millets are also excellent grains to alleviate malnutrition and micronutrient deficiency.
- A mean temperature range of 26-29°C during the growth is best for proper development and good crop yield.
- It is grown where rainfall ranges from 500-900mm.
- Millet has wide adaptability to different soil from very poor to very fertile and can tolerate a certain degree of alkalinity.

5) Which of the following countries is/are the members of Asian Palm Oil Alliance?

1. Afghanistan
2. Sri Lanka
3. Bangladesh
4. Nepal
5. Bhutan
6. India

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

- a. 1, 2, 3, 4 only
- b. 2, 3, 4, 5, 6 only
- c. 2, 3, 4, 6 only
- d. 1, 2, 5, 6 only

Ans : c) Asian Palm Oil Alliance: It is formed by five major palm oil importing countries, including- India, Pakistan, Sri Lanka, Bangladesh and Nepal.

- It was formed based on the idea to gain collective bargaining power and make imports sustainable.
- The alliance will work to
- Change negative image of palm oil and ensure that it is recognized as a high-quality, economical, and healthy vegetable oil.

- Safeguard economic and business interests of palm oil consuming countries and increase its consumption in member countries

6) Consider the following statements regarding 'Black Fungus', sometimes seen in news.

1. Black Fungus is a rare and fatal fungal infection caused by a group of molds called mucormycetes.
2. It is zoonotic in nature.
3. It often affects the sinuses, lungs, skin, and brain.

Which of the above statements is/are correct?

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

Ans: c) Black Fungus (also called Mucormycosis) is a rare and fatal fungal infection caused by a group of molds called mucormycetes. It often affects the sinuses, lungs, skin, and brain.

- These molds live throughout the environment and are transmitted through inhalation, inoculation or ingestion of spores from the environment. It does not spread between people or between people and animals so it is not zoonotic.

7) Consider the following statements regarding Public Interest Litigation (PIL) in India.

1. The original constitution of India contained the provisions regarding Public Interest Litigation (PIL).
2. A Public Interest Litigation can be filed before both the Supreme Court and High Court under their respective Writ Jurisdictions.
3. It is the Constitutional duty of the Courts to accept the application for the PIL.

Which of the above statements is/are correct?

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

Ans: b) In India, the PIL is a product of the judicial activism role of the Supreme Court. It was introduced in the early 1980s. Before 1980s the judiciary entertained litigation only from parties affected directly or indirectly by the defendant.

- A Public Interest Litigation can be filed before the Supreme Court under Article 32 of the Constitution or before the High Court of a State under Article 226 of the Constitution under their respective Writ Jurisdictions. It is the court's privilege to entertain the application for the PIL.

8) Which of the following places, seen in the news recently, is associated with Ukraine-Russia Conflict?

1. Windsor
2. Kharkiv
3. Mariupol
4. Samarkand
5. Zaporizhzhya

Select the correct answer using the codes given below:

- a. 3 and 5 only
- b. 2, and 4 only
- c. 2, 3 and 5 only
- d. 1, 2, 3, 4 and 5

Ans: c) Britain's longest-serving monarch Queen Elizabeth II was laid to rest at St George's Chapel in her beloved Windsor Castle royal residence located at Windsor in the English county of Berkshire.

- The 22nd annual SCO summit was held recently in Samarkand, Uzbekistan.

9) Consider the following statements:

1. C-Band spectrum is the middle of the radio spectrum with frequency bands of 3.7-3.98 GHz and it supports 5G services.
2. A radio altimeter is an instrument that is used in measuring the frequency of 5G signals at the mobile signal towers.

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) C Band and Radio altimeters: A radio altimeter is an instrument that provides direct height-above-terrain information to various aircraft systems.

- For aircraft operations, the use of altimeters in this band ensures highly precise measurements of the plane's altitude.
- The radio altimeters pick up the faintest signals reflected off the ground in the assigned frequencies to achieve highly accurate results.
- C-band falls in the middle of the radio spectrum used for 5G networks.
- It refers to the frequency bands of 3.7–3.98 GHz.

10) Which of the following conditions precedent for the successful working of Democracy?

1. Equality of law and administration
2. Avoidance of tyranny of majority over minority
3. Presence of an opposition
4. Functioning of moral order in society
5. Public conscience

Select the correct answer code:

- a) 1, 2, 3, 4
- b) 1, 2, 4, 5
- c) 1, 3, 4
- d) 1, 2, 3, 4, 5

Ans: D

11) Nanotechnology based tools to enhance agricultural productivity include

1. Nano-pesticides and Nano-fertilizers
2. Nano-biostimulant along with soil enhancers
3. Nano-biotechnology

Select the correct answer code:

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

Ans: b

12) Which of the following statement is/are correct about India Hypertension Control Initiative (IHCI)?

1. It is a large-scale intervention under the Pradhan Mantri Jan Aushadi Yojana.
2. India won a United Nations award for its Hypertension Control Initiative.
3. IHCI is a multi-partner initiative of the Ministry of Health and Family Welfare, Indian Council of

Medical Research (ICMR), WHO Country Office for India and Resolve to Save Lives.

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. All of the above

Ans: b) India won a UN award for its Hypertension Control Initiative. The initiative is a large-scale intervention under the National Health Mission (NHM).

- The award comes at a time when the WHO has estimated that one in every four adults in India suffers from hypertension and only 12 per cent of these adults have hypertension under control.
- Under the initiative, 3.4 million hypertensive people were identified and put on treatment at various government health facilities.
- IHCI is a multi-partner initiative of the Ministry of Health and Family Welfare, Indian Council of Medical Research (ICMR), WHO Country Office for India and Resolve to Save Lives (Technical partner).

13) Consider the following pairs of Indigenous toys and the states they belong to:

| INDIGENOUS TOYS | STATE |
|------------------|----------------|
| Etikoppa toys | Telangana |
| Channapatna toys | Andhra Pradesh |
| Bamboo toys | Mizoram |
| Ghuggu | Gujarat |

How many of the above pairs are matched incorrectly?

- a. Only one pair
- b. Only two pairs
- c. Only three pairs
- d. All four pairs

Ans: d) Terracotta toys from Gujarat, Kondapalli and Etikoppa toys of Andhra Pradesh, Channapatna toys of Karnataka and Bamboo toys of Tripura.

- A novel method being deployed by the government to promote indigenous toys for learning among very young children.
- The Ministry of Women and Child Development has compiled a State-wise national repository of indigenous toys and shared this with all States and

Union Territories as part of its month-long special nutrition campaign.

- The Ministry is using these local, indigenous and DIY toys in anganwadicentres for creating awareness and educating children and their families about healthy living and good nutritional practices.

14) Which of the following is/are the advantages of bioremediation technique?

1. It is useful for the absolute destruction of a wide variety of contaminants
2. It is relatively less expensive than other technologies for disposal of hazardous waste.
3. It can be carried out on site, without causing a major disturbance of normal activities.
4. Genetic engineering can be used to create microorganisms specifically designed for bioremediation.

Select the correct answer code:

- a) 1, 2, 4
- b) 1, 3, 4
- c) 2, 3
- d) 1, 2, 3, 4

Ans: d) Bioremediation: Bioremediation is a biotechnical process, which abates or cleans up contamination. It is a type of waste management technique which involves the use of organisms to remove or utilize the pollutants from a polluted area

15) Consider the following statements regarding Remote Sensing.

1. It is the science of obtaining information about objects or areas from a distance, typically from aircraft or satellites.
2. It collects data by detecting the reflected energy from the Earth.
3. Hyperspectral imaging, sonar, and seismograms are common application of the remote sensing.

Which of the above statements is/are correct?

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

Ans: d) Remote Sensing: It is the science of obtaining information about objects or areas from a distance,

typically from aircraft or satellites. It collects data by detecting the reflected energy from the Earth. Hyperspectral imaging, sonar, and seismograms are common application of the remote sensing.

16) With reference to the border security, consider the following statements:

1. The Indian Army is in the process of procuring another 100 K9-Vajra howitzers.
2. The Regiment of Artillery is in the process of inducting loitering mutations.

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 Army is now in the process of procuring another 100 K9-Vajra howitzers, which has already been approved by the Defence Ministry.

- The Regiment of Artillery is also in the process of inducting loitering mutations, while it is also looking at procuring tactical Unmanned Aerial Vehicles (UAV). Pinaka Multi-Rocket Launch System (MRLS) has been operationalised. The Army plans to convert all its artillery regiments to medium range by converting it to 155 mm standard. The process of completing the mediumisation process is likely to be achieved sometime around 2040.

17) With reference to the Ram Setu, consider the following statements:

1. It is a 48-km chain of limestone shoals between Rameswaram on India's southeast coast and Mannar Island near Sri Lanka's northwest coast.
2. The Sethusamudram Shipping Canal project aims to create a shipping route between India and Sri Lanka by building an 83-km-long deep water channel.

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 Ram Setu, also known as Adam's Bridge, is a 48-km chain of limestone shoals between Rameswaram

on India's southeast coast and Mannar Island near Sri Lanka's northwest coast.

The structure has significance in both Hindu and Muslim mythology – while Hindus believe this is the bridge (setu) built by Lord Ram and his army to cross to Lanka and fight Ravan, as per Islamic legend, Adam used this bridge to reach Adam's Peak in Sri Lanka, where he stood on one foot for 1,000 years in repentance. Scientists believe Ram Setu is a natural structure formed due to tectonic movements and sand getting trapped in corals.

The Sethusamudram Shipping Canal project aims to create a shipping route between India and Sri Lanka by building an 83-km-long deep water channel, which would also reduce travel time between the eastern and western coasts of India, as ships would no longer have to circle Sri Lanka to travel between the Bay of Bengal and Arabian Sea.

18) With reference to the Convergence Portal between Agriculture Infrastructure Fund (AIF), Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME) scheme and Pradhan Mantri Kisan Sampada Yojana (PMKSY), consider the following statements:

1. It is an initiative of NITI Aayog.
2. Pradhan Mantri Kisan SampadaYojna is a Central Sector Scheme.

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) Union Ministry of Food Processing Industries (MoFPI) jointly launched a Convergence Portal between Agriculture Infrastructure Fund (AIF), Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME) scheme and Pradhan Mantri Kisan Sampada Yojana (PMKSY).

The Ministry of Agriculture & Farmers Welfare is implementing the Agriculture Infrastructure Fund (AIF) - a medium to long-term debt financing facility started on 08 July 2020 for the creation of post-harvest management infrastructure and building of community farming assets. Benefits under the scheme include 3% interest subvention and credit guarantee support.

Ministry of Food Processing Industries (MoFPI) launched a centrally sponsored PPMFME scheme on June 29th, 2020 as a part of "Aatmanirbhar Bharat Abhiyan" to enhance the competitiveness of individual micro-enterprises in the unorganized segment & promote the formalization of this sector.

Pradhan Mantri Kisan SampadaYojna is a Central Sector Scheme of the Ministry of Food Processing Industries envisaged as a comprehensive package that will result in the creation of modern infrastructure with efficient supply chain management from farm gate to retail outlet.

19) With reference to the Dadasaheb Phalke Award, consider the following statements:

1. It is India's highest award in the field of cinema.
2. The recipient is honoured for their "outstanding contribution to the growth and development of Indian cinema".

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

20) With reference to the Very Short Range Air Defence System missiles, consider the following statements:

1. Defence Research and Development Organization has conducted two successful test flights of Very Short Range Air Defence System missiles.
2. The test flight was conducted at the Integrated Test Range in Chandipur, Gujarat.

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) Defence Research and Development Organization has conducted two successful test flights of Very Short Range Air Defence System missiles. The test flight was conducted at the Integrated Test Range in Chandipur, Odisha.

21) Consider the following pairs of defence exercise of India, the countries associated and the armed force that is part of it:

| EXERCISE | COUNTRY |
|----------------|-----------|
| Pitch Black | Australia |
| Kakadu | Nepal |
| Jimex | Japan |
| Samudra Shakti | Indonesia |

How many of the above pairs are matched correctly?

- Only one pair
- Only two pairs
- Only three pairs
- All four pairs

Ans: c) Pitch black is an exercise of the Indian Air Force with Australia, Kakadu is an Indian Navy exercise between India and Australia, Jimex is an Indian Navy exercise between India and Japan, Samudra Shakti is a Naval Exercise of India with Indonesia.

22) Consider the following statements regarding National List of Essential Medicines.

- The list includes medicines that are needed to address the priority healthcare needs of the majority of the population.
- It is framed on the principles of the World Health Organisation's essential medicine list.
- The list is modified every year, keeping in mind the changing profile of diseases in the country.

Which of the above statements is/are correct?

- 1 only
- 1, 2
- 2, 3
- 1, 2, 3

Ans B: Curated by experts in consultation with stakeholders, the list includes medicines that are needed to address the priority healthcare needs of the majority of the population. The drugs included are those that are best for the treatment of a particular condition and are cost-effective at the same time. This is the reason the list almost always sees the inclusion of generics (unbranded medicines, like paracetamol instead of crocin).

- The list usually includes medicines that are a part of government's health programmes, such as bedaquiline, included in the 2022, that is used in the country's TB elimination programme.
- Framed on the principles of the World Health Organisation's essential medicine list, India's first list was developed in 1996. It has since been modified four time – in 2003, 2011, 2015, and now in 2022.
- The revisions are done keeping in mind the changing profile of diseases in the country, newer drugs becoming available in the market, drugs becoming obsolete or being banned for certain risks, and newer treatment protocols.

23) Consider the following statements regarding the Bandhavgarh Tiger Reserve:

- It is located on the banks of the River Narmada in Madhya Pradesh.
- It resides on the north eastern border of Madhya Pradesh in the Satpura mountain ranges.
- The national park is in the temperate climatic zone of India.

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

- 1 and 3 only
- 2 only
- 1 and 2 only
- 3 only

Ans: b) Bandhavgarh National Park resides on the extreme north eastern border of Madhya Pradesh and the northern edges of the Satpura mountain ranges.

- Due to the tropical monsoon climatic zone, the park has been characterized by well-defined winters, summers and rains.
- SheshShiya is the point of origin of the Charan Ganga River, which is the lifeline of the park.
- The rainfall in the Bandhavgarh zone has been witnessed at an average of 50 inches.
- The Archaeological Survey of India (ASI) reported 26 Buddhist caves in Bandhavgarh Tiger Reserve.

24) Consider the following statements:

- It is listed as endangered by the IUCN.
- It is endemic and found in high altitudes of the Shola forests.

3. The bird species prefers to live near streams.

Identify the species.

- NilgiriSholakili
- Nilgiri Thar
- Nilgiri langur
- Great Barbet

Ans: a) NilgiriSholakili: They are very small birds with a tan belly and slaty-blue colour wings.

- It is listed as endangered by the IUCN.
- It is found in high altitudes of the Shola forests in the Nilgiris.
- It is also known by the name Nilgiri blue robin.
- The species prefers to live only in highly threatened habitats and near streams.
- Other endangered endemic bird species in the Nilgiris such as the Nilgiri laughingthrush (Montecinlacachinnans), seem to have a degree of adaptability and tolerance for anthropogenic changes to its environment.
- However, the Sholakili seems to be highly restricted to only Shola forest habitats, making it more susceptible to changes in its environment.

25) Consider the following statements.

1. The government has the power to control the prices of certain medicines, those needed in public interest, through the Drug Prices Control Order.
2. Once a drug is included in the National List of Essential Medicines (NLEM), its prices are controlled by the central government and cannot be changed by companies themselves.
3. The patented drugs are not included in the National List of Essential Medicines (NLEM).

Which of the above statements is/are correct?

- 1 only
- 1, 3
- 1, 2
- 2, 3

Ans: c) The government has the power to control the prices of certain medicines, those needed in public interest, through the Drug Prices Control Order. The National List of Essential Medicines forms the primary basis for considering a drug as essential and controlling its prices. Additionally, the prices of drugs other than those included in the NLEM may also be controlled

through the DPCO. Once a drug is included in the NLEM, its prices are controlled by the central government and cannot be changed by companies themselves. The list has also included at least four drugs that are still under patent.

26) Consider the following statements:

1. Rights available to married women under Medical Termination of Pregnancy Act, 1971, to abort a foetus is also available to unmarried women.
2. Only for the purpose of Medical Termination of Pregnancy, the meaning of rape also includes marital rape.
3. Reproductive choice of a woman is a Fundamental Right under Article 21 of the Constitution.

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

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

Ans: d

Under the Act, a pregnancy may be terminated up to 20 weeks by a married woman in the case of failure of contraceptive method or device. It allows unmarried women to also terminate a pregnancy for this reason. The recent Supreme court judgment expands the definition of rape to marital rape for the MTP Act. Marital rape is still not criminalised. The Puttaswamy judgment specifically recognised the Constitutional right of women to make reproductive choices, as a part of personal liberty under Article 21

27) Consider the following statements regarding

upload and download speeds:

1. Uploading establishes the connection to access web services and download is the after result.
2. In any internet activity, downloading consumes more data than uploads.
3. India's internet upload speed is greater than the download speed.

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

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

Ans: a) Internet speed has two components: download and upload.

- They both are part of the data package, but data plans offered by most internet service providers refer to download speeds only.
- The Speed test Global Index is released by network intelligence and connectivity insights provider Ookla.
- The download and upload speeds on fixed wireless broadband in India stood at 48.29 Mbps and 47.52 Mbps.
- One of the factors responsible for the difference in download and upload speeds is the network interface.
- By design, most of the network interfaces support higher download speeds than uploads.
- In any internet activity, downloading consumes much more data than uploads.

28) Dvorak technique, recently seen in news is related to

- a) New technique of post-mortem that does not include dissections.
- b) Quick transplantation of human organs
- c) Ultrasound-assisted fermentation method
- d) Tropical storm forecasting

Ans: d) Dvorak was an American meteorologist best credited for developing the Dvorak (read as Do-rak) technique in the early 1970s. The technique has been upgraded multiple times since then.

- The updated technique, would improve the tropical storm forecasts by many folds as they would have access to sharper and detailed images than ever before.
- The Dvorak technique was a cloud pattern recognition technique based on a concept model of the development and decay of the tropical cyclone.
- From the satellite images thus obtained, the Dvorak technique helps forecasters to do a pattern recognition from the observed structure of the storm, locate its eye and estimate the intensity of the storm.
- It is the Dvorak technique which gives the best estimates of the cyclone intensity — a vital component while issuing weather warnings.

29) Which of the following are the indices used in measuring the Global Innovation Index (GII)?

1. Political Environment
2. Funding for Research
3. Higher Education Enrolment Rate
4. Infrastructure and business sophistication

Choose the correct option.

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

Ans: c) Global Innovation Index (GII): It is published by the World Intellectual Property Organisation (WIPO).

- The Global Innovation Index provides detailed metrics about the innovation performance of countries and economies around the world.
- Its 81 indicators explore a broad vision of innovation, including political environment, education, and infrastructure and business sophistication.
- India has secured the 40th rank in the 2022 edition of the index, in 2021 India ranked 46th in the index. Türkiye and India enter the top 40 for the first time,
- For the twelfth consecutive year, Switzerland ranks first in the GI followed by the US.
- In Central and Southern Asia, India ranked highest among three in the “most innovation economies” followed by Iran and Uzbekistan

30) Consider the following statements.

1. All the members of Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) are littoral states.
2. Bay of Bengal Maritime Dialogue (BOBMD) is organised by BIMSTEC.

Which of the above statements is/are incorrect?

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

Ans: c) Founded in 1997, the seven-member BIMSTEC, which includes the littoral states of India, Bangladesh, Sri Lanka, Myanmar (Thailand is a member too) and the

land-locked states of Nepal and Bhutan, has identified 14 pillars for special focus.

- A Bay of Bengal Maritime Dialogue (BOBMD) organised recently by the Centre for Humanitarian Dialogue and the Pathfinder Foundation brought together government officials, maritime experts, and representatives of prominent think tanks from Sri Lanka, India, Bangladesh, Myanmar, Thailand and Indonesia.

31) Consider the following statements regarding carbon dating.

1. Carbon dating can also be used to determine the age of non-living things.
2. The age of things that are more than 40,000-50,000 years cannot be arrived at through carbon dating.

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: b) Carbon dating cannot be applied in all circumstances. Specifically, it cannot be used to determine the age of non-living things. Also, the age of things that are more than 40,000-50,000 years cannot be arrived at through carbon dating.

- There are other methods to calculate the age of inanimate things, but carbon dating can also be used in an indirect way in certain circumstances. For example, the age of the ice cores in glaciers and polar regions is determined using carbon dating by studying the carbon dioxide molecules trapped inside large ice sheets.

32) Consider the following statements regarding the Scheme of Fund for Regeneration of Traditional Industries (SFURTI):

1. The scheme aims to organize the traditional industries and artisans into clusters to make them competitive and provide support.
2. It is an initiative of the Ministry of Commerce and Industry.

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) Scheme of Fund for Regeneration of Traditional Industries (SFURTI) is an initiative by Ministry of MSME to promote Cluster development.

- Khadi and Village Industries Commission (KVIC) is the nodal Agency for promotion of Cluster development for Khadi.
- As per the revised guidelines, the following schemes are being merged into SFURTI:
- The Scheme for Enhancing Productivity and Competitiveness of Khadi Industry and Artisans
- The Scheme for Product Development, Design Intervention and Packaging (PRODIP)
- The Scheme for Rural Industries Service Centre (RISC) and
- Other small interventions like Ready Warp Units, Ready to Wear Mission, etc.

33) Consider the following statements.

1. Liquidity in the banking system refers to readily available cash that banks need to meet short-term business and financial needs.
2. On a given day, if the banking system is a net lender to the RBI, it means the banking system liquidity situation turned into a deficit mode.
3. Liquidity Adjustment Facility (LAF) refers to the RBI's operations through which it injects or absorbs liquidity into or from the banking system.

Which of the above statements is/are correct?

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

Ans: b) Liquidity in the banking system refers to readily available cash that banks need to meet short-term business and financial needs. On a given day, if the banking system is a net borrower from the RBI under Liquidity Adjustment Facility (LAF), the system liquidity can be said to be in deficit and if the banking system is a net lender to the RBI, the system liquidity can be said to be in surplus. The LAF refers to the RBI's operations through which it injects or absorbs liquidity into or from the banking system.

34) Consider the following statements:

1. Dark data is the data that is available in the dark web which does not feature in the regular web search.
2. Digital decarbonisation is the method of removing the dark data from the dark web.

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) Dark data is the information assets organisations or company's collect, process and store during regular business activities, but generally fail to use for other purposes.

- Dark data could be your multiple near-identical images held on Google Photos or iCloud, a business's outdated spreadsheets that will never be used again, or data from internet of things sensors that have no purpose.
- This "dark data" is anchored to the real world by the energy it requires.
- Even data that is stored and never used again takes up space on servers – typically huge banks of computers in warehouses.
- Those computers and those warehouses all use lots of electricity. This is a significant energy cost that is hidden in most organisations.
- In 2020, digitisation was purported to generate 4% of global greenhouse gas emissions.
- Digital decarbonisation is the method of reducing the carbon foot prints of the organisations.

35) Consider the following statements regarding Green Manuring.

1. Green manuring improves soil structure, increases water holding capacity and decreases soil loss by erosion.
2. Green manuring helps in reclamation of alkaline soils.
3. Growing of green manure crops in the off season increases weed proliferation and weed growth.
4. Neem, mahua and wild indigo acts as important plant species useful for green manuring.

Which of the above statements is/are correct?

- a) 1, 2, 3
- b) 1, 2
- c) 1, 2, 4
- d) 1, 2, 3, 4

Ans: c) Application of green leaves and twigs of trees, shrubs and herbs collected from elsewhere is known as green leaf manuring. Advantages: Green manuring improves soil structure, increases water holding capacity and decreases soil loss by erosion, Growing of green manure crops in the off season reduces weed proliferation and weed growth, Green manuring helps in reclamation of alkaline soils. Root knot nematodes can be controlled by green manuring.

36) Consider the following statements regarding the Maheswar Dam:

1. It is one of the largest dam across the river Godavari, in the state of Telangana.
2. The dam is a part of Nagarjunsagar-Srisaillam Tiger Reserve.

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: C) The Maheshwar dam is one of the large dams of the Narmada Valley Development Project, which envisages the construction of 30 large and 135 smaller dams in the Narmada Valley.

- It has been planned for power generation purposes, in order to provide with electricity industries and therefore facilitate local industrial development.
- River Charan Ganga is the life line of the Bandhavgarh Tiger Reserve.
- The largest Dam across River Narmada is the Sardar Sarovar Dam.

37) Consider the following statements.

1. Urea forms more than two-third of the total nitrogenous fertilisers consumed in India.
2. More than 90% of the nitrogen from urea is utilised by plants and very less gets wasted due to leaching, volatilization and run off.

Which of the above statements is/are incorrect?

- a) 1 only

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

Ans: B) It may be noted that urea forms around 80 per cent of the total nitrogenous fertilisers consumed in India and it has recorded exponential increase in consumption over the years.

Around 30-50 per cent of nitrogen from urea is utilised by plants and the rest gets wasted due to quick chemical transformation as a result of leaching, volatilization and run off, thereby low use efficiency.

38) Consider the following statements regarding PM YUVA (Young, Upcoming and Versatile Authors) 2.0 Scheme:

1. The scheme aims to mentor and train young and budding authors below the age of 18 years.
2. The scheme functions under the aegis of the Department of Higher Education, the Ministry of Education.
3. The National Book Trust is the implementing agency of the scheme.

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) The Ministry of Education, Department of Higher Education, launched YUVA 2.0 - Prime Minister's Scheme for Mentoring Young Authors.

The scheme is an Author Mentorship programme to train young and budding authors (below 30 years of age) in order to promote reading, writing and book culture in the country, and project India and Indian writings globally.

The National Book Trust (NBT), India, as the implementing agency under MoE will ensure the phase-wise execution of the scheme under well-defined stages of mentorship.

39) Consider the following statements regarding International Criminal Court (ICC).

1. It is commonly referred to as World Court.
2. It does not have the capacity to arrest suspects of war crimes.

3. It is the court of last resort for prosecution of genocide and crimes against humanity.

Which of the above statements is/are correct?

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

Ans: D) The International Criminal Court (ICC), located in The Hague, is the court of last resort for prosecution of genocide, war crimes, and crimes against humanity. It does not have the capacity to arrest suspects and depends on member states for their cooperation. The International Court of Justice, also known as the World Court, is the main judicial organ of the UN

40) Consider the following statements regarding the Unified Logistics Interface Platform (ULIP):

1. The platform will contain information related to logistics and resources available with various ministries.
2. It is a joint initiative of the Ministry of Commerce and Industry and the Ministry of Road Transport & Highways.

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) Unified Logistics Interface Platform (ULIP): It was launched as part of the national logistics policy.

It aims to bring ease of doing business in the logistics sector by simplifying the logistics processes, improving its efficiency, bringing in transparency and visibility, and reducing logistics cost and time.

The platform will enable the industry players to get secure access to information related to logistics and resources available with various ministries through a dedicated portal.

At present, 30 systems from seven ministries are integrated through more than 100 APIs covering more than 1,600 data fields for usage by the stakeholders. ULIP will give direct and indirect benefits to all logistics stakeholders like verification of drivers and vehicles details in a single click, tracking and tracing of consignment, etc.

It is an initiative of the Ministry of Commerce and Industry.

41) Consider the following statements:

1. Seawater is normally acidic, with a pH value of around 8.1.
2. When carbon dioxide dissolves in the ocean, the pH of the ocean increases to become alkaline.
3. Arctic Ocean is witnessing much faster ocean acidification than other world's oceans, due to melting of ice.

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

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

Ans: C) Ocean Acidification: Seawater is normally alkaline, with a pH value of around 8.1.

Because of human-driven increased levels of carbon dioxide in the atmosphere, there is more CO₂ dissolving into the ocean.

As the ocean continues to absorb more CO₂, the pH decreases and the ocean becomes more acidic.

This process is known as ocean acidification.

A research study has revealed that the Arctic Ocean is seeing much faster acidification than elsewhere in the world due to the sea ice melting.

42) With respect to the Mediation Bill, 2021 consider the following statements:

1. It proposes mandatory mediation before litigation for both parties before filing any suit or proceeding in a court.
2. It establishes the mediation council of India and also provides for community mediation.
3. The mediation council established through this bill has powers to mediate disputes relating to claims against minors.

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

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

Ans: C) The Bill promote, encourage, and facilitate mediation, especially institutional mediation, to resolve disputes, commercial and otherwise.

The Bill establishes the Mediation Council of India and also provides for community mediation. The Bill further proposes mandatory mediation before litigation.

At the same time, it safeguards the rights of litigants to approach competent adjudicatory forums/courts for urgent relief.

The Bill contains a list of disputes which are not fit for mediation.

These include disputes:

- Relating to claims against minors or persons of unsound mind.
- Involving criminal prosecution.
- Affecting the rights of third parties.
- The central government may amend this list.

43) Consider the following statements.

1. In India, entry into forests is governed by Indian Forest Act, 1927 and Wildlife Protection Act, 1972.
2. The Wildlife Protection Act empowers the Chief Wildlife Warden of a state to frame laws for tourists entering Protected Areas.
3. Kaziranga National Park, which is also a Tiger reserve, is located in West Bengal.

Which of the above statements is/are correct?

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

Ans: B) In India, entry into forests is governed by two laws — The Indian Forest Act, 1927, and The Wildlife Protection Act, 1972. The first applies to all reserve forests and bars trespassing. Everyone other than people who live in villages inside reserve forests, needs permission from the divisional forest officer concerned for entering these forests for any purpose.

The Wildlife Protection Act empowers the Chief Wildlife Warden of a state to frame laws for tourists entering Protected Areas — sanctuaries and national parks.

Under the same Act, the National Tiger Conservation Authority (NTCA) has the powers to set rules for tiger reserves. Kaziranga National Park is also a tiger reserve, located in Assam.

44) With reference to Mars Orbiter Mission (MOM), consider the following statements:

1. It is the first interplanetary mission of India which aims at studying the surface of the Mars.
2. It consists of an orbiter, Vikram lander and Pragyan rover to move around the surface of the Mars.

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) The Mars Orbiter Mission (MOM), commonly referred to as Mangalyaan-1, is a space probe launched by the Indian Space Research Organization (ISRO). The indigenously-built space probe is India's first interplanetary mission.

The mission is aimed at studying Martian atmosphere. MOM was launched using an XL version of the PSLV. MOM contains only an orbiter and does not contain a lander and a rover.

Recently the ISRO confirmed that the Mars Orbiter craft has lost communication with ground station.

45) Consider the following statements.

1. The crude birth rate is the annual number of live births per one lakh population.
2. Natural Population growth rate of a country is measured as difference between the birth rate and the death rate of a country.

Which of the above statements is/are incorrect?

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

Ans: A) The crude birth rate is the annual number of live births per 1,000 population.

Births and deaths are the natural causes of population change. The difference between the birth rate and the death rate of a country is called the natural growth rate.

46) Which of the following are identified as indirect farm subsidies provided by the Government?

1. Minimum Support Price
2. farm loan waivers
3. Subsidy on fertilizers and seeds

Select the correct answer code:

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

Ans: C) Agriculture subsidies can be direct or indirect farm subsidies taking account the instruments used in providing them.

Direct Farm subsidies involve giving cash to the farmers. India provides direct subsidies in a limited form which include giving food subsidy or MSP-based procurement, etc.

Indirect farm subsidies: These are the farm subsidies which are provided in the form of cheaper credit facilities, farm loan waivers, reduction in irrigation and electricity bills, fertilizers, seeds and pesticides subsidy as well as the investments in agricultural research, environmental assistance, farmer training, etc

47) With respect to Grand Solar Minima, consider the following statements:

1. The period of decreased solar activity is called Grand Solar Minima.
2. During Grand Solar Minima, there is no occurrence of solar cycles in the sun.
3. There is reduction of solar magnetic field and solar irradiance during Grand Solar Minima.

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) Grand Solar Minima is the period where the sun's activity stays low, lasting decades to centuries. When the sun's overall brightness decreases few sunspots appear on the surface. Sunspots are strong magnetic regions on the sun known to produce solar storms. These storms can damage satellites, disrupt electric grids on Earth and harm astronauts They are dominant during the solar maxima when the star is at its most active stage. The last grand solar minimum occurred in Maunder Minimum (1645–1710).

48) With respect to Shaliganga Nallah, consider the following statements:

1. It is the largest tributary of River Jhelum in the State of Kashmir.
2. It flows through the Hokersar Wetland Reserve, a Ramsar site.
3. Kuhls is a traditional irrigation system followed in the State of Punjab.

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

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

Ans: B) Shaliganga Nallah is in Budgam district of the Kashmir Valley.

It is a feeding channel for the Hokersar Wetland Reserve.

Hokersar Wetland Reserve is an internationally declared Ramsar site and home to migratory birds.

Kuhls are traditional, community-managed irrigation systems in Kashmir and Himachal Pradesh.

49) Consider the following statements regarding Nobel Prizes.

1. Each prize will be handed out with a diploma and gold medal.
2. Previous Nobel laureates are not eligible to submit nominations for the Nobel Prizes.
3. For the Citizens of India and individuals of Indian origin, maximum Nobel Prizes have been awarded in the category of Peace.

Which of the above statements is/are correct?

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

Ans: A) Thousands of people around the world are eligible to submit nominations for the Nobel Prizes. They include university professors, lawmakers, previous Nobel laureates and the committee members themselves.

The following Indians (or individuals of Indian origin) have been honoured with the Nobel:

Rabindranath Tagore (Literature, 1913), C V Raman (Physics, 1930), Hargobind Khorana (Medicine, 1968), Mother Teresa (Peace, 1979), Subramanian Chandrashekar (Physics, 1983), the Dalai Lama (Peace,

1989), Amartya Sen (Economics, 1998), Venkatraman Ramakrishnan (Chemistry, 2009), and Kailash Satyarthi (Peace, 2014), Abhijit Banerjee (Economics, 2019).

50) Consider the following statements regarding Chola Kingdom.

1. The Chola kingdom was confined only to the present-day Tamil Nadu and parts of Karnataka.
2. The Chola dynasty was founded by the king Vijayalaya.
3. Rashtrakutas and Chalukyas were contemporaries to the Chola Kingdom.

Which of the above statements is/are correct?

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

Ans: C) The Chola kingdom stretched across present-day Tamil Nadu, Kerala, and parts of Andhra Pradesh and Karnataka. During the period of the Cholas' rise and fall (around 9th to 12th century AD), other powerful dynasties of the region would also come and go, such as the Rashtrakutas of the Deccan who defeated the Cholas, and the Chalukyas of the Andhra Pradesh region whom the Cholas frequently battled. The dynasty was founded by the king Vijayalaya.

51) Tai-Ahom, Matak, Moran, Chutia, Koch-Rajbongshi, and Adivasi communities: these are scheduled tribes of which state:

- a) Odisha
- b) Assam
- c) West Bengal
- d) Jharkhand.

Ans: b) Leaders of six communities in Assam, which are agitating for Scheduled Tribe status in their State, have stressed the need to stay united in their fight.

52) Consider the following statements with respect to the Beti Bachao Beti Padhao (BBBP) scheme:

1. The scheme aims to address the issue of decline in Child Sex Ratio.
2. The Ministry of Skill Development and Entrepreneurship and the Ministry of Minority Affairs are partners to the scheme.

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) Beti Bachao Beti Padhao scheme: It is one of the flagship programmes of the Government of India.

- It was launched to address the declining Child Sex Ratio (CSR) (0-6 years) and address other related issues of disempowerment of women.
- It is a tri-ministerial, convergent effort of: Ministry of Women and Child Development, Ministry of Health & Family Welfare, Ministry of Human Resource Development
- From 2021-22, the Ministry of Skill Development and Entrepreneurship and Ministry of Minority Affairs have also been added as partners.

53) Consider the following statements with respect to United Nations World Geospatial Information Congress (UNWGIC).

1. It works to help all countries to access and leverage the benefits of space to accelerate sustainable development.
2. India has created its own Navigation system NavIC with the guidance of UNWGIC.

Which of the above statements is/are incorrect?

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

Ans: c) United Nations World Geospatial Information Congress (UNWGIC): Recently, PM inaugurated the second UNWGIC, in Hyderabad.

- It is organized by the Department of Economic and Social Affairs of the United Nations and hosted by the Ministry of Science and Technology.
- The Second UNWGIC Congress will focus on the theme “Geo-Enabling the Global Village: No one should be left behind”.
- It will reflect the importance of integrated geospatial information to support sustainable development and the well-being of society.

- It is to address environmental and climate challenges, embrace digital transformation and technological development, and catalyse a vibrant economy.
- India’s NavIC is indigenously developed by the Indian Space Research Organisation (ISRO).

54) Recently Reserve Bank of India (RBI) indicated that it will soon commence limited pilot launches of e-rupee, or Central Bank Digital Currency (CBDC). Consider the following statements in this context.

1. E-rupee is the same as a fiat currency and is exchangeable one-to-one with the fiat currency.
2. It can be accepted as a medium of payment, legal tender and a safe store of value.
3. The digital rupee would appear as an asset on a central bank’s balance sheet.

Which of the above statement sis/are correct?

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

Ans: a) E-rupee is the same as a fiat currency and is exchangeable one-to-one with the fiat currency. Only its form is different. It can be accepted as a medium of payment, legal tender and a safe store of value. The digital rupee would appear as liability on a central bank’s balance sheet.

55) Consider the following statements regarding Genetic Engineering Appraisal Committee (GEAC).

1. Genetic Engineering Appraisal Committee (GEAC) functions under the administrative control of Union Ministry of Science & Technology.
2. It is responsible for appraisal of activities involving large scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.
3. GEAC has representation from Department of Biotechnology (DBT).

Which of the above statements is/are correct?

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

Ans: c) The Genetic Engineering Appraisal Committee (GEAC) functions in the Ministry of Environment, Forest and Climate Change (MoEF&CC).

- As per Rules, 1989, it is responsible for appraisal of activities involving large scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.
- The committee is also responsible for appraisal of proposals relating to release of genetically engineered (GE) organisms and products into the environment including experimental field trials.
- GEAC is chaired by the Special Secretary/Additional Secretary of MoEF&CC and co-chaired by a representative from the Department of Biotechnology (DBT).

56) Consider the following statements with respect to NASA's Dragonfly Mission:

1. It is a mission to reach the Jupiter's moon, Titan.
2. Titan is the second largest moon in the solar system with an atmosphere and liquid on its surface like earth.

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)

- NASA's Dragonfly Mission: It is a rotorcraft scheduled to reach the Selk Crater region on Saturn's moon Titan in the year 2034.
- First time NASA will fly a multi-rotor vehicle for science on another planet.
- It has eight rotors and flies like a large drone and will take advantage of Titan's dense atmosphere four times denser than Earth.
- Titan is the Saturn's largest moon and an icy world whose surface is completely obscured by a golden hazy atmosphere. It is the second largest moon in our solar system were Only Jupiter's moon Ganymede is larger, by just 2 percent.
- It is the only moon in the solar system with a dense atmosphere, and it's the only world besides Earth that has standing bodies of liquid, including rivers, lakes and seas, on its surface.

57) Which state government has notified India's first Dugong Conservation Reserve, Kazhuveli bird sanctuary, Nanjarayan Tank birds sanctuary and the State's fifth elephant reserve at Agasthyamalai. Further, 13 wetlands were declared as Ramsar sites.

- a) Andhra Pradesh
- b) Tamil Nadu
- c) Kerala
- d) Odisha

Ans: b

58) Consider the following statements.

1. The Memorandum of Procedure (MoP) governs the appointment of members of the higher judiciary in India.
2. The Memorandum of Procedure (MoP) says that the Union Minister of Law and Justice would seek the recommendation of the outgoing Chief Justice of India for the appointment of the next Chief Justice of India.
3. Article 124 of the Constitution contains the provisions related to Memorandum of Procedure (MoP).

Which of the above statement sis/are correct?

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

Ans: a) The Memorandum of Procedure (MoP) that governs the appointment of members of the higher judiciary says that the "Union Minister of Law, Justice...would, at the appropriate time, seek the recommendation of the outgoing Chief Justice of India for the appointment of the next Chief Justice of India".

- The MoP has evolved as the standard based on three decisions of the Supreme Court, known as the First Judges Case (1981), Second Judges Case (1993) and the Third Judges Case (1998). These three judgments form the basis of a peer selection process for the appointment of judges.

59) Consider the following statements.

1. At present the benefits of Scheduled Castes reservation are available to Scheduled Caste Hindus, Buddhists, Christians and Sikhs.
2. According to the Constitution of India, the President may specify the castes, tribes or parts of groups within castes which shall be deemed to be Scheduled Castes.
3. The rights of a person belonging to a Scheduled Tribe are independent of his/her religious faith.

Which of the above statements is/are correct?

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

Ans: c) As of now, the benefits of reservation are available only to Dalit Hindus, Buddhists, and Sikhs. Several petitions are pending before the Supreme Court seeking reservation benefits for Dalits who converted to Christianity or Islam.

- Under Article 341 of the Constitution, the President may “specify the castes, races or tribes or parts of or groups within castes, races or tribes which shall...be deemed to be Scheduled Castes”.
- The Department of Personnel and Training (DoPT) website states, “The rights of a person belonging to a Scheduled Tribe are independent of his/her religious faith.”
- Following the implementation of the Mandal Commission report, several Christian and Muslim communities have found place in the Central and state lists of OBCs.

60) Identify the correct statements:

1. Classified as “vulnerable” on the IUCN Red List, sloth bears are endemic to the Indian sub-continent and 90% of the species population is found in India.
2. Listed under Schedule I of the (Wildlife Protection) Act of India, 1972, the species has the same level of protection as tigers, rhinos and elephants.
3. World Sloth Bear Day is observed on 12th October every year to generate awareness and strengthen conservation efforts.

- a) 1 and 2 only
- b) 2 and 3 only
- c) all of the above

d) 1 and 3 only

Ans: a) The first World Sloth Bear Day was observed on October 12 to generate awareness and strengthen conservation efforts. World Sloth Bear Day was observed on Wednesday to generate awareness and strengthen conservation efforts

- For a long time, sloth bears were exploited as dancing bears. Though the practice has been banned there are still a few cases of rescue. For a long time, sloth bears were exploited as dancing bears. Though the practice has been banned there are still a few cases of rescue

61) Consider the following statements.

1. The first-ever India-Africa Defence Ministers Conclave was held in 2020 in conjunction with DefExpo, a flagship event of the Ministry of Defence.
2. India-Africa Defence Dialogue (IADD) has been institutionalized to be held once every three years on the sidelines of DefExpo
3. India’s approach towards Africa is guided by the Kampala Principles

Which of the above statements is/are correct?

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

Ans. B, In continuance of the ‘Lucknow Declaration’ and consultation with stakeholders, IADD (India-Africa Defence Dialogue) has been institutionalised to be held once every two years on the sidelines of DefExpo. The IADD will explore new areas of convergence for mutual engagement, including in areas like capacity building, training, cyber security, maritime security and counter-terrorism.

62) With reference to ‘Department of Official Language’, consider the following statements:

1. Department of Official Language was set up in June 1975 as an independent Department of the Ministry of Culture
2. It is responsible for the implementation of the provisions of the Constitution relating to official languages.

3. A Parliament Committee on Official Language periodically reviews the progress in the use of Hindi.

Which of the above statements is/are correct?

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

Ans. C, Department of Official Language is the Government of India's department responsible for the implementation of the provisions of the Constitution relating to official languages and the provisions of the Official Languages Act, of 1963. Department of Official Language was set up in June 1975 as an independent Department of the Ministry of Home Affairs.

The legal framework governing the use of languages for official purposes currently is the Official Languages Act, of 1963, the Official Language Rules, of 1976, and various state laws, as well as rules and regulations made by the central government and the states. The Indian constitution, in 1950, declared Hindi in Devanagari script to be the official language of the union

63) The term 'Torrefaction' often heard in news roughly corresponds to which of the following statements:

- a. It is a process to convert the paddy straw into pellets which can be used in thermal power plants
- b. It is a process to improve the physical properties and chemical composition of biomass.
- c. It is a chemical decomposition of organic matter producing liquid with gas and solid.
- d. It is a method of transforming coal and water into syngas

Ans. B, Torrefaction is a gentle type of pyrolysis at temperatures commonly somewhere in the range of 200 and 320 °C. Torrefaction changes biomass properties to superior fuel quality for ignition and gasification applications. Pyrolysis produces a liquid with gas and solid, whereas torrefaction generates only gas and solid.

64) Consider the following pairs:

| CULTURAL/FESTIVE EVENTS | DETAILS |
|-------------------------|---------------------------------------|
| Bhoota Kola | a spirit worship ritual celebrated by |

| | |
|------------|--|
| Kambala- | Tulu- speaking people in regions of Karnataka and Kerala and unique sport among the farming community a three-day-long festival of womanhood |
| Raja Parba | Festival involves the traditional buffalo race, a popular |

How many pairs given above are correctly matched?

- a. Only one pair
- b. Only two pairs
- c. All three pairs
- d. None of the above

Ans C, Kantara becomes the highest-rated Indian film on IMDb. One of the central themes of the movie revolves around Bhoota (Bhuta) Kola and Kambala. Bhoota Kola is an Animist form of Spirit worship from the coastal districts of Tulu Nadu and some parts of Malénadu of Karnataka and Kasargod in Northern Kerala, India. Whereas, Kambala (or Kambla/Kambula) is an annual buffalo race held in the southwestern Indian state of Karnataka. Traditionally, it is sponsored by local Tuluva landlords and households in the coastal districts of Dakshina Kannada and Udupi of Karnataka and Kasaragod of Kerala, a region collectively known as Tulu Nadu.

65) With reference to Snow Leopard consider the following statements:

- 1. October 23 is commemorated each year as International Snow Leopard Day.
- 2. It is often referred to as a 'mountain ghost'
- 3. Can be easily spotted in Namdapha National Park and Tiger Reserve

Which of the statements given above is/are correct?

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

Ans B, The snow leopard has never been spotted nor recorded in the Namdapha National Park and Tiger Reserve in the Changlang district of Arunachal Pradesh.

66) Regarding 'Secure Himalaya' consider the following statements:

1. It is a project of the Union Environment Ministry in association with the IUCN
2. The project is funded by Global Environment Facility
3. The project aims at the protection of 'Snow Leopards'

Which of the statements given above is/are correct?

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

Ans C, The Union Environment ministry in association with the United Nations Development Programme (UNDP) has been implementing the 'Secure Himalaya' project to conserve the habitats of snow leopards. The 'Secure Himalaya' project is funded by the Global Environment Facility. It was started in 2017 to support the government's efforts for the conservation of snow leopards.

67) The term 'Automatic Route' is often heard in news.

Which of the following statement roughly corresponds to it?

- a. Under the Automatic Route, the foreign investor or the Indian company does not require any approval from RBI or the Government of India for the investment.
- b. Under the Automatic Route, the foreign investor or the Indian company requires very few approvals from RBI or the Government of India for the investment.
- c. Automatic route means the entry route through which investment by a person resident inside India does not require the prior approval of the RBI
- d. The automatic route stands for more restricted or less liberalized regulation of investments

Ans A, Foreign Direct Investments (FDI) can be made under two routes—Automatic Route and Government Route. Under the Automatic Route, the foreign investor or the Indian company does not require any approval from RBI or the Government of India for the investment. Under the Government Route, prior approval of the Government of India, Ministry of Finance, and Foreign Investment Promotion Board (FIPB) is required.

68) Recently, IMF terms India's Direct Benefit Transfer as a 'Logistical Marvel'. Concerning this, what are the advantages/trends of DBT in recent times?

1. DBT's main advantage is preventing any fraud.
2. It ensures that the fund is utilized only for the intended purpose
3. More than 24 lakh crore has been transferred through DBT since 2013
4. DBT includes in-kind and cash transfers
 - a. 1,2,3
 - b. 2,3
 - c. 3,4
 - d. 1,3,4

Ans: d, The IMF has described India's deployment of a direct cash transfer scheme and other similar social welfare programmes as a "logistical marvel". According to the government data, more than Rs 24.8 lakh crore has been transferred from DBT

Also, there are many complaints that they are not giving passbooks to the beneficiaries making them unaware of the scheme. Illiterate beneficiaries are more vulnerable in this case. Direct cash may not be used for the intended purpose and can be used in unhealthy ways.

69) With reference to Carbon Dating, consider the following statements :

1. It can be used to determine the age of both living and non-living things
2. It can be measured by assessing the changing ratio of C-12 and C-14, the isotopes of Carbon
3. An organic material that is aged beyond 1 lakh years can also be known through this

Which of the statements given above is/are incorrect?

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

Ans- C, Carbon dating is one of archaeology's mainstream methods for dating organic objects up to 50,000 years old. (Not beyond that) This method is based on the idea of radiative decay of Carbon-14 isotopes over thousands of years.

Radiocarbon dating is a method that provides objective age estimates for carbon-based materials that

originated from living organisms. (Not non-living objects)

70) Regarding the fertilizers, consider the following statements:

1. Top dressing is the broadcasting of fertilizers particularly nitrogenous in closely sown crops like paddy and wheat
2. India ranks 1st in the production of nitrogenous fertilizers
3. Most of the Fertilizer Plants are in the States of Punjab, Haryana, Uttar Pradesh
4. Nutrient Based Subsidy Scheme (NBS) allows the manufacturers to fix the MRP of the Nitrogenous fertilizers at reasonable levels.

Which of the statements given above is/are correct?

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

Ans B, B Top dressing refers to a process by which either natural or synthetic origin material is added to the soil to supply nutrients to a plant or crop. It is an application of manure or fertilizer to the surface layer of soil.

India is the 2nd largest consumer of Urea fertilizers after China. India also ranks 2nd in the production of nitrogenous fertilizers and 3rd in phosphatic fertilizers. The fertilizer industry in India is concentrated in certain major regions of the country. This industry is mainly spread over 5 regions including North West region The Nutrient Based Subsidy (NBS) Program for Fertilisers was launched. Under the plan, each grade of subsidised Phosphatic and Potassic (P&K) fertilisers, except for Urea, receives a fixed level of subsidy.

71) With reference to the term 'Pasmanda', consider the following statements:

1. Pasmanda is a Persian word that means ' the ones left behind'
2. Ali Anwar Ansari, the social activist, is the founder of Pasmanda Muslim Mahaz, concerned with fighting discrimination against lower-caste and Dalit Muslims.

Which of the statements given above is/are correct –

- a. Only 1
- b. Only 2
- c. Both 1 and 2
- d. Neither of them

Ans C, Recently, Pasmanda Community has gained the attention of many political parties for inclusive growth and eradication of intra-caste discrimination. The term "Pasmanda" is majorly used by Muslim associations in Uttar Pradesh, Bihar, and other parts of India to define themselves as Muslim communities historically and socially oppressed by caste. 'Pasmanda', is a Persian term that means "those who have fallen behind". Ali Anwar Ansari, the social activist, is the founder of Pasmanda Muslim Mahaz, concerned with fighting discrimination against lower-caste and Dalit Muslims.

72) With reference to the Governor, consider the following statements:

1. According to Article 174, Governor can summon, prorogue, and dissolve the Legislative Assembly only on the advice of the Council of Ministers
2. Except for a few Bills, all other Bills passed by the State Assembly must be delivered to the Governor, under Article 200.
3. The Punchi Committee proposed applying the "Doctrine of Pleasure" to the relationship between the Governor and the ministers.

Which of the statements given above is/are incorrect:

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

Ans. C, Article 174- The Governor shall from time to time summon the House or each House of the Legislature of the State to meet at such time and place as he thinks fit, but six months shall not intervene between its last sitting in one session and the date appointed for its first sitting in the next session.

Article 200- All the Bills, passed by the Legislature of a State, are presented to the Governor.

The Punchi Committee -Recommendations regarding the appointment of Governors: The 'Doctrine of Pleasure' should be deleted from the Constitution.

73) The term ' Green Crackers' is often heard in the news. Concerning this consider the following statements: Choose the correct answer-

- a. With slightly higher cost and negligible pollution, Green Crackers have been mandated in all the States of India

- b. Green Crackers do not comprise barium nitrate which is one of the most hazardous elements present in any regular cracker and reduce the emission of up to 30-35%
3. With zero sound pollution, Green Crackers have been successful in replacing traditional firecrackers in the market
4. Green crackers contain chemicals such as aluminium, potassium nitrate or carbon to produce different colours

Ans. B, Green Crackers are developed by the Council for Scientific and Industrial Research – National Environmental Engineering Research Institute (CSIR-NEERI), green crackers emit pollutants at a 30% lesser rate than their conventional counterparts. It's an environmentally friendly solution to India's air pollution problems and a step towards efforts to combat climate change as well.

74) With reference to the One Nation One Fertilizer Scheme consider the following statements:

1. It introduces a "Single Brand for Fertilisers and Logo" under the fertiliser subsidy scheme
2. Under ONOF companies are not allowed to display their name, brand, logo or other information
3. This scheme applies to only public sector companies.
4. The scheme may disincentivise fertiliser companies from undertaking marketing and brand promotion activities.

Which of the statements given above is/are incorrect:

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

Ans . C, The Ministry of Chemicals and Fertilisers has announced that it has been decided to implement One Nation One Fertiliser by introducing a "Single Brand for Fertilisers and Logo". Under ONOF companies are allowed to display their name, brand, logo and other relevant product information only on one-third space of their bags. This scheme applies to both public & private sector companies. It will bring about uniformity in fertiliser brands across the country. It may disincentivise fertiliser companies from undertaking marketing and brand promotion activities.

75) Regarding the location of Gambia, consider the following statements:

1. It is located in East Africa and is one of the smallest countries on the continent.
2. It is surrounded by the neighbouring country of Senegal.

Which of the statements given above is/are correct?

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

Ans :B, The Gambia, is a country in western Africa situated on the Atlantic coast and surrounded by the neighbouring country of Senegal. It occupies a long narrow strip of land that surrounds the Gambia River.

76) A farm implement that cuts the small-grain crop, and 'binds' the stems into bundles or sheaves: Which of the following machines/equipment corresponds to this:

- a. Windrower
- b. Sickle
- c. Reaper Binder.
- d. Mower

Ans: The reaper-binder, or binder, is a farm implement that improved upon the simple reaper. Early binders were horse-drawn, their cutting and tying-mechanisms powered by a bull-wheel, that through the traction of being pulled forward creates rotational forces to operate the mechanical components of the machine. Later models were tractor-drawn and some were tractor-powered. (This mechanical power transfer is commonly referred to as a PTO or power take-off device.)

77) In reference to National Maritime Heritage Complex, consider the following statements:

1. NMHC will be developed in Dholavira region of Gujarat.
2. The idea is to create an edutainment (education with entertainment) approach for this destination.
3. It is funded by Ministry of Culture.
4. It is a project under Sagarmala Scheme.

Which of the statements given above is/are correct

- A. 1, 2
- B. 2,3,4

C. 1,3, 4

D. 2,4

Ans b. In order to showcase the maritime heritage and history of India, a National Maritime Heritage Complex (NMHC) will be developed in the Lothal region of Gujarat. The government is aiming to showcase this via an edutainment approach where the latest technology would be adopted to spread awareness. The Ministry of Culture (MoC) and Ministry of Ports, Shipping and Waterways (MoPSW) signed a Memorandum of Understanding (MoU) for the development of the region. It is one of the major projects under Sagarmala scheme

78) Which of the statements given below is/are incorrect with respect to International Solar Alliance:

1. It is open for all the members of UN
2. It is a joint effort by India and Denmark
3. Recently approved 'Solar Facility' under the this program, aims to finance projects in developed countries.

Choose the correct option:

- A. 1 and 2
- B. 1 and 3
- C. 2 and 3
- D. 1, 2 and 3

Ans: C, The ISA was conceived as a joint effort by India and France to mobilize efforts against climate change through deployment of solar energy solutions. All member states of the United Nations are eligible to join the ISA.

ISA in its General Assembly (its highest decision making body) meeting on Tuesday, approved the 'Solar Facility', a payment guarantee mechanism expected to stimulate investments into solar projects. The thrust of the facility is to attract private capital to flow into "underserved markets" in Africa. (Developing Countries)

79) Global Multidimensional Poverty Index is released by:

- A. World Bank
- B. World Economic Forum
- C. IMF
- D. None of the above

Ans d, Global Multidimensional Poverty Index 2022 is a poverty measure that reflects the multiple deprivations that poor people face in the areas of education, health, and living standards. It is annually published by the Oxford Poverty and Human Development Initiative (OPHI) and the Human Development Report Office of the UNDP & it was first published in 2010. The MPI ranges from 0 to 1, and higher values imply higher poverty. A person is multidimensional poor if she/he is deprived in one third or more of the weighted indicators (out of the ten indicators).

80) In relation to 'World Green City Award' consider the following statements:

1. Hyderabad and Bengaluru two cities that represented India, have won the 'World Green City 2022' award
2. India won under the category- 'Living green for Economic Recovery and Inclusive Growth'
3. The event was organized by The International Association of Horticulture Producers (AIPH)

Which of the statements given above is/are correct:

- A. 1 and 3
- B. 1 and 2
- C. 2 and 3
- D. 1, 2 and 3

Ans: c, Hyderabad is the only Indian city that was selected for the 'World Green City 2022, award. It has bagged the award in the category "Living Green for Economic Recovery and Inclusive Growth", at the International Association of Horticulture Producers (AIPH) 2022 World Green Cities Awards which was organised in Jeju, South Korea.

81) Consider the following statements in respect to 'Mayday Call':

1. Mayday is an emergency procedure word (used only in India) as a distress signal in voice-procedure radio communications.
2. Convention requires the word be repeated three times in a row during the initial emergency declaration ("Mayday mayday mayday") to prevent any mistake.

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. B, The "mayday" procedure word was conceived as a distress call in the early 1920s by Frederick Stanley Mockford. Mayday is an emergency procedure word used internationally as a distress signal in voice-procedure radio communications. It is used to signal a life-threatening emergency primarily by aviators and mariners.

"Pan-pan" (other type of urgent call, meaning breakdown) indicates an urgent situation, such as a mechanical failure or a medical problem, of a lower order than a "grave and imminent threat requiring immediate assistance".

82) Consider the following statements:

1. Geosynchronous Satellite Launch Vehicle-Mark3 (GSLV-Mk3) is India's heaviest rocket.
2. It has recently entered the commercial market in an attempt to launch satellites in LEO.
3. While the GSLV Mk III is being human rated for Gaganyaan project, the rocket was always designed with potential human spaceflight.

Which of the above statements is/are correct:

- a. Only 1
- b. Only 2 and 3
- c. Only 1 and 3
- d. All of the above

Ans. D, The Geosynchronous Satellite Launch Vehicle Mark III, also referred to as the Launch Vehicle Mark 3 (LVM3), is a three-stage medium-lift launch vehicle developed by the Indian Space Research Organisation (ISRO). Primarily designed to launch communication satellites into geostationary orbit, it is also due to launch crewed missions under the Indian Human Spaceflight Programme. It is India's heaviest rocket. The week-hour launch (GSLV Mk III) is meant to place 36 satellites of UK-based OneWeb, in Low Earth Orbit, around 601kms above the earth's surface.

83) Consider the following statements with respect to 'Coffee' production:

1. Coffee thrives best in areas of cold climate where the temperatures range between 10° and 15°C and the amount of rainfall ranges between 125 and 250 cm.

2. Before emergence of Brazil as the coffee giant of the world, South Asia accounted for bulk of the world coffee production.
3. India produces coffee in the states of Karnataka, Madhya Pradesh, West Bengal.

Which of the above statements is/are incorrect?

- a. Only 1
- b. Only 1 and 3
- c. Both 2 and 3
- d. All of the above

Ans. B, Coffee thrives best in areas of warm climate where the temperatures range between 20° and 27°C and the amount of rainfall ranges between 125 and 250 cm. Although rainfall should be well distributed over the year, a relative dry weather during the flowering season is more beneficial.

India produces coffee in the southern states of Karnataka, Tamil Nadu and Andhra Pradesh. Brazil has had a number of geographical advantages viz. highlands that are gently rolling with occasional pronounced escarpments. The rolling topography offers good drainage. Before emergence of Brazil as the coffee giant of the world, South Asia accounted for bulk of the world coffee production.

84) Recently the term 'Operation Megh Chakra' was in news. Consider the following statements in relation to this: Choose the correct answer-

- a. A major operation against circulation and sharing of child sexual abuse material online
- b. An evacuation operation by the Government of India to evacuate the Indian citizens amidst the 2022 Russian invasion of Ukraine
- c. Cloud seeding operations consisted of the installation of Doppler Weather Radars
- d. A cultural mission to revive ancient texts

Ans A, The Central Bureau of Investigation (CBI) launched Operation Megh Chakra on September 24, 2022 to conduct searches at 56 locations across India as part of a nationwide drive against the circulation and sharing of child sexual abuse material (CSAM). This operation was launched after the CBI received intelligence from Interpol's Singapore special unit based on the information received from authorities in New Zealand.

85) With reference to Muhurat Trading consider the following statements:

1. Muhurat trading is the auspicious stock market trading for an hour on Diwali (Deepawali)
2. The practice has been recently started in BSE and NSE.
3. Recently, it was held for Vikram Samvat 2079 (Hindu Calendar)

Which of the above statements is/are correct?

- a. Only 1
- b. Only 2
- c. Both 1 and 3
- d. Both 1 and 2

Ans C, The special trading window (Muhurat Trading) opens following Hindu Panchang, it marks the beginning of a new Samvat, the Hindu calendar year that starts on Diwali, and it is believed that Muhurat trading brings prosperity and wealth throughout the year. The one hour Muhurat trading for Diwali 2022 on the stock markets BSE and NSE (will be) conducted on Monday, October 24, 2022. On the BSE, the practice was started in 1957 and in 1992 on the NSE.

86) Consider the following statements:

- 1) As wind speed drops, pollutants are not effectively dispersed and this leads to their accumulation
- 2) As temperature drops, the mixing height (the height measured from the surface of the earth up to which pollutants can be dispersed in the atmosphere) increases.
- 3) When wind speed falls and mixing height lowers at the same time, the air gets trapped and this leads to higher pollution.

Which of the following is correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) all of the above

Ans: C) The national capital on Tuesday breathed the cleanest post-Deepawali air in eight years, according to Central Pollution Control Board (CPCB) data.

As temperature drops, the mixing height (the height measured from the surface of the earth up to which

pollutants can be dispersed in the atmosphere) also reduces.

When wind speed falls and mixing height lowers at the same time, the air gets trapped and this leads to higher pollution. But this year it was warmer, the wind speed was better and the mixing height was also not so low. That is why though firecrackers were burst, there was a dispersion of pollutants and it did not lead to a build-up in Delhi.

87) Which of the following statements are correct?

- 1) Cyclone Sitrang brewed in the Arabian Sea before turning north toward Pakistan's vast coast, prompting authorities to evacuate hundreds of thousands of people.
 - 2) The name Sitrang has been given by Thailand.
 - 3) This will be the third cyclonic storm of 2022.
- a) 1 and 2 only
 - b) all of the above
 - c) 2 only
 - d) 1 and 3 only

Ans: C) The developing cyclonic storm in the Bay of Bengal — Cyclone Sitrang — will bypass Odisha and make landfall near West Bengal-Bangladesh coasts on October 25, 2022, said the India Meteorological Department (IMD).

The name Sitrang has been given by Thailand.

Sitrang will follow cyclone Asani. This will be the second cyclonic storm of 2022.

The cyclones that are forming over the north Indian Ocean, including the Arabian Sea and Bay of Bengal, are given names by IMD. Thirteen members—Bangladesh, India, Iran, Maldives, Myanmar, Oman, Pakistan, Qatar, Saudi Arabia, Sri Lanka, Thailand, United Arab Emirates, and Yemen—are given warnings about tropical cyclones and storm surges by the IMD.

88) Consider the following statements with respect to Special Campaign 2.0:

1. The campaign is launched by the Ministry of Skill Development and Entrepreneurship.
2. The campaign enables any Indian individual to apply for financial assistance or loan to pursue skill development training courses.

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) A Special Campaign 2.0 has been launched on Gandhi Jayanti, 2nd October which will go on till 31st October, 2022.

Under the campaign all ministries/departments are focusing on Swachhata & promoting cleanliness, good governance & ease of living while reducing compliance burden and reducing pendency in Government. The Special Campaign 2.0 reinforces the importance of timely disposal of references and a clean work space.

89) Consider the following statements with respect to Agni Prime Ballistic Missile:

1. It is a nuclear capable two-stage liquid propellant missile with dual redundant navigation and guidance system.
2. It is a canisterised missile and has range capability between 1000 and 2000 Km.

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) India successfully tests new-gen nuclear-capable 'Agni Prime' ballistic missile.

Agni Prime is a new generation advanced variant of the Agni class of missiles with range capability between 1,000 and 2,000km.

It is a two stage canisterised solid-propellant missile with dual redundant navigation and guidance system. Canisterised means the missile is capable of launch at short notice through improvements in its storage and handling features.

It weighs 50% less than the Agni 3 missile and has new guidance and propulsion systems,

In addition, since it is canisterised, it can be launched from rail or road, and can be stored for longer periods and can be transported as per operational requirements.

90) Which one of the following countries has recently approved the Commercial cultivation of GM variety of Indian mustard?

- a. United States of America
- b. New Zealand
- c. Iran
- d. Australia

Ans: D) Australia approved the commercial cultivation of the genetically modified Indian mustard species called 'Brassica juncea' for herbicide tolerance. So far, the canola (Brassica napus) is perhaps the only genetically modified mustard variety that has been cleared for commercial application.

