



OCTOBER 2020

IASbaba's Monthly Magazine

One Nation One Language

State versus NGOs

SC Judgment on Right to Protest

Gandhiji's ideals and vision

Decoding the labour Codes

Crime in India 2019 Report: NCRB

www.iasbaba.com
support@iasbaba.com

PREFACE

With the present shift in examination pattern of UPSC Civil Services Examination, 'General Studies – II and General Studies III' can safely be replaced with 'Current Affairs'. Moreover, following the recent trend of UPSC, almost all the questions are issue-based rather than news-based. Therefore, the right approach to preparation is to prepare issues, rather than just reading news.

Taking this into account, our website www.iasbaba.com will cover current affairs focusing more on 'issues' on a daily basis. This will help you pick up relevant news items of the day from various national dailies such as The Hindu, Indian Express, Business Standard, LiveMint, Business Line and other important Online sources. Over time, some of these news items will become important issues.

UPSC has the knack of picking such issues and asking general opinion based questions. Answering such questions will require general awareness and an overall understanding of the issue. Therefore, we intend to create the right understanding among aspirants – 'How to cover these issues?'

This is the 65th edition of IASbaba's Monthly Magazine. This edition covers all important issues that were in news in the month of **OCTOBER 2020** which can be accessed from <https://iasbaba.com/current-affairs-for-ias-upsc-exams/>

VALUE ADDITIONS FROM IASBABA

- **Must Read and Connecting the dots.**
- **Also, we have introduced Prelim and mains focused snippets and Test Your Knowledge (Prelims MCQs based on daily current affairs) which shall guide you for better revision.**
- **'Must Read' section**, will give you important links to be read from exam perspective. This will make sure that, you don't miss out on any important news/editorials from various newspapers on daily basis.
- Under each news article, **'Connecting the dots'** facilitates your thinking to connect and ponder over various aspects of an issue. Basically, it helps you in understanding an issue from multi-dimensional view-point. You will understand its importance while giving Mains or Interview.

Must Read Articles: We have not included them in the magazine. Those following DNA on daily basis may follow it- <https://iasbaba.com/current-affairs-for-ias-upsc-exams/>

"Tell my mistakes to me not to others, because these are to be corrected by me, not by them."

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HISTORY/CULTURE/GEOGRAPHY

Promotion of Buddhist Sites under SwadeshDarshan & PRASHAD

Part of: GS Prelims and GS-I – Indian Heritage Sites

In news

- Development of tourism related infrastructure and facilities at various Buddhist Sites in India under flagship schemes of SwadeshDarshan & PRASHAD has been undertaken.
- **Ministry:** Ministry of Tourism

Steps Taken

- SwadeshDarshan Scheme has included Buddhist circuit and Spiritual circuit among its 13 thematic circuits.
- 30 projects for development of infrastructure have also been undertaken under the PRASHAD Scheme.
- Buddhist Sites at Bodhgaya, Ajanta & Ellora have been identified to be developed as Iconic Tourist Sites.
- Buddhist Conclave is organised every alternate year with the objective of promoting India as a Buddhist Destination.
- Signages have been installed in Chinese language at Buddhist monuments in Uttar Pradesh and in Sinhala language at Sanchi monuments in Madhya Pradesh.

Important value additions

PRASHAD Scheme

- The 'National Mission on Pilgrimage Rejuvenation and Spiritual Augmentation Drive' (PRASHAD).
- **Launched by:** Ministry of Tourism (2014-15).
- It was changed from PRASHAD to "National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive (PRASHAD)" in October 2017.
- **Objective:** (1) Holistic development of identified pilgrimage destinations; (2) Rejuvenation and spiritual augmentation of important pilgrimage and heritage sites; (3) Follow community-based development and create awareness among the local communities; (4) Strengthen the mechanism for bridging the infrastructural gaps.

SwadeshDarshan Scheme

- It is a Central Sector Scheme launched in 2014 -15.
- **Objective:** (1) Integrated development of theme based tourist circuits in the country; (2) To position the tourism sector as a major engine for job creation
- The Ministry of Tourism provides Central Financial Assistance (CFA) for infrastructure development of circuits.

Mahatma as an intercultural Indian

Context: There is a tendency in today's world to think that Gandhi's ideal of non-violence is a noble idea but impractical and unrealistic. The odd thing about this thought is that it tends to sanctify Gandhi while rejecting his principles.

Gandhi's Idea of non-violence

- Gandhi's idea of non-violence was not a dream; it was a realistic hope, armed with a dose of practical idealism; that of the global welcoming of the **law of love**.

- With Gandhi, the philosophy of non-violence turned into an **instrument of public dissent** and a pragmatic tool of the powerless against the powerful.
- While being an instrument of conflict resolution and universal harmony, non-violence was also an essentially moral exercise.
- He viewed non-violence essentially as an **ethical commitment** and a constructive political action.
- For Gandhi, the **ethical and the political were the same**. Therefore, for him, the struggle against violence and fanaticism was at the same moral level as disobeying unjust laws.

What was Gandhiji's vision of Democracy?

- Gandhi said that it would not be possible to understand the concept of democracy without having some understanding of the philosophical tradition of a critique of violence in which it is nurtured. Therefore, **democracy and non-violence as two** sides of the same reality
- Gandhi's idea of democracy also hinges on **moral growth in humankind**, where an undisciplined and unrestrained individualism gives its place to an empathetic humanism
- Gandhi considered democracy as a dynamic element in the **ethical becoming of human civilisation**.
- The entire Gandhian thought in the realm of citizenship and democracy revolves around the establishment of a **just society**
- Gandhi's repeated emphasis on **service to all human beings** from all traditions of thought was the essence of his non-violent democratic theory.

How was Gandhiji's approach ahead of his time?

- His non-violent democratic theory as a philosophy of inter-cultural dialogue is still far ahead of our time, several generations after his death.
- Gandhi was **not a dogmatic nationalist** but essentially a pathfinder towards a common ground among different cultures and diverse mentalities.
- Therefore, his philosophy of democracy remains neither mono-cultural nor essentialist. It is essentially **pluralistic and empathetic**.
- More importantly, his attachment to politics is more ethical than religious. Consequently, **religion for him is identified with ethics rather than theology**.

What was Gandhiji's idea of Indianness?

- Gandhiji was well aware of the fact that politics is a fragile concept and is vulnerable to nationalist justifications of violence and war.
- That is the reason why he **refused to define India in terms of ethnic purity** or linguistic unity or some other unifying religious attribute.
- More than rallying Indians to combat various "others," Gandhi's philosophy of democracy introduced an anti-monistic and pluralistic dimension into a primarily territorial rootedness of Indianness.
- For Gandhi, there was no sentiment of loving one's country (namely India) without **loving the culture of the other**.
- Gandhi's appeal to fraternity was based on an inclusive and dialogical idea of living together which disapproved all forms of national or religious self-centredness.

Conclusion

Gandhiji believed profoundly in the possibility of introducing humanity to the principle of non-violence. In this era of Nationalistic rivalries and impending Cold war-II, it is all the more necessary to follow Gandhi's ideal in spirit.

High Powered Committee alleges violations in Chardham road project

Part of: GS Prelims and GS-I – Geography

In news

- The chairman of a Supreme Court-appointed expert committee has alleged violations of the court orders in the execution of the Chardham road project.
- It is a 900 km, ₹12,000 crore enterprise to connect pilgrimage spots in Uttarakhand.



Important value additions

ChardhamYatra of Uttarakhand

- In the great Himalayas in Uttarakhand, the four pilgrim-destinations namely Yamunotri, Gangotri, Kedarnath and Badrinath are collectively known as Chardham.
- Traditionally, this pilgrimage tour should begin from the West and end in the East. Thus, the Char DhamYatra commences from Yamunotri, then proceeds to Gangotri and finally to Kedarnath and Badrinath.
- The MoRTH is the key coordinator of the Chardham project.
- Ravi Chopra is the chairman of the High Powered Committee (HPC).

Simultaneous blasting for Zojila Tunnel

Part of: GS Prelims and GS-I – Geography

In news

- Union Road Transport and Highways Minister will initiate simultaneous blasting for Zojila Tunnel in Jammu and Kashmir and Ladakh.

Key takeaways

- The tunnel will provide all-weather connectivity between Srinagar valley and Leh on NH-1 and will bring about an all-round economic and socio-cultural integration of Jammu and Kashmir.
- It involves construction of a 14.15-kilometre long tunnel at an altitude of about three thousand metres under Zojila pass on NH-1 connecting Srinagar and Leh through Dras and Kargil.
- Megha Engineering & Infrastructure Limited (MEIL) has been awarded with the contract of construction of ZojiLa Tunnel between Baltal and Minamarg within six years and nearly 19-KM approach roads on both sides in two and half years.
- Both on the east portal of ZojiLa Tunnel at Meenamarg on Kargil side in UT Ladakh and the west portal of Nilagrar tunnel in Ganderbal district of UT Jammu & Kashmir, tunnel works would begin with simultaneous blasts.



Place in news: Nazca Lines

Part of: GS Prelims and GS-I – Geography

In news

- Recently, Peru's famous Nazca Lines was in news.
- A massive carving of a resting cat on the slope of a steep hill was discovered there.



Important value additions

Nazca Lines

- The Nazca Lines are a group of very large geoglyphs made in the soil of the Nazca Desert in southern Peru.
- They were created between 500 BCE and 500 CE by people making depressions or shallow incisions in the desert floor, removing pebbles and leaving differently coloured dirt exposed.

- There are many figurative designs of animals and plants.
- The figures include pelicans (the largest ones sized around 935 feet long), Andean Condors (443 feet), monkeys (360 feet), hummingbirds (165 feet), and spiders (150 feet).
- Geometric shapes, such as triangles, trapezoids and spirals, are also found.
- Some designs have been associated with astronomical functions as well.
- The Lines were declared a World Heritage Site by UNESCO in 1994.

Life in Miniature Project launched

Part of: GS Prelims and GS-I –Art & Culture

In news

- "Life in Miniature" project was recently launched
- **Ministry:** Ministry for Culture and Tourism
- It is collaboration between the National Museum, New Delhi, Ministry of Culture, and Google Arts & Culture.

Key takeaways

- Under the project, several miniature paintings from the National Museum, New Delhi can be viewed online on Google Arts & Culture by people around the world.
- The project uses technologies like machine learning, augmented reality and digitization with high-definition robotic cameras, to showcase the paintings.

Bundi

Part of: GS Prelims and GS-I - Architecture

In news

- The Ministry of Tourism's DekhoApnaDesh Webinar series titled "Bundi: Architectural Heritage of a Forgotten Rajput Capital" focused on Bundi, Rajasthan recently.



Key takeaways

- Bundi is a district in the Hadoti region of Rajasthan.
- It was the erstwhile capital of Hada Rajput province

- It is also known as City of stepwalls, blue city.
- It was also known as Chotti Kashi owing to presence of over hundred temples within and around the hada capital.
- Temples constructed in early phase of Bundi's growth were in classical Nagara style.
- In later phases new temple typologies emerged from amalgamation of architectural form of traditional haveli with the classical Nagara style.
- Jain temples formed third type of temple type constructed
- A fourth temple type emerged in the form of a raised or elevated temple.
- Absence of monumentality in their scale is a distinctive feature of temples in Bundi.

Kochi-Muziris Biennale: Art exhibition and festival

Part of: GS Prelims and GS-I – Art & Culture

In news

- Kochi-Muziris Biennale was in the news recently.
- Its 5th edition has been postponed to 2021 due to the Covid-19 pandemic.

Important value additions

The Kochi-Muziris Biennale

- It is an art exhibition and festival.
- It is the largest of its kind in South Asia.
- **Organised by:** Kochi Biennale Foundation at Kochi, Kerala.
- The Foundation is a non-profit charitable trust engaged in promoting art and culture and educational activities in India.
- It works throughout the year to strengthen contemporary art infrastructure and to broaden public access to art across India through a diverse range of programmes.

Do you know?

- In mythology, Muziris was a port city, among the earliest of its kind in the world.
- When Kerala established itself as a major center for spice, the ancient port of Muziris emerged as its hub.
- Currently, the Muziris Heritage Project is one of the biggest conservation projects in India, where the state and the central governments have come together to conserve a rich culture that is as old as 3000 years or more.
- The biennale exhibits artworks across a variety of mediums including film, installation, painting, sculpture, etc.

POLITY/GOVERNANCE

JK-IGRAMS & National Generic Document Registration System (NGDRS) Launched

Part of: GS Prelims and GS-II – Executive

In news

- [Jammu & Kashmir](#) Lieutenant-Governor (L-G) launched the Jammu and Kashmir Integrated Grievance Redress and Monitoring System (JK-IGRAMS) in order to create an interface with the public and focus on governance issues in the Union Territory.
- The National Generic Document Registration System (NGDRS) was also launched.

Key takeaways

Jammu and Kashmir Integrated Grievance Redress and Monitoring System (JK-IGRAMS)

- The system is being launched on a pilot basis in three districts — Jammu, Srinagar, and Reasi.
- It will gradually be rolled out in the remaining districts by October 2.
- It will make the existing mechanism more robust and efficient.
- Action will follow if any delay is found while addressing people's grievances.
- District Collectors and Deputy Commissioners will be the primary nodes for receiving, disposing and monitoring grievances.

National Generic Document Registration System (NGDRS)

- J&K will be the 10th among States and UTs to become part of NGDRS.
- NGDRS represents a major shift from the existing manual registration system to online registration of all transactions in sale-purchase and transfer of land.
- Stamp papers have been replaced by e-stamps which have been incorporated in coordination with Stockholding Corporation of India.

Is one language enough?

Context: [New Education Policy](#) and how it deals with the [issues of language](#).

Development of National Language in Indonesia

- Here, hundreds of languages were spoken across thousands of islands that now comprise the modern nations of Indonesia, Malaysia and Singapore.
- **During Colonial rule**, Malay became an accepted language of communication as it was grammatically simple, non-hierarchical, and easier to learn than other regional languages.
- Over centuries of Colonial rule, **Malay had evolved** due to the need in maritime Southeast Asia for a lingua franca for trade and other exchanges
- While negotiating independence from Dutch colonial rule, Indonesian nationalists decided that a **reformed version of Malay** (renamed **Bahasa Indonesia**) would become the official language
- Bahasa Indonesia aimed to bring more than **300 ethnic groups together** with no one ethnic group, including the Javanese, overshadowing the rest.
- From the outset of its independence, Indonesia recognised the importance of avoiding the inequality that was likely to occur by imposing the language of one dominant ethnic group over others.

Debates in the Indian Constituent Assembly about Language

- In contrast, the issue of adopting a national language could not be resolved when the Constituent Assembly began drafting India's Constitution.

- The adoption of a national language, the language in which the Constitution was to be written, and the language in which the proceedings of the Constituent Assembly were to be conducted were the main questions debated.
- On the one side were members from the Hindi-speaking provinces who argued for adopting Hindi as the sole national language
- One of the member (R.V. Dhulekar), declared “People who do not know Hindustani have no right to stay in India.... and those who do not know Hindi are not worthy to be members of this Assembly.”
- To counter such an argument, a member of the Assembly from the south said “This kind of intolerance makes us fear that the strong Centre which we need... will also mean the enslavement of people who do not speak the language of the Centre.”

How was the issue of National Language resolved then?

- Widespread resistance to the imposition of Hindi on non-native speakers, especially in Tamil Nadu, led to the passage of the **Official Languages Act of 1963**, which provided for the continued use of English for all official purposes.
- Hindi became the sole working language of the Union government by 1965 with the State governments free to function in the language of their choice.
- Meanwhile, the constitutional directive for the Union government to encourage the spread of Hindi was retained
- Later, Hindi speakers from the IT, construction and other sectors began moving for jobs to the south which led to Hindi as the fastest growing language.

Loss of Languages

- According to the 2001 Census, India has 30 languages that are spoken by more than a million people each.
- The Constitution lists 22 languages and protects them in the eighth schedule. [Many languages are kept out of this schedule](#) even if they deserve to be included.
- This includes Tulu which is spoken by over 1.8 million people and has inscriptions dating back to the 14th and 15th centuries.
- Hindi language came to replace prestige dialects such as Awadhi, Maithili and Braj. The literary value of these dialects diminished in due course.

Consequences

- When a refined language loses its status in literary and daily interactions, the way of life associated with it also vanishes.
- If we don't protect and promote other well-evolved or endangered and indigenous languages, our future generations may end up never understanding their 'real' roots and culture.

Conclusion

Instead of focusing on one national language, one can try to learn a language beyond one's mother tongue and get to know a different way of life too.

Connecting the dots

- Language Issue and a [case study of Singapore](#)

Constraining critique: On Amnesty halting India operations

Context:Amnesty's decision to close its operations in India

What is Amnesty International?

- Amnesty International is a worldwide human rights organization (International NGO) founded in 1961 by the British lawyer Peter Benenson
- It is independent of all governments and all financial players and had won the Nobel Peace Prize way back in 1977.
- Amnesty has taken up human rights causes such as minority rights, ending torture, abolition of the death penalty and refugee rights, globally.

Why did Amnesty halt its operation in India?

Its working had been made difficult due to government actions in recent years for ex:

- Freezing of its bank accounts by government of India in early September 2020.
- Constant harassment by government agencies including the Enforcement Directorate from past two years
- Intrusive scrutiny from state agencies
- Critical reporting of abrogation of Article 370 was viewed by Union Government as interference in Domestic Politics of India

As a result of all these constraints, the NGO decided to close its functioning in India

What is the government's argument for taking action against NGO?

- **Non-Compliance with Indian Laws:** Amnesty International Foundation and its three subsidiaries — Amnesty India Private Limited, Indians for Amnesty International Trust and Amnesty International South Asia Foundation — are not registered under the [Foreign Contribution Regulation Act, 2010 \(FCRA\)](#), a pre-requisite for civil society groups, associations and NGOs to receive foreign donations.
- It made use the "prior permission" route, which meant applying to the government each time it wanted to accept a foreign donation.
- **Flouting Financial Laws:** Having failed to receive registration under the FCRA, the Amnesty had taken the "commercial route" and accepted funds through Foreign Direct Investment, which Ministry of Home affairs (MHA) said is a contravention of the Foreign Exchange Management Act (FEMA).
- **Interference in Domestic Politics:** MHA also stated that India does not allow interference in domestic political debates by entities funded by foreign donations, in a pointed reference to Amnesty's reports on alleged human rights violations in Jammu & Kashmir
- **Not an Isolated Case:** The action against AI including freezing their funds is part of the government's scrutiny of more than 20 international NGOs including Greenpeace, Compassion International, and Ford Foundation, over the past few years.
- **Long History of monitoring:** The enquiry into Amnesty International had been undertaken by both the UPA and the NDA regimes over the past decade. The UPA government had blocked over ₹5 crore foreign funds to Amnesty between 2010 and 2013 after receiving allegedly adverse intelligence reports

Criticism of government's action

- **Against Democratic Spirit:** The freedom of civil society organisations to operate underpins any functioning democracy. Curbing the activities of NGOs through excessive State interference is considered as moving backwards in Democracy.
- **Climate of Fear:** Treating human rights organisations like criminal enterprises and dissenting individuals as criminals will stoke a climate of fear and dismantle the critical voices in India
- **Fundamental Rights Impacted:** Such witch-hunting by government agencies violates people's basic rights to freedom of speech and expression, assembly, and association guaranteed by the Indian Constitution and international human rights law
- **Intolerance to Criticism:** Freezing of account is akin to freezing dissent

Way Ahead

- **View as Constructive Criticism:** Democratic regimes that are bound by constitutionalism should not consider critical activism by groups such as Amnesty as being adversarial, but instead view it as constructive critique of their functioning
- **Adopt Soft Actions:** If the critique of such groups is not reasoned, the state can rebut it through communiqués and responses, but should not restrict freedom of expression through intimidation or restraining actions.
- **Build on Democratic gains:** For India to aspire to become a leading Power and a just nation, it must build on its strengths such as its demographic dividend and the procedural institutions that have been built over decades

Conclusion

It is to be hoped Amnesty's decision to halt operations is therefore temporary and that it would be able to function within India's regulatory framework.

Connecting the dots

- FCRA [Bill and why civil society matters](#)

[Companies \(Amendment\) Bill, 2020 passed](#)

Part of: GS Prelims and GS-III – Corporates

In news

- Lok Sabha has passed the Companies (Amendment) Bill, 2020, which decriminalises a number of technical and filing-related corporate offences.

Key takeaways

- It allows direct listing of Indian companies on foreign stock exchanges.
- It revokes the criminal provisions added to the Companies Act for violations of provisions of corporate social responsibility rules.
- 48 sections of the Companies Act, 2013 will be amended to decriminalise various offences.
- However, there will be no relaxation for serious offences, including fraud, deceit and those that cause injury to the public.
- There will also be a new chapter on producer organisation which will be helpful for [farmer producer organisations](#) (FPOs) in the country.
- 17 provisions in the Companies Act, 2013, have also been amended which paves way for easy and user friendly fulfilment of statutory compliances.

Narco Tests intrusion into a person's mental privacy: SC

Part of: GS Prelims and GS-II –Government Policies & Interventions; Judiciary

In news

- **Supreme Court judgment of 2010:** Involuntary administration of narco or lie detector tests is an intrusion into a person's "mental privacy".
- The judgment is significant amid reports that the Uttar Pradesh government wants to subject the family members of a recent gang-rape victim to these tests.

What did the judgement say?

- **The judgment:** Smt. Selvi vs. State of Karnataka
- Involuntary administration of these scientific tests was sufficient to constitute a custodial environment.
- It amounted to a restraint on personal liberty.
- The consequences of such tests can be devastating on people from weaker sections of society who are unaware of their fundamental rights and unable to afford legal advice.
- It may involve future abuse, harassment and surveillance, even leakage of the video material to the news channels for a trial by media.
- Such tests are against human dignity and liberty, and have long-lasting negative effects.
- An individual's decision to make a statement is the product of a private choice and there should be no scope for any other individual to interfere with such autonomy.

Do you know?

- Polygraph or Lie Detector Test measures and records several physiological indicators such as blood pressure, pulse, respiration, and skin conductivity while a person is asked a series of questions.
- Narcoanalysis Test involves the injection of sodium pentothal which induces a hypnotic or sedated state in which the subject's imagination is neutralized, and they are expected to divulge information that is true.

New Director General of Bureau Of Civil Aviation Security (BCAS) appointed

Part of: GS Prelims and GS-III – Aviation

In news

- IPS officer M.A. Ganapathy was recently appointed as the new Director General of the Bureau of Civil Aviation Security (BCAS)
- **Appointed by:** The Appointments Committee of the Cabinet
- BCAS is the security watchdog for the aviation sector.

Important value additions

The Bureau of Civil Aviation Security

- It was initially set up as a Cell in the Directorate General of Civil Aviation (DGCA) in 1978
- **Recommendation by:** Pande Committee constituted in the wake of the hijacking of the Indian Airlines flight in 1976.
- It was reorganized into an independent department in 1987.
- **Ministry:** Ministry of Civil Aviation
- BCAS is the regulatory authority for civil aviation security in India.

- **Main responsibility:** Lay down standards and measures in respect of security of Civil flights at International and domestic airports in India.
- It is headed by an officer of the rank of Director General of Police and is designated as Director General (Bureau of Civil Aviation).
- **Headquarter:** New Delhi.

SC gives judgement regarding Right to Protest

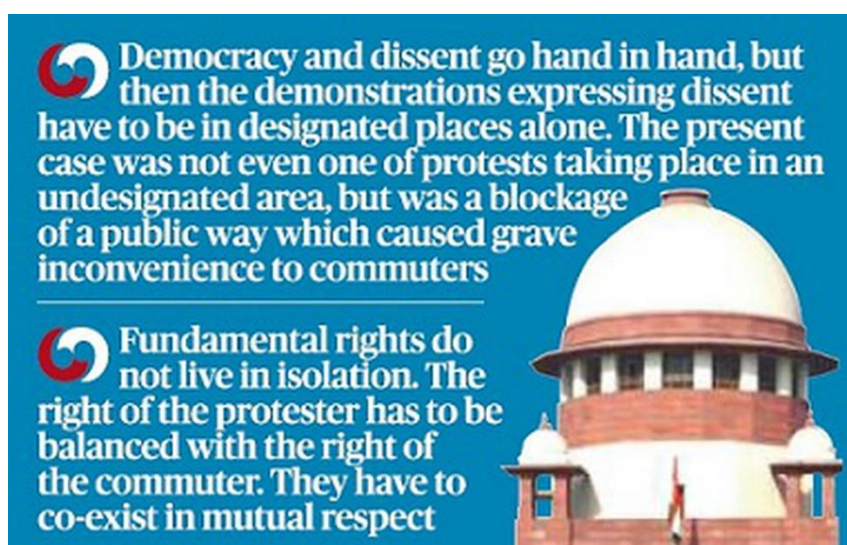
Part of: GS Prelims and GS-II – Fundamental Rights; Judiciary

In news

- The Supreme Court has recently highlighted that occupying public places for protests is not acceptable and such a space cannot be occupied indefinitely.

Key highlights of the judgement

- The verdict came after a plea was filed against the Anti-Citizenship Amendment Act protests which had led to blocking of a road in ShaheenBagh in Delhi last December.
- The judgment upheld the right to peaceful protest against a law
- It also made clear that public ways and public spaces cannot be occupied, especially indefinitely.
- The rights to free speech and peaceful protest were “treasures” but also subject to reasonable restrictions imposed in the interests of sovereignty, integrity and public order.
- The right of the protester has to be balanced with the right of the commuter. They have to co-exist in mutual respect.
- The bench also said that it was entirely the responsibility of the administration to prevent encroachments in public spaces.



On public protests

Context: The Supreme Court has found the indefinite “occupation” of a public road by the ShaheenBagh protestors unacceptable.

Brief Background of the issue

- The ShaheenBagh (New Delhi) protest was a sit-in peaceful protest and an iconic dissent mounted by mothers, children and senior citizens against the passage of the [Citizenship \(Amendment\) Act \(CAA\)](#)

- Mainly consisting of Muslim women, the protesters at ShaheenBagh, since 14 December 2019, blocked major road in New Delhi using non-violent resistance
- It became the **longest protest against CAA-NRC-NPR**.
- However, the protest became **inconvenient to commuters**. Petitions were filed in High Court and Supreme Court to stop the blockade caused by the protests and to shift the site of protest.
- Later, they were removed by the police from the site on March 24th on the wake of lockdown imposed on **Pandemic**

What were the judgements of Supreme Court?

- Judgment upheld the right to peaceful protest against a law but made it unequivocally clear that public ways and public spaces cannot be occupied, and that too indefinitely.
- **Protests cannot be held at any places:** The demonstrations expressing dissent have to be in designated places alone.
- **Dissent in Self-Ruled Democracy:** The seeds of protest and dissent were sown deep during the Freedom struggle. But dissent against the colonial rule cannot be equated with dissent in a self-ruled democracy.
- **Reasonable restrictions:** In a democracy, the rights of free speech and peaceful protest were indeed “treasured”. But these rights were also subject to reasonable restrictions imposed in the interest of sovereignty, integrity and public order. Police regulations also weighed in.
- **Right of commuter:** Fundamental rights do not live in isolation. The right of the protester has to be balanced with the right of the commuter. They have to co-exist in mutual respect
- **Intervention by High Court was needed:** The judgment said the Delhi High Court should have intervened positively and not left the situation fluid. The administration too should have talked to the protesters.
- **Responsibility of the administration:** The court held it was entirely the responsibility of the administration to prevent encroachments in public spaces. They should do so without waiting for courts to pass suitable orders.
- **Significance of Digital Media:** SC noted that ShaheenBagh seemed typical of the many digitally-fuelled “leaderless” dissent seen in modern times. Technology and social media could both empower and weaken mass movements.

Conclusion

Indian democracy is best served when citizens freely express their views, mobilise and protest, but do so without undermining the rights of fellow-citizens. This will help keep the trust between differing constituencies and enhance the legitimacy of dissent

Connecting the dots

- Children’s Right to Protest and Safeguards for Child Witness: Click [here](#)
- Procedural reforms needed in Judiciary: Click [here](#)

[CAG: Keeping vigil even during unusual times](#)

Context: With the nation spending substantial resources to manage the pandemic the role of the supreme audit institution of India, the Comptroller and Auditor General (CAG) of India has assumed the significance.

Karnataka Case - How emergency situation is misused for corrupt practices?

- Emergency calls for attention on outcomes rather than rules

- In the expediency of saving lives and alleviating suffering, there can be reasonable exceptions to compliance with established rules and standard operating procedures. As a result, questions of inconsistencies are likely to be overlooked.
- In Karnataka, there was political allegation that funds (to the tune of ₹2,000 crore) were siphoned off to purchase inferior quality of PPEs, sanitisers, ventilators, masks and other equipment at prices higher than those prevailing in the market
- In August 2020, the Karnataka State Legislature's Public Accounts Committee (PAC) directed the CAG to conduct a special audit into the purchase of COVID-19 equipment
- The panel also asked the CAG to 'conduct an audit of expenditure incurred by the State government under the State Disaster Response Fund (SDRF). The government had used the SDRF amount for purchase of equipment in various districts'

What is the role of CAG during these times?

- **Mandate:** The statutory responsibility of CAG as an independent, objective, and non-partisan constitutional authority includes appraising disaster preparedness, ensuring that management, mitigation operations, procedures are complied with, and proper internal controls are in place.
- **Realigning to COVID-times:** The CAG has issued an order creating a new vertical — health, welfare and rural development on June 1 restructuring the office of the Director General of Audit, Central Expenditure
- **Need to audit Health related expenditure:** It is necessary that the CAG undertakes performance audits of COVID-19 related procurements, the Central Government Health Scheme (CGHS) and Employee State Insurance (ESI) hospitals.
- **Audit objectives** may include the procurement of equipment and drugs for CGHS wellness centres and polyclinics, laboratories and hospitals.
- **Quality of Governance:** As the CAG's performance audits are driven by economy, efficiency and effectiveness, the audit should also focus on expense tracking and achievement of outputs and outcome, in qualitative and quantitative terms.
- **Leveraging Technology:** The entire process of procurement of COVID-19-related equipment and drugs, proper documentation, and compliance with rules and regulations can be streamlined with data analytics and AI

Significance of CAG Auditing during COVID-19 times

- **Helps Prevent Spread of Pandemic:** Auditing of hospitals, dispensaries and labs is expected to provide the assured health-care services including infection control and hygiene.
- **Disaster Management:** If all the major purchases by government entities at all levels are audited by the CAG, there can be substantial improvement in disaster management.
- **Good Governance:** CAG audit will usher in better transparency, integrity, honesty, effective service delivery and compliance with rules and procedures and governance.
- **Long term benefits:** Audit recommendations can contribute improvements in various aspects of disaster preparedness, management and mitigation.

Conclusion

With corruption likely in pandemic management, the CAG's audit can ensure checks and balances in the health sector

Connecting the dots

- Election Commission of India's role in conducting elections during Pandemic

Assisted Reproductive Technology Bill – Part I

Context: Union Health Minister introduced the Assisted Reproductive Technology (Regulation) Bill, 2020 (Bill) in the Lok Sabha on September 14.

Aim of the Bill

- To regulate ART banks and clinics
- Allow safe and ethical practice of ARTs
- Protect women and children from exploitation
- To supplement the Surrogacy (Regulation) Bill, 2019 (that awaits consideration by the Rajya Sabha)

Some of the key Provisions of the bill are:

1. Definition of Assistive Reproductive Technology

- The Bill defines ART to include all techniques that seek to obtain a pregnancy by handling the sperm or the oocyte (immature egg cell) outside the human body and transferring the gamete or the embryo into the reproductive system of a woman.
- Examples of ART services include gamete (sperm or oocyte) donation, in-vitro-fertilisation (fertilising an egg in the lab), and gestational surrogacy (the child is not biologically related to surrogate mother).
- ART services will be provided through: (i) ART clinics, which offer ART related treatments and procedures, and (ii) ART banks, which store and supply gametes.

2. Regulation of ART Clinics and ART Banks

- The Bill provides that every ART clinic and bank must be registered under the National Registry of Banks and Clinics of India.
- The National Registry will be established under the Bill and will act as a central database with details of all ART clinics and banks in the country.
- State governments will appoint registration authorities for facilitating the registration process.
- Clinics and banks will be registered only if they adhere to certain standards (specialised manpower, physical infrastructure, and diagnostic facilities).
- The registration will be valid for five years and can be renewed for a further five years.

3. Conditions for gamete donation and supply

- A bank can obtain semen from males between 21 and 55 years of age, and oocytes from females between 23 and 35 years of age.
- **An oocyte donor** should be an ever-married woman having at least one alive child of her own (minimum three years of age).
- The woman can donate oocyte **only once in her life** and not more than seven oocytes can be retrieved from her.
- A bank cannot supply gamete of a single donor to more than one commissioning couple (couple seeking services).

4. Conditions for offering ART services

- ART procedures can only be carried out with the **written informed consent** of both the party seeking ART services as well as the donor.
- The party seeking ART services will be **required to provide insurance coverage** in the favour of the oocyte donor (for any loss, damage, or death of the donor).
- A clinic is **prohibited** from offering to provide a child of **pre-determined sex**.
- The Bill also requires checking for genetic diseases before the embryo implantation.

5. Rights of a child born through ART:

- A child born through ART will be deemed to be a biological child of the commissioning couple and will be entitled to the rights and privileges available to a natural child of the commissioning couple.
- A donor will not have any parental rights over the child.

6. National and State Boards:

The Bill provides that the National and State Boards for Surrogacy constituted under the Surrogacy (Regulation) Bill, 2019 will act as the National and State Board respectively for the regulation of ART services. Key powers and functions of the National Board include:

- Advising the central government on ART related policy matters
- Reviewing and monitoring the implementation of the Bill
- Formulating code of conduct and standards for ART clinics and banks
- Overseeing various bodies to be constituted under the Bill.

Assisted Reproductive Technology Bill – Part II

Context: Union Health Minister introduced the Assisted Reproductive Technology (Regulation) Bill, 2020 (Bill) in the Lok Sabha on September 14.

Click [here](#) for Part I (containing elaborate provisions of the Bill)

The ART Bill has shifted to an **altruistic model of gamete donation** and fails to respond to the needs of the 27 million infertile Indian couples.

Critical Analysis of the provisions of Bill

1. Exclusion of segment of society to access ART

- The Bill allows for a married heterosexual couple and a woman above the age of marriage to use ARTs. It excludes single men, cohabiting heterosexual couples and LGBTQI individuals and couples from accessing ARTs.
- This violates **Article 14** (Right to Equality) of the Constitution
- It also violates the right to privacy jurisprudence of **Puttaswamy case**.
- Unlike the Surrogacy Regulation Bill, there is no prohibition on foreign citizens accessing ARTs. Foreigners can access ART but not Indian citizens in loving relationships.

2. The egg donor's interests are subordinated

- The Bill requires an egg donor's written consent but does not provide for her **counselling** or the ability to **withdraw her consent** before or during the procedure (unlike for commissioning parties).
- She receives no compensation or **reimbursement of expenses for loss of salary**, time and effort.
- Failing to pay for bodily services constitutes unfree labour, which is prohibited by **Article 23** of the Constitution.
- The commissioning parties only need to obtain an insurance policy in her name for medical complications or death; no amount or duration is specified.

3. Elements of Patriarchy

- The Bill restricts egg donation to a married woman with a child (at least three years old).
- Even here, egg donation as an **altruistic act** is possible only once a woman has fulfilled her duties to the patriarchal institution of marriage.

4. More Safeguards needed with regard to testing of embryos

- The Bill requires pre-implantation genetic testing and where the embryo suffers from "pre-existing, heritable, life-threatening or genetic diseases", it can be donated for research with the commissioning parties' permission.
- These disorders need specification or the Bill risks promoting an impermissible programme of **eugenics**.
- Prior versions of the Bill regulated research using embryos, which must be brought back.

5. SRB Bill and ART Bill needs further synchronisation

- **Definitions** of commissioning "couple", "infertility", "ART clinics" and "banks" need to be synchronised between the Bills.
- **A single woman** cannot commission surrogacy but can access ART.
- Both Bills set up **multiple bodies for registration** which will result in duplication or worse, lack of regulation (e.g. surrogacy clinic is not required to report surrogacy to National Registry).
- Also, the same offending behaviours under both Bills are **punished differently** + punishments under the SRB are greater
- Offences under the **ART Bill are bailable** but not under the SRB.
- Records have to be maintained for 10 years under the ART Bill but for 25 years under the SRB

6. Other issues

- Children born from ART do not have the **right to know their parentage**, which is crucial to their best interests and protected under previous drafts.
- The Bill requires clinics and banks to maintain a grievance cell but these will be one-sided. Clinics must instead have **ethics committees**.
- Mandated counselling services should also be independent of the clinic.
- The Bill's prohibition on the sale, transfer, or use of gametes and embryos is **poorly worded and will confuse** foreign and domestic parents relying on donated gametes.

Conclusion

The Bill raises several constitutional, medico-legal, ethical and regulatory concerns, affecting millions and must be thoroughly reviewed before passage.

Connecting the dots

- Surrogacy Regulation Bill
- Indian Human Genome Project

Implementation plan to help make the NEP 2020 work

Context: The [National Education Policy 2020](#) has a vision to transform the Indian education landscape. It relies on a significant commitment for policy implementation from all stakeholders

There are four contributors to policy failure

- Overly optimistic expectations
- Implementation in dispersed governance
- Inadequate collaborative policymaking
- Vagaries of the political cycle

Thus, there is a need to develop a robust policy support programme and institutional mechanism, if we are to be serious about implementing any policy.

Below is the five-point implementation plan that can be considered to help implement NEP.

1. PM's Task Force on Higher Education Reforms

- The successful implementation of NEP requires different types of interventions.
- It includes coordination and cooperation between the Centre and states; legislative interventions and augmentation of financial resources with involvement of inter-ministerial discussions; and regulatory reforms.
- The PM's Task Force on Higher Education Reforms can be an **advisory body** comprising experts from public and private Higher Education Institutions (HEIs) to help the PM understand and appreciate the bottlenecks, and ensure time-bound implementation with fixed accountability.

2. National NEP Implementation Standing Committee

- This committee will consist of select vice-chancellors/directors of universities/institutes.
- The Committee, **located within the Ministry of Education**, will be chaired by the education minister and the member-secretary will be the education secretary.
- It should have ex-officio members of all major regulatory bodies to remove the hurdles faced by HEIs in the implementation of NEP.
- This Committee will be tasked with creating and monitoring the NEP Implementation Plan in a time-bound manner.
- It will have specific powers and functions, including thematic sub-committees and regional committees.

3. National Education Ministers' Council

- It will consist of Education Ministers of all states and UTs, chaired by the Union Minister for Education
- The Council will serve as a forum to discuss and address implementation issues, and navigate through the diverse perspectives of state governments.

4. Integrating Institutions of Eminence (IoE) with NEP

- In the budget 2016, the then Finance Minister promised to provide “an enabling regulatory architecture” so that “10 public and 10 private institutions” would emerge “as world-class teaching and research institutions. This led to the establishment of IoEs
- Today, the vision of IoE needs to be integrated with the NEP implementation plan, and IoEs need to be empowered with more freedom, flexibility, autonomy and resources.

5. National Higher Education Philanthropy Council

- This council can be chaired by the Education Minister with private sector participation.
- Nearly 70 per cent of Indian HEIs are private, and more than 70 per cent of Indian students study in private HEIs. We must build on this reality to raise financial resources that are critical for the establishment of more private HEIs.
- The Philanthropy Council could help promote a fundamental re-imagination of the tax structure to incentivise potential donors for donating to specified funds that promote establishment of Universities/Colleges

Conclusion

For successful implementation of the NEP, we will need to

- Create stakeholder incentives
- Formulate instruments in the form of legal, policy, regulatory and institutional mechanisms
- Build reliable information repositories
- Develop adaptability across HEIs, regulatory bodies and government agencies
- Develop credibility through transparent actions and participation of all stakeholders
- Develop sound principles of management

Connecting the dots:

- Right to Education Act
- Operation Digital Board

[The road to zero hunger by 2030](#)

Context: World Food Day being celebrated on October 16

Do You Know?

In the year 2020

- FAO is celebrating 75 years of fighting hunger in over 130 countries
- IFAD (International Fund for Agricultural Development) become the first UN agency to receive a credit rating
- The World Food Programme (WFP) was awarded the Nobel Prize for Peace

What is a food system?

- It is a framework that includes every aspect of feeding and nourishing people: from growing, harvesting and processing to packaging, transporting, marketing and consuming food.
- To be sustainable, a food system must provide enough nutritious food for all without compromising feeding future generations.

How did India's food system work during Pandemic?

- During the COVID-19-precipitated lockdown, the FAO, IFAD and the WFP worked in close coordination to support the Government of India's Empowered Group 5 on facilitating supply chain and logistics management, so necessary items such as food and medicines were available.

- Over the past few decades, India has gone from being a net importer to a net exporter of food grains. This strength has been evident through the pandemic.
- During April to June 2020, Central and State governments were able to distribute around 23 million tonnes from India's large domestic food grain reserves through Public Distribution System
- The government also successfully **mobilised food rations for 820 million people** from April to November 2020, including finding alternate solutions to provide food rations to 90 million schoolchildren.
- During Pandemic's initial days of lockdown, there were efforts to remove bottlenecks in the food supply chain to ensure that agricultural activities weren't disrupted.
- As a result, agriculture grew at 3.4% during the first quarter this financial year and the area cultivated this *kharif* exceeded 110 million hectares.

Challenges Ahead for India

- **High number of Malnourished:** The Comprehensive National Nutrition Survey 2016-18 revealed that over 40 million children are chronically malnourished, and more than half of Indian women aged 15-49 years are anaemic.
- **Climate change** continues to be a real and potent threat to agrobiodiversity, which will impact everything from productivity to livelihoods across food and farm systems.
- **Small Land Size:** Intensified food production systems with excessive use of chemicals and unsustainable farming practices cause soil degradation, fast depletion of groundwater table and rapid loss of agro-biodiversity. These challenges multiply with an increase in fragmentation of landholdings.

Way Ahead

- **The way we produce food must change** through agroecology and sustainable production practices in agriculture and allied sectors
- India must **stop the waste** — one-third of the food we produce is wasted.
- COVID-19 is an opportunity to **adopt innovative solutions** based on scientific evidence so they can build back better and make food systems more resilient and sustainable
- **Everybody** — governments, the private sector, civil society and local communities — **has a role to play** in transforming our food systems so they can withstand increasing volatility and climate shocks

Connecting the dots

- Sustainable Developmental Goals
- India's Commitment to Paris Climate Deal

The Population Worry

Context: Recently, there has been discussion in the media on India's population future prompted by release of the Sample Registration System (SRS) Statistical Report (2018) and global population projections made by the Institute of Health Metrics and Evaluation (IHME), US.

About Fertility Rates

- **Total fertility rate (TFR)**—the average number of children born per woman

- **Replacement** level fertility is the TFR —at which a population exactly replaces itself from one generation to the next, without migration. This rate is roughly 2.1 children per woman for most countries, although it may modestly vary with mortality rates

What is Sample Registration System (SRS)?

- The SRS is a **demographic survey** for providing reliable annual estimates of infant mortality rate, birth rate, death rate and other fertility and mortality indicators at the national and sub-national levels.
- Initiated on a pilot basis by **the Registrar General of India** in a few states in 1964-65, it became fully operational during 1969-70.
- The field investigation consists of continuous enumeration of births and deaths in selected sample units by resident part-time enumerators, generally anganwadi workers and teachers; and an independent retrospective survey every six months by SRS supervisors. The data obtained by these two independent functionaries are matched.

Key Finding of SRS Report

- The report estimated the Total Fertility Rate (TFR) as 2.2 in the year 2018
- A comparison of 2011 and 2018 SRS statistical reports shows that TFR declined from 2.4 to 2.2 during this period
- Fertility is likely to continue to decline and it is estimated that replacement TFR of 2.1 would soon be reached for India as a whole
- As fertility declines, so does the **population growth rate**.
- Fertility **declined in all major states**. In 2011, 10 states had a fertility rate below the replacement rate. This increased to 14 states in 2018.
- The six states with higher than national fertility rate (and their TFR) in 2018 are Bihar (3.2), Uttar Pradesh (2.9), Madhya Pradesh (2.7), Rajasthan (2.5), Jharkhand (2.5) and Chhattisgarh (2.4)

Issue of sex ratio at birth

- The SRS reports show that sex ratio at birth in India, measured as the number of females per 1,000 males, declined marginally from 906 in 2011 to 899 in 2018.
- There is considerable son preference in all states, except possibly in Kerala and Chhattisgarh.
- This is a cause for concern because this adverse ratio results in a gross imbalance in the number of men and women and its inevitable impact on marriage systems as well as other harms to women.

Consequences of TFR reaching replacement level

- Many people believe that the population would stabilise or begin to reduce in a few years once replacement fertility is reached.
- This is not so because of the population momentum effect, a result of more people entering the reproductive age group of 15-49 years due to the **past high-level of fertility**.
- For instance, the replacement fertility level was reached in Kerala around 1990, but its annual population growth rate was 0.7 per cent in 2018, nearly 30 years later.
- The UN Population Division has estimated that India's population would possibly peak at 161 crore around 2061 at the medium-fertility variant.
- Some of this momentum effect can be mitigated if young people delay childbearing and space their children.

Fertility and Social setting

Fertility largely depends upon social setting and programme strength.

1. **Female education** is a key indicator for social setting.

- Broadly, higher the female education level, lower the fertility.
- For instance, illiterate women in the reproductive age group of 15-49 years have higher fertility than literate women in almost all states.
- The percentage of illiterate women in the reproductive age group declined from 31.5 in 2011 to 13.0 per cent in 2018 as the cohort of older women with high illiteracy exited and younger women with a high proportion of them literate entered this age group.

2. **Programme strength** is indicated by the unmet need for contraception, which has several components.

- The National Family Health Survey (2015-16) provides us estimates for the unmet need at 12.9 per cent and contraceptive prevalence of 53.5 per cent for India. Together, this puts the total demand for contraception at 66.4 per cent.
- **Bihar, with the highest fertility rate**, also has the highest unmet need at 21.1 per cent and the lowest contraceptive prevalence rate of 24.1 per cent among all the major states
- Although female education levels are improving in Bihar, fertility for women with any education level is higher in 2018 compared to 2011. Likewise, fertility among women with Class 10 or higher education in UP is greater in 2018 compared to 2011.
- Programme's ability to reach younger people and provide them with good quality **reproductive health education and services** needs to be urgently strengthened in these states (Bihar & UP)

Way Ahead

- Increasing **female education and economic prosperity** help to improve the sex ratio.
- In view of the complexity of son preference resulting in gender-biased sex selection, government actions need to be supplemented **by improving women's status in the society**.
- There is an urgent need to **reach young people** both for reproductive health education and services as well as to cultivate gender equity norms

Judiciary and Executive: AP CM Letter to CJI

Context: Recently, Andhra Pradesh Chief Minister Y.S. Jagan Mohan Reddy has stirred a hornet's nest by writing to the Chief Justice of India (CJI) complaining about Supreme Court(SC) judge Justice N.V. Ramana.

What were the allegations levelled in the letter?

- Mr.Jagan said that Justice Ramana was a legal adviser and additional advocate-general in the previous government of the TDP.
- AP CM has alleged that SC judge Justice N.V. Ramana (next in line to become CJI as per seniority) had been influencing the sittings and posting of cases in the State High Court.
- AP CM has also cited instances of how matters important to the opposition Telugu Desam Party had been 'allocated to a few judges' and that some High Court judges are hostile to his government & deliberately striking down his government orders
- In effect, he has **accused many judges of misconduct, corruption and political bias**.

- In view of the above, the Chief Minister urged the Chief Justice of India to consider initiating steps to ensure that the State's judicial neutrality was maintained.

How are allegations of misconduct against judges dealt with?

- The Constitution protects the independence of judges of the High Courts and the Supreme Court by making them removable only through a long process of impeachment.
- However, not all forms of misconduct will warrant impeachment. There could be other kinds of impropriety too.
- There are times when serious complaints of this sort are received, and the CJI is called upon to examine them.
- Since 1997, judges have adopted an 'in-house procedure' for inquiring into such charges.

When was the procedure adopted?

- After Justice J.S. Verma took over as CJI in 1997, he circulated among judges a document called 'Restatement of Values of Judicial life'. This was a set of principles containing the essential elements of ideal behaviour for judges.
- The Full Court passed a resolution that an 'in-house procedure' would be adopted for action against judges for acts of commission or omission that go against these values.
- A five-judge committee was constituted to come up with a procedure. Its report was adopted on December 15, 1999. It was made public in 2014.

How does the in-house procedure work?

- When a complaint is received against a High Court judge, the CJI should decide if it is considered frivolous or if it is serious and "directly related to the merits of a substantive decision in a judicial matter".
- If it is serious, the CJI should get the judge's response. He may close the matter if he is satisfied with the response.
- If a deeper probe is considered necessary, both the complaint and the judge's response, along with the CJI's comments, are recorded for further action.
- After considering the High Court's Chief Justice, the judge involved (accused of Political bias) and the complaint (here AP CM), the CJI, if deemed necessary, forms a three-member committee.
- If a Supreme Court judge faces such a charge, the in-house panel will comprise three Supreme Court judges.
- The inquiry the three-member committee holds is of the nature of a **fact-finding mission and is not a formal judicial inquiry** involving examination of witnesses. The judge concerned is entitled to appear before it.

What happens after the probe is done?

- If the committee finds substance in the charges, it can give two kinds of recommendations. One, that the misconduct is serious enough to require removal from office, or that it is not serious enough to warrant removal.
- In the former case, the judge concerned will be urged to resign or seek voluntary retirement.
- If the judge is unwilling to quit, the Chief Justice of the High Court concerned would be asked to withdraw judicial work from him.
- The President and the Prime Minister will be informed of the situation. This is expected to clear the way for Parliament to begin the process of impeachment.

How will the CM's complaint be handled?

- The complaint by the Andhra Pradesh Chief Minister will have to be examined by the CJI from the perspective of whether it can be rejected as baseless, or it requires a deeper investigation.
- In details annexed to his letter, Mr. Reddy has cited several writ petitions in which adverse orders were passed against his regime.

Consequences of this controversy

- **Impacts Democratic Functioning:** Such type of confrontation and mistrust between two organs of State is not conducive for smooth working of Democracy. The ultimate victim will be the common man who will be bereft of better governance
- **Politicization of Judiciary:** The serious accusation by a sitting Chief Minister brings out to the foreground the weakness of Judiciary. Similar kind of charges might be levelled by opposition parties when it comes to power. All these leads to politicization of the Institution of Judiciary.
- **Integrity of SC Judges is doubted:** Every judgement delivered the judges involved in this controversy will be questioned which is not good even from Institutional perspective
- **Legitimacy of the institution at stake:** Such type of allegations and counter allegation will create doubts in minds of Public about the ability to get justice from Formal system. As a result, people will tend to fall back on undemocratic informal judicial systems like **KhapPanchayats**.
- **Judiciary's Grievance Redressal Mechanism tested:** How the CJI & SC is going to handle this case will set a precedent to deal with misconduct of Judges in future. If the process is not robust, fair & transparent then the calls for greater executive control on Judiciary will increase (Judicial Standards and Accountability Bill)

Connecting the dots

- National Judicial Appointments Commission
- Judicial Standards and Accountability Bill

District Development Councils (DDCs) to be set up in J&K

Part of: GS Prelims and GS-II – Governance

In news

- The Central Government recently amended the Jammu and Kashmir Panchayati Raj Act, 1989.
- The amendment shall facilitate the setting up of District Development Councils (DDC).
- The members will be directly elected by voters in J&K.

Key takeaways

- The DDCs will act as a new unit of governance in J&K.
- This structure will include a DDC and a District Planning Committee (DPC).
- J&K Panchayati Raj Rules, 1996, have also been amended to establish DDCs.
- This system shall replace the District Planning and Development Boards in all districts.
- It will also prepare and approve district plans and capital expenditure.
- The term of the DDC will be five years.
- The electoral process will allow for reservations for Scheduled Castes, Scheduled Tribes and women.
- The Additional District Development Commissioner (or the Additional DC) of the district shall be the Chief Executive Officer of the District Development Council.

Punjab's three new farm Bills

Context: To nullify the possible impact of the [three farm acts passed by the Parliament](#), the Punjab government not only rejected the laws by a unanimous resolution but also passed three farm amendment Bills removing Punjab from the ambit of the central laws.

The three bills passed by Punjab Legislature are as follows:

1. Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services (Special Provisions and Punjab Amendment) Bill, 2020

- **Strengthens MSP:** One of the key provision of this bill is that the sale of wheat and paddy shall be valid only if the seller pays a price equal to or greater than the MSP announced by the central government.
- **Protects MSP through Punishments:** Stating that one of the direct consequences of the central Act will be to nullify the MSP mechanism, this Bill also provides for punishment to sellers who buy wheat or paddy at less than the MSP.
- **Grievance Redressal:** This Bill also allows the farmer to approach a civil court, besides seeking remedies available under the central act in case of any differences with the buyer of his produce.
- **Levy of Market Fees:** While the central law abolished any market fees or licences for private players outside the APMCs, the Punjab bill have reintroduced it. These fees will go towards a fund for the welfare of small and marginal farmers

Critical Analysis

- **Objective:** The Bill seeks to address the fears of state farmers about being forced to sell their produce at less than the minimum support price (MSP)
- **Against Spirit of Free Market:** This law has been passed to meet the demands of the farmers, and will discourage private players to participate in food procurement
- **Cereal Centric:** The benefits should have covered the whole gamut of crops where the state has marketable surplus of cotton, maize, some pulses and even milk and also for which the state decides the MSP.

2. The Farmer's Produce and Commerce (Promotion and Facilitation) Special Provisions and Punjab Amendment Bill 2020?

- It declares status quo in the state with regard to the APMC Act 2016.
- By bringing the entire state under APMC ambit, the Bill ensures that the private players will also be regulated by the rules of government mandis.
- The Bill also states that no punitive action will be taken against anyone for violating the provisions of the central Act

3. Amendments in The Essential Commodities (Special Provisions and Amendment) Bill, 2020

- **Objective:** This Bill aims to protect consumers from hoarding and black marketing of agri produce.
- **Voices opinion against Central Act:** Underlining that production, supply, and distribution of goods is also a state subject, the Bill claims the central Act seeks to give unlimited power of stocking essential commodities to traders.

- **Power to regulate trade:** The state of Punjab will have the power to order, provide for regulating or prohibiting the production, supply, distribution, and imposing stock limits under extraordinary circumstances, which may include famine, price rise, natural calamity or any other situation.

Significance of the bills

- The three Bills mention the agriculture census 2015-16 to underline that 86.2% of farmers in the state are small and marginal, with the majority owning less than two acres of land.
- Consequently, they have limited access to multiple markets, and lack the negotiation power needed to operate in a private market.
- All the three Bills underscore the importance of farmers getting a level playing field in the form of a fair price guarantee.
- The Bills also point out that agriculture, agricultural markets, and land is the primary legislative domain of the state.

Will these Bills supersede Central Bills?

- Apart from the Governor, the Punjab government's new farm Bills need the assent of the President since they seek to amend laws passed by the central government.
- If not, they can at best serve as a symbolic political statement against the Centre's farm laws.
- Politics now threatens to complicate the process of providing remunerative prices to agricultural produce.

Conclusion

Both Central and State government need to set aside their politics so as to provide adequate safety nets to farmers in the wake of agriculture facing threats from Climate Change.

Punjab becomes the first State to reject Farm Acts

Part of: GS Prelims and GS-II – Policies and interventions; Federalism

In news

- Recently, Punjab became the first State to reject the Central government's three Farm Acts.
- It also passed three Bills to negate the Union laws.
- It also rejected the proposed Electricity Amendment Bill and demanded their immediate annulment.

Key takeaways

Three farm Bills introduced by the Punjab assembly

- **The Farmers Produce Trade and Commerce (Promotion and Facilitation) (Special Provisions and Punjab Amendment) Bill, 2020:** (1) Seeks to ensure that sale or purchase of wheat or paddy in Punjab is not allowed below the Minimum Support Price (MSP); (2) Seeks to provide for punishment for harassment of farmers or payment of less price to the farmers.
- **The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services (Special Provisions and Punjab Amendment) Bill, 2020:** (1) It provides for imprisonment of not less than three years and fines for sale-purchase of wheat or paddy under a farming agreement below the MSP.

- **The Essential Commodities (Special Provisions and Punjab Amendment) Bill, 2020:** (1) It prevents hoarding and black-marketing of agricultural produce; (2) Seeks to ensure status quo ante with regard to implementation of 'The Essential Commodities (Amendment) Act, 2020'.
- The Punjab bills have reintroduced market fees or licences for private players outside the APMCs which the central law had abolished.
- The Assembly also introduced Code of Civil Procedure (Punjab Amendment) Bill, 2020.
- It seeks to exempt agricultural land not exceeding 2.5 acres from Section 60 of The Code of Civil Procedure, 1908, which provides for attachment of various properties.
- It also seeks to exempt the Properties of the farmers such as cattle, implements, cowsheds, etc from attachment.

Government expands Production-Linked Incentive Scheme

Part of: GS Prelims and GS-II – Policies and interventions & GS-III - Industry

In news

- The government will extend the production-linked incentive (PLI) scheme to eight more sectors to boost domestic manufacturing.

Key takeaways

- All the sunrise and important sectors are proposed to be covered in this.
- The sectors may be automobile, networking products, food processing, advanced chemistry and solar PV manufacturing.
- Through PLI Scheme, incentives will be paid only if the manufacturers make the goods.
- This scheme will give cash incentives for five to seven years.

Important value additions

PLI Scheme for Large Scale Electronics Manufacturing

- The scheme proposes a financial incentive to boost domestic manufacturing and attract large investments in the electronics value chain including electronic components and semiconductor packaging.
- Under the scheme, electronics manufacturing companies will get an incentive of 4 to 6% on incremental sales (over base year) of goods manufactured in India for a period of next 5 years.
- The scheme shall only be applicable for target segments - mobile phones and specified electronic components.
- With the help of the scheme, domestic value addition for mobile phones is expected to rise to 35-40% by 2025 from 20-25%.
- It shall also generate 8 lakh jobs more, both direct and indirect.

Do you know?

- The government has launched the PLI scheme for mobile phones (electronic manufacturing) and it was also extended to pharma products and medical equipment sectors.

Repeal of UAPA demanded

Part of: GS Prelims and GS-II – Policies and interventions

In news

- Major Opposition parties have demanded the repeal of the [Unlawful Activities \(Prevention\) Act \(UAPA\), 1967](#).
- This came after the arrest of Stan Swamy, a tribal rights activist, in the BhimaKoregaon case.

Important value additions

Unlawful Activities (Prevention) Act (UAPA), 1967

- UAPA was passed in 1967.
- It aims at effective prevention of unlawful activities associations in India.
- The Act assigns absolute power to the central government. If the Centre deems an activity as unlawful then it may declare it so.
- It has death penalty and life imprisonment as highest punishments.
- Under UAPA, both Indian and foreign nationals can be charged.
- It will be applicable to the offenders in the same manner, even if crime is committed on a foreign land, outside India.
- The 2004 amendment added terrorist act to the list of offences to ban organisations for terrorist activities, under which 34 outfits were banned.

Do you know?

- In August 2019, Parliament cleared the Unlawful Activities (Prevention) Amendment Bill, 2019 to designate individuals as terrorists if the individual commits or participates in acts of terrorism, prepares for terrorism, promotes terrorism or is otherwise involved in terrorism.
- The Act empowers the Director General of National Investigation Agency (NIA) to grant approval of seizure or attachment of property when the case is investigated by the said agency.

[Global Hunger Index](#)

Context: India has been ranked 94 on the 2020 Global Hunger Index (GHI), lower than neighbours like Bangladesh and Pakistan.

The number of young children in India who are very short and thin, reflecting severe undernutrition, puts it alongside the poorest African nation

What is the Global Hunger Index, and what determines its ranking?

- The GHI is an annual peer-reviewed publication by Concern Worldwide and Welthungerhilfe.
- It aims to track hunger at global, regional and national levels. It uses four parameters to calculate its scores.
- One third of the score comes from the **level of undernourishment** in a country, which is the share of the population with insufficient caloric intake, and uses Food and Agriculture Organization data.
- A third of the score comes from **child mortality rate** (under the age of five years), which often reflects the fatal mix of inadequate nutrition and unhealthy environments.

- The remaining third of the score is based on **child wasting**, which is the share of children who have low weight for their height, reflecting acute undernutrition, and **child stunting**, which is the share of children who have low height for their age, reflecting chronic undernutrition.

What data is used for calculating the Index?

- The above parameters use information from the World Health Organization, the World Bank and the United Nations
- All these international organisations draw from national data, which, in India's case, includes the National Family Health Surveys (NFHS).
- There is always a time lag in such data, so the 2020 scores are based on data from 2015-19.
- This results in a 100-point scale, with zero meaning no hunger at all.

How does India fare on the different parameters in comparison to other countries?

- In 2020, India falls in the 'serious' category on the Index, with a **total score of 27.2**.
- India is tied at the 94th rank out of 107 countries, **sharing the rank with Sudan**.
- This is a definite improvement from the situation two decades ago, when it scored 38.9 and fell into the 'alarming' category.
- China and Brazil both scored under five, and are considered to have very low levels of hunger. South Africa is ranked 60 with a score of 13.5, indicating moderate levels of hunger.
- **Overall undernourishment**, 14% of India's population does not get enough calories, an improvement from almost 20% in 2005-07.
- **Child mortality rate** is 3.7%, a significant drop from 9.2% in 2000.
- **Child Stunting**: Almost 35% of Indian children are stunted, and although this is much better than the 54.2% rate of 2000.
- **Child Wasting**: 17.3% of Indian children under five are wasted, which is the highest prevalence of child wasting in the world. There is no change from two decades ago, when it was 17.1%.

What is the main cause for such high levels of child stunting and wasting in India?

- African babies are usually healthy at birth, but as they grow up into their toddler years, undernourishment starts to kick in.
- In contrast, South Asian babies show very high levels of wasting during early years of lives, particularly during the first six months
- This is because of **poor maternal health** in South Asian countries like India. Mothers are too thin, too short and too undernourished themselves before they become pregnant and this affects new-born's health aspects as well.
- Almost 42% of adolescent girls aged 15 to 19 have a low body mass index (BMI), while 54% have anaemia
- **Social Factors like Early Marriage**: Many women in India and South Asian Countries start their pregnancies in their late teens which impacts not only their health but also that of child born
- **Poor sanitation**, leading to diarrhoea, is another major cause of child wasting and stunting. Only 36% of households disposed of children's stools in a safe manner. One in 10 children under the age of five suffer from diarrhoea.

How do different Indian States compare?

- Almost one in three children in Jharkhand show acute undernutrition, with a 29% rate of wasting

- Other large States such as Tamil Nadu, West Bengal, Madhya Pradesh, Chhattisgarh and Karnataka have one in five children who are wasted.
- Interestingly, other States that usually fare poorly on development indices, such as Bihar, Rajasthan and Odisha, actually do better than the national average, with 13-14% rates of wasting.
- Uttarakhand and Punjab, along with several north-eastern States, have levels of child wasting below 10%.
- In terms of stunting, Bihar performs the worst, with 42% of children too short for their age.
- At the national level, **among social groups**, the prevalence of stunting is highest amongst children from the Scheduled Tribes (43.6 percent), followed by Scheduled Castes (42.5 percent) and Other Backwards Castes (38.6 percent).

What needs to be done?

- Although India has overall food security with record levels of foodgrain production in recent years, access to healthy food is still difficult for poor households.
- Food insecurity, poor sanitation, inadequate housing, limited access to healthcare — all result in maternal distress that leads to the kind of slow, chronic wasting seen in Indian children. All these needs to be addressed for improving the malnutrition among Children.
- Every kind of household deprivation that makes life difficult for women needs to be dealt with. The focus needs to be on healthy mothers.

Designing a new digital governance framework

Context: India's digital markets have witnessed three paradigm shifts this year

How had India's digital market changed in 2020?

- **COVID-19 crisis turned into opportunity:** There has been rapid digitalisation of traditional sectors, as a response to Covid-19, leading to the phenomenal growth of markets such as edtech, healthtech, telemedicine and digital on-boarding.
- **Ban on Chinese apps:** 200 applications, which originated in China, including popular communications and entertainment platforms, have been banned due to security considerations.
- **Growing Opposition to US Tech Dominance:** Finally, a growing set of voices advocate less dependence on American platforms such as Google that can single-handedly determine the market potential for digital start-ups

Do You Know?

- In 2000, India had no digital unicorns, no platforms and less than one per cent of its citizens had access to the internet.
- Today in India, there are 700 million broadband subscribers and sees over 400 million unique site/app visits every month, 97% of which are directed at data and content-driven entertainment
- Seven of the top eight global firms in terms of market capitalisation use data-centric business models, and are either American or Chinese.

Why US and China dominate the digital market?

- **Presence of Platformisation:** The US and China dominate because their market conditions are conducive for “platformisation” — stacking multiple services into single catch-all applications such as Facebook or WeChat.
- **Network Effect of Platformisation:** The combination of organised datasets and compelling content unlocks network effects that help digital businesses achieve scale. Datasets allow companies to anticipate market dynamics, tailor custom offerings, minimise transaction costs and maximise enterprise efficiency.
- **Virtuous Cycle aided by government:** Content precipitates a virtuous cycle of consumption and production, and links digitalisation to the knowledge economy that is aided by Policy impetus provided by US & Chinese governments.

Where does India lag in terms of evolving Digital Market?

- **Intense Competition:** There are five Chinese and 13 American counterparts for every digital business in India that generates over a billion dollar in annual revenues.
- **Outdated Policy:** India’s Information Technology (IT) Act, 2000, a 20-year-old law, theoretically governs all digital applications. There is a need for legal reform because our digital ecosystem has developed beyond recognition.
- The modernisation of the legal framework for IT offers an unparalleled chance to generate economic gains from fast growing digital market in India (Domestic digital transactions grew at a Compound Annual Growth Rate (CAGR) of 29.4% between FY 2018-FY 2020)

What should be the guiding principle for modernisation of legal framework for IT?

- Traditional legal-regulatory constructs, based on licences and controls, are rule-based legal framework that allows for easier enforcement but is rigid and prevents innovation.
- The present times call for new legal framework that has the agility and leeway to accommodate the pace of technological change in the digital economy. Thus, there we need a new regulatory constructs to deal with digital market.
- One such regulatory regime is **Value-based Legal framework** that is more resilient to changes in technology and business models but requires thoughtful calibration and state capacity for enforcement.
- Such a policy design will provide **legal certainty** and also **supports innovation**.
- India’s position on network neutrality (that has been repealed in USA) is an example of values-based regulatory framework
- Future principles could include constructs such as “platform neutrality” to ensure that large platforms do not become gatekeepers in digital markets, combined with the wider use of “fair, reasonable and non-discriminatory” terms to govern business conduct

Way Ahead

India can compete effectively in the global digital economy if following steps are taken

- **Promote Platformisation:** Product businesses must become platforms, single utility platforms must transition to multi-utility ones, and these must achieve global scale.
- **Leverage the export orientation of IT sector:** India has a strong IT base, which is already export-oriented, and new platforms can ride on its coattails to access global markets.
- **Principles-led approach to digital governance:** India will have to prioritise bold new principles over prescriptive rules and build new capacities for associated regulatory oversight.

NEP: Higher Education Institutions and Board Exams

Context: When [Delhi University announced the first list of admission](#) into undergraduate programmes in its 90 colleges this year, the cut-offs reached 100 per cent mark in some courses offered by a few colleges.

Do You Know?

- India has nearly 1,000 universities and almost 40,000 colleges spread across the country. Many of the universities affiliate more than 1,000 colleges.
- However, 16.3 per cent of the colleges have an enrolment of fewer than 100 students and Only 4 per cent colleges have an enrolment over 3,000.

How Gross Enrollment Ratio(GER) in Delhi is leading to high Cut-offs?

- According to the most recent All India Survey of Higher Education (AISHE 2018-19), Delhi's GER is 46.3 per cent (the national GER is 26.3 per cent).
- This means that almost every second youth in Delhi between the age of 18 and 23 is enrolled in a higher education programme.
- But the aspirations of Delhi's youth are not met by adequate high-quality Higher Education Institutions (HEIs, including universities and standalone institutions), leading to unreasonably high cut-offs.
- In few other states, where the GER is close to 50 per cent, the situation is similar to that of Delhi.

How NEP targets impact Higher Education Institutions?

- **School Targets Impacting Demand for HEI:** [NEP 2020](#) aims for 100 per cent enrollment across our school stages, from pre-primary to the secondary stage. As we move towards this target, there will be a further rise in applications for higher education programmes.
- **Additional Seats needed in next decade:** NEP 2020 has also set a target of 50 per cent enrolment in Higher Education by 2035. This would mean an additional 35 million seats to be created in HEIs across the country.
- **Potential for Social Crisis:** Unless something transformative is done, India is headed towards a rise in the number of unemployed graduates (due to poor quality education) and a generation of disenchanted youth (due to the systemic failure in equipping them with required skill sets).

How does NEP2020 tries to plug this supply gap in HEIs?

- **Improve Accessibility:** NEP 2020 recommends moving into a higher education ecosystem that consists of large multi-disciplinary HEIs, offering undergraduate and graduate programmes, one in every, or nearly every district, in the country.
- **Moving towards autonomy to take advantage of local needs:** The HEIs will be multi-disciplinary universities and colleges; with the latter moving away from affiliation into a degree-granting HEI or a constituent college of the university. Each such institute will aim to have 3,000 or more students.
- **Private and Foreign Participation:** The regulatory framework envisaged under NEP 2020 is light and leaning more towards self-regulation. It also allows foreign Universities to open campuses in India. All there is expected to increase the private sector's participation in providing High Education.

How should one deal with unreasonable cut-offs that will persist despite increase in HEIs?

- For the problem of unreasonable cut-offs to be rooted out, the assessment reforms that NEP envisages, for both school-leaving and higher education entrance, is critical. Both of these reforms have to take place simultaneously.
- Using school-leaving marks to create cut-offs is a lazy option employed by the HEIs to reduce the number of applicants, before launching their admission process
- School percentages are not good markers of an individual's readiness to do higher education given the serious drawbacks of standardised assessments in our board exams
- **Broader Assessment:** Instead, school-leaving certificates will have to be based on an array of assessments, including a student's performance across the secondary level — Classes IX to XII. They will factor in class assignments and tests, leading to the development of students' portfolios.
- HEIs may use the portfolio of school assessments as the base, but the admission process ought to assess whether the prospective student has developed the attributes for pursuing higher education.

Way Ahead

If assessment system of HEI are not reformed, the country is at the risk of generating graduates in tens of millions, who will neither have the capacity to generate employment for themselves nor the capability to be employed anywhere.

Connecting the dots

- [New Education policy](#) 2020
- Right to Education Act

SOP amended for Adoption of Integrity Pact by CVC

Part of: GS Prelims and GS-II – Statutory bodies

In news

- Recently, the Central Vigilance Commission (CVC) has amended the Standard Operating Procedure (SOP) on adoption of "Integrity Pact" in government organisations for procurement activities.
- The CVC also restricted the maximum tenure of Integrity External Monitors (IEMs) to three years in an organisation.

Key takeaways

- **Amended Provision of IEM:** The choice of IEM should be restricted to officials from the government and Public Sector Undertakings (PSUs) who have retired from positions of the level of Secretary to the Central government or of equivalent pay scale.
- **Earlier Provision:** Under the 2017 order, the officials who had retired from positions of the level of Additional Secretary to the Central government and above, or equivalent pay scale, were eligible for the PSUs.
- **Amended Provision for Appointment as IEM:** For appointment as IEM, the Ministry, department or organisation concerned has to forward a panel of suitable persons to the CVC, of those persons who are in the panel maintained by the CVC.

- **Earlier Provision:** The panel could include those already in the panel maintained by the CVC, or they could propose names of other suitable persons.
- **Amended Provision for Tenure:** the IEM will be appointed for a period of three years in an organisation.
- **Earlier Provision:** The initial tenure of IEM would be three years which could be extended for another term of two years on a request received by the CVC from the organisation concerned.

Important value additions

Central Vigilance Commission (CVC)

- It is the apex vigilance institution.
- It is free of control from any executive authority.
- The Parliament enacted Central Vigilance Commission Act, 2003 (CVC Act) conferring statutory status on the CVC.
- It monitors all vigilance activity under the Central Government and advises various authorities in Central Government organizations in planning, executing, reviewing and reforming their vigilance work.
- It is an independent body.
- It is only responsible to the Parliament.

Do you know?

- Integrity Pact is a vigilance tool that envisages an agreement between the prospective vendors/bidders and the buyer, committing both the parties not to exercise any corrupt influence on any aspect of the contract.
- The pact also ensures transparency, equity and competitiveness in public procurement.

Draft Personal Data Protection Bill, 2019

Part of: GS Prelims and GS-II – Policies and interventions

In news

- Recently, Facebook India's policy head appeared before the 30-member Joint Committee of Parliament which is examining the draft Personal Data Protection Bill, 2019.
- Amazon declined to appear on the ground of risky travel amidst the pandemic.

Key takeaways

- The committee has sought views from Amazon, Twitter, Facebook, Google and Paytm on data security and protection amid concerns that the privacy of users is being compromised for commercial interest.
- Amazon's refusal amounts to a breach of parliamentary privilege.
- The panel is unanimous about taking coercive action if no one from the company appears on the next date.

Important value additions

Personal Data Protection Bill, 2019

- It is commonly referred to as the Privacy Bill.

- It intends to protect individual rights by regulating the collection, movement, and processing of data that is personal, or which can identify the individual.
- In December 2019, Parliament approved sending it to the joint committee.
- The Bill gives the government powers to authorise the transfer of certain types of personal data overseas.
- It has also given exceptions allowing government agencies to collect personal data of citizens.
- The Bill divides the data into three categories: (1) **Personal Data**: Data from which an individual can be identified like name, address, etc. (2) **Sensitive Personal Data**: Personal data like financial, health-related, sexual orientation, biometric, caste, religious belief, etc.; (3) **Critical Personal Data**: Anything that the government at any time can deem critical, such as military or national security data.
- It removes the requirement of data mirroring in case of personal data.
- Only individual consent for data transfer abroad is required.
- The Bill requires companies and social media intermediaries to enable users in India to voluntarily verify their accounts.

Guidelines unveiled for Awarding Bodies and Assessment Agencies under Skill India

Mission

Part of: GS Prelims and GS-II – Policies and interventions

In news

- Ministry of Skill Development & Entrepreneurship (MSDE) in collaboration with their unified regulator— National Council for Vocational Education and Training (NCVT) unveiled guidelines for the Awarding Bodies (AB) and Assessment Agencies (AA) over a digital conference.
- The guidelines aim at establishing quality, improved outcomes and standardizing the processes under Skill India Mission.

Important value additions

- Ministry of Skill Development and Entrepreneurship (MSDE) was formed on November 9, 2014 by the Government of India to focus on enhancing employability of skills.
- Under its flagship programme, [PradhanMantriKaushalVikasYojana](#) (PMKVY) 2016-2020, the Ministry has trained more than 92 lakh candidates so far.
- The National Council for Vocational Education and Training (NCVT) was notified by the Ministry of Skill Development and Entrepreneurship (MSDE) on 5th December 2018.
- The NCVET acts as an overarching skills regulator which regulates the functioning of entities engaged in vocational education and training.

ASER Survey: COVID-19 impact and Gaps in Learning

Context: Although the Centre has now permitted States to start reopening schools if they can follow COVID-19 safety protocols, the vast majority of the country's 25 crore students are still at home after seven straight months.

What is Annual Status of Education Report?

- It is the largest citizen-led survey in India facilitated by **Pratham NGO**. It is also the only annual source of information on children's learning outcomes available in India today
- ASER is a **household-based** rather than school-based survey. This design enables all children to be included – those who have never been to school or have dropped out, as well as those who are in government schools, private schools, religious schools or anywhere else.
- ASER 2020 was conducted in **26 states and four Union Territories**.

- The phone-based survey was done in September 2020, the sixth month of national school closures. A total of 52,227 **rural households** and 59,251 children in the 5-16 age group were surveyed.
- ASER 2020 explored whether this unprecedented situation has caused shifts in children's enrollment patterns in rural India

Key Finding of 2020 report (rural) are:

- **Shift in enrolments from private schools to government institutions:** 69.55 per cent children in the 6-14 age group are enrolled in government schools, up from 66.42 per cent in 2018.
- **Decrease in Enrolment:** ASER 2020 shows that 5.5 per cent children are not currently enrolled for the 2020-21 school year, up from 4 per cent in 2018. This difference is the sharpest among the youngest children (ages 6 to 10), possibly because they have not yet secured admission to school. While 1.8 per cent children in this age group were not enrolled in 2018, that has spiked to 5.3 per cent.
- **Digital Divide:** The survey found 43.6% of students in government schools without access to a smartphone, while 67.3% of those who received learning materials in these institutions got them over WhatsApp, underscoring the role played by gadgets and connectivity
- **Increased Smartphone penetration not translated into access to Education:** The levels of smartphone ownership have almost doubled— from 36.5% in 2018 to 61.8% in 2020, but a third of children with smartphone access still did not receive any learning materials.
- **Parental/community involvement:** Almost 75 per cent of children said they received some form of learning support from family members, with older siblings playing a key role.
- **Government worked to respond to crisis:** More than 80 per cent children said they had textbooks for their current grade, this proportion was higher among students enrolled in government schools (84.1 per cent) than in private ones (72.2 per cent).
- **Parental levels of education and resources** played a key role in whether children studied at home: About 20% of children whose parents had less than five years of education got learning materials, compared to 46% among parents who had studied beyond Class IX themselves
- **Regional imbalance:** In Bihar, less than 8% got such materials from their schools, along with 20% in West Bengal, Rajasthan and Uttar Pradesh. On the other hand, more than 80% of rural children in Himachal Pradesh, Punjab, Kerala and Gujarat received such input.

Important Takeaways from the report

- **Evidence based policy making:** The data collected could facilitate intervention by the education system in some respects, even if, going forward, schools opt for a hybrid solution of partial reopening and online learning.
- **Expanding availability of textbooks** to all, including those who dropped out or are waiting to be formally admitted, will help parents and siblings aid learning.
- **Bridging the divide on educational aids**, now including smartphones, will enable transmission of learning materials, and personal tutorial sessions.
- **Opportunity for Observational Learning:** The education system could creatively use opportunities during the current year to broaden learning. Students could use the safety of the open countryside to learn, under guidance from teachers, a host of topics by doing things themselves which helps create strong foundations.
- **Need for Monitoring:** When schools re-open, it will be important to continue to monitor who goes back to school, and very importantly to understand whether there is learning loss as compared to previous years,

- **Leveraging Home Support to improve learning:** Schools should find ways to build on the home support going forward, given that families provided learning support to children during pandemic, either from parents or elder siblings.

Connecting the dots

- ASER 2019 report: [Fix early learning in government schools](#)

Urban Floods: Time for a 'sponge cities' mission in India

Context: Torrential rains in the third week of October in Hyderabad during which over 50 people died and hundreds of riverbed hutments were flushed away.

The scale of destruction has been unprecedented. This experience is not unique to the city of Hyderabad but something that cities across India have been experiencing in recent years.

What are the possible reasons for Urban Floods experienced in Hyderabad?

- **Unprecedented rainfall:** The rainfall received in 2020 has been the highest for the month of October in a century.
- **Inability to manage the city's drainage systems:** The floods of October 2020 occurred because discharge of water did not take place on time. And when water was discharged it was in a sudden, uncontrolled manner. To put it bluntly, first sluices did not open and then bunds breached.
- **Antiquated drainage infrastructure:** Hyderabad's century-old drainage system (developed in the 1920s) covered only a small part of the core city. In the last 20 years, the city has grown at least four times its original built-up area and not much was done to address the absence of adequate drainage systems.
- **Neglecting issues of incremental land use change,** particularly of those commons which provide us with necessary ecological support — **wetlands**. This has led to creation of urban terrain which is incapable of absorbing, holding and discharging water.

One of the promising ideas to deal with Urban Floods is Sponge Cities

- The idea of a sponge city is to make cities more permeable so as to hold and use the water which falls upon it.
- Sponge cities absorb the rain water, which is then naturally filtered by the soil and allowed to reach urban aquifers. This allows for the extraction of water from the ground through urban or peri-urban wells.
- In built form, this implies contiguous open green spaces, interconnected waterways, and channels and ponds across neighbourhoods that can naturally detain and filter water
- These can all be delivered effectively through an urban mission along the lines of the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), National Heritage City Development and Augmentation Yojana (HRIDAY) and Smart Cities Mission

What steps need to be taken to take forward the idea of Sponge Cities Mission?

1. Wetland policy:

- In most of our lakes, the shallow ends, which often lie beyond the full tank level, have disappeared.
- These shallow ends are best characterised as wetlands; sometimes owned by private individuals, other times existing as ecological commons.
- Regardless of ownership, land use on even this small scale needs to be regulated by development control.

2. Watershed management and emergency drainage plan

- This should be clearly enunciated in policy and law.

- Urban watersheds are micro ecological drainage systems, shaped by contours of terrain.
- Detailed documentation of these Urban watersheds must be held by agencies where natural boundaries instead of governance boundaries (like wards) are used to come up with drainage plan.
- The Metropolitan Development Authorities, National Disaster Management Authority, State revenue and irrigation departments along with municipal corporations should be involved in such work together.

3. Ban against terrain alteration

- Lasting irreversible damage has been done to the city by builders, property owners, and public agencies by flattening terrain and altering drainage routes.
- Terrain alteration needs to be strictly regulated and a ban on any further alteration of terrain needs to be introduced.

4. Change in material usage

- Our cities are becoming increasingly impervious to water, not just because of increasing built up but also because of the nature of materials used (hard, non-porous construction material that makes the soil impervious).
- To improve the city's capacity to absorb water, new porous materials and technologies must be encouraged or mandated across scales.
- Examples of these technologies are bioswales and retention systems, permeable material for roads and pavement, drainage systems which allow storm water to trickle into the ground, green roofs and harvesting systems in buildings.
- These not only reduce run-off and the load on infrastructure, but also help keep water in the city for later use.

5. Involvement of other stakeholders

- Urban floods of this scale cannot be contained by the municipal authorities alone. Nor can they be dealt with by the State government.
- It can be managed with concerted and focused investments of energy and resources.
- Such investments can only be done in a mission mode organisation with active participation of civil society organisations at the metropolitan scale.

Conclusion

We need to urgently rebuild our cities such that they have the sponginess to absorb and release water without causing so much misery and so much damage to the most vulnerable of our citizens

Connecting the dots

- Urban [Infrastructure projects AMRUT](#) yojana
- The smart cities project is faced with multiple challenges and ambiguities in terms of its financial model, governance and scale. Critically examine.

On digital governance, don't repeat mistakes

Context: There have now been two versions of the Personal Data Protection Bill, a report on non-personal data, and a variety of other proposals to regulate the digital economy from telemedicine to e-commerce to drones.

At a macro-level though, two key problems may emerge related to digital governance

1. State overreach

- State is entrenching itself excessively in the process of regulating the data economy
- **Compulsory Data Sharing:** Both the Personal Data Protection Bill as well as the non-personal Data report contains various clauses and suggestions that mandate compulsory data-sharing with the government.

- **Lessons not learnt:** The Industries (Development and Regulation) Act of 1951, gave the State a number of similar regulatory powers to dictate the output and prices of industries. This led to suppressing growth and innovation for decades.
- **Lack of Clarity on Pricing:** Almost 70 years later, the data regime is suggesting mandatory sharing of data for businesses on a fair, reasonable and non-discriminatory (FRAND)-based remuneration. It is not clear on how the State will decide on this remuneration.
- **Price Controls:** The 4 Vs of data — velocity, volume, veracity and variety — will amplify the problems in setting a price for the data economy. Price controls on data also reduce the incentives for companies willing to invest in the creation of databases — leading to economic and geo-political advantages for other countries
- India's past experience tells us that State-led pricing will be anything but FRAND-friendly, and, therefore, the State must step away rather than jump in.

2. Multiple Regulators

- There is a proposed regulator for non-personal data as well as for e-commerce, in addition to the Data Protection Authority (DPA) to be set up.
- These regulators may be aimed at different aspects of the data economy, yet the **significant overlaps** among them can't be ignored.
- Consider an instance where non-personal data linked to an individual's IP address, which is easily re-identifiable, could be used for targeted advertising for an e-commerce platform.
- This could lead to similar battles between regulators as seen in the SEBI and IRDAI on regulating Unit-Linked Investment Plans (ULIPs). IRDAI had to step in because ULIPs were provided by insurance companies and SEBI had to do so because these consisted of money invested in the market generating returns
- **Multiple regulators also lead to the possibility of a lack of oversight**, given that each authority presumes another regulator is responsible for regulating that issue.
- The Personal Data Protection Bill earmarks mergers and acquisitions as one area where data can be processed without user-consent — but this could have adverse competition and privacy concerns and can largely become an area overlooked by both the Competition Commission of India (CCI) and DPA.

Conclusion

While keeping the complexities of data in mind, India should not forget the complexities of regulation learnt from its own experience across sectors.

Connecting the dots

- Non-Personal Data Regulation- [Part I](#) and [Part II](#)
- K.S. Puttaswamy Case & Right to Privacy

SOCIAL ISSUE/WELFARE

Crime in India 2019 Report released by NCRB

Part of: GS Prelims and GS-II – Issues related to SCs & STs

In news

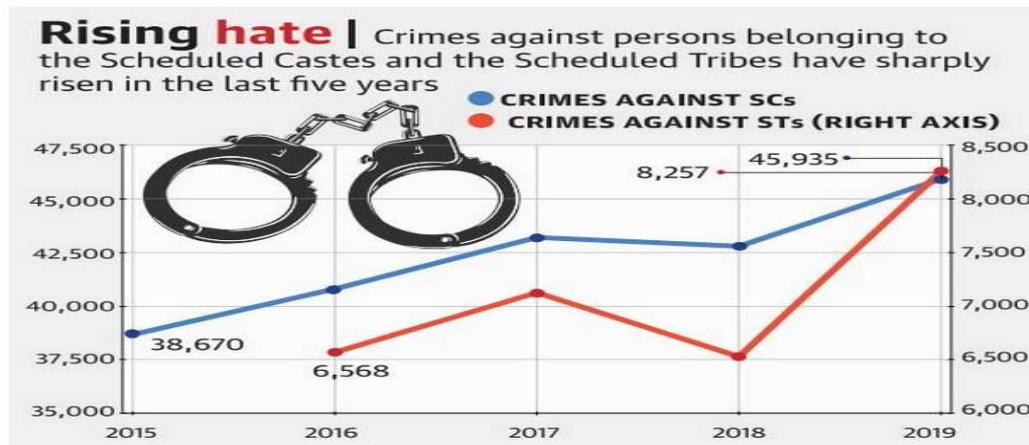
- Recently, Crime in India 2019 report was released.
- **Released by:** The National Crime Records Bureau (NCRB)

Key takeaways

- There is an increase in crimes against Scheduled Castes (SCs) and Scheduled Tribes (STs) in 2019 as compared to 2018.
- **Crime against SCs:** Increased by over 7%
- **Crimes against STs:** Increased by 26%
- **Highest number of crimes against SCs:** (1) Uttar Pradesh; (2) Rajasthan; (3) Bihar.
- **Highest number of cases against STs:** (1) Madhya Pradesh; (2) Rajasthan; (3) Odisha.
- **Registration of cognizable crimes:** Increase of 1.6%
- **Crimes Against Women:** Increase of 7.3%
- **Cybercrimes:** Increased by 63.5%

Do you know?

- Cognizable crimes comprise Indian Penal Code (IPC) ones and Special and Local Laws (SLL) crimes.
- Cognisable offence means an offence in which a police officer has the authority to make an arrest without a warrant.
- SLL are Acts that are framed by the state government for specific issues.



Important value additions

National Crime Record Bureau (NCRB)

- **Headquarter:** New Delhi
- **Set-up:** 1986
- **Ministry:** Ministry of Home Affairs

- **Objective:** To function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators.
- It was set up based on the recommendations of the National Police Commission (1977-1981) and the MHA's Task Force (1985).

Re-imagining education in an India at 100

Context: There is a need to explore the contours of national education practices leading to 2047 when politically independent India becomes 100 years old.

From a teacher's perspective, the next education practices can be viewed through the following five design principles.

1. Autonomy: To Excel is the key

- The greatest insurance for autonomy is excellence in students' outcomes rather than a piece of legislation.
- As long as institutions continue to excel, they will earn their autonomy through social, community and citizens' sanctions. Legislation may help.
- In practice, autonomy cannot be defined by entitlement nor limited by unlawful encroachment.
- By 2047, autonomy has to be **imbibed as an institutional culture** rather than a personal perquisite of a vice chancellor, principal or a director.
- There needs to be autonomy in teaching methods, autonomy of the learner in creating her own curriculum, autonomy of thought and self-governance — *Swayttata*.

2. Learning: Technology Rich Settings

- In 2047, six billion people in the world would constitute the middle class. With little money but with enormous hunger for learning, they will define the learner base for a **networked global university system**.
- **Technology will proliferate intelligence** from hardware to software to everywhere.
- Teachers will evolve from ring masters to zen masters, raising awareness rather than delivering content
- The four core tasks of the university: creation; dissemination; accreditation and monetisation of knowledge will require a sweet synthesis of algorithm and altruism.
- Learning will involve mobilisation of knowledge for a specific person; is a specific context to face specific challenges or problems.
- In the ultimate analysis, learning will be about propagation of crucial questions rather than pre-determined answers. Pressure of performance will have to co-exist with the pleasure and ecstasy of learning — *ananda*.

3. Trans-disciplinarity: Coherence across fields

- The new National Education Policy (NEP) roots for multi-disciplinary institutions rather than standalone schools. Multidisciplinarity involves experts from different disciplines working together, each drawing on their unique disciplinary knowledge.
- However, by 2047, trans-disciplinarity rather than multi-disciplinarity will be the norm. Transdisciplinarity is about creating a coherence of intellectual frameworks beyond the disciplinary perspectives.
- Knowledge in 2047 will move from discipline-based units to the **unity of meaning and understanding**.

- The **reductionist knowledge of the West** that explains the whole as the sum of parts will yield space to the quest for the part less whole that the *rishis* of the Upanishads described as *purnatwa*.

4. Technology-Innovation: School as connecting hub

- Technology-led innovation will take learning from cognition to immersion.
- Traditionally, students of professional courses learnt through field and factory visits. Today, it is possible for a factory experience to be simulated in a classroom
- In 2047, school will not be a brick and mortar house but a connecting hub that will digitally decode, deliver and disperse knowledge.
- Disruptive innovation will enable **technology to give greater access** to hitherto exclusive knowledge and fulfil unmet learner needs.
- Technology will not be a cosmetic add-on but serve a strategic purpose. Leading schools of the world will harness talent and technology seamlessly.

5. Values, mindset and culture: Nurturing minds with values

- By 2047, Indian teachers will be engaged in nurturing global mindsets based on three classical values of India: *satyam* (authenticity), *nityam* (sustainability) and *purnam* (wholeness).
- Mindsets will be based on how learners receive information and not what information they receive; on how to think rather than what to think.
- Education is finally about creating and sustaining wholesome cultures rather than serving the templates of outmoded civilisations.
- The most valuable outcome of education is the becoming of a competent and compassionate human being.

Conclusion

In 2047, a teacher's role, based on five principles, will be to oversee the transformative re-birth of citizens

Connecting the dots:

- About [criticism of Board Exam](#) and the need to trust teacher
- [National Education Policy \(NEP\) 2020](#).

MoU for Education for Deaf Children signed

Part of: GS Prelims and GS-I – Social Issues & GS-II - Education

In news

- A historic MoU was recently signed between Indian Sign Language Research and Training Center (ISLRTC) and NCERT to make education materials accessible for Deaf children in their preferred format of communication.

Key takeaways

- As part of this MoU, educational print materials including NCERT Textbooks, Teachers Handbook and other Supplementary materials and resources will be converted into Indian Sign Language in Digital format.
- **Class covered:** Class I-XII
- **Subjects:** All
- **Language:** Both Hindi and English Medium

- Availability of NCERT textbooks in Indian Sign Language will ensure that Deaf children can also now access educational resources.
- This will also ensure educational standardization of Indian Sign Language as mandated in the [New Education Policy, 2020](#).

Important value additions

- The Indian Sign Language Research and Training Center (ISLRTC), Delhi is a Society under the Department of Empowerment of Persons with Disabilities, the Ministry of Social Justice and Empowerment.

Decoding the labour Codes

Context: Government coming up with [new version of three labour codes](#)

Three guiding principles that has primarily driven Labour Policymaking journey—

- I. Creation of formal jobs needs formal employers
- II. We do not have a jobs problem but a wage problem
- III. We need labour laws, but fewer laws, which are pro-labour and pro-employer.

Do You Know?

- Before the four labour Codes got the final nod, India had 463 Acts, 32,542 compliances and 3,048 filings.
- Post the Parliament assent, 463 Acts have been reduced to 434 Acts, as 29 of the 44 Central Labour Laws have been subsumed in the four Codes.

The broad benefits of the four Codes for employers and candidates/employees.

Employers can find relief in the following:

- **Eases Procedures:** The Codes are for simplification, and rationalisation. Provision of one licence/one registration and one return will save time, resources and efforts of the establishment.
- **Reduction in cost of compliance:** Web-based electronic labour inspectors/facilitators shall, before initiation of prosecution proceedings, give an opportunity to the employer to comply with the provisions of the Codes.
- **Legitimation of fixed-term employment enables transparency:** Clear role definitions in contract labour, clear criteria of eligibility of contractors, national licensing of contractors help create a win-win tripartite employment relationship.
- **Benefits for incumbent job seekers:** Some of the overarching benefits include the attempt to encompass a large cross-section of workforce, beyond those in the organised sector, and provide them with protection under the labour laws through outreach schemes, specifically for the informal and unorganised sectors.
- **Benefits for Gig workers:** Acknowledgement of gig work and gig platforms and the provisions to safeguard those who pick up gig assignments shall encourage many workers and aspirants to consider it as an alternate option for livelihood given the uncertainty around us.
- **Safeguards Contractual Job:** The change in the provision of contract labour where contract labourers need to be paid on a par with anyone doing the same job in a regular role makes it a win-win proposition for anyone opting for a contractual job.
- **Boosts Investor Sentiment:** All these simplification of rules facilitates improvement in the ease of doing business, which further helps in attracting foreign investment

Way Ahead

We have to shift our focus now towards

- State-specific labour reforms
- Fine-tuning further the existing codes which give us the impression of on-paper subsumption of existing acts with little change from the past
- Rulemaking, which is the actual litmus test of rationalisation of the codes
- Complete digitisation of compliances

Democratising employment and labour data

Poverty and shared Prosperity 2020: Reversals of Fortune

Part of: GS Prelims and GS-I – Social issues

In news

- Recently, Poverty and Shared Prosperity Report was released.
- **Released by:** The World Bank biennially
- According to the report, Global extreme poverty is expected to rise for the first time in 20 years because of the disruption caused by COVID-1

Key takeaways

- The report provides the latest and most accurate estimates on trends in global poverty and shared prosperity.
 - For more than two decades, extreme poverty was steadily declining.
 - Now, for the first time in a generation, the quest to end poverty has suffered its worst setback.
 - The pandemic may push another 88 million to 115 million into extreme poverty or having to live on less than \$1.50 per day.
 - Some 9.1% to 9.4% of the world will be affected by extreme poverty in 2020.
-

DU's Cut-off reflects a broken system

Context: Delhi University (DU)'s first cut-off list for admission to its undergraduate programmes was announced on October 10, and it touched the 100% ceiling for the first time since 2011.

Cut-offs are decided by calculating the best of four subjects' marks in Class 12 board exams

For Example: The Lady Sri Ram (LSR) College of DU has pegged the cut off at 100 % for three undergraduate programmes—Psychology (Hons), Economics (Hons), and Political Science (Hons)

Do You Know?

- As many as 5,500 students out of 3.54 lakh students, who have applied for admission in Delhi University, have scored perfect 100% in their four best subjects.
- This is not the first time when the cut off for admission in Delhi University has gone up to reach 100%. In 2015, the College of Vocational Studies and Indraprastha College had also kept the cut off at 100 % for admission to Computer Science.

What explains the high cut-offs?

- One, there is a **higher number of applications** vis-a-vis the number of seats.

- Two, the Class 12 **evaluation process is distorted**, leading to such high marks
- Three, colleges set high cut-offs to **prevent “over admissions”**.
- Four, there is a paucity of good-quality public universities.
- And finally, students are attracted to Delhi due to its academic and physical infrastructure, extra-curricular activities, and scholarships; the opportunity to interact with a diverse student population; and eventually access better job opportunities

What does the Phenomenon of High Cut-offs indicate?

- The phenomenon of high cut-offs is not just an academic-administrative problem.
- It is a subset of more critical issues that ail the education system, and the lack of democratisation of resources.

Way Ahead

- To improve, the Centre and states must invest more in public education;
- Need to boost academic infrastructure across the country;
- Governments have to make the Class 12 evaluation process more holistic;
- Administration has to ensure that all students, irrespective of where they are studying, get a level-playing field when it comes to availing good teachers and infrastructure.

Connecting the dots

- [New Education policy](#) 2020
- Right to Education Act

Sociological Analysis of Nepotism

Context: Sushant Singh Rajput Case and the issue of Nepotism in Bollywood

What is Nepotism?

- Nepotism is favoritism that is granted to relatives in various fields, including business, politics, entertainment, sports, religion and other activities.
- In simple words, Nepotism is favoritism based on kinship
- The term originated with the assignment of nephews to important positions by Catholic popes and bishops

Consequences of Nepotism

- **Unfair Competition:** Those with family connections don't face the same level of competition as outsiders, exactly as domestic companies face much less competition when there are import barriers.
- **Imposes Individual and wider social cost:** Breaking in is much harder for an outsider and those who have the talent may never get the opportunity to showcase it. Therefore, there is a loss of potential output or value to society because of the resulting misallocation of talent.
- **Inefficiency:** There is comprehensive evidence that family firms are often beset by inefficiency, with bad management affecting the productivity of the entire organisation.
- **Hinders Productivity:** There are further indirect negative effects of nepotism on efficiency. If it is known that rewards depend on connections and not on effort and initiative, it would divert people's efforts away from productive work to networking and lobbying.

Why aren't there some corrective forces at work that would chip away at the inefficiencies of nepotism?

There are two main reasons why this may not happen.

First, there are often **explicit barriers to competition**.

- This barrier gives incumbent groups monopoly power and enables inefficient practices such as nepotism to flourish.
- Examples of such entry barriers include economic institutions such as
 - Monopolies, syndicates and cartels;
 - Social institutions such as the caste system and patriarchy;
 - Policies that prevent the inflow of workers, goods and services from outside, such as anti-immigration laws and protectionism.
- Here, potential competitors are explicitly excluded and, therefore, insiders get undue advantage because of restricted competition
- Because of restricted competition, there is a loss to society from lack of access to the best technologies, products, skills and services.

2. Challenges of Subjectivity

- Second, a less open and subtle channel of nepotism has to do with the fact that in certain domains, it is **not easy to come up with an objective measure of quality**.
- The ordinary consumer can separate the good from the bad and the marketplace would tend to weed out the bad.
- But for many professions, quality or performance is not that visible or cannot be readily and independently verified.
- In the case of research, for example, evaluation of quality is based on peer-review. By their very nature, these opinions are based on information and judgement that outsiders cannot hold up to scrutiny.
- Therefore, to the extent the opinions of experts, referrals, reputation, endorsements, and networks are necessary to certify quality in any field, they become a potential breeding ground for nepotism.

Way Forward

- Nepotism is just one of the symptoms of a much of broader issue — the lack of mobility.
- Mobility can be enhanced when people are made aware of such discrimination existing in the society. Education with right set of values can help increase this awareness & thus strive towards curbing Nepotism

[MeriSaheli](#)launched

Part of: GS Prelims and GS-I – Social issues

In news

- Indian Railways has launched “MeriSaheli” initiative for focused action on security of women across all zones.
- **Objective:** To provide safety and security to lady passengers travelling by trains for their entire journey from starting station to destination station.

Key takeaways

- It is an initiative of Railway Protection Force (RPF).

- It entails interaction with lady passengers especially those travelling alone by a team of young lady RPF personnel at the originating station.
- These lady passengers are briefed about all precautions to be taken during the journey and told to dial 182 in case they face or see any problem in the coach.
- The platform duty RPF personnel at the stopping stations en-route keep unobtrusive watch over the concerned coaches and berths and if need arises, interact with the lady passengers.

Do you know?

- The “MeriSaheli” initiative was started as a pilot project in South Eastern Railway in September 2020 and after getting encouraging response from lady passengers, it was extended to all zones

HEALTH ISSUE

India participates in PMNCH Accountability Breakfast

Part of: GS Prelims and GS-II – Policies and interventions; Health

In news

- The Union Ministry for Health and Family Welfare participated in the Partnership for Maternal, Newborn and Child Health (PMNCH) 'Accountability Breakfast' to discuss the issues of maternal and child health.
- The event was co-hosted by the White Ribbon Alliance (WRA) and Every Woman Every Child (EWEC).
- **Theme of the Event:** Protecting gains in Reproductive, Maternal and Child Health from the Covid pandemic.

Important value additions

PMNCH

- It is a global health partnership founded in 2005.
- It is hosted at the WHO in Geneva, Switzerland.
- The Accountability Breakfast aims to convert talk into action for the health and rights of women, children and adolescents.

Every Woman Every Child (EWEC) Movement

- **Launched by:** United Nations during the United Nations Millennium Development Goals Summit in September 2010.
- It is a global movement that mobilizes and intensifies international and national action by governments, the private sector, and civil society to address the major health challenges facing women, children, and adolescents around the world.

Memorandum signed under PoshanAbhiyaan

Part of: GS Prelims and GS-II – Health

In news

- A Memorandum of Understanding (MoU) was signed between the Ministry of AYUSH and Ministry of Women and Child Development for controlling Malnutrition as a part of POSHAN Abhiyaan.

Key takeaways

- The specific areas identified under the MoU for co-operation include: (1) Integration of AYUSH into POSHAN Abhiyaan; (2) Control of malnutrition through the principles and practices of Ayurveda, Yoga and other Ayush systems.
- The Anganwadi worker who is providing the Ayurveda nutrition message to the community at ground level may be designated as 'DHATRI' - Dedicated Health Activist to Replenish the Innutrition.
- The two Ministries have also decided to launch the hashtag #Ayush4Anganwadi for generating awareness about the activities on the digital media.

Important value additions

POSHAN Abhiyaan

- It is Government of India's flagship programme
- **Ministry:** Ministry of Women & Child Development
- **Objective:** To improve nutritional outcomes for children, pregnant women and lactating mothers.

Arsenic-affected Habitations Increased

Part of: GS Prelims and GS-II – Health

In news

- According to data shared in the Parliament, the number of arsenic-affected habitations in India has increased by 145% in the last five years (2015-20).

Key takeaways

- India had 1,800 arsenic-affected habitations in 2015.
- This increased to 4,421 habitations as of September 2020.
- Most of the arsenic-affected habitations lie in the Ganga and Brahmaputra alluvial plains - Assam, Bihar, West Bengal, Punjab, and Uttar Pradesh (UP).
- Assam had the highest share of such habitations (1,853), followed by West Bengal (1,383).
- However, the number of fluoride affected habitations has significantly come down.

Important value additions

Arsenic Poisoning

- It is naturally present at high levels in the earth's crust and groundwater in a number of countries.
- It is highly toxic in its inorganic form.
- Contaminated water used for drinking, food preparation and irrigation of food crops poses the greatest threat to public health from arsenic.
- Long-term exposure to arsenic can cause cancer, skin disease, cardiovascular disease and diabetes.
- In early childhood exposure, it may cause reduced cognitive development and increased deaths in young adults.
- According to the WHO's guidelines for drinking water quality (2011), the permissible limit of Arsenic in groundwater is 0.01 mg per litre.

Fluoride Toxicity

- Excessive fluoride intake usually occurs through the consumption of groundwater naturally rich in fluoride, particularly in warm climates.
- Such exposure may lead to dental fluorosis (tooth decay) or crippling skeletal fluorosis.

Do you know?

- A new Sub-programme under [National Rural Drinking Water Programme](#) (NRDWP) - National Water Quality Sub-Mission (NWQSM) was started by the Ministry of Drinking Water and Sanitation in 2017 to address the urgent need for providing clean drinking water in about 28,000 Arsenic & Fluoride affected habitations.

Herd immunity for COVID-19

Context: With the COVID-19 cases increasing day by day, the [theory of herd immunity](#) has been floating around.

What is Herd Immunity?

- Herd immunity is a **form of indirect protection from infectious disease** that occurs when a large percentage of a population has become immune to an infection, thereby providing a measure of protection for individuals who are not immune.
- Initially, herd immunity, an important tool in epidemic control, was proposed as a means to overcome the pandemic.
- Only a certain proportion of the population needs to be infected in order to stop large outbreaks, either through naturally-acquired disease, or through vaccination.

- Since a vaccine is not available for COVID-19 yet, some people advocated that the infection be allowed to spread in the community until herd immunity is achieved.

Why is this being stoutly opposed?

- The SARS-CoV-2 virus is easily transmissible and would require around 60-70% of the population to be infected to acquire herd immunity.
- If we allow this to happen naturally, it will take a long time, of course, but more importantly, it is going to do a lot of collateral damage
- So, even if 1 % of people who get infected are ultimately going to die, then this can add up to a huge number of people, if we look at the global population
- Herd immunity is not a strategy or a solution by some but is **considered as surrender to a preventable virus**

How and when will herd immunity be achieved in this pandemic?

- Herd immunity is achieved when one infected person in a **population generates less than one secondary case on an average**
- This corresponds to the effective **reproduction number R** (that is, the average number of persons infected by a case) dropping below 1 in the absence of interventions
- With flu pandemics, herd immunity is **usually attained after two to three epidemic waves**, each interrupted by the typical seasonality of influenza virus, and more rarely, by interventions
- Currently, there is insufficient confirmed information on re-infection to determine how that will influence the pandemic's course.

What does the sero-prevalence study in India say?

- A **measure of the infection levels in the population** is provided through the sero-surveys conducted by the Indian Council of Medical Research (ICMR).
- The second study was done between August 17 and September 22, 2020, and found the prevalence at 15.6% of the population in urban slums and at 8.2% in non-slum areas. The hotspots were not included this time.
- In Delhi, the second round estimated a sero-prevalence of 29.1%. The study revealed that for every reported COVID-19 case, there were 26-32 infections, down from 81-130 infections per reported case in May

Are vaccines the solution?

- Vaccines are particularly suited for creating herd immunity because their allocation can be **specifically targeted to highly exposed populations**, such as healthcare workers or individuals with frequent contact with customers.
- They may have a significantly **greater impact on reducing viral circulation** than naturally-acquired immunity, especially if it turns out that naturally-acquired protective immunity requires boosts through re-infections.
- With a vaccine you can **achieve immunity and herd immunity safely**. Through natural infection also we can achieve it at some point, but it would be at great human cost.

Conclusion

Until a vaccine is readied, it would be best to take actions that would slow down the progress of the virus —wearing a mask, physical distancing and following hand hygiene

Connecting the dots

- [Vaccine Nationalism](#)

Boosting India's Mental Health Care Apparatus

Context: From being the neglected and stigmatised domain of health care, mental health has gained significance in the wake of the socio-economic upheaval caused by Covid-19.

What are the myths associated with Mental Health Problems?

- Those who face mental health problems are weak
- Seeking help for mental health issues makes one dependent
- Psychiatric medicines prescribed by Mental Health Doctor are addictive;
- Psychotherapy and counselling can alter people's thinking instantly.

Do You Know?

- In 2017, there were 197.3 million people with mental disorders, comprising 14.3% of India's total population
- Mental disorders contributed 4.7% to the total Disability Adjusted Life Years (DALY) in India in 2017 as compared to approximately 2.5% in 1990 (one DALY essentially being one lost year of "healthy" life)

What are the issues associated with mental health care services?

- **Low Spending:** India spends 1.3% of its health budget on mental health
- **Low Accessibility:** Access to psychological and social interventions for mental health problems is not available to most people. The treatment gap for mental health is as high as 95%. Treatment, even when available, is largely focussed on medicines
- **Inequity in Access to Mental Health Services:** The more vulnerable — children, women, homeless, people in conflict areas, those facing identity based discrimination — are the least likely to have access to mental health services.
- **Shortage of Manpower:** One of the key barriers to access is the lack of mental health human resources. WHO's *Mental Health Atlas* in 2017 documents that India has around a total of 25,000 mental health worker for 1.3 billion population
- **Inefficient Strategy for developing human resource:** These are focussed primarily on training more psychiatrists, clinical psychologists, psychiatric nurses and psychiatric social workers, whose numbers are woefully inadequate.

What Strategy should be used to increase Mental Health Human resources?

India needs to work towards a **three-tiered mental health workforce** comprising associates, practitioners and specialists.

1. Associates

- The associates would be the **primary level workers** for mental health interventions at the village or urban cluster-level.
- They would make up a new cadre of frontline community mental health workers which can be set up by repurposing the present Accredited Social Health Activist (Asha) cadre or women SHGs
- The mental health associates would be the **first point of contact**, and would be able to form empathetic relationships, support people in decision-making and work with an individual or a group of individuals under supervision.

- They would also work towards **increasing awareness** and linking people to crisis intervention and secondary and tertiary mental health services.

2. Practitioners

- The next level, practitioners, would form the spine of mental health service delivery and would be **graduates with specific training in community mental health**.
- Their competencies would include supporting adaptive coping programmes; providing online behavioural and cognitive interventions; supporting care and protection processes in residential and community settings and facilitating informed choices
- These practitioners would also start conversations and galvanise communities around initiatives to challenge stigma and facilitate inclusion.

3. Specialists

- The specialists would include the current mental health professionals, but would also strategically allow post-graduates in psychology and social work to upgrade their skills through an advanced diploma in community mental health.
- They will provide leadership, training, tertiary services and supervision.

Conclusion

- If all commissions for women, child care and protection organisations, schools, universities and neighbourhood clinics were to **integrate mental health in the services they provide** (as required by the law), the need for mental health human resources would be a few hundred thousand skilled professionals.
- The current pandemic should precipitate a disruptive change to lay the foundations for a more comprehensive network of mental health services in India.

Connecting the dots

- Mental health care Act 2017

Second phase of Thalassemia BalSewaYojna launched

Part of: GS Prelims and GS-II – Health

In news

- The second phase of “Thalassemia BalSewaYojna” was recently launched for the underprivileged Thalassemic patients.

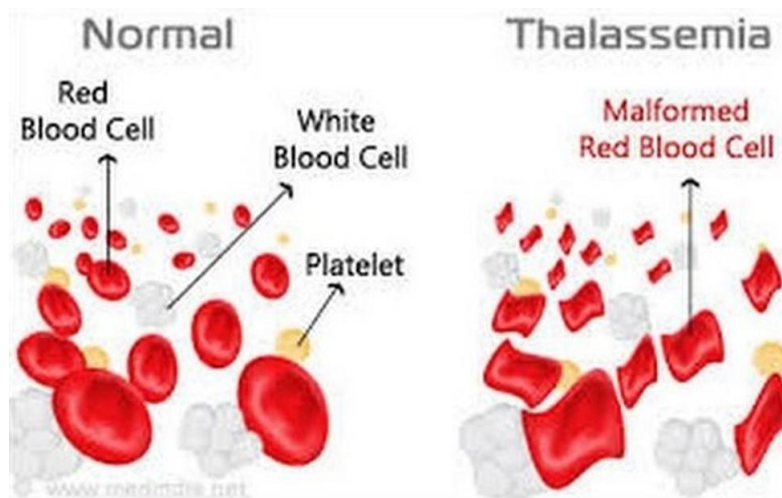
Important value additions

Thalassemia BalSewaYojna

- **Launched in:** 2017
- It is a Coal India CSR funded Hematopoietic Stem Cell Transplantation (HSCT) program.
- **Aim:** To provide a one-time cure opportunity for Haemoglobinopathies like Thalassemia and Sickle Cell Disease for patients who have a matched family donor.
- The CSR initiative was targeted to provide financial assistance to a total of 200 patients by providing a package cost not exceeding Rs. 10 lakhs per HSCT.

Thalassemia

- Haemoglobinopathies, such as Thalassemia and sickle cell disease are inherited disorders of red blood cells.
- They are preventable.
- People with thalassaemia are not able to make enough haemoglobin due to which oxygen cannot get to all parts of the body.
- Due to this, organs are unable to function properly.
- There are two major types of thalassaemia, alpha and beta. These are named for the two protein chains that make up normal haemoglobin.
- In India, Thalassemia Major (TM) and the severe form of Thalassemia Intermedia (TI) constitute the major burden of disease.



AyushmanSahakarscheme launched

Part of: GS Prelims and GS-II – Health

In news

- AyushmanSahakar scheme was recently launched.
- **Launched by:** Ministry for Agriculture and Farmers Welfare
- **Formulated by:** National Cooperative Development Corporation (NCDC), the apex autonomous development finance institution under the Ministry of Agriculture.
- It is a unique scheme to assist cooperatives to play an important role in creation of healthcare infrastructure in the country.

Key takeaways

- NCDC would extend term loans to prospective cooperatives to the tune of Rs.10,000 Crore in the coming years.
- There are about 52 hospitals across the country run by cooperatives.
- The NCDC fund would give a boost to provision of healthcare services by cooperatives.
- AyushmanSahakar specifically covers establishment, modernization, expansion, repairs, renovation of hospitals and healthcare and education infrastructure.
- Any Cooperative Society with suitable provision in its byelaws to undertake healthcare related activities would be able to access the NCDC fund.
- NCDC assistance will flow either through the State Governments/ UT Administrations or directly to the eligible cooperatives.

- The scheme shall provide working capital and margin money to meet operational requirements.
- The scheme shall also provide interest subvention of 1% to women majority cooperatives.
- It is in line with the National Digital Health Mission and National Health Policy, 2017.

Do you know?

- NCDC was set up under an Act of Parliament in 1963 for promotion and development of cooperatives.
 - Since 1963, it has extended around Rs.1.60 lakh crore as loans to cooperatives.
-

GOVERNMENT SCHEMES

Initiatives for Farmers launched

Part of: GS Prelims and GS-II – Welfare Schemes

In news

- Union Minister for Chemicals & Fertilizers launched POS 3.1 software, SMS Gateway and Home Delivery facility of Fertilizers (RBK) for farmers in Andhra Pradesh.

Key takeaways

- **Under POS 3.1 version:** Contactless OTP based authentication option has been introduced. Farmers will be able to purchase fertilizers without touching finger print sensors.
- **SMS Gateway** will periodically send SMS to farmers about availability of fertilizers at retail outlets from where he last purchased the fertilizer.
- Under an initiative of Home delivery of Fertilizers in Andhra Pradesh through RythuBharosaKendralu (RBK) state Government has launched 10,641 RythuBharosaKendralu (RBKs) in all gram panchayats to provide farmers with quality inputs and allied services.
- Under this system, farmers after biometric authentication can order fertilizers from RBK (Rythubharosa Kendra) in their village and fertilizer will be delivered at their door step.

EPFO's New Facility on UMANG App started

Part of: GS Prelims and GS-II – E-Governance & GS-III – Employment

In news

- Recently, the [Employees' Provident Fund Organisation](#) (EPFO) has started a facility on the [Unified Mobile Application for New-age Governance](#) (UMANG) App which enables members of the Employees' Pension Scheme (EPS) 1995 to apply online for Scheme Certificates.

Key takeaways

- Scheme Certificate is issued to members who withdraw their Employees' Provident Fund (EPF) contribution but wish to retain their membership with EPFO, to avail pension benefits on the attainment of retirement age.
- Members become eligible for pension only if they have been, cumulatively, a member of the EPS, 1995 for at least 10 years.
- Upon joining a new job, Scheme Certificate ensures that previous pensionable service is added to pensionable service rendered with the new employer
- It is also useful for family members to avail family pension

Important value additions

UMANG App

- It is a unified, secure, multi-channel, multi-platform, multi-lingual, multi-service mobile app.
- **Developed by:** Ministry of Electronics and Information Technology (MeitY) and National e-Governance Division (NeGD)
- **Objective:** To drive mobile governance under Digital India.

Employees' Provident Fund Organisation (EPFO)

- It is a government organisation that manages the provident fund and pension accounts for the workforce engaged in the organized sector in India.
- It implements the Employees' Provident Fund and Miscellaneous Provisions Act, 1952.
- **Administered by:** Ministry of Labour and Employment.

Do you know?

- EPS is a social security scheme that was launched in 1995 and is provided by EPFO.
- It makes provisions for pensions for the employees in the organised sector after the retirement at the age of 58 years.

Property Cards to be distributed under SVAMITVA scheme

Part of: GS Prelims and GS-II – Policies and Interventions

In news

- Indian Prime Minister will launch the physical distribution of Property Cards under the SVAMITVA Scheme on October 11, 2020 to transform rural India.

Important value additions

SVAMITVA scheme

- It was launched in April 2020.
- **Aim:** To provide the record of rights to village household owners in rural areas and issue Property Cards.
- It is being implemented across India in a phased manner over a period of four years.
- It will cover around 6.62 lakh villages
- The launch will enable around 1 lakh property holders to download their Property Cards through the SMS link delivered on their mobile phones.
- This would be followed by physical distribution of the Property Cards by the respective State governments.
- The move will pave the way for using property as a financial asset by villagers for taking loans and other financial benefits.

Tech for Tribals initiative

Part of: GS Prelims and GS-II – SCs and STs & GS-III – Entrepreneurship; Computers

In news

- Tech for Tribals initiative shall be launched on 13th October, 2020.
- **Launched by:** [TRIFED](#) under Ministry of Tribal Affairs in collaboration with Chhattisgarh MFP Federation and IIT, Kanpur

Key takeaways

- **Aim of the initiative:** Holistic development of tribals with a focus on entrepreneurship development, soft skills, IT, and business development through SHGs operating through Van DhanKendras (VDVKs).
- TRIFED has tied up with national institutions such as IIT, Kanpur; Art of Living, Bangalore; TISS, Mumbai; KISS, Bhubaneswar; Vivekananda Kendra, Tamil Nadu and SRIJAN, Rajasthan.
- Vandhan-ESDP Training Programs shall be conducted under these institutes.

Important value additions

Tribal Cooperative Marketing Development Federation of India (TRIFED)

- It came into existence in 1987.
- It is a national-level apex organization.
- The basic objective of the TRIFED is to provide good price of the 'Minor Forest Produce (MFP) collected by the tribes of the country.
- It functions under Ministry of Tribal Affairs, Govt. of India.
- TRIFED has its Head Office at New Delhi.
- It has a network of 13 Regional Offices located at various places in the country.

Nation- wide campaign to celebrate KamdhenuDeepawaliAbhiyan started

Part of: GS Prelims and GS-II – Policies

In news

- RashtriyaKamdhenuAayog (RKA) recently started a nation- wide campaign to celebrate KamdhenuDeepawaliAbhiyanon the occasion of Deepawali festival.
- Through this campaign, the RKA is promoting extensive use of cow-dung/ Panchgavya products during this Diwali Festival.

Important value additions

RashtriyaKamdhenuAayog (RKA)

- It was constituted by Indian Prime Minister for the conservation, protection and development of cows and their progeny and for giving direction to the cattle development programmes.
- It is a high powered permanent body to formulate policy and to provide direction to the implementation of schemes related to cattle so as to give more emphasis on livelihood generation.

Status of BharatmalaPariyojana

Part of: GS Prelims and GS-II – Policies and Interventions

In news

- A total of 322 projects in a length of 12,413 km have been awarded and 2921 km has been constructed under BharatmalaPariyojana till August 2020.
- **Phase-I of BharatmalaPariyojana:** Implementation of 34,800 km of national highways in 5 years (from 2017 to 2022) has been approved (Rs. 5,35,000crore).
- **Phase-II:** Around 48,000 km of road network across India by 2024.

Important value additions

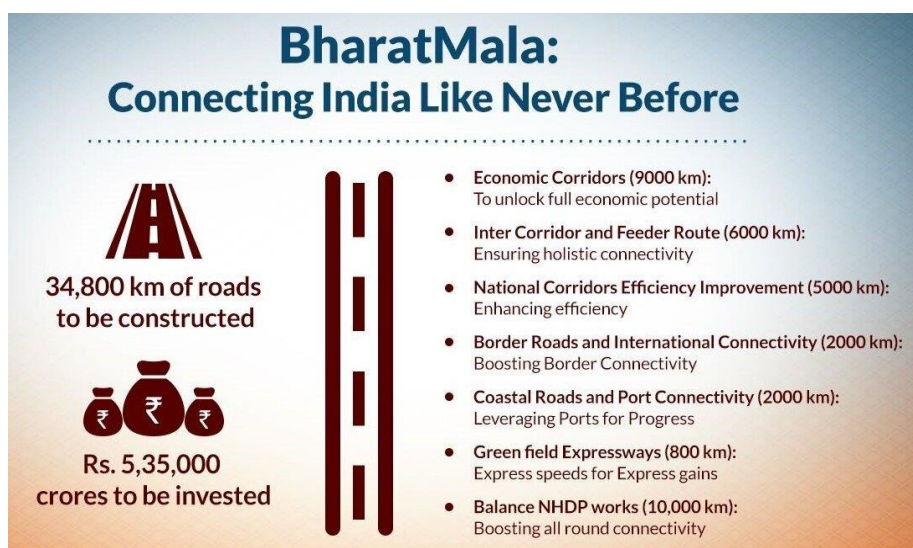
BharatmalaPariyojana

- It is an umbrella program for the highways sector.
- **Initiated by:** Ministry of Road Transport and Highways.
- **Objectives:** (1) To optimise the efficiency of freight and passenger movement across India by bridging critical infrastructure gaps through effective interventions; (2) To generate a large number of direct and indirect employment opportunities in the construction and infrastructure sector; (3) To connect 550 districts in the country through national highway linkages.
- **Effective measures:** Development of economic corridors, inter corridors and feeder routes, national corridor efficiency improvement, border and international connectivity roads, coastal and port connectivity roads and Greenfield expressways.

- **Features:** (1) Improvement in the efficiency of existing corridors through the development of Multimodal Logistics Parks and elimination of chokepoint; (2) Improving connectivity in North East and increasing harmony with Inland Waterways; (3) Emphasis on the use of scientific and technological planning; (4) Satellite mapping of corridor; (5) Delegation of powers for successful completion of Phase I by 2022.

Do you know?

- **Economic Corridors:** These are integrated networks of infrastructure within a geographical area designed to stimulate economic development.
- **Greenfield Projects:** They lack constraints imposed by prior work on the site. Typically, it entails development on a completely vacant site and architects start completely from scratch.
- **Brownfield Projects:** They carry constraints related to the current state of the site and might be contaminated or have existing structures that architects have to tear down or modify in some way before the project can move forward.
- **Multimodal Logistics Parks:** These are a key policy initiative of the Government of India to improve the country's logistics sector by lowering overall freight costs, reducing vehicular pollution and congestion, and cutting warehousing costs.
- **Chokepoint:** It is a single point through which all incoming and outgoing network traffic is funnelled and hence, leads to congestion and traffic.



'STARS' Project approved

Part of: GS Prelims and GS-II – Education

In news

- The Union Cabinet has approved World Bank supported Strengthening Teaching-Learning and Results for States -STARS project recently.

Key takeaways

- The Project seeks to support States in developing, implementing and evaluating interventions with direct linkages to improved education outcomes.

- The total project cost is 5,718 crore rupees.
- World Bank shall provide assistance amounting to 500 million US dollars.
- It would be implemented as a new Centrally Sponsored Scheme under Department of School Education and Literacy
- It will cover six States, Himachal Pradesh, Rajasthan, Maharashtra, Madhya Pradesh, Kerala and Odisha.

DAY-NRLM Special Package for J&K and Ladakh

Part of: GS Prelims and GS-II – Policies and interventions

In news

- Recently, the Union Cabinet approved a special package worth Rs. 520 crore in the Union Territories (UTs) of J&K and Ladakh for a period of five years under the Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM).

Key takeaways

- The Centre aims to universalise all centrally sponsored beneficiary-oriented schemes in J&K and Ladakh in a time-bound manner.
- The package has been approved for a period of five years till 2023-24.
- It has been decided to ensure funding on a demand-driven basis without linking allocation with poverty ratio during the extended period.
- Around two-third rural women from the UTs will be covered and 10.58 lakh women will get the benefit from the special package.

Important value additions

Deendayal Antyodaya Yojana-National Rural Livelihood Mission

- It is a centrally sponsored programme,
- **Ministry:** Ministry of Rural Development
- **Aim:** (1) To eliminate rural poverty through the promotion of multiple livelihoods and improved access to financial services for the rural poor households across the country; (2) To reach out to all rural poor households and impact their livelihoods.
- It involves working with community institutions through community professionals.
- It is implemented in a Mission mode by special purpose vehicles.
- The government plans to take the scheme to 10 crore women.

Khelo India State Centre of Excellence (KISCE) awarded

Part of: GS Prelims and GS-II – Policies; schemes

In news

- Nine States and Union Territories have been selected by the Sports Ministry for upgradation to Khelo India State Centre of Excellence (KISCE).

Key takeaways

- **States and UTs selected:** Andhra Pradesh, Chhattisgarh, Chandigarh, Goa, Haryana, Himachal Pradesh, Puducherry, Tripura and J&K.

- The centres have been selected based on their past performances, quality of infrastructure, management and sports culture in the State.
- The overall number now stands at 24 KISCES from 23 States and UTs.
- The assistance to these centres will be provided in the form of bridging the gaps in sports equipment, high performance managers, coaches, sports scientists and technical support.

GharTak Fibre Scheme inaugurated in Bihar

Part of: GS Prelims and GS-II – Government Policies and Interventions

In news

- Recently, Indian Prime Minister inaugurated 'GharTak Fibre' scheme in Bihar.
- **Implemented by:** Ministry of Electronics and Information Technology

Key takeaways

- **Aim:** To connect all 45,945 villages of Bihar with high-speed optical fibre internet by 31st March 2021.
- Under the scheme, Bihar has to provide at least five fibre-to-the-home (FTTH) connections per village and at least one WiFi hotspot per village.
- The Scheme will lead digital services including e-Education, e-Agriculture, Tele-Medicine, and other social security schemes in Bihar.
- It shall boost the local employment generation with the implementation of [Bharat Net initiative](#) which will be done by recruiting local workers.

SVAMITVA Scheme

Context: On October 11, Prime Minister Modi launched the distribution of property cards under the SVAMITVA scheme through video conferencing.

What is the SVAMITVA card?

- The acronym SVAMITVA stands for Survey of Villages and Mapping with Improved Technology in Village Areas.
- It is a **Central Sector Scheme** (100% by Union Government) implemented by Union Ministry of Panchayat Raj
- It is aimed at "providing 'record of rights' to village household owners possessing houses in inhabited rural areas in villages and issuance of property cards to the property owners."
- The government aims to provide such property cards to each household in the next three to four years in every village across the country.
- The plan is to **survey all rural properties using drones** and prepare **GIS based maps** for each village.
- During the current financial year, the scheme is being implemented as a pilot project in about 1 lakh villages across 8 states – Maharashtra, Karnataka, Haryana, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Punjab and Rajasthan.

How is a SVAMITVA property card generated?

1. **MoU with States:** The framework for implementation of SVAMITVA scheme provides a multi-stage process of generating a property card, which starts with signing of a memorandum of understanding between Survey of India (Sol) and respective state governments.
2. **Use of technology:** The Sol is responsible for preparing the National Topographic database on all scales, using technology (drones, Satellite images)

3. **Setting up of Network:** Once the MOU is done, a Continuously Operating Reference System (CORS) network is established that supports in establishing ground control points, which is an important activity for accurate Geo-referencing
4. **Public Awareness:** The next step is the identification of villages to be surveyed during the pilot phase, and make people aware of the process of mapping properties.
5. **Preparation of GIS Database:** The abadi area (residential area) of the village is demarcated and each rural property is marked with limestone (chunna). Then, drones are used for large scale mapping of rural abadi areas. Based on these images, a GIS database on 1:500 scale, and village maps — **Gram Manchitra** — are drawn.
6. **Verification:** After creation of maps, a ground verification process by drone survey teams follows, on the basis of that corrections, if any, are made. At this stage, inquiry/objection process – conflict/ dispute resolution is completed
7. **Issuance of Property Cards:** After verification, final Property Cards/Title deeds or “SampattiPatrak” are generated. These cards will be available on digital platforms or as hard copies to the village household owners.

How will the SVAMITVA property data and maps be updated in the future?

- The framework states, “Once the GIS database is prepared encompassing the 6.62 lakh villages, state governments will be responsible for conducting future surveys and updating the GIS database.” They will also decide the update frequency of the re-survey.

Who will own the SVAMITVA data?

- According to the framework, the orthorectified base maps shall be jointly owned by the Survey of India, Ministry of Panchayati Raj and the state government. The GIS data will also be jointly owned by Centre and State.
- However, the **data related to property details** will be owned by the State Revenue Department as it has the authority to mutate the Right of Records (RoRs) and update the maps.
- Hence, the State Revenue Department will be the owner/host of this data and **others will have a right to view**

What is the benefit of issuing a SVAMITVA property card?

- **Access Credit & Benefits:** It will enable rural households to use their property as a financial asset for taking loans and other financial benefits.
- **Tax Collection:** The database will help in determination of property tax, which would accrue to the Gram Panchayats directly in states where they are empowered to collect such taxes
- **Enhances Liquidity of assets:** The cards will help increase liquidity of land parcels in the market and increase the financial credit availability to the village.
- **Developmental Planning:** The scheme will also pave the way for creation of accurate land records for rural planning. All the property records and maps will be available at Gram Panchayat, which will help in taxation of villages, construction permits, elimination of encroachments, etc.

Conclusion

- State governments and local authorities need to be enthusiastic about the scheme for it to become successful.

Connecting the dots

- 73rd Constitutional Amendment Act

Mobile Application for Geo Tagging launched by Ministry of Jal Shakti

Part of: GS Prelims and GS-II – E-governance; Policies and interventions

In news

- A mobile application for geo-tagging of the components of projects under [Pradhan MantriKrishiSinchayeeYojana \(PMKSY\)](#) was recently launched. .
- **Ministry:** Ministry of Jal Shakti
- **Developed By:** Bhaskaracharya National Institute of Space Applications & Geo-informatics (BISAG-N).

Key takeaways

- **Objective:** To track the pace of work and actual status of the projects.
- The mobile application can be used to capture the image of the project component along with other details.
- The captured information can be submitted by the user for geo-tagging on the geographic information system (GIS) portal.
- It can be operated in both online & offline mode.

Important value additions

Pradhan MantriKrishiSinchayeeYojana (PMKSY)

- PMKSY is a centrally sponsored scheme
- **Launched in:** 2015
- **Motto:** HarKhetKoPaani
- **Objectives:** (1) To expand cultivated areas with assured irrigation, reduce wastage of water and improve water use efficiency; (2) To create protective irrigation by harnessing rainwater at micro level; (3) To enhance recharge of aquifers

Do you know?

- Geo-tagging is the process of adding geographical identification data to various media such as websites, SMS messages, QR Codes.
- This data usually consists of latitude and longitude coordinates, altitude, accuracy data, etc.
- A GIS is a framework for gathering, managing, and analyzing geography related data.

Kisan Suryodaya Yojana launched

Part of: GS Prelims and GS-II – Policies and interventions

In news

- Indian Prime Minister launched the Kisan Suryodaya Yojana in Gujarat.
- Under the scheme, 16 hours of power supply shall be provided to farmers.

Key takeaways

- **Objective:** To provide day-time power supply for irrigation.
- Under this scheme, farmers will be able to avail power supply from 5 AM to 9 PM.

- The state government has allocated a budget of Rs.3500 crore for installing transmission infrastructure under this scheme by 2023.
 - 234 '66-Kilowatt' transmission lines will be established under the project, in addition to 220 KV substations.
 - **Districts to be covered in initial phase:** Dahod, Patan, Mahisagar, Panchmahal, Chhota Udepur, Kheda, Tapi, Valsad, Anand and Gir-Somnath have been
 - The remaining districts will be covered in a phase-wise manner by 2022-23.
-

Indira RasoiYojana: Rajasthan

Part of: GS Prelims and GS-II – Policies and interventions

In news

- Recently, Indira RasoiYojana was in the news.
- Over 50 lakh people have benefited from the scheme in Rajasthan.
- The scheme was launched in August 2020.

Key takeaways

- **Aim:** To provide nutritious food to the poor and needy twice a day at concessional rates.
 - Under the scheme, each plate serves 100 grams of pulses and vegetables each, 250 grams of chapati and pickles.
 - **Implementation:** Local voluntary organisations
 - **Monitoring:** A committee headed by the District Collector monitors the scheme.
 - A special app has also been created for monitoring the food quality.
 - **Target:** To serve 1.34 lakh people per day in the state.
-

INTERNATIONAL

USA Sanctions against ICC Officials

Part of: GS Prelims and GS-II – Global Groupings

In news

- The USA had announced sanctions, including asset freezes and visa bans, against two officials of the International Criminal Court (ICC) for their investigation into alleged war crimes by the USA forces and the Central Intelligence Agency (CIA) in Afghanistan since 2003.

Important value additions

International Criminal Court

- It is an intergovernmental organization and international tribunal.
- **Headquarter:** The Hague, Netherlands.
- It is a criminal court.
- **Jurisdiction:** Prosecute individuals for the international crimes of genocide, crimes against humanity, and war crimes.
- When a state's legal system collapses or when a government is a perpetrator of heinous crimes, the ICC can exercise jurisdiction.
- India is not a party to ICC.

China's climate commitment

Context: Speaking at the UN General Assembly, Chinese President Xi Jinping made two promises that came as a welcome surprise to climate change watchers.

What has China announced?

- First, Xi said, China would become carbon net-zero by the year 2060.
- Also, China now aims to have CO2 emissions peak before 2030 (earlier China had committed to peak by 2030). That means China would not allow its greenhouse gas emissions to grow beyond that point.

What is Net-Zero State?

- Net-zero is a state in which a country's emissions are compensated by absorptions and removal of greenhouse gases from the atmosphere.
- Absorption can be increased by creating more carbon sinks such as forests, while removal involves application of technologies such as carbon capture and storage

Why is net-zero an important target?

- Scientists and climate change campaign groups say global carbon neutrality (net-zero) by 2050 is the only way to achieve the Paris Agreement target of keeping global temperatures from rising beyond 2°C compared to pre-industrial times.
- At the current rate of emissions, the world is headed for a 3° to 4°C rise in temperatures by 2100.

Do You Know?

- China is the world's largest emitter of greenhouse gases. It accounts for almost 30% of global emissions, more than the combined emissions in the United States, the European Union and India, the three next biggest emitters
- Currently, just 15 percent of the China's energy mix is provided by renewables.

How significant is China's commitment?

- **Signifies Long Term Commitment:** Getting China to commit itself to a net-zero target, even if it is 10 years later than what everyone has in mind, is a big breakthrough, especially since countries have been reluctant to pledge themselves to such long term commitments.
- **Helps [Paris Climate Deal](#) to Succeed:** The Chinese goal, if realised, would lower global warming projections for 2100 by about 0.2° to 0.3°C, the most impactful single action ever taken by any country.

What is the Politics behind China announcing such measures?

- **Environmental Leadership:** The announcement gives China an opportunity to show environmental leadership at the same time as the United States retreats from the issue
- **Image Makeover:** The 2060 pledge reflects China's desire to showcase itself as a "responsible international player" after a storm of negative attention (spats with India over borders, the EU over rights abuses, Australia over security and the US over everything from trade and technology)
- **Rule Setter:** Xi's pledge plays into his larger agenda of promoting China as a global standard setter. If the global direction of travel is away from coal and towards cheap renewables and green tech, China could put itself at the forefront of a new economic order.
- **Domestic Political Dividends:** Taking coal plants offline, meeting stringent emissions targets and pleasing the population by curbing pollution could also deliver a strategic win to the Chinese Communist Party, which prevents incentive to rebel for Democracy.
- **Puts Pressure on India:** European Union and 70 other countries (that have relatively low emissions) have committed itself to a net-zero emission status by 2050. Leadership by China in Environmental Initiatives puts pressure on other two big emitters – USA and India

What is India's commitment?

- India has resisted pressure to make a long-term commitment, citing the fact that developed countries had utterly failed in keeping their past promises, and never delivered on the commitments they made earlier.
- India has also been arguing that the climate change actions it has been taking are, in relative terms, far more robust than those of the developed countries.
- If one looks at the pledges that have been made in the Paris Agreement, India is the only G20 country whose actions are on track to meet the 2° goal. The other developed countries actually have to make efforts towards a 1.5° world, but they are failing even to do enough to meet the 2° target
- Climate Action Tracker puts India's actions as "2°C compatible", while the US, China and even the European Union's current efforts are classified as "insufficient"

Conclusion

The announcements by China was a great one in the fight against climate change. Now we need commitments to the challenging objective of big emissions reductions over the next decade.

Connecting the dots

- International Solar Alliance
- [US to withdraw from WHO](#)

Nobel Peace Prize For 2020 announced

Part of: GS Prelims and GS-II – Poverty; Hunger; Global Organisations

In news

- The Nobel Peace Prize for 2020 will be given to the World Food Programme (WFP) for its efforts to combat hunger.

Key takeaways

- In 2019, the WFP provided assistance to close to 100 million people in 88 countries who are victims of acute food insecurity and hunger.
- The World Food Programme was an active participant in the diplomatic process that culminated in May 2018 in the UN Security Council's unanimous adoption of Resolution 2417, which for the first time explicitly addressed the link between conflict and hunger.

Do you know?

- The World Food Programme (WFP) is the food-assistance branch of the United Nations.
- It is the world's largest humanitarian organization focused on hunger and food security.
- In 2015, eradicating hunger was adopted as one of the UN's Sustainable Development Goals.
- The WFP is the UN's primary instrument for achieving this goal.
- **Founded in:** 1961.
- **Headquarter:** Rome

Country in news: Kyrgyzstan

Part of: GS Prelims and GS-II – International Relations

In news

- Kyrgyzstan was in news recently due to violent protests in the country.
- It is witnessing one of its worst political crises in decades.

Important value additions

Kyrgyzstan

- It is a landlocked country in Central Asia.
- It is often referred to as the only democracy in the region.
- It is also known as Kirghizia.
- It borders Kazakhstan, China, Tajikistan and Uzbekistan.
- It's the second-smallest of the five Central Asian states.
- **Capital:** Bishkek.
- The mountainous region of the Tian Shan covers over 80% of the country.



Australia-China ties have gone down under

Context: Australia and China's cordial economic ties, established over the last three decades, have been soured this year over several points of friction.

China-Australia Relationship

- **Trade:** China is Australia's largest trading partner in terms of both exports and imports. China's share in Australia's exports reached a record A\$117 billion, or 38 per cent, in 2019, more than any other country.
- **Investment:** Over the years, China has been increasing its investment in Australian infrastructure and real estate products too.
- **Tourism & Education:** The maximum number of foreign students in Australian universities and tourists also originate from China.
- **Important Sectors:** Australian sectors like mining, tourism, education benefit from trade with China. China even imports products such as milk, cheese, wine and meat

Points of friction

This year, many issues have dominated the deteriorating relationship between the two countries.

1. Australia's Covid-19 inquiry and China's Economic response

- In April 2020, Australia suggested the start of an inquiry into the origins and the initial handling of the coronavirus.
- China alleged that Australia was teaming up with the US to spread "anti-China propaganda".
- China further **called for boycotting Australia** as a tourist and higher education destination and banning Australian products like wine and beef.
- In May, Chinese authorities **imposed an 80 per cent tariff on barley imports** coming from Australia. China is the most important market for Australia barley.
- China also began a **trade probe into Australian wine** and suspended import permits for four large beef processing plants.

2. Tension over journalists

- The second diplomatic spat began with the detention of Cheng Lei, an Australian news anchor based in Beijing by the Chinese authorities after she was suspected of "criminal activities" that endangered China's national security
- After this, two more Australian journalists working in China were questioned and declared persons of interest in the Cheng Lee detention case
- Following their house searches, the journalists sought refuge in Australian diplomatic missions, as they were not allowed to leave the country.
- The tensions were on full display for five days after which **China finally agreed to allow them to fly back to Australia.**
- After their departure, there are **no more Chinese reporters employed by the Australian media** left in the country, a first since the 1970s.
- Few days after their departure, China's state news agency Xinhua released a report that claimed the Australian intelligence had raided an unspecified number of Chinese journalists stationed in Australia

3. Ideological issues

- The two countries have also been at loggerheads on other ideological issues previously too.

- After reports of China keeping Uighur Muslims in state-run detention camps surfaced, Australia was swift to respond and expressed “deep concern” over the “human rights situation.”
- Similarly, after China imposed the National Security Law in Hong Kong, Australia suspended its extradition treaty with Hong Kong and said the law undermines Hong Kong’s autonomy and suppresses opposition to Mainland China
- Australia also decided to extend visas for Hong Kong residents. In both instances China responded staunchly and asked Australia to not meddle in its “internal matters.”

What is the impact on India?

- Australia has started looking for way to wean itself away from this excessive Chinese dependence and is keen to strengthen its ties with more ideologically compatible allies like India.
- Thus, there is scope to increase the India-Australia bilateral trade and investment.
- Australia has expressed the need to connect with more “like-minded democracies” to counter the Chinese aggression and expansion.
- At the [Quadrilateral Initiative](#), or the “Quad” with counterparts from India, United States and Japan, Australian highlighted the need for an “open, resilient and inclusive Indo-Pacific region that is governed by rules and not power.
- The QUAD meeting in 2020 comes at a time when three out of four participant countries are at loggerheads with China on some issue or another.

Conclusion

All these point to changing dynamics in the geopolitical arena particularly in the Indo-Pacific. India needs to be aware of it and ensure that Balance of Power is maintained in the region by coordinating with similar minded countries.

Connecting the dots:

- [Shanghai Cooperation Organisation](#) (SCO)
- [Reviving SAARC to deal with China](#)

[Asia-Pacific Group \(Apg\) On Money Laundering retains Pakistan on its ‘Enhanced Follow-Up’ list](#)

Part of: GS Prelims and GS-II – International Relations

In news

- Due to Pakistan’s minimal progress in combating money laundering and terror financing, the Asia-Pacific Group (APG) on Money Laundering has retained the country on its ‘Enhanced Follow-Up’ list.

Key takeaways

- According to APG, Pakistan will remain in the enhanced follow-up list.
- It will also have to continue to report back to the APG on progress to strengthen its implementation of comprehensive measures.
- Pakistan is desperate to move out of ‘grey list’ because its inclusion in the list has severely impacted its economy and image.

- Pakistan was placed in the grey list in June 2018.

Important value additions

Asia-Pacific Group (APG) on Money Laundering

- APG is a regional affiliate of the Paris-based Financial Action Task Force (FATF).
- **Secretariat:** Sydney, Australia.
- **Founded in:** 1997 in Bangkok, Thailand
- It currently consists of 41 member jurisdictions in the Asia-Pacific region.

[South Asia Economic Focus Report released by World Bank](#)

Part of: GS Prelims and GS-II – International Relations; Education

In news

- Biennial South Asia Economic Focus report was recently released.
- **Released by:** World Bank
- **Title of the edition:** “Beaten or Broken? Informality and Covid-19”.

Key takeaways

- The report includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.
- It predicts that the extended closure of schools amid the Covid-19 pandemic could reduce India's future earnings by between 420 billion USD and 600 billion USD.
- This is so because depleted learning levels of students will translate into poorer productivity.

Impact on Education

- Around 5.5 million students could drop out of schools across South Asia.
- 391 million students have been kept out of school in primary and secondary education due to lockdown.
- Dropouts and learning losses would cost South Asia as much as 622 billion USD in future earnings and GDP.
- Also, due to the closure of schools, the children may have forgotten their previous learnings.
- The average child in South Asia may lose 4,400 USD in lifetime earnings once having entered the labour market, equivalent to 5% of total earnings.

Impacts on Economy

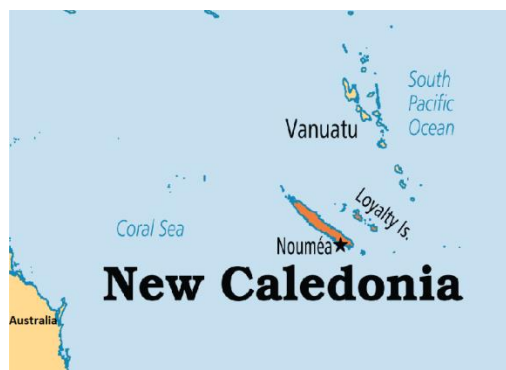
- **Impact on Informal Sector:** The report has flagged damage to businesses, consumption patterns and imposed social hardship on poor and vulnerable households, especially urban migrants and informal workers in the South Asia region.
- **GDP:** The regional GDP of the South Asia region is estimated to contract by 7.7% in 2020. India's GDP can contract by 9.6% in 2020-21.
- **Labour productivity** will also take a greater hit from Covid-19 than most previous natural disasters.

[French territory of New Caledonia voted against independence from France](#)

Part of: GS Prelims (Map – based) and GS-II – International relations

In news

- The French territory of New Caledonia voted against independence from France in a referendum held recently.
- The referendum was a part of a decolonisation plan agreed in 1998, known as the Noumea Accord.
- The Noumea Accord, which was concluded in 1998, provided for a practically sovereign status. Under this agreement, New Caledonia is allowed up to three referendums on independence, the latest one being the last of them.



Important value additions

New Caledonia

- It is an archipelago.
- It is located in the southwest Pacific Ocean.
- It was discovered in 1774 by the British navigator James Cook.
- It was annexed by France in 1853.
- In 1946, it became an overseas territory.
- By 1953, French citizenship had been granted to all New Caledonians, regardless of ethnicity.
- It accounts for around 10% of the world's nickel reserve.

Place in news: Kastellorizo

Part of: GS Prelims and GS-II – International Relations

In news

- Recently, Turkey's redeployment of the Oruc Reis survey vessel for new energy exploration around Kastellorizo has reignited [tensions over sea boundaries between Greek islands, Cyprus and Turkey's southern coast](#).
- Turkish survey ship was deployed to begin prospecting for hydrocarbons in disputed waters around the Greek island of Kastellorizo.
- According to Germany, it would strike a serious blow to efforts at easing tensions and improving ties between the European Union and Turkey.

Important value additions

Kastellorizo or Castellorizo

- Officially known as Megisti.
- It is a Greek island.
- It is a municipality of the Dodecanese in the Eastern Mediterranean.



Pakistan gets re-elected to the UNHRC

Part of: GS Prelims and GS-II – Global Groupings

In news

- Recently Pakistan was re-elected to the United Nations Human Rights Council.
- Pakistan is currently serving on the United Nations Human Rights Council (UNHRC) since 1st January, 2018.
- With its re-election, Pakistan will continue as a member for another three-year term starting from 1st January, 2021.
- This is the fifth time that Pakistan has been elected to the UNHRC.

Key takeaways

- A total of 15 countries were elected to the 47-nation council.
- Russia and Cuba were elected unopposed.
- Pakistan, Uzbekistan, Nepal and China were elected from the Asia-Pacific region.
- Pakistan has been re-elected despite opposition from activist groups over its low human rights records. With a number of countries with questionable rights records being elected, the current system of entry to UNHRC is in serious need of reform.
- Except for the Asia-Pacific contest, the election of 15 members was decided in advance because all the other regional groups had unopposed states.
- However, there is a silver lining to repressive countries being elected to the council. It is far more difficult for them to hide their own human rights abuses because of their position as the supposed guardian of human rights makes

Important value additions

United Nations Human Rights Council (UNHRC)

- The Council was created through the resolution 60/251.
- **Established in:** 2006.
- **Headquarter:** Geneva, Switzerland

- **Aim:** (1) To Promote and protect human rights around the globe; (2) To investigate alleged human rights violations.
- **Features:** The UNHRC has 47 members elected for three-year terms on a regional group basis from 5 groups.
- **Membership:** To become a member, a country must receive the votes of at least 96 of the 191 states of the UN General Assembly (an absolute majority).
- Members are elected directly by secret ballot by the majority of the UN General Assembly.
- **Five regional groups for membership:** Africa, Asia-Pacific, Latin America and the Caribbean, Western Europe and Eastern Europe.
- The members are elected for a period of three years, with a maximum of two consecutive terms.
- **Sessions:** The UNHRC holds regular sessions three times a year.

The message in the Peace Nobel

Context: 2020 Nobel Peace Prize awarded to the World Food Programme (WFP).

Paradox of Present Times

- At a time when cross-national and global challenges have increased Nation states are less willing to cooperate and collaborate to tackle them effectively.
- When the lives of people are at stake, **active collaboration would have enhanced our collective ability** to overcome what has become a public health-cum-economic crisis (COVID-19 Pandemic)
- But we live in an era when **nationalist urges**, fuelled by a political opportunism, diminish the appeal of international cooperation.
- One would have expected that countries, particularly those with technological and financial capabilities, would agree to pool their resources together to work on an effective and affordable anti-virus vaccine.
- Instead, there are **several parallel national efforts** under way even as WHO has put together a [Covax alliance](#) for the same purpose.

Do You Know?

- According to the WFP, 132 million more people could become malnourished as a consequence of the pandemic.
- To the 690 million people who go to bed each night on an empty stomach, perhaps another 100 million or more will be added.

About World Food Programme (WFP)

- Founded in 1961, WFP is the food assistance branch of United Nations
- It deals with hunger eradication and promotes food security in the world.
- WFP is funded completely by voluntary donations.
- It is a member of the United Nations Development Programme (UNDP) and works in close tandem with the Food and Agriculture Organization (FAO) and the International Fund for Agricultural Development (IFAD).
- WFP partners with **more than 1,000 national and international NGOs** to provide food assistance and tackle the underlying causes of hunger.
- WFP is the largest humanitarian organisation implementing school feeding programmes worldwide

Significance of Nobel Peace Prize awarded to WFP

- **Hunger as Weapon of War:** For its efforts to combat hunger and for acting as a driving force in efforts to prevent the use of hunger as a weapon of war and conflict, WFP was awarded the Nobel Peace Prize in 2020.
- **Need for International Cooperation:** The message this award is sending to the world — that we need multilateralism as an expression of international solidarity.
- **Dangers of Pandemic:** The award is also a warning that the novel coronavirus pandemic is reversing the substantial gains made in the fight against hunger and poverty. The Nobel Prize to the WFP will nudge our collective conscience to come together and relieve this looming humanitarian crisis.
- **Need for Funding:** The WFP's achievement are modest, not because it is an inefficient institution, but because it is perennially under-funded

Food Security and need of multilateralism

- **Food, energy and water security are inter-linked** with strong feedback loops. There exists inter-connectedness among these challenges.
- Enhancing food security may lead to diminished water and energy security. It may also have collateral impact on health security.
- Raising crop yields with current agricultural strategies means higher incremental use of chemical fertilizers and toxic pesticides.
- India's unprotected farmers are exposed to serious health risks as a result and often get bankrupted not due to crop failure but debilitating health costs.
- One has to realize of these inter-connections and hence come together to work collectively in a multilateral framework.
- A narrow Nationalistic approach to global challenges like Climate Change, hunger and Poverty will not be sustainable in long run
- The Sustainable Development Goals (SDGs) are cross-domain but also cross-national in character, and hence demand greater multilateral cooperation in order to succeed.
- Thus, there is need for a more democratic world order since lack of cooperation from even a single state may frustrate success in tackling a global challenge

Conclusion

A fresh pandemic may erupt in any remote corner of the world and spread throughout the globe. Prevention cannot be achieved through coercion, only through cooperation. It is only multilateralism that makes this possible.

Connecting the dots

- [India, UN and Multilateralism](#)

[ASEAN Phd Fellowship Programme \(APFP\)](#)

Part of: GS Prelims and GS-II – International Relations

In news

- Recently, the students from ASEAN member states who have been selected for the prestigious ASEAN PhD Fellowship Programme (APFP) were virtually addressed.
- The program is funded by the Government of India.

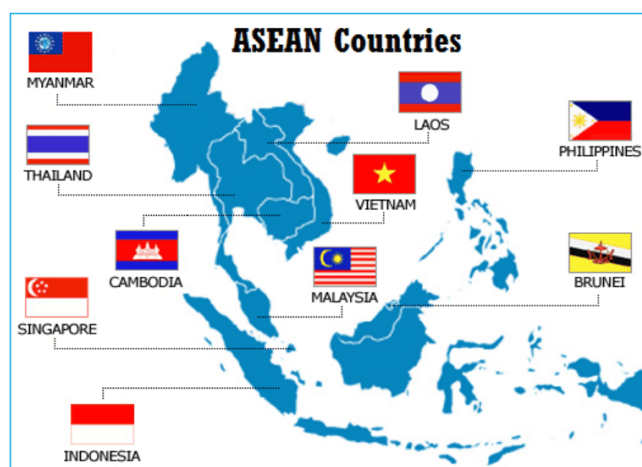
Important value additions

The ASEAN PhD Fellowship Programme was (APFP)

- It was announced on 25th January 2018, by Indian Prime Minister in the presence of leaders of ASEAN member states.
- Under the APFP, 1,000 fellowships will be provided exclusively to the ASEAN citizens.
- It is also the largest capacity development programme undertaken by the Government of India for foreign beneficiaries.
- It will open many doors in the field of technology and research for the academicians, researchers and the scientists from India and ASEAN.
- The students of the ASEAN member states have got the opportunity to study in the IITs.

Do you know?

ASEAN countries: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

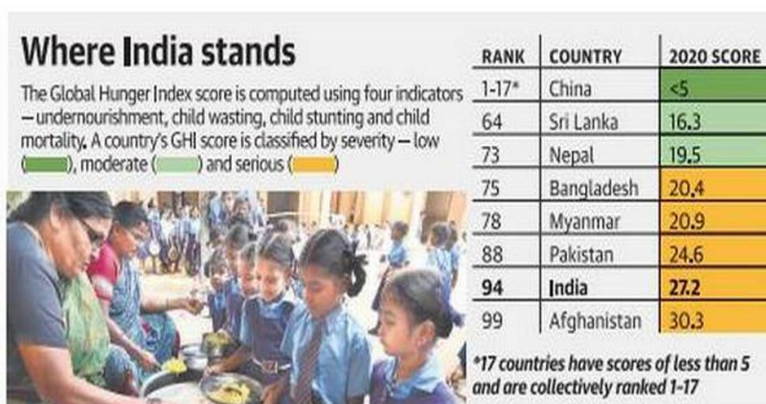


[Global Hunger Index \(GHI\) 2020 released](#)

Part of: GS Prelims and GS-II – Hunger; Policy and governance

In news

- Global Hunger Index report was recently released.
- **Published by:** Jointly by the International Food Policy Research Institute (IFPRI), Concern Worldwide, and Welthungerhilfe (WHH)
- **India:** 94th rank among 107 countries
- It continues to be in the “serious” hunger category.
- However, it has made some progress, particularly since the enactment of National Food Security Act.
- **Bangladesh:** 75th rank
- **Myanmar:** 78th rank
- **Pakistan:** 88th rank
- **Nepal:** 73rd rank and
- **Sri Lanka:** 64th rank



Key takeaways

- Last year, India's rank was 102 out of 117 countries.
- The neighbouring countries of Bangladesh, Myanmar and Pakistan too were in the "serious" category.
- They ranked higher than India in 2020's index.
- Nepal and Sri Lanka are in "moderate" hunger category.
- **Undernourished:** 14% of India's population
- **Stunting:** 37.4% among children under five
- **Wasting:** 17.3%
- **Under-five mortality rate:** 3.7%

Do you know?

- The GHI is calculated by using a three-step process.
- The indicators used are percentage of undernourished population, percentage of children under five years suffering from wasting and stunting, and child mortality.

Israel & Bahrain establish diplomatic Relations

Part of: GS Prelims and GS-II – International Relations

In news

- Recently, Israel and Bahrain have formally established diplomatic relations after signing the US brokered deal in Bahrain's capital Manama.
- The two countries are now expected to open embassies.
- Bahrain is now the fourth Arab country in the Middle East - after the UAE, Egypt and Jordan - to establish diplomatic Relations with Israel.

Important value additions

- Bahrain is a sovereign state in the Persian Gulf.
- The island nation comprises a small archipelago made up of 40 natural islands and an additional 51 artificial islands, centred around Bahrain Island which makes up around 83% of the country's landmass.
- The country is situated between the Qatari peninsula and the north eastern coast of Saudi Arabia, to which it is connected by the 25-kilometre King Fahd Causeway.
- The capital and largest city is Manama.



SCO Startup Forum to be launched

Part of: GS Prelims and GS-II – International Relations

In news

- The first-ever SCO Startup Forum will be launched on 27th October 2020.

Key takeaways

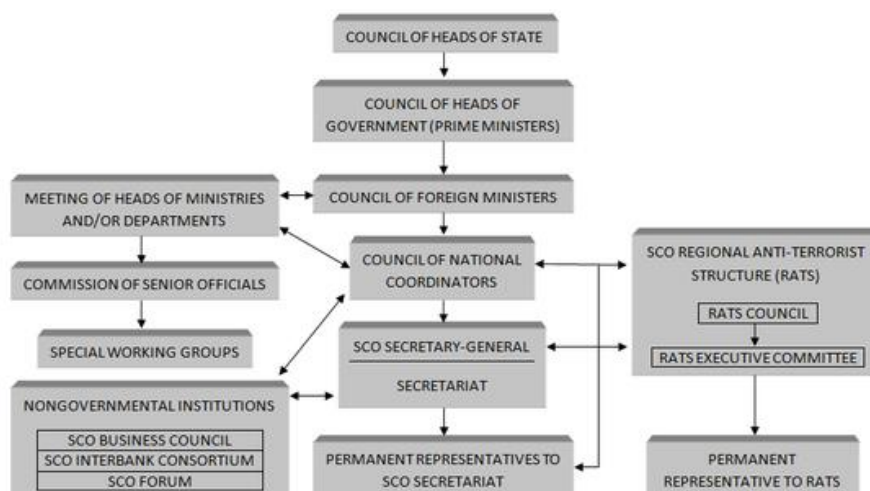
- The forum will lay the foundation for multilateral cooperation and engagement among the [Shanghai Cooperation Organisation](#) (SCO) Member States.
- Objective:** To develop and improve startup ecosystems collectively.
- The Forum shall identify areas of cooperation by launching multiple entrepreneurial activities like startup showcases through a dedicated virtual platform, mobilizing capital for startups, sharing of best practices, procuring social innovations etc.

Also, Innovation and Startups will be the key focus area of SCO Heads of Government meeting on 30th November 2020 to be hosted by India. **Important value additions**

Shanghai Cooperation Organisation

- SCO or Shanghai Pact is a Eurasian political, economic, and security alliance.
- Its formation was announced on 15 June 2001 in Shanghai, China by the leaders of China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan.
- Current Members:** China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, India and Pakistan
- Headquarters:** Beijing, China

THE STRUCTURE OF THE SHANGHAI COOPERATION ORGANISATION



Do you know?

- India is currently the third-largest startup ecosystem in the world with over 35,000 startups.
- Close to 25% of Startups are core technology based operating in areas of AI, Robotics, Cloud Computing, IoT, Digital Health, Financial & Education Technology.
- The '[Startup India](#)' has launched 10 bilateral bridges since its inception and has helped many technology-based startups to expand their businesses to global markets.

Strategic implications of Bangladesh's economic rise

Context: The International Monetary Fund's latest update on the World Economic Outlook.

Key Findings of Report

- In the IMF's estimation, in 2020, growth of India's gross domestic product (GDP) will witness a contraction of over 10%
- But more than the sharp contraction, what has caught everyone's attention is that in 2020, **the per capita income of an average Bangladeshi citizen would be more than the per capita income of an average Indian citizen.**

For Critical analysis of the report from economic perspective: Click [Here](#)

Five key Strategic implications of Bangladesh's economic success are:

1. Altering the International Perception of Subcontinent

- First, rapid and sustained economic growth in Bangladesh has begun to alter the world's mental maps of the subcontinent. Over the last five decades and more, South Asia, for most purposes, has meant India and Pakistan. The economic rise of Bangladesh is changing some of that.

2. Changing Weights of Pakistan & Bangladesh in region

- The second implication is about the changing economic weights of Bangladesh and Pakistan in South Asia.
- A decade ago, Pakistan's economy was \$60 billion larger than Bangladesh. Today, Bangladesh's weight is bigger than Pakistan by the same margin.
- A US dollar today gets you 85 Bangladeshi taka and 162 Pakistani rupees.
- The trend is unlikely to change in future: Bangladesh has controlled its population growth and Pakistan has not. Dhaka has a grip over its inflation and Islamabad does not.

3. Scope for acceleration Regional Integration in India's East

- Third, Bangladesh's economic growth can accelerate regional integration in the eastern subcontinent.
- Instead of merely praying for the revival of Saarc, Delhi could usefully focus on promoting regionalism among Bangladesh, Bhutan, India and Nepal.

4. Attracting Investments

- Fourth, the economic success of Bangladesh is drawing attention from a range of countries in East Asia, including China, Japan, South Korea, and Singapore.
- The US, which traditionally focused on India and Pakistan, has woken up to the possibilities in Bangladesh.

5. Impetus to India's Act East Policy

- Finally, the economic rise of Bangladesh could boost India's national plans to accelerate the development of its eastern and north-eastern states.
- Bangladesh's economy is now one-and-a-half times as large as that of West Bengal; better integration between the two would provide a huge boost for eastern India. So would connectivity between India's landlocked Northeast and Bangladesh.

Conclusion

In using Dhaka's impressive economic performance to attack Delhi's government, India is missing the bigger story about the strategic consequences of Bangladesh's economic rise

Connecting the dots

- SAARC vs BIMSTEC
- 1971 Indo-Pakistan war and the lingering Bangladeshi migrant issue

China objects to official exchanges between India and Taiwan

Part of: GS Prelims and GS-II – International Relations

In news

- Recently, China objected to any official exchanges between India and Taiwan.
- China also objected to India wishing Taiwan "Happy National Day" (October 10) and referring to it as a country.
- China is also opposing inclusion of Australia in the upcoming Malabar naval exercise.

Important value additions

Taiwan - the Republic of China (ROC)

- It is an island off the southern coast of China that has been governed independently from mainland China since 1949.
- It is not a member of the United Nations and is the largest economy outside the UN.
- China views it as a province only.
- It has its own democratically elected government



Russia proposes to Extend New START Treaty

Part of: GS Prelims and GS-II – International Relations

In news

- The Russian President has proposed to extend the New START (Strategic Arms Reduction Treaty) by one year.
- It is a Treaty between the USA and Russia expiring in February 2021.

Key takeaways

- It is a treaty on measures for the further reduction and limitation of strategic offensive arms.
- It came into force on 5th February, 2011.
- It is a successor to the START framework of 1991 (at the end of the Cold War) that limited both sides to 1,600 strategic delivery vehicles and 6,000 warheads.
- It continues the process of verifiably reducing the USA and Russian strategic nuclear arsenals by limiting both sides to 700 strategic launchers and 1,550 warheads.
- It will expire in February 2021 unless extended for five more years.

Greece- Turkey Clash

Context: Greece (EU member) said it would be extending a wall along its border with Turkey (candidate for EU membership) to prevent potential mass crossings by migrants into its territory.

Greece-Turkey Relations

- For centuries, Turkey and Greece have shared a chequered history.
- In 1830, Greece won independence from modern Turkey's precursor, the Ottoman Empire.
- In 1923, the two countries exchanged their Muslim and Christian populations – a migration whose scale has only been surpassed in history by the Partition of India.
- The two nations continue to oppose each other on the decades-old Cyprus conflict, and on two occasions have almost gone to war over exploration rights in the Aegean Sea.
- Both countries are, however, part of the 30-member NATO alliance

Relations between the two nations have seen a marked downturn this year.

1. Issue of Migration

- **Consequences of Syrian War:** Since the beginning of the Syrian war in 2011, vast numbers of displaced Syrians have sought refuge in Turkey.
- **Refugee Crisis:** According to the latest known figures, Turkey hosts some 37 lakh refugees from Syria, and is feeling the socio-economic and political strain of their presence in the country.
- **Refugee Crisis spilling to EU:** In 2015, the refugee crisis reached its peak as thousands drowned while attempting to cross over to the West using water routes. Around 10 lakh reached Greece and Italy.
- **Deal with EU:** In 2016, Turkey agreed to prevent migrants from crossing into the EU, and the bloc in return promised funds to help the former manage the refugees on its soil.
- **Reneging on Deal:** However, in February 2020, Turkey said it would not be honouring the 2016 agreement, asserting its inability to sustain another refugee wave. As a result, Turkey had allowed thousands of migrants to cross the border into Greece and the European Union, irking the latter

- **Using deal as leverage:** Turkey is criticised for using the migrant issue as a means to bring its western allies on board with its **military campaign in Syria's** Idlib province, where hostilities had escalated in preceding weeks.
- **Greece's response:** Greek government has said it would extend its already existing 10 km long wall with Turkey by an additional 26 km by the end of April 2021, spending EUR 63 million on the project.

2. Eastern Mediterranean dispute

- For 40 years, Turkey and Greece have disagreed over rights to the Eastern Mediterranean and the Aegean Sea, which covers significant **oil and gas deposits**.
- Increasingly assertive under President Erdogan, Turkey in July 2020 announced that it would be exploring a disputed part of the sea for oil and gas.
- Greece responded by placing its air force, navy and coastguard on high alert.
- After brief peace, Greece has once again started conducting seismic surveys near the Greek island of Kastellorizo. Greece considers the waters surrounding the island as its own and described Turkey's actions as a "direct threat to peace in the region".
- **Greece Stand:** A signatory of the United Nations Convention on the Law of the Sea (UNCLOS), it maintains that its continental shelf should be calculated while considering its island territories in the Eastern Mediterranean.
- **Turkey's stand:** Ankara, which has not signed UNCLOS, argues a nation's continental shelf should be calculated from its mainland, and maintained that its activity was "fully within Turkish continental shelf"

3. The Hagia Soophia row

- The Hagia Sophia was originally a cathedral in the Byzantine Empire before it was turned into a mosque in 1453, when Constantinople fell to Ottoman forces.
- In the 1930s, however, Mustafa Kemal Ataturk, the founder of the Republic of Turkey, shut down the mosque and turned it into a museum in an attempt to make the country more secular.
- Many Greeks continue to revere the Hagia Sophia, and view it as a key part of Orthodox Christianity.
- President Erdogan of Turkey converted Hagia Sophia from a museum into a mosque which Greece called the site's conversion an "affront to civilisation of the 21st century".

Implications of rising Greece-Turkey Tensions

- Rising **Nationalistic tendencies** in both the countries which would run against the plans of integration of Turkey with EU
- Another war in the region, especially in the wake of pandemic, will further plunge the countries into **recession and poverty**.
- All this impacts the stability in the region which further puts strain on International Organisations tasked with maintaining peace in world. UN, whose credibility is already battered due to allegations of politicisation of institution, will be under immense pressure to prove its **utility**.
- **Rule of law** in international Politics will be challenged.
- **India:** The bilateral relation of India-Turkey will be further strained especially after Turkey has voiced its criticism on India's abrogation of Article 370 and enactment of Citizenship Amendment Act.

Conclusion

All stakeholders in the region – US, EU, Russia, Iran, Syria – should try to help resolve the conflict at the earliest before it blows out of proportion

Reviving WTO

Context: The WTO is on the verge of getting fresh top leadership

Challenges of WTO

- **Backlash Against Globalisation:** There is a backlash against globalisation, free trade and by extension, against international organisations such as WTO.
- **New Negotiating positions by Nations:** People who have lost out from technological disruption, globalisation or free trade have found an important voice and have started asserting themselves through political choices made in national elections (electing conservative parties/people to power). These changes are subsequently reflected in country negotiating positions in the WTO.
- **Restoring Faith of common man:** WTO has to demonstrate that it is on the side of the underdog i.e. its mission is to enhance the conditions of poor people and not further the agenda of corporates
- **To build New Agenda:** It is common knowledge that the Doha Round of trade negotiations has long been dead. The new task for WTO is to build a consensus around a new common work programme and a negotiating agenda.

One solution to overcome above challenges is by announcing that the WTO's future work programme and negotiating agenda will be based on the Sustainable Development Goals (SDGs) so painstakingly agreed upon by all UN members in 2015.

A new SDG round of trade negotiations has numerous advantages for the WTO.

- First, it is **hard to disagree with the SDGs** themselves since all countries have publicly committed themselves to achieving it within a definite time frame
- Second, it will be a splendid **opportunity for the much-maligned WTO** to get its mojo back and secure endorsement for the principle of free trade. After all, it is a matter of consensus among economists of all hues that trade is indeed the best instrument for achieving many of the SDGs.
- Third, the WTO's future work programme and negotiating agenda must be **directly linked to the objectives of the Marrakesh Agreement** establishing the WTO, which talks of promoting sustained, inclusive and sustainable economic growth as well as full and productive employment and decent work for all.

What Steps should WTO take in future?

1. Recalibrating Special treatments

- The WTO must carefully recalibrate the Special and Differential Treatment for countries that deserve it.
- The two geographical regions which display "extreme poverty" are: parts of Africa and South Asia. It goes without saying therefore that countries belonging to these two geographical regions must get Special and Differential Treatment without any question.
- Extreme poverty is now well defined and is backed by the Oxford Multidimensional Index of Poverty, so objective criteria may be utilised for deciding countries which are eligible.

- This automatically takes care of the American argument that countries such as Singapore and South Korea (or China for that matter) cannot lay automatic claim to Special and Differential Treatment.

2. Conclude negotiations on Fisheries Subsidies

- The multilateral negotiations on Fisheries Subsidies is proceeding apace and must be concluded by the next Ministerial Conference in June 2021.
- Again, these negotiations must be consistent with **SDG-14** which is defined thus: Conserve and use the oceans, seas and marine resources for sustainable development.
- Developing countries and least-developed countries whose citizens depend on fisheries for their livelihood must be treated appropriately in these negotiations.

3. Correct Agriculture Subsidies

- Agriculture has always been a contentious subject in past WTO negotiations.
- **SDG-2** provides sufficient guidance in this critical area: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
- The US, EU and other rich countries have long subsidised their agriculture, often with disastrous consequences for the economies of developing and least-developed countries. It is time to make amends.

4. Electronic Commerce

- Electronic Commerce poses enormous challenges for developing and least-developed countries. These challenges have to do with digital infrastructure, digital literacy and data sovereignty.
- The **SDG-9** that talks of building resilient infrastructure, promotes inclusive and sustainable industrialisation and foster innovation, should guide these negotiations.
- Developed countries need to take into account the serious digital divide that currently exists when they pursue their national interests in these negotiations.

Conclusion

- The above is obviously not an exhaustive list but an illustrative one.
- More crucially, it provides a template for the new round of trade negotiations and the work programme of the WTO by anchoring it in the all-important SDGs.
- Such a move can kill two birds with one stone: to revive the negotiating agenda as well as to resuscitate the WTO itself.

Financial Action Task Force (FATF) decides to keep Pakistan on its grey list

Part of: GS Prelims and GS-II – International Relations

In news

- [The Financial Action Task Force](#) (FATF) decided to keep Pakistan on its "grey list".
- According to FATF, Pakistan has failed to act on six key mandates.
- It urged Pakistan to complete an internationally agreed action plan by February 2021.

Important value additions

Financial Action Task Force (FATF)

- The FATF is a global watchdog.

- It was founded to tackle money laundering initially but its role became prominent after the 9/11 terror attacks.
- It expanded its operations and included terror financing under its purview after 9/11.
- Its membership includes 39 jurisdictions.
- It maintains two lists – a blacklist and a grey list.
- Countries on its blacklist are those that FATF deems non-cooperative in the global effort to curb money laundering and terror-financing.
- The grey list is officially referred to as ‘Jurisdictions under Increased Monitoring.’
- It constitutes those nations that present significant risks of money laundering and terror-financing but which have committed to working closely with the FATF in the development and implementation of action plans that address their deficiencies.
- If the country is not actively tackling money laundering or terror funding, it is then blacklisted.
- So far, only two countries have been blacklisted - Iran and North Korea.

North Korea warns its citizens of Yellow Dust

Part of: GS Prelims and GS-II - International Relations; Health & GS-III – Environment

In news

- North Korea has urged its citizens to remain indoors to avoid contact with a mysterious cloud of ‘yellow dust’ which is blowing in from China.
- This cloud could bring Covid-19 with it.

Important value additions

Asian Dust

- It is also known as yellow dust, yellow sand, yellow wind or China dust storms.
- It is actually sand from deserts in China and Mongolia that high speed surface winds carry into both North and South Korea during specific periods every year.
- The sand particles tend to mix with other toxic substances such as industrial pollutants.
- Thus, it is known to cause a number of respiratory ailments.

Hong Kong BNO Passports not to be considered by China as valid travel documents

Part of: GS Prelims and GS-II – International Relations

In news

- Chinese foreign ministry said that it will consider not recognizing Hong Kong British national overseas (BNO) passports as valid travel documents.
- Recently, the British government had announced new visa rules for British National Overseas citizens in HK.

Key takeaways

New visa rules

- Britain will start to process BNO visa applications for residents in the Hong Kong Special Administrative Region (HKSAR) from January 31, 2021.
- As per new visa rule, BNO Visa holders will have the right to work and study in the UK for a period of five years. They can apply for citizenship after the sixth year.

Important value additions

BNO Passport

- The British National (Overseas) passport, commonly referred to as the BN(O) passport, is a British passport for persons with British National (Overseas) (BN(O)) status.
- The passport was first issued in 1987 after the Hong Kong Act 1985 from which this new class of British nationality was created.
- Holders of BN(O) passports are permanent residents of Hong Kong who were British Dependent Territories citizens until 30 June 1997 and had registered as BN(O)s.

Historic ceasefire announced in LIBYA

Part of: GS Prelims and GS-II – International Relations

In news

- Rival parties in Libya announced a historic ceasefire followed by five days of the 5+5 Libyan Joint Military Commission (JMC) talks in Geneva.
- This gives way to the possibility that the long-drawn conflict might be coming to an end.



Key takeaways

New Ceasefire Agreement

- As per this new agreement facilitated by the UN, all foreign mercenaries and armed forces will have to withdraw within the next 90 days.
- The parties also agreed that any violations in the ceasefire will be dealt by a joint military force, which will be under a unified command.
- The agreement has also established a Joint Police Operations room that will implement and propose special arrangements to secure the areas that are cleared of military units and armed groups.
- Further, the 5+5 have also agreed to open the land and air routes that connect the regions and cities of Libya.

Khadi being manufactured in the region of Oaxaca

Part of: GS Prelims and GS-II – International Relations

In news

- Indian Prime Minister made a reference to the region of Oaxaca (pronounced O-aa-ha-ka) in Mexico where Khadi was being manufactured.



Key takeaways

- Khadi Oaxaca is a farm-to-garment collective which comprises around 400 families.
- They live and work on traditional farms and homesteads in the Oaxaca region of southern Mexico
- It uses cotton produced and cultivated on the Oaxaca coast, and produces chemical-free clothing, relying on locally harvested plant-based dyes.

Sudan and Israel agree to Normalise Relations

Part of: GS Prelims and GS-II – International Relations

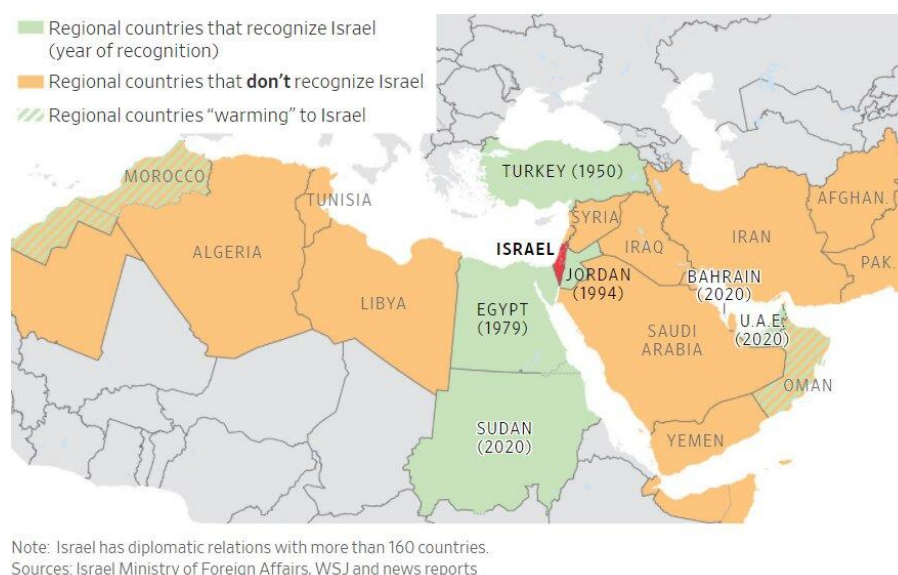
In news

- Recently, in a deal brokered by the USA, Sudan and Israel have agreed to normalise relations to end decades of hostility.

Key takeaways

- In the initial phase, there will be no exchange of ambassadors or a mutual establishment of embassies.

- With this agreement, Israel will complete the creation of a safety cordon in the Red Sea, which currently includes Egypt, Jordan, South Sudan and Saudi Arabia.
- Sudan has been at war with Israel since its foundation in 1948.
- It has now become the third country to forge diplomatic relations with Israel in recent times.
- The USA has also brokered diplomatic pacts between Israel and the UAE and Bahrain earlier to normalise their relations.
- The deal would deepen Sudan's engagement with the West.
- USA has also agreed to remove Sudan from its blacklist of countries accused of sponsoring terrorism.
- The deal is also aimed at unifying Arab countries against their common rival Iran.



Basic Exchange And Cooperation Agreement (BECA) signed between India and USA

Part of: GS Prelims and GS-II – International Relations

In news

- India and the United States signed the Basic Exchange and Cooperation Agreement (BECA) recently.

Key takeaways

- BECA, the Logistics Exchange Memorandum of Agreement (LEMOA) and the Communications Compatibility and Security Agreement (COMCASA) which were signed earlier form foundational pacts for deep military cooperation between the two countries.
- BECA will help India get real-time access to American geospatial intelligence.
- The access will enhance the accuracy of automated systems and weapons like missiles and armed drones.
- The sharing of information on maps and satellite images will help India access topographical and aeronautical data, and advanced products that will aid in navigation and targeting.

This could also be key to Air Force-to-Air Force cooperation between India and the US.

India-US 2+2 Ministerial Dialogue held

Part of: GS Prelims and GS-II – International Relations

In news

- 2+2 talks were recently held between India and the USA.

Documents announced during the 3rd India-US 2+2 Ministerial Dialogue

- Basic Exchange and Cooperation Agreement between the Ministry of Defence, Government of India and the National Geospatial-Intelligence Agency (NGA), Department of Defence of United States of America.
- MoU for Technical Cooperation in Earth Observations and Earth Sciences.
- Agreement for the Electronic Exchange of Customs Data between the Postal Operators.
- Arrangement extending the duration of the Memorandum of Understanding between India and the USA.
- Letter of Intent between the Central Council for Research in Ayurvedic Sciences, New Delhi and the Office of Cancer Complementary and Alternative Medicine, National Cancer Institute, Government of the USA for cooperation in the field of Ayurveda and Cancer Research.

India–Australia Circular Economy Hackathon (I-ACE) to be held

Part of: GS Prelims and GS-II - International Relations & GS-III – Economy

In news

- AIM (Atal Innovation Mission), in association with CSIRO, is organizing a two-day hackathon on circular economy, 'India–Australia Circular Economy Hackathon (I-ACE)', on 7 and 8 December.



Key takeaways

- The idea of I-ACE was conceived during a virtual summit in June, between the Indian and Australian prime ministers, exploring innovative ways to boost the circular economy in India and Australia.
- The four key themes for the hackathon are as follows:
 - Innovation in packaging reducing packaging waste
 - Innovation in food supply chains avoiding waste
 - Creating opportunities for plastic waste reduction
 - Recycling critical energy metals and e-waste
- A circular economy is an economic system aimed at eliminating waste and the continual use of resources.

INDIA AND THE WORLD

On the Quad, define the idea, chart a path

Context: It is reported that the second Ministerial meeting of the four countries (India, USA, Japan & Australia) under the Quad will be held in Japan

Background

- The grouping's informal origins can be traced to 2004.
- In the wake of the devastating **Indian Ocean tsunami**, Australia, India, Japan and the US launched an ad-hoc humanitarian assistance and disaster relief (HADR) mission, which allowed them to come together operationally. Since then the four navies have worked together on several occasions.
- The Quad was formally initiated in 2007 at the prompting of Japanese Prime Minister Shinzō Abe.
- Formal Quad meetings were not possible following strong objections from China in 2007.

What were the other reasons which made QUAD a non-starter in 2007?

- The American establishment still believed that it could, somehow, **persuade China** to become a 'responsible stake-holder'
- **US also required Chinese goodwill** in dealing with America's priorities — the nuclear issue with North Korea and Iran, and the War on Terror — and did not want to antagonize China with QUAD
- Japan and Australia were riding the China Boom to prosperity.
- If India was ambivalent at the time, it was because this mirrored the uncertainties of others.
- As a result, the idea merely remained on the table and there was no clearly enunciated concept or proposed structures.

What was the real intention behind China's objection?

- **Dubbed it as Cold-War Type Coalition:** The Chinese, however, labelled it as an Asian version of the North Atlantic Treaty Organization.
- **QUAD would interfere with China's Indo-Pacific plans:** The real reason for China's hyper-reaction was out of concern that such a grouping would "out" China's plans for naval expansion by focusing on the Indo-Pacific maritime space.
- **Grand Maritime Plans:** China was hoping that its naval build-up might slip under the radar if QUAD become a non-starter because the Americans were distracted by continental challenges including Russia, Afghanistan and Iran, and would not look sea-ward.

What happened once the idea of Quad 1.0 had died down?

China gained in confidence to reveal its hand.

- It advanced a new claim — the [Nine-Dash Line](#) — in the South China Sea.
- China undertook the rapid kind of warship building activity reminiscent of Germany before 1914.
- China built its first overseas base in Djibouti.
- It also started systematically to explore the surface and sub-surface environment in the Indian Ocean beyond the Malacca Straits.

What led to revival of QUAD 2.0?

- The manner of China's dismissal of the [Arbitral Award in the dispute with the Philippines](#) on the South China Sea and brazen militarization of islands by China once again brought the four countries onto the same page.
- In 2015 Japan was formally admitted to make Malabar (India-US naval exercise) a tri-lateral event
- In 2020, India has invited Australia to join the trilateral exercise, thus completing QUAD

How is China responding to QUAD 2.0?

- China's endeavour is to conflate the Quad with the Indo-Pacific vision, and link both to the so-called **China Containment Theory**, which is actually not the case.
- **The Indo-Pacific Vision** is an overarching framework that is being discussed in a transparent manner, with the objective of advancing everyone's economic and security interests.
- **The Quad**, on the other hand, is a plurilateral mechanism between countries that share interest on specific matters. There are other such mechanisms in the region.
- In 2016, China itself established a Quadrilateral Cooperation and Coordination Mechanism with Afghanistan, Pakistan and Tajikistan.
- More recently, China has established Quadrilateral Cooperation with Pakistan, Afghanistan and Nepal.

Challenges Ahead

- The global pandemic and the faltering global economy are taking a toll on the region's growth and prosperity.
- The two major Pacific powers (China and America), are moving into a more adversarial phase of their relationship

Way Ahead

- Other countries might be invited to join QUAD in the future given that India has many other partners in the Indo-Pacific.
- A positive agenda built around collective action in humanitarian assistance and disaster relief, monitoring shipping for search and rescue or anti-piracy operations, infrastructure assistance to climatically vulnerable states, connectivity initiatives and similar activities, will re-assure the littoral States that the Quad will be a factor for regional benefit and not military alliance as alleged by China

Connecting the dots

- [Shanghai Cooperation Organisation](#) (SCO)
- [Reviving SAARC to deal with China](#)

[Green Strategic Partnership between India and Denmark launched](#)

Part of: GS Prelims and GS-II – International Relations

In news

- India and the Kingdom of Denmark have launched the Green Strategic Partnership for delivering sustainable solutions to India.

- The Ministry of Commerce and Industry has also signed a Memorandum of Understanding (MoU) for Intellectual Property (IP) Cooperation with Denmark.

Key takeaways

Green Strategic Partnership

- The Partnership will focus on expanding economic ties, green growth, and cooperation on global challenges such as climate change.
- Danish companies with niche technologies and expertise have offered to help India in meeting its air pollution control targets, Covid-19 pandemic and cooperation in water efficiency and water loss.
- The creation of India-Denmark energy parks in areas with large numbers of Danish firms and an India-Denmark skill institute to train Indian manpower has been proposed.

Intellectual Property Cooperation

- The MoU aims at increasing IP co-operation between the two countries through exchange of information and best practices on processes for disposal of applications for patents, trademarks, Geographical Indications, and cooperation in the field of protection of Traditional Knowledge.
- It will be a landmark step forward in India's journey towards becoming a major player in global innovation and further the objectives of the National Intellectual Property Rights Policy, 2016

Do you know?

- Green growth is a term to describe a path of economic growth that uses natural resources in a sustainable manner.



The internal drivers of China's Ladakh offensive

Context: The India-China standoff in Ladakh persists even after multiple rounds of commander-level talks and two ministerial meetings between the defence and foreign ministers of the two countries.

India-China border Clashes during May – To read more about it, Click [here](#)

What exactly is the controversy about Galwan Valley? – Click [Here](#)

Factors leading to escalation and strategic implication of dispute – Read [here](#)

Do You Know?

- In the late 1950s, when China first transgressed into Aksai Chin, the then Chinese premier, Zhou Enlai made a proposal to accept India's hold over Arunachal Pradesh (then called North East Frontier Agency) in return for Chinese control over Aksai Chin.
- This region of Ladakh was critical to China to shield its turbulent periphery of Tibet and Xinjiang

What has prompted China to get aggressive about Aksai Chin in recent months?

- Union Home minister stated in Parliament, in September 2019, after changing the status of Ladakh and J&K to Union Territories, “Kashmir is an integral part of India. When I talk about Jammu and Kashmir, Pakistan-occupied Kashmir and Aksai Chin are included in it”
- The above statement was viewed by many as India’s intent to recapture Aksai Chin
- China strongly questioned this statement and has refused to endorse the new status of Jammu and Kashmir

Internal drivers of Chinese Ladakh Offensive

1. To Increase Military Presence in Tibet

- President Xi has made a strong policy move on Tibet, asking for developing a “new socialist Tibet”, where its Buddhism must conform to the “Chinese context”.
- This, in Xi’s approach, would be done by taking the Tibetans away from the Dalai Lama, changing their Lamaistic religious and social practices, and integrating them closely and ethnically with mainstream China.
- This approach aims to control Tibet in three principal ways.
 - One, to cut off its external linkages and deflect international pressure on Tibet
 - Two, change its demographic composition,
 - Three, institutionalise mass surveillance.
- Ladakh offensive will help in increasing military presence in Tibet. The projection of a so-called Indian military threat will help in mobilization of Chinese troops in Tibet & surrounding areas and thus their repression.
- The standoff is thus in China’s internal political interests of stability in Tibet

2. Silencing Domestic Critics

- Ladakh Standoff has been woven into China’s resurgent territorial nationalism. The local media plays up the idea that India is too weak to stand against China’s might.
- Xi is also using the Ladakh standoff in his internal political campaign of silencing critics who are cautioning him against hostility towards India and other neighbours, while the principal challenge is to confront the US.

Conclusion

The internal political dynamics needs be decoupled from the Ladakh standoff through a summit meeting between Modi and Xi.

Connecting the dots

- On [Pakistan’s New Map](#) – Critical Analysis
- [India-Nepal Border Dispute](#): Kalapani and Lipulekh

India and Myanmar to work towards the operationalization of the Sittwe Port

Part of: GS Prelims and GS-II – International Relations

In news

- India and Myanmar have agreed to work towards the operationalization of the Sittwe port in the Rakhine state in the first quarter of 2021.

Key takeaways

- It was announced after the conclusion of the two-day visit of Indian Army Chief and Indian Foreign Secretary to Myanmar.
- The progress in the ongoing Indian-assisted infrastructure projects was also discussed.

- India also announced a grant of \$2 million Dollars for the construction of the border haat bridge at Byanyu/Sarsichauk in Chin State.
- The haat will provide increased economic connectivity between Mizoram and Myanmar.

Important value additions

Sittwe port

- It is situated at the mouth of the Kaladan River.
- It is being financed by India as a part of the Kaladan Multi-Modal Transit Transport Project.
- The Project is collaboration between India and Myanmar.
- **Aim of the project:** To develop transport infrastructure in southwestern Myanmar and north-eastern India.



Where India stands on peace in Afghanistan

Context: External affairs minister participating in the September 12 inaugural of the Doha inter-Afghan negotiations

India's involvement in Afghanistan

India's has put in considerable effort to rebuild Afghanistan after it was ravaged by Cold War turbulence and Taliban rule.

- **Built Physical Infrastructure:** India has constructed the Afghan parliament, a dam on the Hari Rud River, transmission lines and a power station to bring electricity to Kabul.
- **Supported Social Sector:** India has undertaken several small Development Projects for education and health, which has led to improvements in Social indicators of Afghan people at least in certain key pockets of country.
- **Strengthening of Institutions:** India has contributed to building institutions, developing human resources, training Afghan public officials and providing the country with a new generation of educated and skilled workers

What has been insinuation levelled against India and is it true?

- Many in Pakistan insinuate that India is sabotaging the [Doha negotiations](#) because India would not like Afghanistan and Pakistan to have good relations.
- Unlike Pakistan, which fears harmonious ties between India and Afghanistan, India would be quite content with friendship between Pakistan and Afghanistan

- This is because India understands that after all, the same families, clans and tribes straddle the two sides of their long and porous frontiers.

What does India's participation in Inter-Afghan talks suggest?

- The invite to India was an acknowledgement that India has vital interests in Afghanistan.
- With participation, India has ended the erstwhile ambiguity in its policy.
- Participation does not suggest that India has now warmed to the Taliban but it underline that India has **no reservations in interacting with the Taliban** if the Afghan government has none
- India is now willing to engage with any party committed to peace and stability in Afghanistan.

What is India's stand with respect to Afghanistan now?

- **Supports Inclusive Peace Process:** India has supported efforts to bring inclusive peace to Afghanistan by advising leaders of different ethnicities to work in cohesion with others for peace and nation-building.
- **Favours reintegration of opponents:** India favours the social and political reintegration of those who give up their physical and ideological association with terrorist groups and instead embrace pluralism and democracy.
- **Continues opposition to Al-Qaeda:** India opposes the political accommodation of individuals, groups or Islamist entities associated with the al-Qaeda, the Daesh, and their associates since this will subvert the nascent Afghan democracy, undermine human rights, and destroy emerging Afghan institutions.
- **US-Taliban Peace Deal:** India does not have reasons to worry about the peace deal concluded between US and the Taliban if all Afghans agree that the peace deal safeguards their interests and if they can preserve the gains made in Afghanistan since 2001.

Way Ahead

- **Involve Iran:** While Iran's foreign minister did not participate because of the presence of the US Secretary of State, a way must be found to involve Iran in the Afghan peace process, which will receive a blow should there be a flare-up between Iran and the US.
- **Peace needed for Region's Stability:** A subverted Afghanistan in the hands of terrorist networks will be a catastrophe for India, the region and the world. For peace in Afghanistan, there should be an immediate ceasefire.
- **Sustained Action to ensure Peace:** A ceasefire must be followed by the cessation of sanctuary, sustenance and support to the Haqqani Network, the military arm of the Taliban most closely linked to the Pakistan army, and other like-minded terrorist groups.

Connecting the dots

- [Abraham Accords](#)

The Third Assembly of International Solar Alliance (ISA) recently held

Part of: GS Prelims and GS-II – Global groupings

In news

- The Third Assembly of the International Solar Alliance was recently held.
- India has been re-elected as the President of the International Solar Alliance (ISA) and France as the Co-President for a term of two years.

Key takeaways

- The assembly also approved the initiatives of the ISA Secretariat in institutionalizing ISA's engagement with the private and public corporate sector through the Coalition for Sustainable Climate Action (CSCA).
- Visvesvaraya award was also conferred. It recognizes the countries with maximum floating solar capacity in each of the four regions of ISA.
- The awards went to Japan for the Asia Pacific region and the Netherlands for Europe and Other region.
- For COVID-19, ISA set up ISA CARES. It is an initiative dedicated to deployment of solar energy in healthcare sector in LDC/SIDS ISA Member countries.
- The initiative aims to solarize one primary health sector in each district of the target Member countries.

Important value additions

- The [ISA](#) is an initiative that was launched by the Prime Minister of India and the President of France on 30 November 2015 at Paris, France on the side-lines of the COP-21.
- **Vision:** Promotion of solar energy for making solar energy a valuable source of affordable and reliable green and clean energy in member countries
- **ISA Headquarter and interim Secretariat:** Gurugram, India

Kilo Class submarine INS Sindhuvir delivered to Myanmar Navy

Part of: GS Prelims and GS-II – International Relations

In news

- India will be delivering a Kilo Class submarine INS Sindhuvir to Myanmar Navy as part of defence cooperation.
- This will be the first submarine of the Myanmar Navy.

Key takeaways

- Cooperation in the maritime domain is an important part of India's enhanced engagement with Myanmar.
- It is in accordance with India's vision of [SAGAR](#) (Security and Growth for All in the Region) and in line with build capacities and self-reliance in all the neighbouring countries.



Do you know?

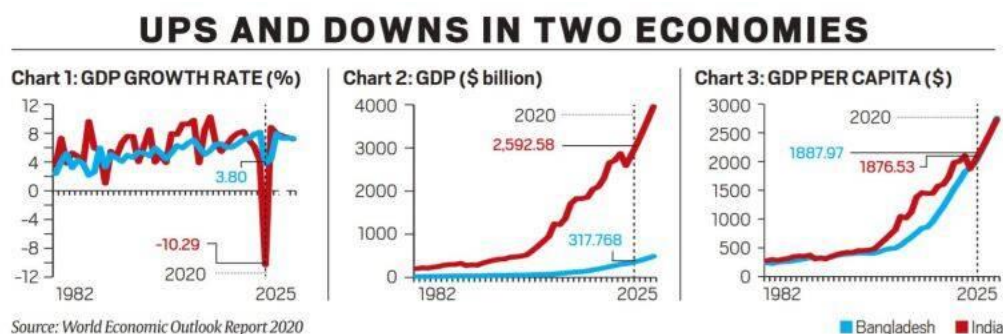
- Myanmar is one of India's strategic neighbours and shares a 1,640-kilometer-long border with a number of north-eastern states of India.
- Kilo class refers to diesel-electric attack submarines that were designed and built in the Soviet Union.

India Bangladesh Per capita GDP

Context: The International Monetary Fund's latest update on the World Economic Outlook.

Key Findings of Report

- In the IMF's estimation, in 2020, growth of India's gross domestic product (GDP) will witness a contraction of over 10%
- But more than the sharp contraction, what has caught everyone's attention is that in 2020, **the per capita income of an average Bangladeshi citizen would be more than the per capita income of an average Indian citizen.**



Source: [Indian Express](#)

How did this happen? Isn't India one of the world's biggest economies?

- Typically, countries are compared on the basis of GDP growth rate, or on absolute GDP.
- India's economy has mostly been over 10 times the size of Bangladesh, and grown faster every year, as can be seen in Charts 1 and 2
- However, per capita income also involves another variable — the overall population — and is arrived at by dividing the total GDP by the total population.
- As a result, there are three reasons why India's per capita income has fallen below Bangladesh this year.
- First, since 2017 onwards, as Chart 1 shows, **India's growth rate has decelerated** sharply while Bangladesh's has become even faster.
- Secondly, over the same 15-year period, **India's population grew faster** (around 21%) than Bangladesh's population (just under 18%).
- The combined effect of these two factors can be seen in how the per capita GDP gap had closed considerably even before Covid-19 hit (Chart 3).
- Bangladesh's per capita GDP was merely half of India's in 2007 — but this was just before the global financial crisis. It was roughly 70% of India's in 2014 and this gap closed rapidly in the last few years.

- Lastly, the most immediate factor was the relative impact of Covid-19 on the two economies in 2020. While India's GDP is set to reduce by 10%, **Bangladesh's is expected to grow by almost 4%.**
- In other words, while India is one of the worst affected economies, Bangladesh is one of the bright spots.

Has this ever happened earlier?

- Yes. In 1991, when India was undergoing a severe crisis and grew by just above 1%, Bangladesh's per capita GDP surged ahead of India's. Since then, India again took the lead.

Is India expected to regain the lead again?

- Yes. The IMF's projections show that India is likely to grow faster next year and in all likelihood again surge ahead.
- But, given Bangladesh's lower population growth and faster economic growth, India and Bangladesh are likely to be neck and neck for the foreseeable future in terms of per capita income.

Chart 5: HOW THEY COMPARE ON CURRENT INDICATORS

	Bangladesh	India
Inflation (%)	5.8	3.8
Current Account Balance as % of GDP	-2.4	0.7
Net FDI as % of GDP	0.4	1.1
Fiscal Balance as % of GDP	-8.8	-12.4
Debt as % of GDP	45.9	90.4
HDI Rank	135	129
Life Expectancy (in years)	72.3	69.4
Female labour force participation (%)	36	20.335
Ease of Doing Business Ranking	168	63
Economic Freedom ranking	122	105
Proportion of adults with bank accounts (%)	50	80
Proportion of population with access to basic sanitation (%)	48.23	59.43
Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (deaths per 100,000 population)	11.9	18.6
Gender parity ranking	50	112
Global hunger ranking	75	94

Source: Global Hunger report, Informality and COVID-19, World Bank

Source: [Indian Express](#)

How has Bangladesh managed to grow so fast and so robustly?

- In the initial years of its independence with Pakistan, Bangladesh struggled to grow fast. However, moving away from Pakistan also gave the country a chance to start afresh on its economic and political identity.
- As such, its **labour laws were not as stringent** and its economy increasingly involved **women in its labour force**. This can be seen in higher female participation in the labour force

- A key driver of growth was the **garment industry** where women workers gave Bangladesh the edge to corner the global export markets from which China retreated.
- It also helps that the structure of Bangladesh's economy is such that its **GDP is led by the industrial sector**, followed by the services sector. Both these sectors create a lot of jobs and are more remunerative than agriculture.
- India, on the other hand, has struggled to boost its industrial sector and has far too many people still dependent on agriculture.
- Beyond the economics, a big reason for Bangladesh's progressively faster growth rate is that, especially over the past two decades, it improved on several social and political metrics such as health, sanitation, financial inclusion, and women's political representation.

Besides the advances it has made, what challenges does Bangladesh face?

- Bangladesh's level of poverty is still much higher than India's and still trails India in basic education parameters and that is what explains its lower rank in the **Human Development Index**.
- The bigger threat to Bangladesh's prospects emerges from its everyday politics. The leading political parties are routinely engaged in **violent oppression** of each other.
- In the 2019 edition of Transparency International's rankings, Bangladesh ranks a low 146 out of 198 countries (India is at 80th rank; a lower rank is worse off).
- Add to this a massive surge of **radical Islam**, which has resulted in several bloggers being killed for speaking out unpopular views.
- These developments have the ability not just to arrest Bangladesh's progressive social reforms that have empowered women but also to derail its economic miracle.

Malabar 2020 Naval Exercise to see Australian Navy participation

Part of: GS Prelims and GS-II – International Relations

In news

- This year Malabar 2020 will see the participation of the Australian Navy as well.
- **Objective:** To increase cooperation with other countries in the maritime security domain; To increase defence cooperation with Australia
- The participants of Exercise Malabar 2020 shall engage to enhance safety and security in the maritime domain.
- They collectively support free, open and inclusive Indo-Pacific and remain committed to a rules based international order.

Do you know?

- The Malabar series of Naval exercises started in 1992.
- It started as a bilateral Indian Navy-US Navy exercise.
- Later on, Japan joined the Naval exercise in 2015.
- This annual exercise is expected to be held in the Bay of Bengal and the Arabian Sea later this year.

India-US defence deals

Context: India and the US are preparing for the third 2+2 ministerial meeting (Defence & Foreign Ministers of both countries)

In the last two meetings, agreements known as LEMOA and COMCASA were signed

One of the items on the agenda of this year's (2020) 2+2 meeting will be the Basic Exchange and Cooperation Agreement (BECA) — a pact with deep military implications.

What is BECA?

- The Basic Exchange and Cooperation Agreement largely pertains to geospatial intelligence, and sharing information on maps and satellite images for defence.
- Anyone who sails a ship, flies an aircraft, fights wars, locates targets, responds to natural disasters, or even navigates with a cellphone relies on geospatial intelligence.
- Signing BECA will **allow India to use the US's advanced geospatial intelligence** and enhance the accuracy of automated systems and weapons like missiles and armed drones.
- It will give **access to topographical and aeronautical data** and products that will aid navigation and targeting.
- To use an everyday example, just like an Uber cab needs a good GPS to reach its destination quickly and efficiently, BECA will provide Indian military systems with a high-quality GPS to navigate and missiles with real-time intelligence to precisely target the adversary.
- This could be key for Air Force-to-Air Force cooperation.

About the Other two agreements

LEMOA: The Logistics Exchange Memorandum of Agreement

- It was signed between India and the US in August 2016.
- It allows the military of each country to **replenish from the other's bases**: access supplies, spare parts and services from the other country's land facilities, air bases, and ports, which can then be reimbursed.
- This is extremely **useful for Navy-to-Navy cooperation**, since the US and India are cooperating closely in the Indo-Pacific.
- Again, to put this simply, it is like going to a friend's garage and workshop to refuel one's car and getting repairs done. But, by doing this, one is also exposing one's car and technology to the friend, and that requires trust.
- If signing LEMOA needed trust, its application enhances the trust. It took almost a decade to negotiate LEMOA.

COMCASA: The Communications Compatibility and Security Agreement

- It was signed in September 2018, after the first 2+2 dialogue.
- It allows the US to provide India with its encrypted communications equipment and systems so that Indian and US military commanders, aircraft and ships can communicate through secure networks in peace and war.
- To explain in lay terms again, it is like WhatsApp or Telegram for the two militaries, which is safe and real-time communication is possible hassle-free.
- COMCASA paved the way for transfer of communication security equipment from the US to India to facilitate "interoperability" between their forces — and potentially with other militaries that use US-origin systems for secure data links.

So, what do these three pacts put together mean?

- LEMOA means one partner trusts the other enough to expose its valuable assets.
- COMCASA means one is confident that it can rely on encrypted systems to connect the two militaries.
- BECA means it can share highly classified information in real time without fear of being compromised.

- All this signals the level of trust that has developed between the two countries and their militaries, faced with an increasingly aggressive China

So, what does this mean in the context of the ongoing border standoff?

- Amid the longest stand-off on the India-China border in three decades, India and the US have intensified under-the-radar intelligence and military cooperation at an unprecedented level, especially since June.
- The cooperation includes sharing of high-end satellite images, telephone intercepts, and data sharing of Chinese troops and weapons deployment along the 3,488 km Line of Actual Control (LAC).
- The Indian defence establishment also has enhanced capability with some American equipment. The armed forces have used at least five American platforms at the LAC which are—
 - C-17 Globemaster III for military transport
 - Boeing's Chinook CH-47 as heavy-lift helicopters
 - Boeing's Apache as tank-killers
 - P-8I Poseidon for overland reconnaissance
 - Lockheed Martin's C-130J for airlifting troops.
- Now, with these key defence pacts in place, **cooperation can happen in a more structured and efficient way, rather than episodic.**

What are the obstacles/Challenges ahead?

- **Apprehensions of US:** The US wants India to move away from Russian equipment and platforms, as it feels this may expose its technology and information to Moscow.
- So far, India is going ahead with the purchase of the S-400 air defence missile system from Russia, and this has been a sticking point for American interlocutors.
- **Apprehensions of India:** For its part, India is wary of Pakistan's deep-rooted ties with Pentagon, and US dependence on Pakistan military for access to Afghanistan as well as its exit strategy.

Conclusion

- Chinese aggressive behaviour being the clear and present danger, New Delhi's strategic embrace of Washington is the obvious outcome.
- Every administration in the last 20 years have left the Indo-US relationship in a better shape than how they inherited it.

Connecting the dots

- Indo-US Nuclear deal and its progress

India Invited to Join the Blue Dot Network

Part of: GS Prelims and GS-II - International relations

In news

- A group of the US Senators has asked India to join the Blue Dot Network (BDN) in a letter.

Important value additions

Blue Dot Network

- The BDN was announced in 2019 at the Indo-Pacific Business Forum in Bangkok, Thailand.
- It is led by the USA along with Japan and Australia.

- It is a multi-stakeholder initiative to bring together governments, the private sector and civil society to promote high-quality, trusted standards for global infrastructure development.
- It is expected to serve as a globally recognized evaluation and certification system for roads, ports and bridges with a focus on the Indo-Pacific region.
- It does not offer public funds or loans for the project.
- Blue Dot certification shall serve as a globally recognized seal of approval for major infrastructure projects.

G-20 Anti-Corruption Working Group Meeting

Part of: GS Prelims and GS-II – International Relations

In news

- Recently, Saudi Arabia hosted the first-ever Ministerial Meeting of the G-20 Anti-Corruption Working Group (ACWG) virtually.
- Currently, [Saudi Arabia holds the presidency of G-20](#).
- It is the first Arab nation to do so.

Important value additions

G-20 Anti-Corruption Working Group

- It was established in June 2010 at the Toronto Summit of G-20.
- The year 2020 marks its 10th anniversary.
- **Objective:** To prepare comprehensive recommendations on how the G20 could continue to make practical and valuable contributions to international efforts to combat corruption.
- It actively works with the World Bank Group, the Organisation for Economic Cooperation and Development (OECD), and other important Organisations

G-20

- It is an informal group of 19 countries and the European Union (EU), with representatives of the IMF and the World Bank.
- The G20 membership comprises a mix of the world's largest advanced and emerging economies.
- It represents about two-thirds of the world's population, 85% of global GDP, 80% of global investment and over 75% of global trade.
- The G20 operates as a forum and not as an organisation. Therefore, it does not have any permanent secretariat or headquarter.
- Members: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the UK, the USA, and the EU.
- One nation holds the chair every year, known as the 'G20 Presidency'.



India's UN journey

Context: The 75th anniversary of the founding of the United Nations (UN) is an opportunity to look at the major trends, patterns and future challenges as far as India is concerned.

India's Membership at UN during three phases

- Seven and a half decades of India at the UN may be viewed with reference to roughly three distinct phases.

1. First phase until the end of the Cold War in 1989

- Moderating Force:** India had learnt the ropes of exploring and enhancing its diplomatic influence as a moderating force in easing armed conflicts in Asia and Africa by disentangling them from the superpower rivalry (Non-Aligned Movement)
- Unresolved Kashmir Dispute:** The Indian leadership learned the hard way that the UN could not be relied upon to impartially resolve vital security disputes such as Jammu and Kashmir (US reliance on Pakistan in its Afghanistan war)
- Moral Values based Foreign Policy:** India strove to utilise the UN only to focus on common causes such as anti-colonialism, anti-racism, nuclear disarmament, environment conservation and equitable economic development.
- Championed Nuclear Disarmament:** India, in a clever way, seemed to claim the moral high ground by proposing, in 1988, a bold, but obviously impractical, three-phase plan to eliminate nuclear weapons from the surface of earth.
- Impact of 1962 war:** India resisted attempts by neighbouring countries to raise bilateral problems. A loss of face for India in the 1962 border war against China meant a definitive redesign of the country's diplomatic style to privilege bilateral contacts over the third party role by the UN.

2. Decade of 1990s: Turbulent and Transition Phase

- **Sudden Changes:** The years were marked by the sudden end of the Cold War, the disintegration of the Soviet Union and the resultant emergence of the United States as the unrivalled power in world politics.
- **Domestic Factors hindered active role at UN:** The uncertain political climate caused by unstable coalition governments along with the balance of payments crisis constrained the country's capability to be active in UN.
- **Pragmatic Foreign policy:** To cite a few examples, India showed pragmatism in enabling the toughest terms on Iraq even after eviction from occupied Kuwait, or in reversing the hitherto stated position on Zionism as racism.
- **Internationalisation of Kashmir Issue:** Growing militancy in Kashmir in the early 1990s emboldened Pakistan to internationalise the dispute with accusations about gross human rights violations by India. Clearly, India had to work hard to seek favours from Iran and China in the Human Rights Commission to checkmate Pakistan.
- **India stood against major powers to safeguard its security interest:** India resolutely stood against indefinite extension of the Non-Proliferation Treaty in 1995, and it stoutly rejected the backdoor introduction for adoption of the Comprehensive Test Ban Treaty in 1996.
- **Emerged as Nuclear Power:** The growing power politics in World pushed India to surprise the world in 1998 with its Pokhran nuclear weapon tests, ignoring the likely adverse reaction from the nuclear club.

3. The Third phase with onset of 21st Century

- **Economics Enhanced India's Profile:** The impressive economic performance in the first decade, thanks to economic liberalisation and globalisation policies, helped a great deal in strengthening India's profile. This was aided by its reliable and substantial troop contributions to several peacekeeping operations of UN
- **Responsible Stakeholder:** India has emerged as a responsible stakeholder in non-traditional security issue areas such as the spread of small and light weapons, the threat of non-state actors acquiring weapons of mass destruction, and the impact of climate change.
- **India's growing popularity:** This is evident in the successful electoral contests for various prestigious slots in the UNSC, the Human Rights Council, the World Court, and functional commissions of the Economic and Social Council, at times defeating the nominees of China and the United Kingdom.
- **Two major initiatives of India stuck:** The first relates to the draft Comprehensive Convention on International Terrorism it drafted and revised with the hope of helping consensus. The other is the question of equitable expansion of the UNSC to enable India to acquire Permanent position at UNSC

What are the prospects of Permanent Seat at UNSC?

- India has been lobbying with world powers to attain permanent membership along with other claimants from Asia, Africa and Latin America.

- The move has been stuck for more than 25 years because of a lack of unity among the regional formations.
- It also includes stout opposition from some 30 middle powers such as Italy and Pakistan which fear losing out to regional rivals in the event of an addition of permanent seats.
- Although India enjoys by far the greatest support, the only realistic possibility seems to settle for a compromise, i.e. a new category of members elected for a longer duration than the present non-permanent members without veto power.

Challenges for India at UN – Increased Volatility

- Unabated economic slowdown
- Trump administration's disdain towards multilateral institutions
- The changing U.S.-China equation
- China's growing political isolation on account of the spread of the novel coronavirus
- China's aggressive territorial forays in eastern Ladakh and the South China Sea.

Way Ahead

India will soon begin its two-year term as a non-permanent UNSC member (January 1, 2021). Its areas of priority will continue to be

- Upholding of Charter principles
- Mounting effective punitive measures against those who support, finance and sponsor terrorists
- Striving for securing due say to the troop contributing countries in the management of peace operations.

Conclusion

As a non-permanent UNSC member now, it needs to uphold the Charter principles in the backdrop of a turbulent world

Connecting the dots

- SAARCH and BIMSTEC
- RCEP and Why India did not join it?

India assumes Chairmanship of ILO Governing Body

Part of: GS Prelims and GS-II – Important Organisations

In news

- After 35 years, India has assumed the Chairmanship of the Governing Body of International Labour Organization (ILO).
- Labour & Employment Secretary Apurva Chandra has been elected as the Chairperson for the period October 2020-June 2021.

Key takeaways

- The Governing Body (GB) is the apex executive body of the ILO.

- It meets thrice a year.
- **Functions:** (1) It takes decisions on ILO policy; (2) It decides the agenda of the International Labour Conference (ILC); (3) It adopts the draft programme and budget; (4) It elects the Director-General.

Important value additions

International Labour Organization (ILO)

- It is an agency of United Nations (UN) since 1919.
- **Functions:** (1) Sets labour standards; (2) Develops policies; (3) Devises programmes promoting decent work for all women and men.
- It became the first specialized agency of the UN in 1946.
- ILO's recommendations are non-binding.
- It has also received the Nobel Peace Prize in 1969.
- It releases the annual World Employment and Social Outlook (WESO) Trends report.
- India is a Founding Member of the ILO.
- It has been a permanent member of the ILO Governing Body since 1922.

India-Central Asia Dialogue held

Part of: GS Prelims and GS-II – International Relations

In news

- The second meeting of the India-Central Asia Dialogue was held under the chairmanship of the External Affairs Minister.



Key takeaways

- Foreign Ministers of Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan and First Deputy Foreign Minister of the Kyrgyz Republic participated in the meeting.
- The Foreign Ministers of Central Asian Countries welcomed the provision by India of one billion US dollar Line of Credit for priority developmental projects in fields such as energy, IT, healthcare, education and agriculture in the region.

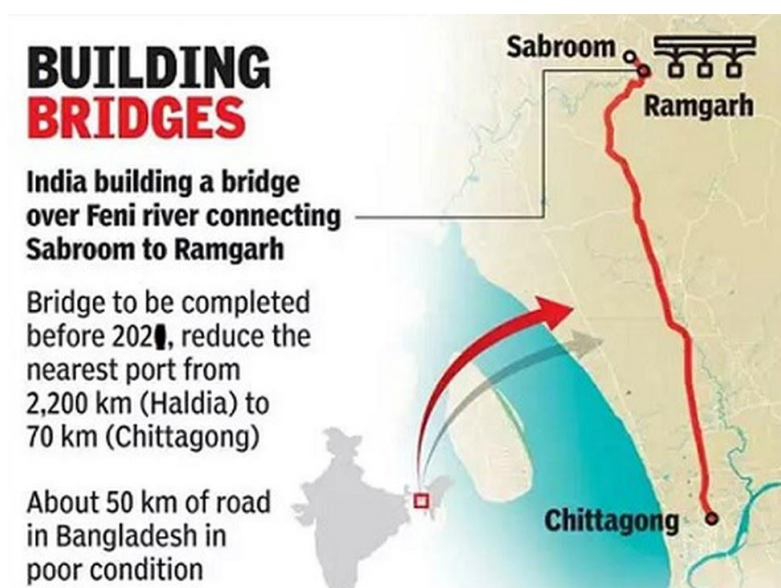
- The Ministers emphasized the need to continue close cooperation between the Sanitary and Epidemiological Services of India and the Central Asian countries in the fight against COVID-19 pandemic.
- The Ministers appreciated India's efforts to modernize the infrastructure of the [Chabahar port](#) in Iran, which could become an important link in trade and transport communications between the markets of Central and South Asia.

Place in news: Feni Bridge

Part of: GS Prelims and GS-I - Geography & GS-II – International Relations

In news

- Feni bridge was in the news recently.
- The 1.8 km long bridge shall connect Sabrum in India with Ramgarh in Bangladesh and will be completed by December 2020.



Key takeaways

- **Constructed by:** National Highways Infrastructure Development Corporation Ltd of Ministry of Road and Transport highways, Government of India.
- It is being developed as a corridor for trade and commerce between India's North-East and Bangladesh.
- It will also promote tourism and people-to-people ties.
- It will provide direct road connectivity between South Tripura and Chittagong allowing India to use Chittagong as a port of call.
- The bridge will facilitate carrying heavy machines and goods to and from the north-eastern states and the rest of India via Bangladesh through Chattogram.

Do you know?

- Feni Bridge is also known as MaitreeSetu in Chattogram.
- It is being built over the Feni River and will connect Tripura with Chittagong port of Bangladesh.

ECONOMY

Guidelines to Support Artisans in Beekeeping & Pottery Activities released

Part of: GS Prelims and GS-III – Industries

In news

- The Ministry of Micro Small and Medium Enterprises, MSME, has announced new guidelines to support artisans in Beekeeping and Pottery activity.

Beekeeping guidelines

- Government will provide assistance with Bee boxes and Tool kits.
- Under this scheme, Bee boxes will also be distributed to Migrant workers in [Prime Minister GareebKalyanRozgarAbhiyaan](#) districts.
- A five-day beekeeping training will also be provided.
- **Objective:** (1) To create sustainable employment; (2) To create awareness about Honey and other Hive Products etc.
- During 2020-21, the scheme proposes to cover a total of 2,050 Beekeepers, Entrepreneurs, Farmers, Unemployed Youth, Adivasis.
- Additional amount of 50 crore rupees has also been kept for developing Beekeeping honey clusters under the '[SFURTI](#)' scheme of the Ministry.

Pottery Guidelines

- Government will provide assistance with pottery wheel, Clay Blunger, Granulator etc.
- It will also provide Wheel Pottery Training for traditional pottery artisans and Press Pottery training for pottery as well as non-pottery artisans in Self- Help Groups.
- Jigger-Jolly training programme shall also be provided.
- A total of 6,075 Traditional and others non-traditional pottery artisans, Rural Unemployed youth, Migrant Labourers will get benefited.

Ambedkar Social Innovation & Incubation Mission launched

Part of: GS Prelims and GS-II – Issues related to SCs and STs & GS-III – Innovation; Entrepreneurship

In news

- The Ambedkar Social Innovation and Incubation Mission under Venture Capital Fund for Scheduled Castes (SCs) was recently launched.
- **Ministry:** Ministry of Social Justice
- **Objective:** To promote innovation and enterprise among SC students studying in higher educational institutions.

Key takeaways

- Under the initiative, 1,000 SC youth will be identified in the next four years with start-up ideas through the Technology Business Incubators in various higher educational institutions.
- They will be funded 30 lakh rupees in three years as equity funding to translate their start-up ideas into commercial ventures.
- Successful ventures would further qualify for venture funding of up to five Crore rupees from the Venture Capital Fund for SCs.



Important value additions

Venture Capital Fund for SCs:

- **Launched by:** The Social Justice Ministry
- **Year:** 2014-15
- **Aim:** To develop entrepreneurship amongst the SC and Divyang youth and to enable them to become job-givers.
- **Objective:** To provide concessional finance to the entities of the SC entrepreneurs.
- Under this fund, 117 companies promoted by SC entrepreneurs have been sanctioned financial assistance to set up business ventures.

ESG Funds Becoming Popular in India

Part of: GS Prelims and GS-III – Mutual Funds

In news

- The ESG funds are increasingly becoming popular in the mutual fund industry in India.

Important value additions

ESG Fund

- ESG is a combination of three words - Environment, Social and Governance.
- It is a kind of mutual fund.
- Its investing is used synonymously with sustainable investing or socially responsible investing.
- The ESG fund focuses on companies with environment-friendly practices, ethical business practices and an employee-friendly record while other funds don't.
- The fund is regulated by [Securities and Exchange Board of India](#) (SEBI).

Do you know?

- As ESG funds gain momentum in India, companies will be forced to follow better governance, ethical practices, environment-friendly measures and social responsibility.
- The first ESG mutual fund was launched by the State Bank of India - SBI Magnum Equity ESG Fund.

Pan India Time Use Survey released

Part of: GS Prelims and GS-I – Society; GS-III - Economy

In news

- India's first Pan India time use survey was released.

- **Released by:** Ministry of Statistics and Programme Implementation.

Key takeaways

Paid employment

- **Men:** 57.3% of the people surveyed (7 hours 39 minutes)
- **Women:** 18.4% (5 hours 33 minutes)

Unpaid domestic services

- **Men:** 26.1% (1 hour 37 minutes)
- **Women:** 81.2% (4 hours 59 minutes)

Social activities

- **Men:** 91.4%
- **Women:** 91.3%

Unpaid volunteer work

- **Men:** 2.7%
- **Women:** 2%

Do you know?

- A time use survey measures the amount of time people spend doing various activities, such as paid work, childcare, volunteering, and socialising.
- **Objective:** To measure participation of men and women in paid and unpaid activities.
- The “NSS Report- Time Use in India 2019” is the first such pan India survey which was conducted between January and December 2019.
- Paid employment includes jobs, farming, fishing, mining amongst other economic activities

Gig Workers and its skewed terms

Context: The new Code on Social Security allows a platform worker to be defined by their vulnerability — not their labour, nor the vulnerabilities of platform work.

What is Gig Economy?

- A gig economy is a free market system in which temporary positions are common and organizations contract with independent workers for short-term engagements
- Examples of gig employees in the workforce could include freelancers, independent contractors, project-based workers and temporary or part-time hires.

Do You Know?

- Global Gig Economy Index report has ranked India among the top 10 countries.
- The report says there has been an increase in freelancers in India from 11% in 2018 to 52% in 2019, thanks to various initiatives including Startup India and Skill India.

Issues of Gig Workers – Example of Swiggy (Food Delivery platform)

- Swiggy workers have been essential during the pandemic.
- They have faced a continuous dip in pay, where base pay was reduced from ₹35 to ₹10 per delivery order, despite braving against the odds of delivering during Pandemic
- Stable terms of earning have been a key demand of delivery-persons

Does [new version of labour code](#) offer any relief to Gig workers?

- The three new labour codes passed by Parliament recently acknowledge platform and gig workers as new occupational categories in the making
- Defining gig workers is done in a bid to keep India's young workforce secure as it embraces 'new kinds of work', like delivery, in the digital economy.
- In the Code on Social Security, 2020, platform workers are now eligible for benefits like maternity benefits, life and disability cover, old age protection, provident fund, employment injury benefits, and so on.

Issues with new labour codes for gig workers

- Platform delivery people **can claim benefits, but not labour rights.**
- This distinction makes them beneficiaries of State programmes but does not allow them to go to court to demand better and stable pay, or regulate the algorithms that assign the tasks.
- This also means that the government or courts cannot pull up platform companies for their choice of pay, or how long they ask people to work.
- The laws do not see them as future industrial workers.
- They are now eligible for government benefits but eligibility does not mean that the benefits are guaranteed. Actualising these benefits will depend on the political will at the Central and State government-levels.
- The language in the Code is open enough to imply that platform companies can be called upon to contribute either solely or with the government to some of these schemes. But it does not force the companies to contribute towards benefits or be responsible for workplace issues.

Conclusion

- There are no guarantees for better and more stable days for platform workers, even though they are meant to be 'the future of work'.

Connecting

- Impact of AI on jobs
- Skill India program

Natural Gas Marketing Reforms approved

Part of: GS Prelims and GS-III – Resources

In news

- The Union Cabinet has approved 'Natural Gas Marketing Reforms' to move towards gas based economy.

Key takeaways

- **Aim of the Policy:** (1) To provide standard procedure for sale of natural gas in a transparent and competitive manner; (2) To discover market price by issuing guidelines for sale by contractor through e-bidding.
- **Advantages:** (1) This will bring uniformity in the bidding process across the various contractual regimes and policies; (2) Ambiguity shall be removed; (3) It shall contribute towards ease of doing business.
- Affiliate companies can also participate in the bidding process to make it more open and transparent.

- The policy will also grant marketing freedom to the Field Development Plans (FDPs) of those Blocks in which Production Sharing Contracts already provide pricing freedom.

Contraction in GDP of India in 2020-21: World Bank

Part of: GS Prelims and GS-III – Economy

In news

- Recently, the World Bank has released its South Asia Economic Focus report which estimated that India's Gross Domestic Product (GDP) can contract by 9.6% for the year 2020-21.

Key takeaways

- This estimate is lower than the earlier forecast of 3.2% contraction which was made in June, 2020 .
- It is due to the impact of the national lockdown against the outbreak of the Covid-19 pandemic.
- Households and small urban service firms experienced income shock .
- The manufacturing and exporting industries may face reduced growth.
- The construction sector may also face slowdown.
- These disruptions to jobs will increase the poverty rate. 2020 rates may go back to levels in 2016.
- The economic slowdown could lead to rising loan non-repayment and risk aversion impacting the financial markets also.
- However, India's growth is estimated to rebound to 5.4% in 2021-22.

The dominance of big tech

Context: US House of Representatives panel submitted the report of a bipartisan investigation into the working of Amazon, Apple, Google and Facebook.

Why was the House of Representatives probing big tech companies?

- There were allegations and concerns that these big tech companies have exploited, entrenched and expanded their power over digital markets in anti-competitive and abusive ways.
- Also, due to their metastatic growth, they now have a vast influence on politics, policy and personal reputations across the spectrum, making cost of **data privacy** breaches by these firms catastrophic.

Concerns of each platform

- **Amazon:** It is an online sales platform has disrupted the traditional business of retail sellers and small business. Allegations that Amazon favours its own self-branded products over those of third-party sellers through manipulation of search results.
- **Apple:** Its App Store policies, specifically regarding how Apple ranks search results on that platform, is questioned as it has lead exclusion of certain competing apps from the Store (Ex. Spotify). Questions have also been raised on how Apple determines the share of revenue it takes from in-app purchases
- **Facebook:** Regulators have focused their attention on Facebook's acquisitive streak in capital markets, for example, the U.S. Federal Trade Commission (FTC) enquiry into whether Facebook defensively purchased certain companies (Instagram&Whatsapp) to maintain its dominant market position in the social networking ecosystem.

- **Google:** This company handles more than 90% of online searches across the world. In recent years concern has grown over the fact that Google has increasingly been sending users to its own sites to answer their queries, including products such as Google Flights and Google Maps.
- Thus there are allegations of abuse of its dominance in internet search, advertising and its mobile system, to the detriment of rival content producers. The European Union has already fined Google \$5.1 billion in 2018.

What are the findings of US Panel?

- The panel observed that the answers by Bezos, Cook, Zuckerberg and Pichai – heads of these Big tech Companies- were **often “evasive and non-responsive”**. This raised questions whether they considered themselves “beyond the reach of democratic oversight”.
- The panel said each of these companies was now **acting as a “gatekeeper”** over a key channel of distribution, which meant that they had full control over what went on in their respective domains.
- By controlling access to markets, these giants can pick winners and losers throughout our economy.
- In a way, the panel said, these companies ran the marketplace for their respective domains, while also competing in it. And to ensure they retain the number one position, the **companies have resorted to self-preferencing, predatory pricing, or exclusionary conduct**.

What has the panel recommended?

- **Structural separations of the big tech companies:** What this essentially means is that the panel wants these companies to be broken into smaller companies to ensure that they would not be able to have as much influence as they have currently over the digital marketplace.
- Another recommendation of the panel is that these companies be **prohibited from operating in an “adjacent line of business”**.
- A third recommendation is that there should be a “presumptive prohibition” against big tech companies going for mergers and acquisitions.

What global impact could the US panel recommendations have?

- Although the recommendations of the House panel are **not legally binding** on either the US government or any other agency, it could set the ball rolling in the direction of more controls.
- For example, the panel has said Congress should bring back its culture of probing and asking tough questions of companies that seem to break monopoly and anti-competitive laws
- These recommendations may not impact any big tech companies directly as of now, but could increase the scrutiny of regulators and probe agencies worldwide.

What did the probe find about big tech influence in India?

- The role of the of big tech companies in stifling competition in India finds mention in the US panel’s report.
- The report refers to the various antitrust probes going on against Google in India.
- In the last two years, the Competition Commission of India (CCI) has raised issues with Google’s commercial flight search option, its dominant position in the search marketplace, the abuse of its dominant position in the Android phone and smart television market, and others

- In 2019, **CCI had held Google guilty** of misuse of its dominant position in the mobile Android market and said the company had imposed “unfair conditions” on device manufacturers to prevent them from using other operating system
- Recently, Google has also been accused of following a high and unfair commission mechanism for apps listed on its Play Store

Impact of US Report on India’s regulatory Space

- With the US House panel focusing on the dominance of big tech companies across the world, the companies are **likely to come under more scrutiny** from regulators including the CCI in India.
- In coming years, as India plans to **regulate the use of personal and non-personal data**, these tech companies could face scrutiny over how they manage and use the data they collect from users in India
- Amazon and Facebook, which are trying to **enter the retail space in India**, are also likely to be under the lens for the way they price their products and the space they give/deny to their competition

Conclusion

Free and Fair market is needed to balance the need for innovation and to protect the rights of people & society

Connecting the dots

- Should India also launch Joint Parliamentary committee to investigate whether these tech giants are indulging in anti-competitive trade practices in India?
- If these tech giants are broken up, would it impact the digital revolution which is witnessed around the globe and also in India?

Sets of measures announced to generate consumption demand

Part of: GS Prelims and GS-III – Economy

In news

- Union Finance Minister recently announced two sets of measures to generate consumption demand and boost capital spending in the economy.

Key takeaways

- **Leave Travel Concession (LTC) Cash Voucher Scheme:** The Government has decided to give cash payment to employees in lieu of one LTC during 2018-21. Full payment on Leave encashment and tax-free payment of LTC fare depending on class of entitlement will be given.
- **Special Festival Advance Scheme:** It was meant for non-gazetted government employees. It is being revived as a one-time measure for gazetted employees too. All central govt. employees can now get interest-free advance of Rs. 10,000, in the form of a prepaid RuPay Card, to be spent by March 31, 2021.
- **Capital Expenditure Boost for States:** A special interest-free 50-year loan to states is being issued. For ₹ 12,000 crore capital expenditure which is to be spent by March 31, 2021: (1) ₹ 200 crore each for 8 North East states; (2) ₹ 450 crore each for Uttarakhand, Himachal Pradesh; (3) ₹ 7,500 crore for remaining states, as per share of Finance Commission’s devolution

MSP in the age of Surplus

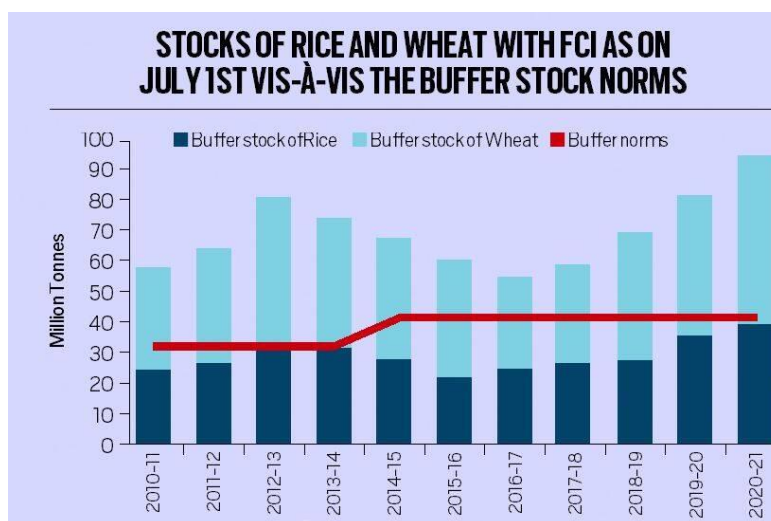
Context: [New Agricultural Laws](#) being introduced by Union Government with an objective of making agriculture sector market oriented that would in turn help increase farmers' income.

What is Minimum Support Price (MSP)?

- MSP is the price set by the government to purchase crops from the farmers, whatever may be the market price for the crops.
- MSP assures farmers agricultural income besides providing a clear price signal to the market
- The major objectives are to support the farmers from distress sales and to procure food grains for public distribution.
- The MSP is an assurance (not legal binding) by the government to the farmers that it will buy at this assured price if the market prices go below it.

MSP and the Changed Situation of Agriculture Sector

- The MSP regime was the creation of the era of scarcity in the mid-1960s
- Indian agriculture has, since then, turned the corner from scarcity to surplus.
- The policy instruments of dealing with shortages are different from those dealing with surpluses
- In a surplus economy, unless we allow a greater role for markets and make agriculture demand-driven, the MSP route can spell financial disaster.
- The new laws are trying to increase the relative role of markets without dismantling the MSP system.



Source: [Indian Express](#)

Criticism of MSP System

- **Distorted Procurement:** MSPs pertain primarily to paddy and wheat in selected states — in recent years, the government has also been buying some amounts of pulses, oilseeds and cotton occasionally.
- **Buffer exceeding Limits:** Due to MSP dominated system of rice and wheat, the stocks with the government are way above the buffer stock norms (see figure).
- **High Cost of Procurement:** The economic cost of procured rice comes to about Rs 37/kg and that of wheat is around Rs 27/kg.
- **High Wages in FCI:** The CTC (cost to company) of departmental labour of the Food Corporation of India is six to eight times higher than contract labour in the market.

- As a result, market prices of rice and wheat are much lower than the economic cost incurred by the FCI. In Bihar's rural areas, for example, one can easily get rice in the retail market at Rs 23-25/kg.
- **Export Inefficiency:** The bottom line is that grain stocks with the FCI cannot be exported without a subsidy, which invites WTO's objections.
- **Food Subsidy Bill:** The real bill of food subsidy is going through the roof but that is not reflected in the Central budget as the FCI is asked to borrow more and more. The FCI's burden is touching Rs 3 lakh crore.

Is it right to compare sugarcane pricing and milk pricing by co-operatives in the same vein as the MSP?

1. Sugarcane Pricing

- In the case of sugarcane, the government announces a "fair and remunerative price" (FRP) to be paid by sugar factories
- This has created mess in the Sugar Sector
- The sheer populism of SAP has resulted in cane arrears amounting to more than Rs 8,000 crore, with large surpluses of sugar that can't be exported.
- This sector has, consequently, become globally non-competitive.
- Unless sugarcane pricing follows the C Rangarajan Committee's recommendations — somewhat akin to milk pricing — the problems of the sugar sector will not go away.

2. Milk Pricing

- The most important commodity of Indian agriculture, milk, whose value is more than that of rice, wheat, and sugarcane combined.
- In the case of milk co-operatives, pricing is done by the company in consultation with milk federations, **not by the government**. It is more in the nature of a **contract price**.
- Milk does not have a MSP and competes with private companies, be it Nestle, Hatsun or Schreiber Dynamix dairies
- **Result:** The milk sector has been growing at a rate two to three times higher than rice, wheat and sugarcane.
- Today, India is the largest producer of milk — 187 million tonnes annually — way ahead of the second-ranked US which produces around 100 million tonnes every year.

What are the good prospects with [new agricultural laws](#)?

- In the next three to five years, hundreds and thousands of companies will be **encouraged to build efficient supply lines** somewhat on the lines of milk, as a result of these changes in farm laws.
- These supply lines — be it with farmers producer organisations (FPOs) or through aggregators — will, of course, be created in states where these companies find the right investment climate.
- These companies will **help raise productivity**, similar to what has happened in the poultry sector.
- Milk and poultry don't have MSP and farmers do not have to go through the mandi system paying high commissions, market fees and cess.

Conclusion

- The MSP system is much more costly and inefficient, while the market-led system will be more sustainable provided we can "get the markets right".
- The pricing system has its limits in raising farmers' incomes.

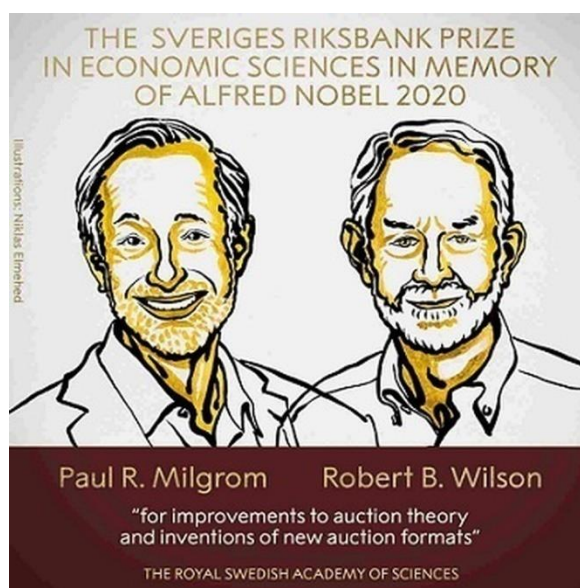
- More sustainable solutions lie in augmenting productivity, diversifying to high-value crops, and shifting people out of agriculture to high productivity jobs

Connecting the dots:

- History of Agriculture Produce Market Committees (APMCs)
- [How has agri-marketing policy changed over years](#)

2020 Nobel Prize In Economics

- Two American economists Paul R Milgrom and Robert B Wilson jointly won this year's Nobel Prize in Economics.
- They were awarded for improvements to auction theory and inventions of new auction formats.
- The new auction formats are an example of how basic research can subsequently generate inventions that benefit society.



India's export opportunities in Post-COVID world

Context: The recent embracement of atmanirbharta by India's intellectual and policy community. This inward turn — actually return — amounts to abandoning two core principles of the post-1991 consensus:

1. Export-orientation on the macro-economic side
2. Slow but steady liberalisation on the trade side

The inward turn is based on three misconceptions of diagnosis

First, the perception is that India's growth success since 1991 has not really been based on exports and certainly not on manufacturing exports.

- This is wrong. India has been a model of spectacular export success and an exemplar of export-led growth.
- Between 1995 and 2018, India's **overall export growth (in dollars) averaged 13.4% annually**, the third best performance in the world amongst the top 50 exporters

- Most strikingly, **India's manufacturing exports** (in dollars) **grew** on average by a 12.1%, the third-best performance in the world, and **nearly twice the world average**. Only China and Vietnam surpassed India.
- In each of the three decades since the 1990s, exports contributed about one-third of overall growth. As a result, India's export-GDP ratio is currently 20 per cent, more than twice as high as in the early 1990s.
- Thus, an export slowdown today is likely to have a more consequential impact on the overall economy.
- Every 5 per cent of the export growth foregone will shave off 1 per cent in overall GDP growth.

Second, is a pessimistic outlook about India's future export

- Export pessimism is based on expectations of deglobalisation abroad and weak performance at home.
- But India can gain market share even in a deglobalising world
- In the 2010s, world exports were stagnant and yet India's exports grew by about 3 per cent. This was true in both manufacturing and services
- In present times, China's secular ceding of low-skill export space provides further opportunity for Indian exports to expand in world market.
- Also, one of the virtues of past under-performance is that the future can be more accommodating to India and **less intimidating for the world**.
- In the Post-COVID world, activities that can be done at a distance — and tradable services are exactly that — could benefit enormously and India can tap into its comparative advantage in service exports.

Third, there is a strong belief that India's market is big enough to sustain growth going forward and make up for the loss of opportunities overseas.

- At \$2.9 trillion, and as the fifth largest in the world, India's GDP seems alluringly big.
- But if the domestic market is to sustain growth, we need to look at the size of the market (say the "middle class") with some amount of purchasing power over manufacturing goods and services.
- The middle class market size is between 15 and 40 per cent of GDP, which is smaller than commonly believed
- Also, there are a lot of poor people with **limited purchasing power** and a few people with a lot of purchasing power who, however, save a lot. Both of these factors can reduce the market for consumption.
- The delusion of size is making policy-makers set their sights on the domestic market when it should be on the world market.

Conclusion

India's growth model has been an export-led one and should not be abandoned. Moreover, India's export opportunities in general and in specific sectors could be significant even in a post-COVID world.

Connecting the dots

- US-China Trade War
- Supply Chain Resilience Initiative

World Economic Outlook report released

Part of: GS Prelims and GS-III – Economy

In news

- World Economic Outlook October 2020 report titled, “A Long and Difficult Ascent” was recently released.
- **Released by:** international Monetary Fund
- According to the report, Global output is projected to shrink 4.4% in 2020.
- After 2021, global growth is expected to be moderate at 3.5% in the medium term.

Key findings for India

- India's economy is expected to contract 10.3% in the current fiscal year due to COVID-19 pandemic.
- There will be a downgrade of 5.8 percentage points from its June forecast.
- It is expected to rebound in April 2021 with 8.8% growth — an upgrade of 2.8% compared to the June update.
- Consumer prices are expected to grow at 4.9% in 2020 and by 3.7% in 2021.
- The current account balance is projected to grow by 0.3% in 2020 and -0.9% in 2021.



*India's figures are for fiscal years. All figures in %

India's Public Debt Ratio projected to increase

Part of: GS Prelims and GS-III – Economy

In news

- As per the International Monetary Fund (IMF), India's public debt ratio is projected to increase by 17% to almost 90% because of an increase in public spending due to Covid-19.

Key takeaways

- The ratio is projected to stabilise in 2021.
- It will slowly decline up to the end of the projection period, in 2025.
- The pattern of public debt in India is similar to the pattern around the world.

Do you know?

- This debt-to-GDP ratio is used to compare a country's public debt to its GDP.
- It is often expressed as a percentage.
- By comparing what a country owes (debt) with what it produces (GDP), the debt-to-GDP ratio indicates a particular country's ability to pay back its debts.
- A country with a high debt-to-GDP ratio finds it difficult to pay off public debts.

Tur dal to be released from Buffer Stocks

Part of: GS Prelims and GS-III – Economy

In news

- The Union government plans to release 40,000 tonnes of tur dal from its buffer stock into the retail market in small lots, in order to cool down the recent hike in pulses prices.

Key takeaways

- Major consuming centres (Andhra Pradesh, Kerala, Maharashtra, Bihar and Tamil Nadu) of urad and tur dal have seen a 20% hike in prices recently.
- At an all-India level, the average retail prices of urad have shot up almost 40% in comparison to 2019, while the average retail prices of tur dal have increased by almost 24%.
- The Department of Consumer Affairs (DoCA) has introduced retail intervention.
- It is a mechanism to use the buffer stock of the National Agricultural Cooperative Marketing Federation of India (NAFED).
- For such retail intervention, offer prices are fixed on the basis of MSP itself.
- The DoCA has also decided to release 40,000 metric tonnes of tur from the buffer stock in Open Market Sale (OMS) Scheme in small lots so that the releases may reach the retail market sooner and help in cooling off rising prices.

Important value additions

National Agricultural Cooperative Marketing Federation of India

- **Registered under:** Multi-State Cooperative Societies Act, 2002.
- **Set up in:** 1958
- **Objective:** To promote cooperative marketing of agricultural produce to benefit the farmers.
- Agricultural farmers are the members of the General Body of NAFED, who participate in the decision-making process.

Minimum Support Price

- It is the rate at which the government buys grains from farmers.
- **Objective:** To counter the price volatility of agricultural commodities due to the factors like variations in the supply, lack of market integration and information asymmetry.

- It is fixed on the recommendations of the Commission for Agricultural Costs and Prices (CACP).

Kapila Campaign launched

Part of: GS Prelims and GS-II – Education & GS-III – Intellectual Property

In news

- The Ministry of Education launched the 'KAPILA' (Kalam Program for Intellectual Property Literacy and Awareness) campaign on the 89th birth anniversary of former President and Scientist Late Dr. APJ Abdul Kalam.

Key takeaways

- Under this campaign, students pursuing education in higher educational institutions will get information about the correct system of application process for patenting their invention and they will be aware of their rights.
- The Institution Innovation Council (IIC 2.0) annual report was also presented on the occasion.
- The launch of IIC 3.0 and its website were also announced.
- It has also been decided to celebrate the week of October 15th to 23rd as 'Intellectual Property Literacy Week'.

Do you know?

- The Institution Innovation Council was established by the Ministry of Education in 2018.
- IICs have been established in about 1700 higher educational institutions.
- They will be established in 5000 higher educational institutions under IIC 3.0.

Directorate General of Shipping notified as National Authority For Recycling Of Ships

Part of: GS Prelims and GS-III – Economy

In news

- The Central Government has recently notified the Directorate General of Shipping as National Authority for Recycling of Ships under section 3 of the Recycling of Ships Act, 2019.

Key takeaways

- As an apex body, DG Shipping is authorised to administer, supervise and monitor all activities related to ship recycling.
- DG Shipping will be the final authority for the various approvals.

Do you know?

- Under Ship Recycling Act, 2019, India has acceded to Hong Kong Convention for Ship Recycling under International Maritime Organization (IMO).
- DG Shipping is a representative of India in IMO.
- All the conventions of IMO are being enforced by DG Shipping.
- National Authority of Ship Recycling will be set up in Gandhinagar, Gujarat.
- Its location will benefit the Ship Recycling yard owners situated in Alang, Gujarat which is home of Asia's largest ship breaking and ship recycling industry in the world.

Government Bans Imports Of Air Conditioners with Refrigerants

Part of: GS Prelims and GS-III – Economy; Trade

In news

- Indian Government has banned imports of air conditioners with refrigerants in order to promote domestic manufacturing and cut imports of non-essential items.

Key takeaways

- Non-essential electronic goods have been under the purview of the Ministry of Commerce and Industry since the government decided to push for self-reliance in various sectors.
- Air conditioners have been specifically singled out by Indian Prime Minister as an example of a segment where self-reliance was required.
- In July 2020, the government had imposed restrictions on the imports of various colour TV sets as well.

Centre to Borrow on Behalf of States to meet the GST shortfall

Part of: GS Prelims and GS-II – Federalism & GS-III – Taxation

In news

- Recently, the Centre has decided to borrow an estimated revenue shortfall of Rs. 1.1 lakh crore as loans to States to meet the GST shortfall.

Key takeaways

- The borrowing will not have any impact on the fiscal deficit of the Government as the Centre is acting as mediator only.
- The Centre will borrow the loan and pass on to the states.
- The amounts will be reflected as the capital receipts of the state governments and it will be a part of financing its respective fiscal deficits.

Background of the news

- The economic slowdown due to covid-19 had reduced both GST and cess collections in FY 2019-20, due to which there was 40% gap (shortfall) between the compensation paid and cess collected.
- The Centre distinguished the GST shortfall into two types: (1) Due to GST implementation itself; (2) due to the impact of Covid-19.
- The fall of GST revenue due to Covid-19 was termed as an act of God.
- Also, the GST Compensation Act, 2017 guaranteed states that they would be compensated for any loss of revenue in the first five years of GST implementation, until 2022, using a cess levied on sin and luxury goods. It did not foresee an act of God.
- Thus, The Centre had earlier refused to compensate GST shortfall arising due to covid-19 to the states.
- In August 2020 at GST Council meet, the Centre had proposed two options to states to meet the shortfall: (1) A special window could be provided, in consultation with the RBI so that the states can get Rs. 97,000 crore at a reasonable rate of interest. The amount can be repaid after five years (of GST implementation) ending 2022 from cess collection; (2) Another option is that this entire gap of Rs. 2.35 lakh crore can be met by the borrowing by the states in consultation with RBI.
- However, many states were against these two options and were planning to move the Supreme Court over the issue.

Benefits of the recent decision

- The borrowing by the Centre would avoid differential rates of interest that individual states may be charged for their respective State Development Loans (SDLs).
- The country's general government debt, which includes both the Centre's and States' borrowings will not increase due to this step.
- The States that get the benefit from the Special Window may borrow a lesser amount from the additional borrowing facility of 2% of Gross State Domestic Product under Atma Nirbhar Package.

Important value additions

Goods and Services Tax

- GST was introduced through the 101st Constitution Amendment Act, 2016.
- It is an indirect tax on the supply of final goods and services.
- It has subsumed indirect taxes like excise duty, Value Added Tax (VAT), service tax, luxury tax etc.
- It is levied at the final consumption point.
- It is levied only on the value addition.
- It is collected on goods and services at each point of sale in the supply line.
- The GST avoids the cascading effect or tax on tax which increases the tax burden on the end consumer.
- Tax Structure under GST: (1) Central GST to cover Excise duty, Service tax etc.; (2) State GST to cover VAT, luxury tax etc.; (3) Integrated GST to cover inter-state trade.
- It has a 4-tier tax structure for all goods and services under the slabs- 5%, 12%, 18% and 28%.

India's First Seaplane Project to be inaugurated on 31st October

Part of: GS Prelims and GS-III – Economy; Infrastructure

In news

- The first of the five seaplane services in Gujarat will be inaugurated on October 31, the birth anniversary of Sardar Vallabhbhai Patel.
- It shall connect Sabarmati River in Ahmedabad to the Statue of Unity in Kevadia in Narmada district.
- **Ministry:** Union Ministry of Civil Aviation.
- **Other spots:** Dharoi dam (Mehsana district) to connect Ambaji and Shatrunjay dam (Bhavnagar district) and Tapi in the next phase.
- The Airports Authority of India (AAI) had requested state governments of Gujarat, Assam, Andhra Pradesh and Telangana and the administration of Andaman & Nicobar to propose potential locations for setting up water aerodromes to boost the tourism sector.

Impact it will have on the environment

- The water aerodrome is not a listed project/activity in the Schedule to the Environmental Impact Assessment Notification, 2006 and its amendments.
- However, the Expert Appraisal Committee was of the opinion that the activities proposed under the water aerodrome project may have a similar type of impact as that of an airport.
- In its proposal seeking environmental clearance, the Director of Aviation, Government of Gujarat, had expressed fears of environmental impact during the stage of construction.
- Also, according to the state government, during seaplane operations, there will be turbulence created in the water while takeoff and landing of seaplanes which will lead to more mixing of

oxygen in the water having a positive impact on the aquatic ecosystem near seaplane operations

Do you know?

- A seaplane is a fixed-winged aeroplane designed for taking off and landing on water.
- It offers the public the speed of an aeroplane with the utility of a boat.
- There are two main types of seaplane: flying boats (often called hull seaplanes) and floatplanes.
- Seaplanes by multiple airline carriers are operational in countries like the Philippines, Canada, Australia, the United States, etc.
- In India, Jal Hans, a commercial seaplane service based in the Andaman and Nicobar Islands was launched as a pilot project on 30 December 2010 by the Ministry of Civil Aviation.



Auction Theory: 2020 Economics Nobel Prize

Context: In 2020 U.S. economists Paul Milgrom and Robert Wilson won the Nobel Economics Prize for their work on commercial auctions, including for goods and services difficult to sell in traditional ways such as radio frequencies

What is auction theory?

- Auction theory is a branch of economics that deals with, as the name suggests, auctions.
- Auctions are important to economists because they are the most widely used and also the most efficient mechanism to allocate scarce resources.
- In particular, auction theory deals with the various ways in which auctions can be designed to improve seller revenues, increase benefits to consumers, or even achieve both these goals at the same time.

How is it relevant?

- Throughout history, countries have tried to allocate resources in various ways.
- Some have tried to do it through political markets, but this has often led to biased outcomes. For Ex: The rationing of essential goods worked in State-controlled economies. People who were close to the bureaucracy and the political class came out ahead of others.
- Lotteries are another way to allocate resources, but they do not ensure that scarce resources are allocated to people who value it the most.
- Auctions, for a good reason, have been the most common tool for thousands of years used by societies to allocate scarce resources.

- When potential buyers compete to purchase goods in an auction, it helps sellers discover those buyers who value the goods the most.
- Further, selling goods to the highest bidder also helps the seller maximise his or her revenues. So, **both buyers and sellers benefit from auctions.**
- Whether it is the auction of spectrum waves or the sale of fruits and vegetables, auctions are at the core of allocation of scarce resources in a market economy.

What are the criticisms levelled against auctions and what are the economists contribution?

1. Issue of Winner's Curse

- The most common one is that auctions can lead buyers to overpay for resources whose value is uncertain to them.
- This criticism, popularly known as the '**winner's curse**', is based on a study that showed how buyers who overpaid for U.S. oil leases in the 1970s earned low returns. Dr. Wilson was the first to study this matter.
- The rational bidders may decide to underpay for resources in order to avoid the 'winner's curse', and Dr. Wilson argued that sellers can get better bids for their goods if they share more information about it with potential buyers

2. Auction formats

- Economists traditionally working on auction theory believed that **all auctions are the same** when it comes to the revenues that they managed to bring in for sellers. The auction format, in other words, did not matter.
- This is known as the 'revenue equivalence theorem'.
- But Dr. Milgrom showed that the auction format can actually have a huge impact on the revenues earned by sellers.
- The most famous case of an auction gone wrong for the seller was the spectrum auction in New Zealand in 1990.
- In what is called a 'Vickrey auction', where the winner of the auction is mandated to pay only the second-best bid, a company that bid NZ\$1,00,000 eventually paid just NZ\$6 and another that bid NZ\$70,00,000 only paid NZ\$5,000.
- In particular, Dr. Milgrom showed how Dutch auctions, in which the auctioneer lowers the price of the product until a buyer bids for it, can help sellers earn more revenues than English auctions.
- In the case of English auctions, the price rises based on higher bids submitted by competing buyers. But as soon as some of the bidders drop out of the auction as the price rises, the remaining bidders become more cautious about bidding higher prices.

Real world Contribution of Economists through better auction model

- Dr. Milgrom and Dr. Wilson, however, are most popular for their contribution towards devising new, real-world auction formats.
- The **combinatorial auctions** designed by the duo, for instance, have been used to sell complex goods such as spectrum as bundles, instead of as individual units.
- Earlier, governments **sold spectrum rights** on a piecemeal basis, which made it unappealing to companies which demanded spectra in a bundle.

- This led to private speculators earning billions in the secondary market by reselling spectrum, while the government was starved of revenues that it could have easily earned with better auction design.

Conclusion

- The contributions of Dr. Milgrom and Dr. Wilson have helped governments and private companies design their auctions better.
- This has, in turn, helped in the better allocation of scarce resources and offered more incentives for sellers to produce complex goods.

Connecting the dots

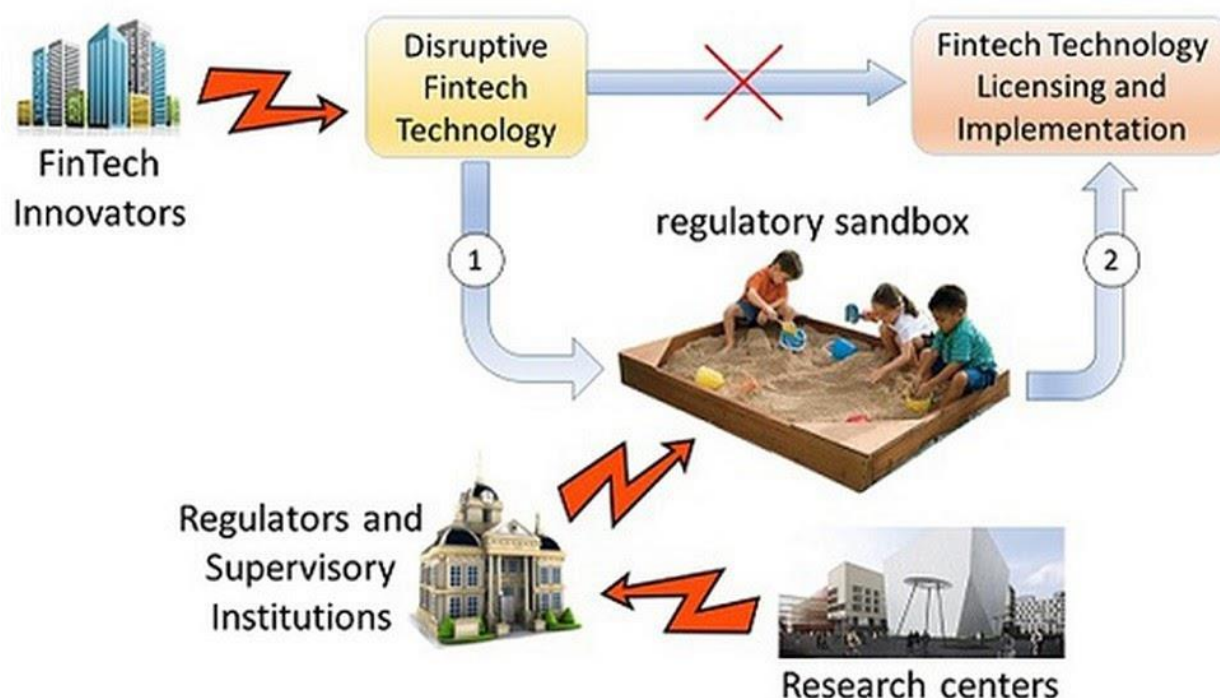
- Nudge Theory – 2017 Economics Nobel Prize winner

Framework For Regulatory Sandbox introduced

Part of: GS Prelims and GS-III – Economy

In news

- [The International Financial Services Centres Authority \(IFSCA\)](#) has introduced a Framework for Regulatory Sandbox to tap into innovative FinTech solutions.



Key takeaways

- Under this Sandbox framework, entities operating in the capital market, banking and insurance and financial services space shall be granted facilities to experiment with innovative FinTech solutions in a live environment with a limited set of real customers for a limited time frame.
- These features shall be fortified with necessary safeguards for investor protection and risk mitigation.
- The Regulatory Sandbox shall operate within the IFSC located at GIFT City.

- The creation of an “Innovation Sandbox” is proposed as an additional step towards creating an innovation-centric ecosystem in the IFSC.
- The Innovation Sandbox will be managed and facilitated by the Market Infrastructure Institutions (MIIs) operating within the IFSC.

Do you know?

- IFSCA has an objective to develop a world class FinTech hub at the IFSC in GIFT City, Gandhinagar (Gujarat).
- Thus, it endeavours to encourage the promotion of financial technologies (‘FinTech’) initiatives in financial products and services across the fields of banking, insurance, securities and fund management.
- “Regulatory Sandbox” is a step towards attaining this vision.

Transparent taxation

Context: Prime Minister launched the platform ‘[Transparent Taxation—Honouring the Honest](#)’ on August 13, 2020, comprising of faceless assessments, faceless appeals and a taxpayer’s charter.

What are the issues plaguing Tax administration in India?

1. High Tax Dispute ratio

- The Receipt Budget 2020-21 indicates that the amount of taxes on income which is under dispute was Rs 8 lakh crore at the end of 2018-19. This is 5.8 times the tax amount not under dispute (Rs 1.38 lakh crore)
- Of this, the corporation tax amount under dispute at the end of 2018-19 was Rs 4.06 lakh crore—4.9 times the corporation tax amount not under dispute (Rs 0.83 lakh crore).

2. High Refund:

- A significant portion of corporation tax collected during the first quarter of a financial year is used to refund previous year’s excess collection.
- It was about 48% during the first quarter of 2018-19 and 39.8% during first quarter of 2017-18.
- The CAG indicates in its 2020 report that “the possible reason for this higher refund could be exaggerated demands raised by the department during the previous financial years **to meet their revenue collection targets.**”

3. Indiscriminate usage of Appeal Process

- When it comes to appeals, tax officers needlessly pursue these at higher levels, regardless of the outcome since there is **no penalty on the ITD and its officers.**
- Cases pending with the ITAT increased 2.4 times in 2018-19, to 92,205, compared to 37,572 cases in 2017-18.
- The total cases pending at higher levels (ITATs, high courts, the Supreme Court) increased to 1.35 lakh in 2018-19 compared to 0.82 lakh cases in 2017-18

4. Long time to resolve Tax disputes

- Any tax dispute in India normally takes 15-20 years from the time an assessment is completed to the time the Supreme Court possibly takes a decision

5. Aggressive Targets leads to Tax Terrorism

- The CBDT is known to set high tax collection targets for field officers, which forces them to be aggressive in collecting advance tax, issuing inappropriate assessment orders, leading to tax terrorism,
- As a result, demands difficult to recover have been increasing year after year, and accounted for 98.8% of the total arrears of demands in 2018-19

Significance of the Transparent Taxation initiative

- Faceless assessment and appeals aim to eliminate physical interface between taxpayers and tax authorities, thereby bringing in greater efficiency and transparency to the assessment and appeal process
- This helps in reducing tax officer's discretion
- Tax terrorism and scope for corruption is minimised
- Faceless assessment system should reduce litigation since taxpayers will no longer be attached to a specific office or territory or jurisdiction for assessments. Instead, the National e-Assessment Centre (NeAC) will be the main gateway for communication between taxpayers and tax authorities.

Way Ahead

- **Clearing Backlogs:** While the faceless assessment and appeal system will address the administration issues, the CBDT should focus on resolution of the high number of pending appeals before various authorities
- **Publishing Progress:** The CBDT should publish on its homepage on a monthly basis a report on the total number of appeals pending at the beginning of the month, disposed of during that month and the pending appeals at month-end
- **Regular Monitoring:** The monthly updates to be released by CBDT needs to be reviewed every month by the FM, just as the PM reviews infrastructure projects.
- **Prevent Frivolous filing of Cases:** The CBDT should enhance monetary limits for filing appeals by the ITD to Rs 1 crore before ITATs, Rs 5 crore before HCs and Rs 10 crore before the SC. These enhanced limits would prevent tax officers from filing routine frivolous cases and enable judicial authorities to focus on high-value litigations.
- **Ease the process for Obtaining refunds:** The tax officer faces no prescribed time limit for issuing the refund. A time period of 30 days should be set for refunds consequent to such orders, and if the refund is not paid within time period interest should be levied on the refund amount

Connecting the dots

- [Retrospective Taxation: Vodafone Case](#)

CMIE data highlights paradoxes in Indian Economy

Part of: GS Prelims and GS-III – Economy

In news

- Centre for Monitoring Indian Economy (CMIE) data has recently highlighted some paradoxes for India during the economic recovery after the lockdown.

Key takeaways

- The data shows that there is a revival in employment but a fall in labour force participation.
- However, the usual trend is when more people find jobs, a greater number should have looked for jobs.

- This unusual trend could be due to a rural-urban disaggregation of the data.
- Rural India is seeing an increase in jobs due to post harvest activity whereas employment in urban India is decreasing.
- Besides, better quality and higher paying jobs in urban areas are not available.
- These are getting replaced by lower-paid rural jobs.
- This also points to the fact that a reversal of migration back to the cities is not happening as expected level.
- The lower rates of supply side due to lockdown have led to an increase in headline inflation leading to increase in food prices.
- However, there is a rise in core inflation also which is unusual.
- Ideally, the reduced demand due to lockdown should have decreased core inflation.
- Also, households have reported better prospects or hopes for the future.

Do you know?

- Headline inflation is a measure of the total inflation within an economy, including commodities such as food and energy prices.
- Core inflation is the change in the costs of goods and services but does not include those from the food and energy sectors.

Potholes on the digital payment superhighway

Context: Digital payments have found strong ground, especially in India, increasingly relegating all other modes of payments to the background.

Payment Ecosystem steered by the RBI

1. RTGS and Large Value Payments

- **Initiative of RBI:** A major thrust toward large value payments was effected through the Real Time Gross Settlement System, or RTGS, launched by the RBI in March 2004.
- **Impacted Capital Markets:** The large value payments on stock trading, government bond trading and other customer payments were covered under the RTGS, providing finality of settlement in short time period
- **Reduced Risks:** The payment system greatly reduced the risks such as the Harshad Mehta scam and improved the confidence in financial system thus attracting more participation (domestic and foreign players)

2. NEFT and Bulk Retail Payments

- The RBI introduced National Electronic Funds Transfer, or NEFT, and bulk debits and credits to support retail payments around the same time.
- Now, NEFT is available round the clock and RTGS will follow from December 2020 — only a few countries have achieved this.

3. Setting up of NPCI as Umbrella Organisation for retail payments

- National Payments Corporation of India (NPCI) was set up by 10 lead banks at the instance of the RBI in 2009.

- **Learning from other successful models:** In 2004, a four-member team of RBI visited the Riksbank, the central bank of Sweden and learnt that a not-for-profit organisation owned by eight Swedish banks was set up in Sweden for providing retail payment and related services. The model appeared as an attractive proposition as payments is basically a **public good**.
- Thus the idea of the NPCI as a not-for-profit company has a link from Sweden's financial system
- The corporation was fully supported by the RBI and the government as an extended arm of the sovereign
- The setting up of such an umbrella organisation to build a super highway for digital payments led to humongous success in the coming years

Challenge Ahead for NPCI- Demand to convert into for-profit Company

- There is a demand from some quarters that the NPCI should be converted into a for-profit company to withstand competition.
- But this will be a retrograde step with huge potential for loss of consumer surplus along with other strategic implications.
- Instead, like the RBI providing free use of the RTGS and other products, the strategy should be to assist the NPCI financially, either by the RBI or the government, to provide retail payment services at reduced price (in certain priority areas).

Issue of Merchant Discount Rate(MDR)

- MDR is charged to merchants for processing debit and credit card transactions. To accept debit and credit cards, merchants must set up this service and agree to the rate.
- The amount that the merchant pays for every transaction gets distributed among three stakeholders--the bank that enables the transaction, vendor that installs the point of sale (PoS) machine and the card network provider such as Visa, MasterCard, RuPay.
- In Budget 2020-21, the government prescribed **zero MDR for RuPay and UPI**, both NPCI products, to popularise digital payments benefiting both customers and merchants.
- For reasons unknown, the government left out other providers of digital payment products from this MDR prescription, which is unjustified and had adverse effects.
- Taking advantage of this dichotomy, **many issuing banks switched to mainly Visa and Master cards for monetary gains**.
- As customers were induced by such supplier banks, it created a kind of **indirect market segmentation and cartel formation**, though there is hardly any quality difference in payment products.

Way Ahead

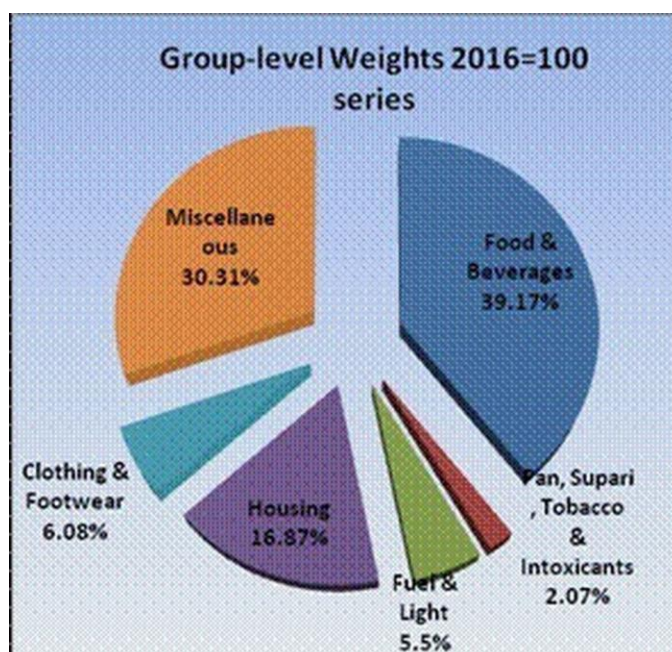
- The ideal pricing for digital payments products should be based on an analysis of producer surplus, consumer surplus (i.e. gain or loss of utility due to pricing) and social welfare for which we need cost-volume-price data.
- Digital payment system is like a national superhighway, for which the government has a crucial role to play in protecting consumers against exploitation.
- A free market should not deny a fair amount of return to payment service providers including Fin-Tech companies. But this should not be at the cost of huge loss of consumer surplus.

Base year for CPI-Industrial Workers (CPI-IW) revised

Part of: GS Prelims and GS-III – Economy

In news

- The labour ministry has revised the base year of the Consumer Price Index-Industrial Workers (CPI-IW) from 2001 to 2016.
- It has given more weight to spending on housing, education and health in inflation index calculation.



Key takeaways

- The revision in base year will reflect changing consumption pattern of the working-class population over the years.
- Following the change in base year, the index will give 39% weight to food and beverage consumption of workers now as against 46.2% earlier.
- In contrast, spending on housing will get almost 17% weight compared to 15.2% earlier.

Important value additions

CPI-Industrial Workers (CPI-IW)

- It is used as a benchmark for calculating dearness allowance for government employees, dearness relief for pensioners and wages for industrial workers in some sectors.
- Though it may not impact the salary of industrial workers and DA of government staff immediately, it will have a cascading impact on salary, DA and DR of workers, and pensioners.

US sues Google in biggest anti-trust case

Context: The United States Department of Justice (DoJ) has sued Google alleging that the company had abused its dominant position in a way that had harmed its competitors as well as customers.

What is the lawsuit about?

- Google has maintained its monopoly power through exclusionary practices that harm competition. So the Justice Department has determined that an antitrust response is necessary to benefit consumers.
- **Antitrust** refers to a group of businesses that team up or form a monopoly in order to dictate pricing in a particular market.
- **Antitrust** laws exist to promote competition among sellers, limit monopolies, and give consumers more options

What led to the lawsuit?

- A US House of Representatives panel had submitted the report of a bipartisan investigation into the working of Amazon, Apple, Google and Facebook.
- The probe had started in July 2019.
- These companies have been on the radar of governments in many countries for being big spenders and trying to steamroll competition by either buying out their rivals or pushing vendors to avoid working with these rivals.
- The panel said each of these companies was now acting as a “gatekeeper” over a key channel of distribution, which meant that they had full control over what went on in their respective domains
- The report called for the big technology companies to be broken up and for a “presumptive prohibition against future mergers and acquisitions by the dominant platform”.

Why is the lawsuit important?

- The lawsuit marks the first time there has been a bipartisan effort — involving both the Democratic and the Republican parties — to look into the monopolistic powers of Google.

What is the Challenge for Google?

- Although the lawsuit by a US Federal body is the first of its kind, it is unlikely that there will be any swift action on the company in the near term
- The challenge for Google would be **continued scrutiny** into its biggest revenue generating segment, which is advertising gained from its search engine and affiliate websites.
- In the April-June quarter, the company had earned nearly \$38 billion, mainly from advertisements.
- Apart from increased federal scrutiny, big tech companies are also likely to face more questions and probes from states in the US

When was the last time Google faced legal action?

- The last time Google faced legal action for allegedly abusing its dominance in the search market was almost a decade ago — in 2011- when the Federal Trade Commission (FTC) was acting on a complaint filed by a Washington-based non-profit research agency, Electronic Privacy Information Center.
- Although the five commissioners eventually voted not to pursue a case, Google had to implement a strict user data security policy and agree to independent privacy audits for the next 20 years

What are the allegations that Google faces in India?

- Over the last three years, Google has had multiple run-ins with the CCI (Competition Commission of India) for alleged abuse of its dominant position in the market.
- In 2019, CCI had held Google guilty of misuse of its dominant position in the **mobile Android market** and said the company had imposed “unfair conditions” on device manufacturers to prevent them from using other operating systems.
- In February 2018, the CCI had fined Google Rs 136 crore for **unfair business practices in the online search market**. It said that Google had “allocated disproportionate real estate” for its affiliates, to the disadvantage of other companies that were trying to gain market access.
- Google has challenged the CCI findings in forums such as the National Company Law Appellate Tribunal and the Supreme Court.

What lies ahead for Google?

- Google may argue before the courts that it is being singled out from amongst the other companies, or try to explain why it does not really abuse its dominance in any market segments.
- In coming years, as India plans to **regulate the use of personal and non-personal data**, these tech companies could face scrutiny over how they manage and use the data they collect from users in India
- Amazon and Facebook, which are trying to **enter the retail space in India**, are also likely to be under the lens for the way they price their products and the space they give/deny to their competition

Conclusion

Free and Fair market is needed to balance the need for innovation and to protect the rights of people & society

Connecting the dots

- Should India also launch Joint Parliamentary committee to investigate whether these tech giants are indulging in anti-competitive trade practices in India?
- If these tech giants are broken up, would it impact the digital revolution which is witnessed around the globe and also in India?

Government announces Compound Interest Waiver on Moratorium Loans

Part of: GS Prelims and GS-III - Economy

In news

- Recently, the Government of India has announced the scheme for the waiver of compound interest that was payable by the borrower who had opted for loan moratorium between 1st March 2020, and 31st August 2020.


Key takeaways

- The RBI had offered a three-month moratorium on loans in March 2020.
- This enabled borrowers to defer repayments on EMIs and other loans.
- This was later extended by another three months, till 31st August 2020.
- The loan moratorium, and waiver of compound interest, was aimed at providing borrowers relief amid the economic impact of the Covid-19 pandemic.
- Under this, the government will grant eligible borrowers ex-gratia payment of the difference between the compound interest and simple interest for the six-month moratorium period.
- The scheme shall be applicable for loans availed by Micro, Small and Medium Enterprises (MSMEs) and loans to retail customers for education, housing, consumer durables, automobiles, provided a borrower has an aggregate outstanding loan of Rs. 2 crore or less, from all such loans.

Festive respite

Banks will credit compound interest levied on loans up to ₹2 crore between March 1 and August 31 back to borrowers by November 5

LOANS COVERED:	CONDITION: Aggregate of all outstanding loans must not exceed ₹2 crore
<ul style="list-style-type: none"> Home Education Consumer durables Automobiles Credit card dues Loans to micro, small and medium enterprises 	<ul style="list-style-type: none"> Eligible borrowers will get benefit irrespective of whether they availed the moratorium or not Lenders have been asked to set up grievance redressal system for the scheme within a week The government will reimburse banks and NBFCs after they credit loan accounts and submit claims



Do you know?

- Ex-gratia payment is the money which is paid due to moral obligation and not due to legal obligation.
- Simple interest is levied only on the principal amount of a loan or deposit.
- In contrast, compound interest is levied on the principal amount and the interest that accumulates on it in every period.

India's DisCom stress is more than the sum of its past

Context: The Indian government responded to COVID-19's economic shock with a stimulus package of ₹20-lakh crore, out of which ₹90,000 crore was earmarked for DisComs (later upgraded to ₹1,25,000 crore).

DisComs are the utilities that typically buy power from generators and retail these to consumers.

Financial Issues with DisComs

- **Not Exactly a Stimulus:** While government's package was called a stimulus, it is really a loan, meant to be used by DisComs to pay off generators. Stimulus loans are near market term and not soft loans.
- **Threat from Renewable Energy:** Increasing competition from Solar Powers whose tariff has come down to Rs 2.90 per unit (as compared to Rs 6 per unit average cost of electricity supply for distribution utilities) combined with existing long-term Power Purchase Agreements (PPAs) with mainly coal-based thermal power generating projects has led to financial rigidity & therefore financial loss for DisComs.
- **Impact of COVID-19:** The pandemic has completely shattered incoming cash flows to utilities. The lockdown disproportionately impacted revenues from commercial and industrial segments. But a large fraction of DisCom cost structures are locked in through PPAs that obligate capital cost payments.
- **Underestimation of dues:** The government's PRAAPTI (or Payment Ratification And Analysis in Power procurement for bringing Transparency in Invoicing of generators) portal shows that DisCom dues to generators are in range of one lakh crore rupees. The portal is a voluntary compilation of dues, and is not comprehensive.
- **Rise in Informal loans:** Over the years, DisComs have delayed their payments upstream (not just to generators but others as well) — in essence, treating payables like an informal loan.

Why do DisComs not pay on time?

1. Inefficiency of utilities leads to high losses, called Aggregate Technical and Commercial (AT&C) losses, a term that spans everything from theft to lack of collection from consumers. However, this is an incomplete explanation

2. Challenge of payables to DisComs.

DisComs cash flow is disrupted due to dues that are payable to them. These dues are of three types.

- **Improper Tariff fixation by regulators:** Regulators themselves have failed to fix cost-reflective tariffs thus creating Regulatory Assets, which are to be recovered through future tariff hikes.
- **Pending Subsidies:** Second, about a seventh of DisCom cost structures is meant to be covered through explicit subsidies by State governments. Cumulative unpaid subsidies, with modest carrying costs, make DisComs poorer by over ₹70,000 crore just over the last 10 years.
- **Consumer Bills pending:** Third, consumers owed DisComs over ₹1.8 lakh crore in FY 2018-19, booked as trade receivables.

Way Ahead

- **More Stimulus:** There is a need a much larger liquidity infusion so that the entire electricity chain will not collapse
- **Improving AT&C losses** is important, but will not be sufficient. We need a complete overhaul of the regulation of electricity companies and their deliverables.
- **Rationalisation of subsidies** whereby doling out of free electricity can be eliminated to those who do not deserve such support.
- **Proper Regulation:** Regulators must allow cost-covering tariffs.

- **Realigning PPAs in the wake of renewable energy:** In the interim, it may be prudent for the discoms to sign only medium-term PPAs, if at all, as most of the power transactions move to the power exchanges.

Connecting the dots

- [Draft of Electricity \(Rights Of Consumers\) Rules, 2020](#)

MFIs in India: Need social impact monitoring

Context: The microfinance industry in India witnessed unprecedented growth over the last couple of decades; from just a few players offering SHG loans to a matured market, the industry has come a long way.

What are MFIs?

- Micro finance Institutions, also known as MFIs, a microfinance institution is an organisation that **offers financial services to low income populations.**
- Usually, their area of operations of extending small loans are rural areas and among low-income people in urban areas.
- MFIs provide the much-needed aid to the economically underprivileged who would have otherwise been at the mercy of the local moneylender and high interest rates.
- The model had its genesis as a **poverty alleviation tool**, focused on economic and social upliftment of the marginalised sections through lending of small amounts of money without any collateral to women for income-generating activities.
- MFI loan portfolio has reached Rs 2.31 lakh crore at the end of FY2020, touching the lives of 5.89 crore customers.
- Some of the MFIs, that qualify certain criteria and are non-deposit taking entities, come under RBI wings for Non-Banking Financial Company (NBFC) Regulation and supervision. These “Last Mile Financiers” are known as NBFC MFI.
- The objective of covering them under RBI was to make these NBFC MFIs healthy and accountable.

Digitalisation and growth of MFI sector

- Over the years, the sector has incorporated several changes in its operating model, including digital interventions across the lending value chain.
- MFIs have adopted digital technologies in order to eliminate the redundancies, enable quick customer on-boarding, loan disbursements and even cashless collections.
- The use of digital technologies has enabled MFIs not only to **reach a greater number** of clients and thereby grow at a much faster pace, but also to do so in an efficient manner by **streamlining processes and reducing turnaround times.**

Challenges associated with MFI

- **Social Objective Overlooked:** In their quest for growth and profitability, the social objective of MFIs—to bring in improvement in the lives of the marginalised sections of the society—seems to have been gradually eroding.
- **Impact of COVID-19:** It has impacted the MFI sector, with collections having taken an initial hit and disbursements yet to observe any meaningful thrust.

- **Inadequate Data:** While overall loan accounts have been increasing the actual impact of these loans on the poverty-level of clients is sketchy as data on the relative poverty-level improvement of MFI clients is fragmented.
- **Loans for Conspicuous Consumption:** The proportion of loans utilised for non-income generating purposes could be much higher than what is stipulated by RBI. These loans are short tenured and given the economic profile of the customers it is likely that they soon find themselves in the vicious debt trap of having to take another loan to pay off the first

Way Ahead for MFIs

1. Digital technologies should be utilised even beyond the lifecycle of the loan.

- MFIs should ensure that the 'stated purpose of the loan' that is often asked from customers at the loan-application stage is verified at the end of the tenure of the loan.
- This post-verification process will ascertain whether the loan amount has brought in any meaningful improvement in their lives; digital records of this should be maintained for further scrutiny and new loan sanctions.

2. Create authenticated customer data

- In an industry that is dominated by cash, determining household income for loan eligibility purposes poses a serious challenge.
- Field officers should be prudent enough to include income from all sources as overestimating or incorrectly estimating would mean that genuinely deserving customers aren't offered any.
- If captured and reported properly, this data could serve as critical underwriting inputs when these customers (having proved their credit worthiness in the microfinance industry) chose to avail financial services from commercial banks,

3. Social Impact Scorecard

- RBI should encourage all institutions to monitor their impact on the society by means of a 'social impact scorecard'
- This customer data in scorecard that is verified and captured digitally can be used to evaluate the impact of each loan in the lives of the clients, subsequent improvement in their earning capacity over the years, other direct/indirect benefits rendered from loan utilisation and finally how soon MFI customers are able to transition out of the MFI fold.
- This 'social impact scorecard' could also be leveraged when **MFIs themselves seek funding to support their operations**, which can serve as the crucial differentiating 'intangible factor' to enable commercial banks, development institutions and others in making lending decisions to MFIs.

Conclusion

MFIs need to focus on creating a sustainable and scalable microfinance model with a mandate that is unequivocal about both economic and social good.

Connecting the dots

- Constitution's 97th Amendment Act
- Farmer Producer organisations and its impact on agricultural sector

Major Global energy companies ask Indian Government to bring natural gas under the GST regime

Part of: GS Prelims and GS-III – Energy; GST; Taxation

In news

- Major Global energy companies have called on the Government of India to bring natural gas under the GST regime at the India energy Forum held recently.
- Currently petrol, diesel, aviation turbine fuel, natural gas and crude oil fall outside India's GST regime.
- Government officials have also indicated that the government is considering bringing natural gas under the ambit of the GST regime.

Benefits of bringing Natural gas under GST regime

- It would lead to a reduction in the cascading impact of taxes on industries such as power and steel, which use natural gas as an input.
- It would do away with the central excise duty and different value added taxes imposed by states.
- This would lead to an increase in the adoption of natural gas which would be in line with the government's goal to increase the share of natural gas in the country's energy basket from 6.3% to 15%.

CCEA approves Mandatory Packaging In Jute Materials

Part of: GS Prelims and GS-III – Economy

In news

- The Cabinet Committee on Economic Affairs has approved that 100% of the food-grains and 20% of the sugar shall be mandatorily packed in diversified jute bags.

Key takeaways

- The decision also mandates that initially 10% of jute bags for packing food grains would be placed through reverse auction on the Gem portal.
- The Government has expanded the scope of mandatory packaging norms under the Jute Packaging Material (JPM) Act, 1987.
- The approval will benefit farmers and workers located in the Eastern and North Eastern regions of the country particularly in West Bengal, Bihar, Odisha, Assam, Andhra Pradesh, Meghalaya and Tripura.

Important value additions

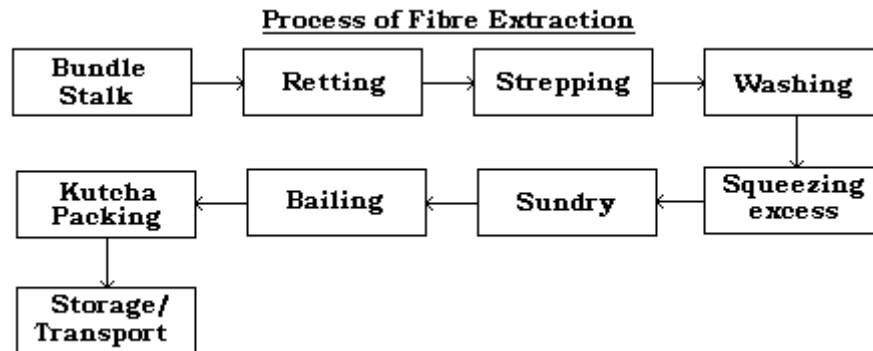
Other Support provided to the Jute Sector

- The National Jute Board has collaborated with National Institute of Design and a Jute Design Cell has been opened at Gandhinagar.
- In order to boost demand in the jute sector, Government of India has imposed Definitive Anti-Dumping Duty on import of jute goods from Bangladesh and Nepal with effect from 5th January, 2017.
- In order to promote transparency in jute sector, Jute SMART, an e-govt initiative was launched in December, 2016 which provides an integrated platform for procurement of Jute sacking by Government agencies.

Jute

- Jute is a rainy season crop.
- Jute requires a warm and humid climate with temperature between 24° C to 37° C.

- Constant rain or water-logging is harmful.
- The new gray alluvial soil of good depth, receiving salt from annual floods, is best for jute.
- Jute is harvested any time between 120 days to 150 days when the flowers have been shed, early harvesting gives good healthy fibers.
- The jute plant's fibres lie beneath the bark and surrounded the woody central part of the stem.
- To extract the fibres from the stem, the process is carried out in the following stages :



AGRICULTURE

World Cotton Day observed

Part of: GS Prelims and GS-I – Agricultural crops

In news

- The 2nd World Cotton Day was observed on 7th October, 2020.

Key takeaways

- World Cotton Day was launched at the initiative of the Cotton-4 (Benin, Burkina Faso, Chad and Mali) by the World Trade hosted on 7th October 2019.
- It was launched in collaboration with the secretariats of the UN, FAO, UNCTAD, the International Trade Centre (ITC) and the International Cotton Advisory Committee (ICAC).
- **Objective:** (1) To recognize the importance of cotton as a global commodity grown in over 75 countries across 5 continents; (2) To highlight its central role in job creation and maintaining economic stability in several least-developed countries.

Important value additions

Cotton Four

- Cotton is discussed at the WTO for: (1) the trade reforms needed to address subsidies and high trade barriers for cotton; (2) the assistance provided to the cotton sector in developing countries.
- These various tracks of discussion have been developed over the years as a response to a series of proposals to address the cotton sector tabled by four African countries — Benin, Burkina Faso, Chad and Mali — known as the Cotton Four or C4.

Kasturi Cotton: India's premium Cotton

Part of: GS Prelims and GS-I – Agricultural Crops

In news

- The 1st ever Brand & Logo for Indian Cotton was launched on 2nd World Cotton Day.
- **Launched by:** Ministry of Textiles
- Now India's premium Cotton would be known as 'Kasturi Cotton' in the world cotton Trade.
- The Kasturi Cotton brand will represent Whiteness, Brightness, Softness, Purity, Luster, Uniqueness and Indianness.

Important value additions

Cotton

- Cotton is one of the principal commercial crops of India.
- It provides livelihood to about 6 million cotton farmers.
- India is the 2nd largest cotton producer.
- It is the largest consumer of cotton in the world.
- A mobile app, "Cott-Ally" has been developed by Cotton Corporation of India (CCI) for providing latest news regarding weather condition, Crop situation and best farm practices.

Asafoetida (Heeng) cultivation to be introduced in India

Part of: GS Prelims and GS-III – Economy; Agriculture

In news

- CSIR constituent laboratory, Institute of Himalayan Bioresource Technology (IHBT), Palampur, recently made history by introducing asafoetida (Heeng) cultivation in Indian Himalayan region.

Key takeaways

- The cultivation shall take place in the Lahaul valley in Himachal Pradesh.
- India imports about 1200 tonnes of raw asafoetida annually from Afghanistan, Iran and Uzbekistan and spends approximately 100 million USD per year.
- CSIR-IHBT has now introduced six accessions of seeds from Iran through ICAR-National Bureau of Plant Genetic Resources (ICAR-NBPGR), New Delhi.
- In the past thirty years, this has been the first attempt for introduction of asafoetida (Ferula assa-foetida) seeds in the country.
- However, the challenge for the scientists is that heeng seeds remain under a prolonged dormant phase and the rate of seed germination is just 1%.

Important value additions

Heeng

- It is a herbaceous plant of the umbelliferae family.
- It is a perennial plant.
- Its oleo gum resin is extracted from its thick roots and rhizome.
- The plant stores most of its nutrients inside its deep fleshy roots.
- It is endemic to Iran and Afghanistan, which are also the main global suppliers of it.
- It thrives in dry and cold desert conditions.
- It can tolerate temperatures between 35 and 40 degrees. It can also survive in temperatures up to minus 4 degrees.
- **Ideal growth conditions:** Sandy soil, very little moisture and annual rainfall of not more than 200mm
- However, during extreme weather, the plant can get dormant.
- It has medicinal properties, including relief for digestive, spasmodic and stomach disorders, asthma and bronchitis.
- The herb is used to help with painful or excessive bleeding during menstruation and premature labour.



Do you know?

- Asafoetida is one of the top condiments and is a high value spice crop in India.
- Although there are about 130 species of Ferula found in the world, only Ferula assa-foetida is the economically important species used for the production of asafoetida.
- In India, Ferula assa-foetida is not found, but other species Ferula jaeschkeana is reported from the western Himalaya (Chamba, HP), and Ferula narthex from Kashmir and Ladakh

Precision Agriculture**About**

- It is an approach to farm management that uses information technology (IT) to ensure that the crops and soil receive exactly what they need for optimum health and productivity.
- It is an approach where inputs are utilised in precise amounts to get increased average yields, compared to traditional cultivation techniques.
- The goal of PA is to ensure profitability, sustainability and protection of the environment.
- PA is also known as satellite agriculture, as-needed farming and site-specific crop management (SSCM).
- Precision agriculture relies upon specialized equipment, software and IT services.
- The approach includes accessing real-time data about the conditions of the crops, soil and ambient air, along with other relevant information such as hyper-local weather predictions, labor costs and equipment availability.

Advantages precision farming

- Helps increase agriculture productivity in sustainable manner
- Prevents soil degradation
- Reduction of chemical application in crop production
- Efficient use of water resources
- Dissemination of modern farm practices to improve quality, quantity and reduced cost of production
- Developing favourable attitudes
- Precision farming changing the socio-economic status of farmers

Precision farming in India

- Some of the schemes like PMKSY's (Per Drop More Crop) involve Precision Agriculture practices.
- The Indian Council of Agricultural Research (ICAR) and the Indian Agricultural Research Institute (IARI) has formulated a project entitled "SENSAGRI: SENsor based Smart AGRiculture".
- The major objective is to develop indigenous prototype for drone based crop and soil health monitoring system using hyperspectral remote sensing (HRS) sensors.
- Drone technology is also being used. It has ability for smooth scouting over farm fields, gathering precise information and transmitting the data on real time basis.
- Mobile apps are being used to provide farmers with weather information and provide early warning.

Drawbacks of precision farming

- High cost
- Lack of technical expertise knowledge and technology
- Not applicable or difficult/costly for small land holdings
- Heterogeneity of cropping systems and market imperfections

Conclusion

- The need of the hour is to adopt state of the art technology to make agriculture sustainable and profitable.
- Agricultural renaissance can take shape on a strong digital foundation.
- Adoption of technology will help in sustaining food security and enhanced livelihood opportunities.
- In addition, the farming community needs to diversify and take up allied activities like fisheries, dairy and poultry as well to double the on-farm incomes.

Connecting the dots

- New [Farm Bills and Opposition to it](#)
-

ENVIRONMENT/POLLUTION

Phytoplankton Biomass in Bay of Bengal

Part of: GS Prelims and GS-III – Biodiversity

In news

- A team of scientists from the Indian National Centre for Ocean Information Services (INCOIS) have discovered a way to measure the quantity of chlorophyll-a that indicates abundance of [phytoplanktons](#) in the Bay of Bengal in real-time.

Key takeaways

- Study of phytoplankton biomass is done by analyzing chlorophyll-a. It is a dominant pigment found in phytoplankton cells.
- The scientists closely tracked the long-term trends of chlorophyll-a in the northwestern Bay of Bengal.
- **Findings:** There were two peaks of chlorophyll-a — the primary peak occurred during the pre-southwest monsoon due to the recurrent phytoplankton bloom in the coastal water and the secondary peak occurred during the end of the southwest monsoon, spreading to far offshore areas.
- **Reasons:** (1) Increase in phytoplanktons; (2) Physical forces such as upwelling, wind-induced vertical mixing, convective overturn and chemicals from various sources including river runoff.

Important value additions

Phytoplanktons

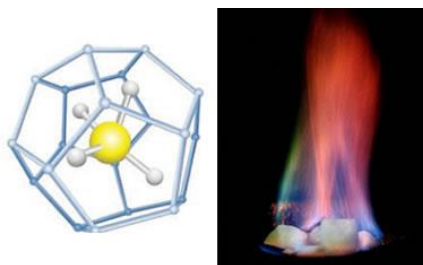
- They are tiny microscopic floating plants found in water bodies.
- Significance of Phytoplanktons: (1) They contribute more than half of the oxygen in the environment; (2) They reduce global warming by absorbing human-induced carbon dioxide; (3) They also serve as the base of the ocean food chain; (4) They are important bio indicators regulating life in oceans; (5) Their abundance determines the overall health of the ocean ecosystem.

Study on biogenic methane hydrate in the Krishna-Godavari (KG) Basin conducted

Part of: GS Prelims and GS-I – Mineral & Energy Resources

In news

- Recently, a study on biogenic methane hydrate in the Krishna-Godavari (KG) Basin was conducted by the researchers at the Agharkar Research Institute (ARI).
- They have identified the methanogens that produced the biogenic methane trapped as methane hydrate.
- Methane hydrate can be a significant source of energy.
- This study revealed maximum methanogenic diversity in the KG basin in comparison to the Andaman and Mahanadi basins.

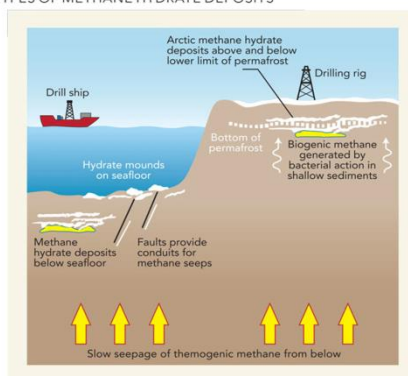


Important value additions

Methane Hydrate

- Methane hydrate is a crystalline solid that consists of a methane molecule surrounded by a cage of interlocking water molecules.
- It only occurs naturally as 'ice' in subsurface deposits where temperature and pressure conditions are favourable for its formation.
- It becomes unstable if the ice is removed from its environment.
- **Other names:** Methane clathrate, methane ice, fire ice, natural gas hydrate, and gas hydrate.
- Most methane hydrate deposits also contain small amounts of other hydrocarbon hydrates.

TYPES OF METHANE HYDRATE DEPOSITS



Krishna-Godavari Basin

- It is an extensive deltaic plain formed by two large east coast rivers, Krishna and Godavari
- **Location:** Andhra Pradesh and the adjoining areas of Bay of Bengal.
- The site is known for the D-6 block with the biggest natural gas reserves in India.
- The first gas discovery was made in 1983 by ONGC.
- The basin is home to the [Olive Ridley Sea Turtle](#) (IUCN Status: Vulnerable).

Do you know?

- Biogenic Methane is the methane produced from the metabolic activities of living organisms.
- Methane is a clean and economical fuel.
- Even the lowest estimate of methane present in the methane hydrates in the KG Basin is twice that of all fossil fuel reserves available worldwide.

Wetlands being identified in Rajasthan to protect biodiversity

Part of: GS Prelims and GS-III – Wetlands

In news

- The wetlands, which play an important role in the storage of sediment and nutrients, are being identified in Rajasthan for ensuring their utilisation and enabling the local authorities to maintain them.

Key takeaways

- While six wetlands are already identified in the State, 52 more have been earmarked for time-bound development.
- Wetlands would be strengthened for increasing vegetation of aquatic plants and protecting biodiversity.
- No waste would be allowed to be dumped at the wetlands and effective steps would be taken for water conservation
- Strict action would be taken against those running submersible pump sets for illegal salt mining in the Sambhar Lake.
- The State Government's Directorate of Environment and Climate Change will function as the secretariat of the State Wetland Authority.
- The fresh and saline lakes supporting unique ecosystems in the State would be protected with the strict implementation of the Wetlands (Conservation and Management) Rules, 2019

Important value additions

Wetlands

- They are highly productive ecosystems that provide the world with nearly two-thirds of its fish harvest.
- They play an integral role in the ecology of the watershed.
- They provide an ideal environment for organisms that form the base of the food web and feed many species of aquatic animals.
- They help in carbon sequestration (removal of carbon dioxide from the atmosphere).
- They provide habitat for animals and plants and support plants and animals that are found nowhere else.
- They are also an important source of ground water recharge.

Threats to Wetlands

- Urbanization
- **Agriculture:** Construction of a large number of reservoirs, canals and dams have altered the hydrology of the associated wetlands.
- **Pollution:** Due to mercury from industrial sources
- **Climate Change:** Increased air temperature; increased frequency of storms, droughts, and floods; increased sea level rise
- **Dredging and sand mining:** [Dredging](#) of streams lowers the surrounding water table and dries up adjacent wetlands.
- **Exotic Species:** Exotic introduced plant species such as water hyacinth and salvinia clog waterways and compete with native vegetation.

[Climate Change and Forest Fire Link](#)

Part of: GS Prelims and GS-III – Climate change

In news

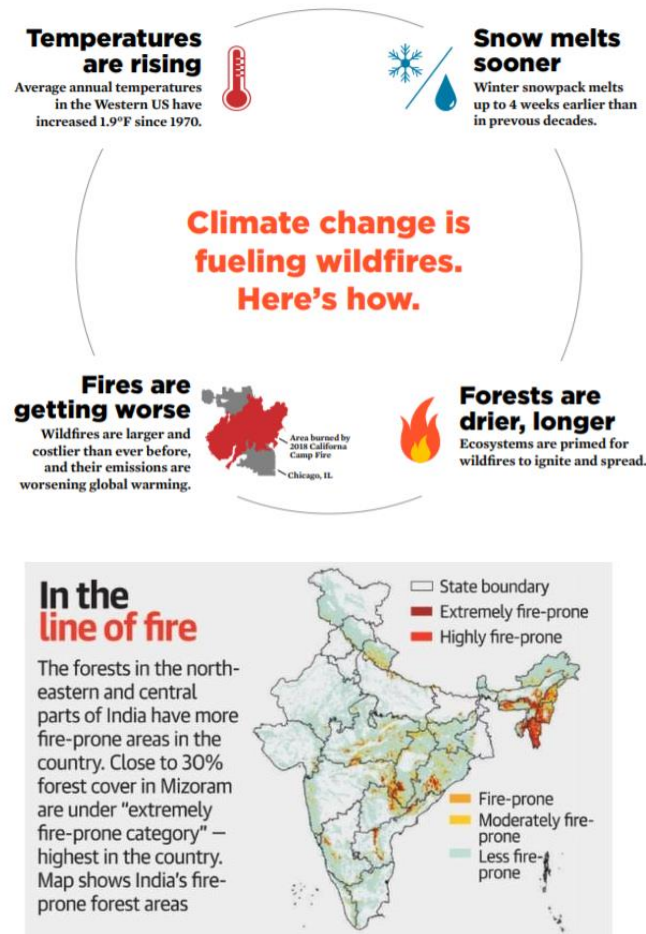
- Scientists have noted that human-induced climate change promotes the conditions on which wildfires depend.

Important value additions

Wildfire

- It is also called forest, bush or vegetation fire.

- It is any uncontrolled burning of plants in a natural setting such as a forest, grassland which consumes the natural fuels and spreads based on wind, topography.
- These can be incited by human actions, such as land clearing, extreme drought or in rare cases by lightning.
- **Three conditions needed for a wildfire:** fuel, oxygen, and a heat source.
- Globally, forest fires release billions of tons of Carbon dioxide into the atmosphere.
- Hundreds of thousands of people die due to illnesses caused by exposure to smoke
- **Factors:** (1) Climate change increases the frequency; (2) Poor land and forest management



Two new species of pipeworts from the Western Ghats discovered

Part of: GS Prelims and GS-III – Biodiversity

In news

- Scientists from Agharkar Research Institute, Pune have recently discovered two new species of pipeworts from the Western Ghats of Maharashtra & Karnataka.
- Researchers have named the species found in Maharashtra as *Eriocaulonparvicephalum* for its distinct minute inflorescence size
- Karnataka counterpart has been named *Eriocaulonkaraavalense* indicating the Karaavali coastal region in the state.



Key takeaways

- Pipeworts is a type of wetland plant.
- It belongs to genus Eriocaulon.
- Some of the previously-discovered plant species have medicinal values.
- They also have anti-inflammatory, anti-bacterial and anti-cancerous properties.
- However, the team is yet to trace the hidden medicinal applications of these two species.
- Some 111 species exist in India, most of which are endemic to the Western Ghats and eastern Himalayas.
- The two newly-discovered species display different floral characters than previously known species.
- All species of Eriocaulon appear very similar to one another.
- The team has taken up DNA barcoding works of this species to understand the evolution of this genus in India.

Do you know?

DNA barcoding is a method of species identification using a short section of DNA from a specific gene or genes

Zombie Fire becoming more frequent

Part of: GS Prelims and GS-III – Climate change

In news

- According to a new study, the fire regimes in the Arctic are changing rapidly, with zombie fires becoming more frequent.
- Fires occurring in the once-frozen tundra are also becoming frequent.
- The fires in the Arctic spreading to areas which were formerly fire-resistant is a more worrying feature.

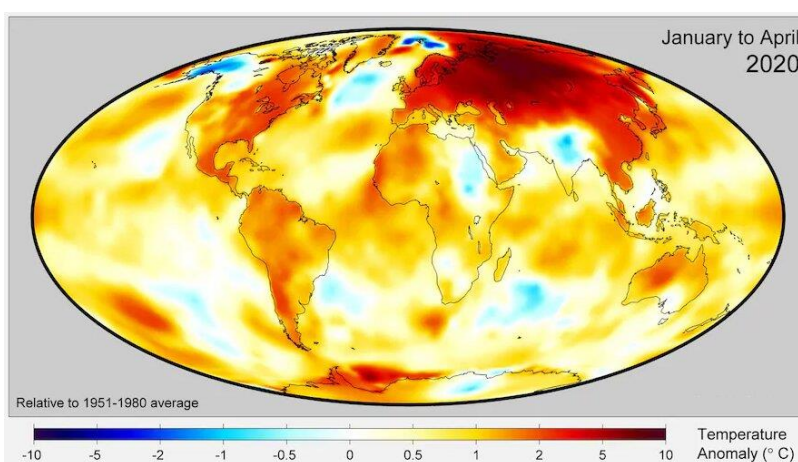
Key takeaways

- The reason for this anomaly is that temperatures in winter and spring were warmer than usual during 2019-20.
- The fires and record temperatures have the potential of turning the carbon sink into a carbon source and increasing global warming.
- Peatlands do not regrow quickly after a fire, so the carbon released is permanently lost to the atmosphere.

- As peatlands release more carbon, global warming will increase which will thaw more peat and cause more wildfires.
- Arctic fires will affect the global climate over the long term.

Do you know?

- Peatlands are wetlands that contain ancient, decomposed and partially decomposed organic matter.
- Nearly half the world's peatland-stored carbon lies between 60 and 70 degrees north, along the Arctic Circle.
- Zombie Fire is a fire from a previous growing season that can burn slowly without smoke under the ground which is made up of carbon-rich peat.
- When the weather warms, the fire can reignite.
- These are also known as holdover fires.



Stubble burning

Context: In 2019, Haryana farmers burnt nearly a fifth of the paddy stubble generated by them, while Punjab farmers burnt nearly half of what they generated.

What is Stubble Burning?

- Stubble burning is the act of setting fire to crop residue to remove them from the field to sow the next crop
- It is a traditional practice in Punjab and Haryana to clean off the rice chaff to prepare the fields for winter sowing
- It begins around October and peaks in November, coinciding with the withdrawal of southwest monsoon.
- On December 10, 2015, the National Green Tribunal (NGT) had banned crop residue burning in the states of Rajasthan, Uttar Pradesh, Haryana and Punjab

Environmental Risks associated with Stubble burning

- **Air Pollution:** A study estimates that crop residue burning released 149.24 million tonnes of carbon dioxide (CO₂), over 9 million tonnes of carbon monoxide (CO), 0.25 million tonnes of oxides of sulphur (SOX), 1.28 million tonnes of particulate matter and 0.07 million tonnes of black carbon.

- **Responsible for the haze in Delhi:** Crop burning contributed nearly 40% of the near-surface PM 2.5 in Delhi in 2016, which saw one of Delhi's severest pollution episode
- **Soil Fertility:** The heat from burning paddy straw penetrates 1 centimetre into the soil, elevating the temperature to 33.8 to 42.2 degree Celsius. This kills the bacterial and fungal populations critical for a fertile soil. The solubility capacity of the upper layers of soil has also been reduced.
- **Pests in atmosphere:** Burning of crop residue causes damage to other micro-organisms present in the upper layer of the soil as well as its organic quality. Due to the loss of 'friendly' pests, the wrath of 'enemy' pests has increased and as a result, crops are more prone to disease.

Supreme Court on Stubble Burning

- The Supreme Court, in November 2019, had directed the governments of Punjab, Haryana and Uttar Pradesh to pay farmers a financial incentive to curb the practice
- In 2019, the Punjab government paid Rs 28.51 crore to 31,231 farmers, while Haryana's paid Rs 1.63 crore to 4,000. This year, the Haryana government expects to pay as much as Rs 301 crore.
- However, Supreme Court appointed Environment Pollution (Prevention and Control) Authority, or EPCA, is right in saying that an incentive of Rs 100 per quintal of grain—paid on top of the MSP during procurement by the Centre—is "not viable".

How have governments tried to solve the issue?

- **Union Government:** Under a 100% centrally-funded scheme, machines that help farmers in in-situ management—by tilling the stubble back into the soil—were to be provided to individual farmers at 50% subsidy and to custom hiring centres (CHCs) at 80% subsidy.
- While Haryana has set up 2,879 CHCs so far and has provided nearly 16,000 straw-management machines, it has to set up 1,500 more and has to cover nearly as many panchayats it has reached so far.
- Similarly, Punjab, which has provided 50,815 machines so far, will need to set up 5,000 more CHCs—against 7,378 set up already—and reach 41% of its panchayats by October 2020.

Way Ahead

- **Short term Solution:** Giving farmers easy and affordable access to the machines which allow them to do smart straw management is the short term solution to the problem
- **Dual Strategy:** Both in-situ (in the field) and ex-situ (elsewhere) solutions need to be considered, apart from tackling the fundamental factors prompting the practice.
- **Affordability of Government Measures:** A key factor will be ensuring affordability of service for those hiring the machines; Haryana has reserved 70% of the machines at panchayat-run CHCs for small and marginal farmers, while Punjab has prioritised service to them.
- **Utilizing Crop Stubble:** Instead of burning of the stubble, it can be used in different ways like cattle feed, compost manure, roofing in rural areas, biomass energy, mushroom cultivation, packing materials, fuel, paper, bio-ethanol and industrial production, etc.
- **The long-term solution** has to be crop diversification, away from paddy

Connecting the dots

- Ashok Dalwai Committee on Doubling Farmers income

Ratification of seven chemicals under Stockholm Convention on Persistent Organic Pollutants (POPs)

Part of: GS Prelims and GS-III – Pollution

In news

- The Union Cabinet has approved the ratification of seven chemicals listed under Stockholm Convention on Persistent Organic Pollutants (POPs).

Key takeaways

- These are: (1) Chlordecone; (2) Hexabromobiphenyl; (3) Hexabromodiphenyl ether and Heptabromodiphenylether; (4) Tetrabromodiphenyl ether and Pentabromodiphenyl ether, (5) Pentachlorobenzene; (6) Hexabromocyclododecane; (7) Hexachlorobutadiene.
- The ratification process would enable India to access Global Environment Facility (GEF) financial resources in updating the National Implementation Plan (NIP).

Important value additions

Stockholm Convention

- It is a global treaty to protect human health and environment from POPs.
- POPs are chemical substances that persist in the environment, bio-accumulate in living organisms and have the property of long-range environmental transport.
- Exposure to POPs can lead to cancer, damage to nervous systems, diseases of immune system, reproductive disorders etc.
- India had ratified the Stockholm Convention in 2006.
- The Ministry of Environment had notified the 'Regulation of Persistent Organic Pollutants Rules in 2018 under the provisions of Environment (Protection) Act, 1986.
- **Examples of persistent organic pollutants include:** (1) Aldrin; (2) Chlordane; (3) DDT; (4) Dieldrin; (5) Endrin; (6) Heptachlor; (7) Hexachlorobenzene; (8) Mirex

Pusa Decomposer to be used on trial basis

Part of: GS Prelims and GS-III – Environment

In news

- According to Environment Ministry, Pusa Decomposer will be used on a trial basis in Punjab, Haryana, Uttar Pradesh and Delhi for 2020.

Key takeaways

- The burning of paddy stubble has been a cause of concern for the past several years as it contributes to air pollution.
- It is a common practice in October and November across North West India, primarily in states of Punjab, Haryana, and Uttar Pradesh.
- This is done to quickly clear crop residue from their fields before planting the rabi wheat crop.

Important value additions

Pusa Decomposer

- 'Pusa Decomposer' is developed to tackle the issue of stubble burning.
- **Developed by:** Indian Agriculture Research Institute (IARI).
- It is a fungi-based liquid solution that can soften hard stubble so that it can be easily mixed with soil in the field to act as compost.

- It will also help in retaining the essential microbes and nutrients in soil that are otherwise damaged due to the burning.

Arctic Amplification phenomenon

Part of: GS Prelims and GS-III – Environment; Climate change

In news

- A team of scientists have identified iodic acid (HIO₃) which is driver of new aerosol particle formation in the Arctic.
- This is responsible for Arctic Amplification or Arctic Warming.
- Also, presence of Iodic acid in the region had not been observed previously.
- Over the past 30 years, the Arctic has warmed at roughly twice the rate as the entire globe. This phenomenon is known as Arctic amplification.
- Global warming and climate change are impacting the Arctic more than the rest of the world.
- Changes have become much more pronounced since the 1980s.

Key takeaways

- These aerosol particles influence the formation of clouds.
- These clouds reflect solar radiation which is known as Aerosol Radiative Forcing.
- Also, clouds can retain heat on the Earth's surface. Thus, they have an influence on the warming of the Arctic.

Reasons for Arctic Amplification

- **Change in Albedo:** It is a measure of how much light that hits a surface is reflected without being absorbed.
- **Changing Ocean currents:** Ocean currents normally bring in warmer water from the Pacific, and colder water exits out of the Arctic into the Atlantic. However, such currents may be changing because more melting ice is injecting the Arctic Ocean with freshwater.
- **Changing Weather:** Ocean currents also drive the polar jet stream, which moves hot and cold air masses around the Northern Hemisphere. This happens due to temperature differences between the Arctic and the tropics. But as the Arctic warms, the jet stream now undulates wildly north and south due to which the Arctic gets warm air.

Do you know?

- There is no Antarctic amplification.
- Antarctic warming is not as alarming as Arctic Warming.
- This is so because Antarctica is surrounded by the vast Southern Ocean, which is soaking up much of the atmosphere's excess heat.

8 Indian beaches awarded with Blue Flag

Part of: GS Prelims and GS-III – Environment; Climate change; Pollution

In news

- 8 beaches of India have been awarded the “[Blue Flag](#)” by an International Jury comprising of eminent members from UNEP, UNWTO, FEE, IUCN.
- **Beaches:** Shivrajpur (Dwarka-Gujarat), Ghoghla (Diu), Kasarkod and Padubidri (Karnataka), Kappad (Kerala), Rushikonda (AP), Golden (Puri-Odisha) and Radhanagar (A&N Islands).
- **Accorded by:** The Foundation of Environment Education (FEE) Denmark

Key takeaways

- India is also the first country in Asia-Pacific region which has achieved this feat in just about 2 years' time.
- India is now in the league of 50 Blue Flag countries.
- SICOM, MoEFCC, carried out BEAMS - Beach Environment & Aesthetics Management Services under its Integrated Coastal Zone Management (ICZM) project.
- **Aim of BEAMS:** To strive for the International eco-label Blue flag.

Important value additions

Blue Flag certification

- The 'Blue Flag' is a certification that can be obtained by a beach, marina, or sustainable boating tourism operator.
- It serves as an eco-label.
- The certification is known as an indication of high environmental and quality standards.
- Blue Flag beaches are considered the cleanest beaches of the world.
- The certification is awarded by the Denmark-based non-profit Foundation for Environmental Education (FEE) with 33 stringent criteria under four major heads for the beaches: (i) Environmental Education and Information (ii) Bathing Water Quality (iii) Environment Management and Conservation and (iv) Safety and Services.
- The Blue Flag Programme started in France in 1985 and in areas outside Europe since 2001.

Higher cytotoxicity in human lung cells suggested due to presence of Particulate Matter (PM) 2.5

Part of: GS Prelims and GS-III – Environment; Pollution

In news

- A recent study - '**Insights on the biological role of ultrafine particles of size PM<0.25: a prospective study from New Delhi**' was conducted recently.

Key takeaways

Proportion of Ultrafine Particles:

- Particulate matter of below 0.25 micrometres constituted the highest share in the composition of PM2.5 around the year as compared to particles of other sizes.
- Exposure to ultrafine particles of below 0.25 micrometres was also associated with over two-fold higher cytotoxicity as compared to exposure to other sizes.

Reasons:

- Celebration of Diwali.
- [Stubble burning](#) in neighbouring states of Punjab and Haryana.
- Secondary formation of particles due to favourable meteorological conditions.
- The low temperature and high humidity during winter nights enhance the fog-smog-fog cycle and result in 2-3-fold increase in PM concentration compared to pre-monsoon and South-West monsoon season.

Health Impacts:

- Stroke
- Lung cancer
- Other heart and lung related problems

Trial run of Delhi's buses on Hydrogen-blended CNG (HCNG) launched

Part of: GS Prelims and GS-III – Technology; Environment

In news

- The trial run of Delhi's buses on Hydrogen-blended CNG (HCNG) was recently launched.
- **Ministry:** Ministry of Petroleum & Natural Gas

Key takeaways

- HCNG is a hydrogen-enriched compressed natural gas (CNG).
- In Delhi, instead of physically blending hydrogen with CNG, hydrogen spiked CNG will be produced using compact reforming process patented by Indian Oil Corporation.
- H-CNG blends can be produced directly from CNG, bypassing the energy-intensive electrolysis process and high-pressure blending costs.
- The flexible and robust process allows the production of H-CNG on-site, in less severe conditions, and under low pressure.
- It provides a higher yield H-CNG mixture by up to 4% to 5% compared to CNG's input quantity.
- The cost of H-CNG production by the above process is about 22% cheaper than conventional physical blending.

Do you know?

- The Supreme Court had suggested in 2019 to look at hydrogen-run vehicles as a solution for Delhi NCR's poor air quality
- An SC directive in July 2018 had led to Indian Oil Corporation Limited (IOCL) and Indraprastha Gas Limited (IGL) collaborating to put up this first semi-commercial plant.
- Mixing hydrogen with CNG physically is a difficult proposition and that is why IOCL came up with the compact reforming process, which reforms CNG and there is no need for mixing.

State of Global Air 2020 released by the Health Effects Institute

Part of: GS Prelims and GS-III – Pollution

In news

- Recently, State of Global Air 2020 was released by the Health Effects Institute (HEI).
- HEI is an independent, nonprofit research institute funded jointly by the USA's Environmental Protection Agency and others.

Key takeaways

- It highlights that air pollution is the largest risk factor for death among all health risks.
- It is the first-ever comprehensive analysis of air pollution's global impact on new-borns.
- India, Bangladesh, Pakistan and Nepal are among the top ten countries with the highest PM2.5 (particulate matter) exposures in 2019.
- All these countries also experienced increases in outdoor PM2.5 levels between 2010 and 2019.
- India is also among the top ten countries with highest Ozone (O3) exposure in 2019.
- Among the 20 most populous countries, India recorded the highest increase (17%) in O3 concentrations in the past ten years.
- Long-term exposure to outdoor and household (indoor) air pollution contributed to over 1.67 million annual deaths from stroke, heart attack, diabetes, lung cancer, chronic lung diseases, and neonatal diseases, in India in 2019.

Do you know?

- High PM contributed to the deaths of more than 1, 16, 000 Indian infants who did not survive their first month.

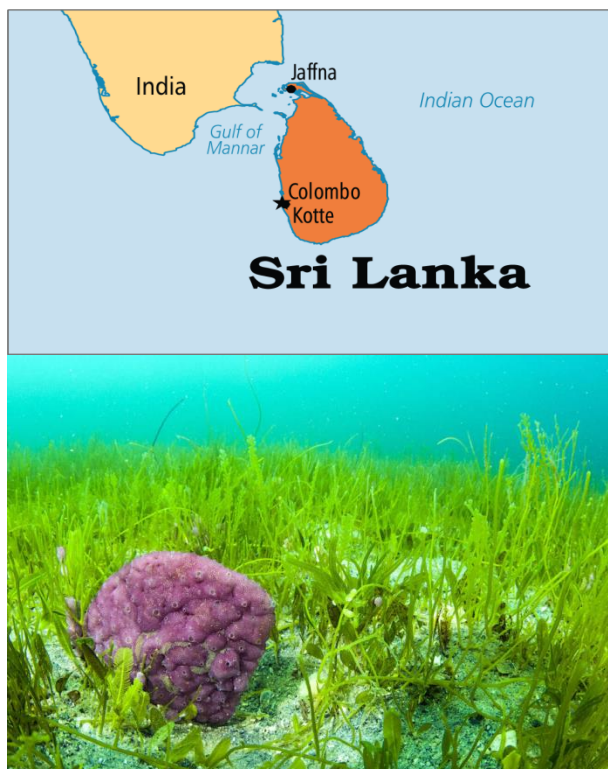
- More than half of these deaths were associated with outdoor PM2.5 and others were linked to the use of solid fuels such as charcoal, wood, and animal dung for cooking.

Restoration process of Seagrass taken up

Part of: GS Prelims and GS-III – Biodiversity; Environment

In news

- Recently, the restoration process of seagrasses is taken up by Tamil Nadu in the Gulf of Mannar.



Important value additions

Seagrasses

- These are flowering plants that grow submerged in shallow marine waters like bays and lagoons.
- These have tiny flowers and strap-like or oval leaves.
- Seagrasses evolved from terrestrial plants that recolonised the ocean around 70-100 million years ago.
- Seagrasses also produce food by photosynthesis.
- They reproduce sexually as well as asexually.
- **Some of the important seagrasses:** (1) Sea Cow Grass (*Cymodocea serrulata*); (2) Thready Seagrass (*Cymodocea rotundata*); (3) Needle Seagrass (*Syringodium isoetifolium*); (4) Flat-tipped Seagrass (*Halodule uninervis*), etc.
- **Location:** These are found in muddy and sandy substrates. These also occur along the coastal areas of India. These are abundant in the Palk Strait and Gulf of Mannar.

- **Significance:** (1) They provide many ecosystem services; (2) These are also called 'the lungs of the sea' because they release oxygen into the water through photosynthesis; (3) Sequesters up to 11% of the organic carbon buried in the ocean; (4) Absorb carbon from the atmosphere. They can capture carbon from the atmosphere up to 35 times faster than tropical rainforests; (5) Help maintain water quality; (6) Filter nutrients released from land-based industries; (7) Prevent soil erosion; (8) Provide food as well as habitat for fishes, octopuses, shrimp, blue crabs, oysters, etc.
- Seagrass beds are facing decline all over the world at the rate of 2-5% annually.
- **Threats:** Grazing, storms, ice-scouring (abrasion and erosion of seabeds by glaciers), desiccation, eutrophication, mechanical destruction of habitat, overfishing, coastal engineering construction, etc.

Two New Ramsar Sites in India

Part of: GS Prelims and GS-III – Biodiversity; Ecology; Environment

In news

- Recently, Kabartal Wetland (Bihar) and Asan Conservation Reserve (Uttarakhand) have been designated as Ramsar sites.
- Now, the total number of Ramsar sites in India is 39, the highest in South Asia.

Important value additions

Kabartal Wetland

- It is also known as KanwarJheel.
- **Location:** Begusarai, Bihar.
- It acts as a vital flood buffer for the region.
- It also provides livelihood opportunities to local communities.
- It has significant biodiversity with 165 plant species, 394 animal species and 50 fish species.
- 58 migratory waterbirds use it to rest.
- **Five critically endangered species inhabit the site:** (1) Red-headed vulture; (2) White-rumped vulture; (3) Indian vulture; (4) Sociable lapwing; (5) Baer's pochard

Asan Conservation Reserve(ACR)

- ACR is formed by the Asan River running down to its confluence with the Yamuna River in Dehradun, Uttarakhand.
- It is Uttarakhand's first Ramsar Site.
- These habitats support 330 bird species including the critically endangered red-headed vulture, white-rumped vulture and Baer's pochard (Aythyabaeri).
- 49 fish species are also found including the endangered Putitoramahseer (Tor putitora).

Ramsar Site

- Ramsar Convention on Wetlands is an intergovernmental treaty adopted in 1971 in Ramsar, Iran.
- Those wetlands which are of international importance are declared as Ramsar sites.
- **Mission:** Conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world.
- The Montreux Record is a register of wetland sites on the List of Wetlands of International Importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference.

- It is maintained as part of the Ramsar List.
- At present, two wetlands of India are in Montreux Record: Keoladeo National Park (Rajasthan) and Loktak Lake (Manipur).
- Chilika Lake (Odisha) was placed in the record but later removed from it.

NTPC Ltd enters into loan agreement under JBIC's GREEN Initiative

Part of: GS Prelims and GS-III – Environment

In news

- NTPC Ltd entered into a loan agreement with Japanese Government for JPY 50 billion (approx. USD 482 million) under Japan Bank for International Cooperation (JBIC)'s GREEN initiative.
- GREEN initiative stands for Global Action for Reconciling Economic growth and Environment preservation initiative.

Key takeaways

- The facility is extended under JBIC's outreach for projects, which ensure conservation of the global environment.
- JBIC will provide 60% of the facility amount and the balance will be given by Japanese commercial banks under JBIC guarantee.
- The loan proceeds will be utilized by NTPC Ltd for funding its capex for Flue Gas Desulphurization (FGD) & Renewable Energy projects.
- FGD, substantially reduces the SOx emission in the flue gases of thermal power plants and is a critical step towards environmental sustainability.

Ordinance for Commission For Air Quality Management In National Capital Region promulgated

Part of: GS Prelims and GS-II - Policies and interventions & GS-III – Pollution

In news

- Indian President has promulgated an ordinance to constitute a Commission for Air Quality Management in the National Capital Region (NCR) and adjoining areas.

Key takeaways

- The Commission will have at least three sub-committees including on Monitoring and identification, Safeguarding and Enforcement and Research and Development to suggest measures to curb air pollution in the region.
- **Composition:** A Chairperson, a representative from the Ministry of Environment, members from the state of Delhi, Haryana, Punjab, Uttar Pradesh and Rajasthan, technical experts from Central Pollution Control Board and Indian Space Research Organization among others.
- **Role:** The commission will work towards better coordination, research, identification and resolution of problems surrounding the Air Quality Index in the NCR and adjoining areas.
- **Powers:** It can take all such measures, issue directions and entertain complaints in order to protect and improve the quality of air in the NCR and adjoining areas.
- It will also lay down the parameters for emission or discharge of environmental pollutants from various sources.

ANIMALS/NATIONAL PARKS IN NEWS

Morphological Phenotypic Plasticity in Kalinga Frog

Part of: GS Prelims and GS-III – Biodiversity

In news

- Recently, Indian scientists from the Zoological Survey of India, Pune have reported a first-of-its-kind discovery of morphological phenotypic plasticity (MPP) in the Kalinga cricket frog.
- **Phenotypic plasticity** refers to some of the changes in an organism's behaviour, morphology and physiology in response to a unique environment.
- It was the only genetic analysis that helped prove that physically different-looking frogs from Eastern and Western Ghats were the same.

Significance of the Discovery

- The behavioural studies of many anuran (frog or toad) species will help in generating information on the selection of breeding sites, courtship patterns and ecological adaptations.
- The information will help to trace the distribution of these species along the peninsular region of India and can be used to evaluate the possible links with other species that were found in the Northeast region.



Important value additions

Kalinga Cricket Frog

- Scientific Name: *Fejervarya kalinga*.
- It is a recently identified species which was documented in 2018.
- It was thought to be endemic only to the higher-elevation hill ranges of the Eastern Ghats in Odisha and Andhra Pradesh.
- However, it has been reported from the central Western Ghats, with the evidence of considerable MPP.
- Its physical characteristics are entirely different from the other known *Fejervarya*/*Minervarya* species from the Western Ghats.
- Cricket frogs are indicators of a healthy ecosystem and live in wide habitat ranges in agricultural fields, streams, swamps and wetlands.

Animal in news: Rose-Breasted Grosbeak

Part of: GS Prelims and GS-III – Biodiversity

In news

- A rare Rose-breasted Grosbeak was recently found in Pennsylvania, USA.
- It is a bird with both female and male plumage colours (sexually dimorphic).

- It derives its name from the male of the species who have a ruby-red triangular marking on a white chest and dark black wings with pink wing pits.
- The females are much less showy, with no patches on its beige body, brown wings and yellow wing pits.
- Breeding habitat consists of cool-temperate open deciduous woods in eastern North America. They migrate to tropical America in winter.
- **IUCN status:** Least Concern.



Important value additions

Gynandromorph

- Bilateral gynandromorphism means the bird is both male and female, with one ovary and one testis.
- This occurs when two sperms fertilize an egg that has two nuclei instead of one, due to which the egg develops chromosome from each sex.
- It is often seen in insects but gynandromorphic birds, snakes, lobsters and other animals have also been observed.

Lepidoptera Species move up the Himalayas due to Climate Change

Part of: GS Prelims and GS-III – Climate change

In news

- According to a recent study, rising average temperatures in the Himalayan region have driven several dozen species of butterfly and moth to habitats higher up the mountains.
- **Carried out by:** Zoological Survey of India (ZSI)
- **Funded by:** Ministry of Environment, Forest and Climate Change.

Key takeaways

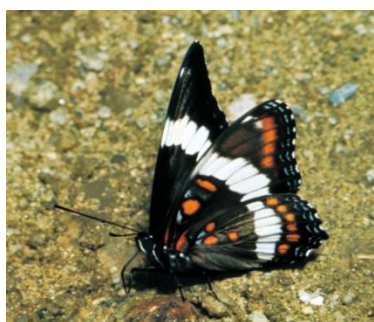
- At least 49 species of moth and 17 species of butterfly have shown considerable new upward altitude movement.
- The extension of the range of Lepidoptera due to climate change has been observed all over the world as well.
- The ZSI predicts a decline of as much as 91% in the suitable area for the Notodontidae family of moths in J&K, Himachal, and Uttarakhand by 2050.

- The study also revealed an increase in the richness of Lepidoptera biodiversity from the Western to the Eastern Himalayas.

Important value additions

Lepidoptera

- It is the order of insects that includes butterflies, moths and skippers.
- The name Lepidoptera is derived from the Greek, meaning “scaly winged”.
- It also refers to the characteristic covering of microscopic dust like scales on the wings.
- **Importance:**(1)They transform large amounts of plant matter into the animal matter and in turn serve as food for many other groups of animals; (2) They aid in pollination.
- The Himalayas are home to more than 35% of Lepidoptera species (butterflies and moths) found in India.



Animal in news: Furry Puss Caterpillars

Part of: GS Prelims and GS-III – Biodiversity

In news

- It is a southern flannel moth in its larva stage.
- After metamorphosis, the insect does not pose any threat.
- It closely resembles a wig or toupee.
- It is widely regarded as one of the most poisonous of its kind in the USA.
- The bristly hair that coats it, hides small and toxic spines that can get lodged in a person's skin and cause immediate and intensely burning pain.
- The caterpillars, which subsist solely on oak and elm leaves, are commonly found in parks and near structures in southern states like Texas and Missouri.



Parasitic Infections found in One-Horned Rhinoceros

Part of: GS Prelims and GS-III – Environment; Biodiversity

In news

- Recently, the World Wildlife Fund (WWF) India has published report - 'Prevalence of Endoparasitic Infections in Free-Ranging Greater One-Horned Rhinoceros' for Assam and West Bengal.

Key takeaways

- The report highlights the natural causes due to which these rhinos die along with poaching. These natural causes have not been studied in great detail yet.
- Since 2017, the Rhino Task Force of Assam and WWF India have been undertaking steps to study pathogens found in fresh rhino dung samples in Assam, Uttar Pradesh, and West Bengal.
- According to the researchers, habitat degradation can lead to an increased exposure to pathogens
- From the samples from Assam and West Bengal, the study concluded that parasites from four genera were present in an estimated 68% of India's rhino population.
- The overall prevalence of endoparasites was 58.57% in Assam and 88.46% in West Bengal.
- Results from UP are pending.

Do you know?

- Endoparasites are parasites that live in the tissues and organs of their hosts, such as tapeworms, flukes, and protozoans of vertebrates.

Important value additions

- There are three species of rhino in Asia — Greater one-horned, Javan and Sumatran.
- Two greatest threats:** Poaching for the horns and habitat loss
- The five rhino range nations:** India, Bhutan, Nepal, Indonesia and Malaysia.
- These Nations have signed a declaration 'The New Delhi Declaration on Asian Rhinos 2019' for the conservation and protection of the species.

Protection Status

- IUCN Red List**
 - Javan and Sumatran Rhino:** Critically endangered
 - Greater one-horned rhino:** vulnerable
- All three listed under Appendix I (CITES).
- Greater one-horned rhino:** Schedule I of the Wildlife Protection Act, 1972.
- In India, rhinos are mainly found in Kaziranga National Park (NP), Pobitora Wildlife Sanctuary (WLS), Orang NP and Manas NP in Assam, Jaldapara NP and Gorumara NP in West Bengal and Dudhwa Tiger Reserve in UP.

Conservation Efforts by India

- Recently, the Ministry of Environment Forest and Climate Change (MoEFCC) has begun a project to create DNA profiles of all rhinos in the country.
- **National Rhino Conservation Strategy:** It was launched in 2019 to conserve the greater one-horned rhinoceros.
- **Indian Rhino Vision 2020:** It was launched in 2005. **Aim:** To attain a wild population of at least 3,000 greater one-horned rhinos spread over seven protected areas in the Indian state of Assam by the year 2020.



[Supreme Court \(SC\) upholds the Madras High Court's 2011 order on the Nilgiris elephant corridor](#)

Recently, the SC upheld the Madras HC's 2011 order on the Nilgiris elephant corridor. It affirmed the right of passage of the animals and the closure of resorts in the area.

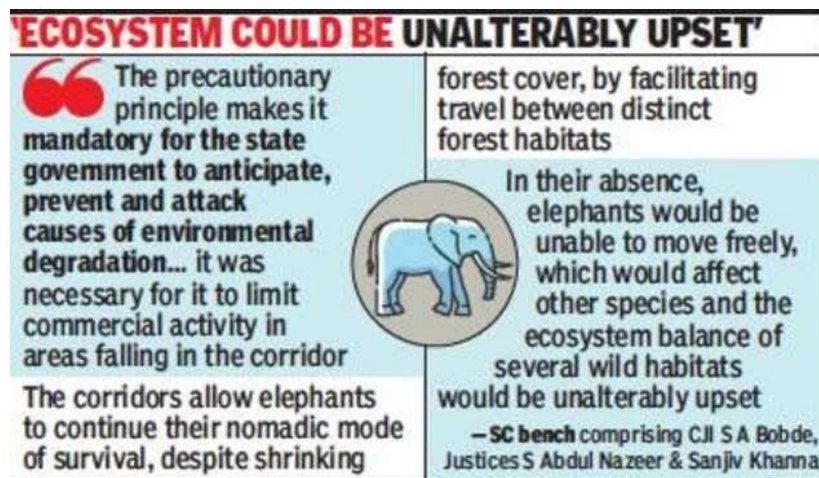
Key takeaways of the SC Judgement

- In 2011, the Madras HC had upheld the validity of the Tamil Nadu government's notification (of 2010) declaring an 'Elephant Corridor' in the Sigur Plateau of Nilgiris District.
- According to SC, it's the State's duty to protect a "keystone species" like elephants, which are immensely important to the environment.
- Elephant corridors allow elephants to continue their nomadic mode of survival, despite shrinking forest cover, by facilitating travel between distinct forest habitats.
- These corridors play a crucial role in sustaining wildlife by reducing the impact of habitat isolation.
- The SC opined that the area is a fragile ecosystem, where the will of men must give way to elephants.
- The court has also allowed the formation of a committee led by a retired HC judge and two other persons to hear the individual objections of resort owners and private landowners within the corridor space.

Important value additions

Nilgiris Elephant Corridor

- It is situated in the ecologically fragile Sigur plateau.
- It connects the Western and the Eastern Ghats.
- It is situated near the Mudumalai National Park in the Nilgiris district.
- It also has the Nilgiri hills on its southwestern side and the Moyar river valley on its northeastern side.
- There are about 100 elephant corridors in India of which almost 70% are used regularly.
- 75% of the corridors are in the southern, central and north-eastern forests.
- There are an estimated 6,500 elephants in just the Brahmagiri-Nilgiris-Eastern Ghats ranges.



Asian Elephant

- There are three subspecies of Asian elephant – the Indian, Sumatran and Sri Lankan.
- The Indian has the widest range and accounts for the majority of the remaining elephants on the continent.
- **Common threats to African and Asian elephants:** Escalation of poaching, habitat loss, human-elephant conflict and mistreatment in captivity
- **IUCN Red List status:** (1) African elephants: vulnerable; (2) Asian elephants: endangered.
- **CITES status:** (1) Appendix I for Asian Elephants; (2) Appendix II for African elephants in Botswana, Namibia, South Africa and Zimbabwe.
- **Conservation Efforts by India:** (1) Project Elephant in 1992 as a Centrally Sponsored Scheme under which Elephant census is conducted once in 5 years; (2) Establishment of elephant reserves; (3) Adoption of the “World Elephant Day” (August 12); (4) Gaj Yatra - a awareness campaign highlight the necessity of securing elephant corridors; (5) The Monitoring the Illegal Killing of Elephants (MIKE) programme, launched in 2003, is an international collaboration that tracks trends in information related to the illegal killing of elephants from across Africa and Asia, to monitor effectiveness of field conservation efforts.

Do you know?

- **Keystone species:** A species that has a disproportionately large effect on the communities in which it lives.

Dolphins make a comeback in Pearl River Estuary

Part of: GS Prelims and GS-III – Environment; Biodiversity

In news

- According to a recent report, Chinese pink dolphins/Indo-Pacific humpback dolphins are making a comeback in the Pearl River Estuary (PRE).

Key takeaways

- Dolphins use echolocation to find their way in the water.
- The ships often disturb them in finding their way and even kill them.
- However, dolphin numbers in the waters between Hong Kong and Macau have seen a rebound in 2020 because Covid-19 pandemic has stopped ferries and hence reduced their traffic.
- The number of pink dolphins in the waters has roughly increased by a third according to scientists.

Important value additions

Pearl River Estuary

- It includes Hong Kong, Macau and the mainland Chinese cities of Shenzhen, Guangzhou and Dongguan.
- The Pearl River Delta is the low-lying area which surrounds the PRE where the Pearl River flows into the South China Sea.
- The Delta is one of the world's most densely urbanised, heavily industrialised and busiest shipping lanes on Earth.



Indo-Pacific Humpback Dolphin

- **Scientific Name:** *Sousa Chinensis*.
- **Habitat:** Coastal waters of the eastern Indian and western Pacific Oceans.
- The World Wildlife Fund for Nature (WWF) has seen a decline in their numbers in the past 15 years by 70-80%.
- **Threats:** (1) Agricultural, industrial, and urban pollution; (2) Overfishing; (3) Marine construction; (4) Transport; (5) Selling into captivity at marine entertainment parks and aquariums
- **IUCN Status:** Vulnerable



Do you know?

- Echolocation is a technique used by bats, dolphins and other animals to determine the location of objects using reflected sound.
- This allows the animals to move around in pitch darkness, so they can navigate, hunt, identify friends and enemies, and avoid obstacles.

[Zoological Survey of India lists 62 species of Skinks](#)

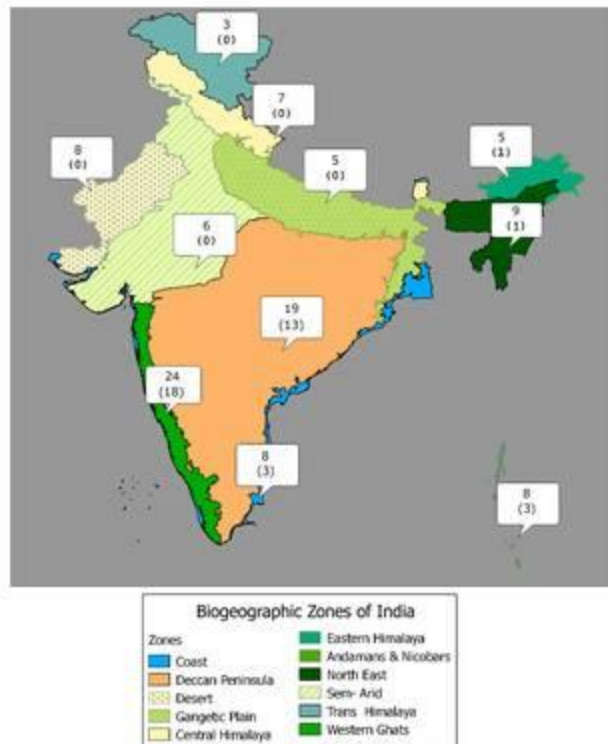
Part of: GS Prelims and GS-III – Environment; Biodiversity

In news

- A recent publication by the Zoological Survey of India (ZSI) reveals that India is home to 62 species of skinks.
- **Title of the publication:** Skinks of India.

Key takeaways

- It gives a phylogenetic (evolutionary development) and bio-geographical analysis of distribution of these species in all the 11 bio-geographic zones of India.
- India is home to less than 4% of the skinks across the globe.
- 62 species of skinks are found in India.
- About 57% of them (33 species) are endemic.
- The four genera of skinks which are endemic to India are: (1) *Sepsophispunctatus* is endemic to the northern part of Eastern Ghats; (2) *Barkudia* are limbless skinks found in the hills and coastal plains of the eastern coast; (3) *Kaestlea*, also known as blue-tailed ground skinks, are endemic to the Western Ghats; (4) *Ristella*, also known as Cat skinks, are endemic to the southern part of Western Ghats.



**SKINK SPECIES DISTRIBUTION IN
DIFFERENT BIOGEOGRAPHIC ZONES OF INDIA
(ENDEMIC SPECIES IN BRACKETS)**

Important value additions

Skinks

It is the largest family of lizards.

- There are 1,602 species of skinks across the world.
- It has long body relatively small or no legs, no pronounced neck and glossy scales.
- It is found around homes, garages, and open spaces such as sparks and school playgrounds, and around lakes.
- Skinks are non-venomous, highly alert, agile and fast moving.
- They actively forage for a variety of insects and small invertebrates.
- They have a prominent role in maintaining ecosystems.
- However, not much is known about their breeding habits, and ecology because identification of the species can be confusing.
- In India skinks are found in all kinds of habitats in the country, from the Himalayas to the coasts and from dense forests to the deserts.

Do you know?

- *Barkudiainsularis* is believed to be found only in the Barkud Island in Chilkalake in Odisha.
- *Barkudiamelanosticta* is endemic to Visakhapatnam.



International Snow Leopard Day

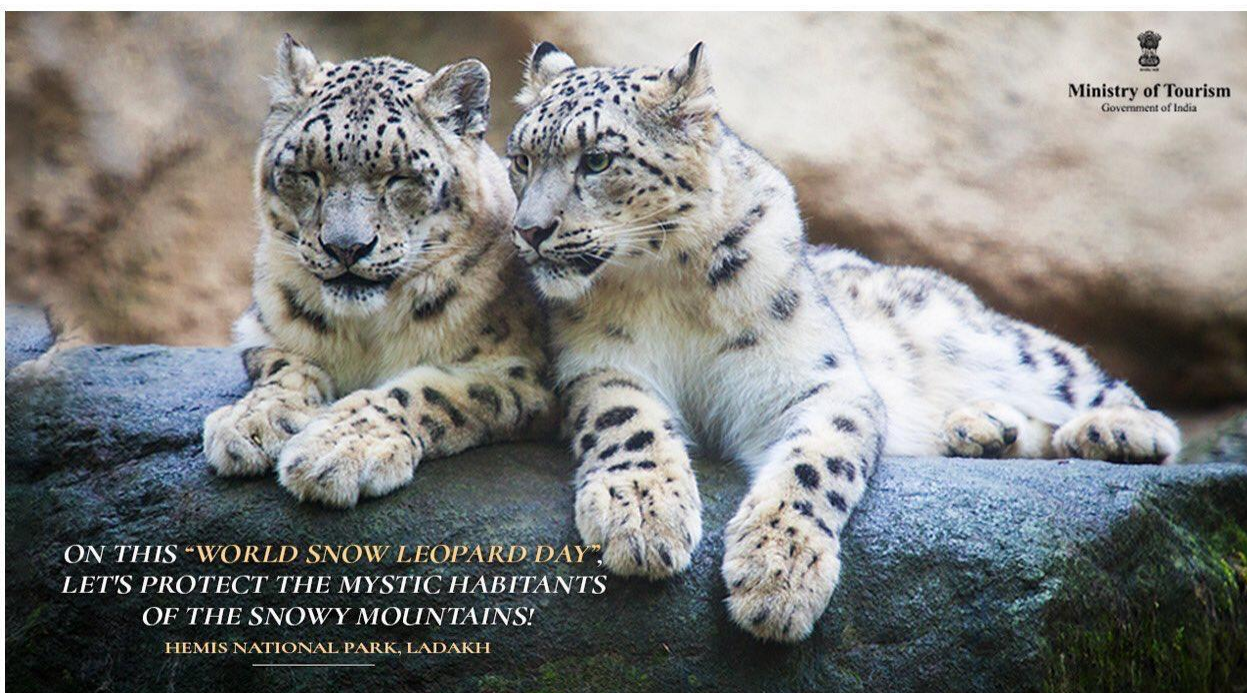
Part of: GS Prelims and GS-III – Biodiversity

In news

- International Snow Leopard Day is observed on 23rd October.

Key takeaways

- **Aim:** To raise awareness on conservation and protection of snow leopards.
- International Snow Leopard Day came into being on 23rd October, 2013 when Bishkek Declaration was adopted by 12 countries on the conservation of snow leopards.
- **The 12 countries included:** India, Nepal, Bhutan, China, Mongolia, Russia, Pakistan, Afghanistan, Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan.



Important value additions

Snow Leopard

- It is also known as Ghost of the mountains.
- They are positioned as the top predator in the food web.
- It acts as an indicator of the health of the mountain ecosystem in which they live.
- **Habitat:** Higher Himalayan and trans-Himalayan landscape in J&K, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.
- India is home to 5 big cats: Snow Leopard, Lion, Tiger, Common Leopard, and Clouded Leopard.
- **Snow Leopard capital of the world:** Hemis, Ladakh.
- **Threat:** Reduction in prey populations, illegal poaching and increased human population infiltration into the species habitat and illegal trade of wildlife parts and products
- **IUCN Red List:** Vulnerable
- **CITES:** Appendix I
- **Convention on Migratory Species (CMS):** Appendix I
- **Indian Wildlife (Protection) Act 1972:** Schedule I
- **Conservation Efforts by India:** (1) **HimalSanrakshak:** It is a community volunteer programme, to protect snow leopards, launched on 23rd October 2020; (2) In 2019, **First National Protocol** was also launched on Snow Leopard Population Assessment; (3) **SECURE Himalaya:** Global Environment Facility (GEF)-UNDP funded project on conservation of high altitude biodiversity; (4) **Project Snow Leopard** launched in 2009; (5) Snow Leopard is in the list of 21 critically endangered species for the recovery programme of the Ministry of Environment Forest & Climate Change.

Do you know?

- Hemis National Park is the biggest national park of India and also has a good presence of Snow Leopard.

INFRASTRUCTURE/ENERGY

Atal Tunnel inaugurated

Part of: GS Prelims and GS-I – Geography

In news

- Indian Prime Minister recently inaugurated the World's longest Highway tunnel – [Atal Tunnel](#).



Key takeaways

- Location:** Himachal Pradesh and Ladakh
- Constructed by:** Border Roads Organisation (BRO)
- The 9.02 Km long tunnel connects Manali to Lahaul-Spiti valley throughout the year.
- Earlier the valley was cut off for about 6 months each year owing to heavy snowfall.
- The tunnel reduces the road distance by 46 Kms between Manali and Leh and the time by about 4 to 5 hours.
- It will provide all weather connectivity to remote border areas of Himachal Pradesh and Ladakh.
- It would also reduce the distance between Manali and Keylong by 3-4 hours.
- Former Prime Minister AtalBihari Vajpayee laid the foundation of the approach road for this tunnel in 2002.

India's First-Ever Multi-Modal Logistic Park in Assam

Part of: GS Prelims and GS-III – Infrastructure

In news

- The first-ever multi-modal logistic park shall come up in Assam on October 20, 2020.
- Ministry:** Ministry for Road Transport and Highways
- The Rs 694 crore park will provide direct connectivity to air, road, rail and waterways to the people.
- It will be developed under the ambitious [Bharatmala Pariyojana](#) of the Government of India.

UDAN Day observed

Part of: GS Prelims and GS-II – Policies and interventions & GS-III – infrastructure

In news

- Recently, 4th anniversary of the [UDAN \(UdeDeshKaAamNaagrik\) Scheme](#) was observed by the Ministry of Civil Aviation

Important value additions

UdeDeshKaAamNaagrik (UDAN)

- It was launched as a regional connectivity scheme (RCS) in 2016
- Ministry:** Ministry of Civil Aviation.
- Aim:** (1) To develop the regional aviation market; (2) To provide affordable and profitable air travel on regional routes to the common man.
- It envisages providing connectivity to un-served and under-served airports of the country through the revival of existing airstrips and airports.
- Implemented by:** Airports Authority of India (AAI) and is operational for a period of 10 years.

Electricity Access In India And Benchmarking Distribution Utilities Report launched

Part of: GS Prelims and GS-III – Infrastructure

In news

- NITI Aayog, Ministry of Power, Rockefeller Foundation, and Smart Power India launched the 'Electricity Access in India and Benchmarking Distribution Utilities' report.

Key findings of the report

- Around 92% of customers reported the overall availability of electricity infrastructure within 50 metres of their premises.
- However, not all have connections. The primary reason being the distance of households from the nearest pole.
- Overall, 87% of the surveyed customers have access to grid-based electricity.
- The remaining 13% either use non-grid sources or don't use any electricity at all.
- The hours of supply have improved significantly across the customer categories to nearly 17 hours per day.
- Nearly 85% of customers reported to have a metered electricity connection.
- Access to electricity is observed in 83% of household customers.
- The study suggested that a total of 66% of those surveyed were satisfied—74% of customers in urban areas and 60% in rural areas.

Dam Rehabilitation and Improvement Project (DRIP) approved

Part of: GS Prelims and GS-III – Infrastructure

In news

- The Cabinet Committee on Economic Affairs has approved the Dam Rehabilitation and Improvement Project (DRIP) Phase II & Phase III with the financial assistance of the World Bank (WB) and Asian Infrastructure Investment Bank (AIIB).

Key takeaways

- **Objective:** To improve the safety and operational performance of selected dams across the whole country, along with institutional strengthening.
- The Scheme envisions comprehensive rehabilitation of 736 existing dams located across India.
- The Project will be implemented over a period of 10 years duration in two Phases.
- DRIP Phase II & Phase III has following components: (1) Rehabilitation and improvement of dams and associated appurtenances; (2) Dam safety institutional strengthening in participating States and Central agencies; (3) Exploration of alternative incidental means to generate the incidental revenue for sustainable operation and maintenance of dams; (4) Project management.

Direct Port Entry (DPE) facility of V O Chidambaranar Port Trust inaugurated in line with Maritime Vision 2030

Part of: GS Prelims and GS-III – Infrastructure

In news

- Recently, the Union Minister of State for Shipping has inaugurated the Direct Port Entry (DPE) facility of V O Chidambaranar Port Trust (VOCPT).

Key takeaways

- The state-of-the-art DPE facility is created inside the Truck Parking Terminal which was developed under the 'Sagarmala' for issuing customs clearance of export cargo.
- The facility aligns with the 'Maritime Vision 2030' of the Ministry of Shipping.
- **Significance:** (1) Reduce logistics cost and increase the velocity of the cargo; (2) Enable direct movement of containers from factories; (3) Help in increasing Ease of Doing Business for the exporters.

Important value additions**Maritime India Vision 2030**

- It is a ten-year blueprint for the maritime sector which will be released by the Indian Prime Minister at the Maritime India Summit in November 2020.
- It will supersede the Sagarmala initiative.
- It aims to boost waterways, the shipbuilding industry and encourage cruise tourism in India.
- **Maritime Development Fund:** It is a Rs. 25,000-crore fund, which will provide low cost, long-tenure financing to the sector with the Centre contributing Rs. 2,500 crore over seven years.
- **Port Regulatory Authority:** A pan-India port authority will be set up under the new Indian Ports Act for enabling oversight across major and non-major ports.
- **Eastern Waterways Connectivity Transport Grid project:** It will aim to develop regional connectivity with Bangladesh, Nepal, Bhutan and Myanmar.
- **Riverine Development Fund:** It will extend low cost, long-term financing for inland vessels with the support of a Riverine Development Fund (RDF)
- **Rationalisation of Port Charges:** It will make them more competitive. All hidden charges will be done away with.
- **Promotion of Water Transport**

SCIENCE AND TECHNOLOGY

Cat Que Virus (CQV)

Part of: GS Prelims and GS-III – Biotechnology

In news

- In a study published in July, 2020 in the Indian Journal of Medical Research, scientists have noted the presence of antibodies against the Cat Que virus (CQV) in two human serum samples.

Key takeaways

- The presence of the Cat Que virus has been largely reported in Culex mosquitoes in China and in pigs in Vietnam.
- For CQV, domestic pigs are considered to be the primary mammalian hosts.
- Antibodies against the virus have been reported in swine reared locally in China, which indicates that the virus has formed a “natural cycle” in the local area and has the ability to spread in pigs and other animal populations through mosquitoes.
- CQV belongs to the Simbuserogroup and infects both humans and economically important livestock species.

Graphene Mask Inactivates Coronaviruses

Part of: GS Prelims and GS-III – Science & Technology

In news

- Recently, the researchers from the City University of Hong Kong have produced a laser-induced form of graphene masks that inactivate the coronavirus species.
- The researchers are also planning to test this mask on the Covid-19 (SARS-Cov-2) virus.

Key takeaways

- All carbon-containing materials, such as cellulose or paper, can be converted into graphene.
- The researchers described the production of laser-induced graphene as a "green technique."
- **Benefits:** (1) It is reusable; (2) Can also be produced at low cost

Important value additions

Graphene

- It is a single layer (monolayer) of carbon atoms.
- It is the building-block of Graphite.
- It is the strongest known material.
- **Other Properties:** (1) High thermal stability; (2) High elasticity; (3) High electrical conductivity; etc.
- **Uses:** It can be used in miniaturised electronics to biomedical devices like computers, solar panels, etc.

Do you know?

- Diamond, graphite and fullerenes are the important allotropes of pure carbon.

- **Allotropy:** Property of some chemical elements to exist in two or more different forms, in the same physical state.
- Graphene is also known for antibacterial properties.

Congo Fever Alert in Maharashtra raised

Part of: GS Prelims and GS-II – Health

In news

- There might be a possible spread of the Congo fever in the Maharashtra district of Palghar.

Important value additions

Crimean-Congo Haemorrhagic Fever (CCHF)

- **Cause:** It is caused by a tick-borne virus (Nairovirus) of the Bunyaviridae family.
- **Transmission:** It is transmitted through bite of Hyalomma tick, an external parasite, living by feeding on the blood of mammals, birds etc.
- **Human-to-human transmission:** Close contact with the blood, secretions, organs or other bodily fluids of infected persons.
- Virus can lead to epidemics, with a high case fatality ratio (10-40%).
- CCHF is endemic in all of Africa, the Balkans, the Middle East and in Asia.
- **Symptoms:** Fever, bodyache, dizziness, sore eyes and photophobia (sensitivity to light).
- **Treatment:** (1) The antiviral drug ribavirin has been used to treat CCHF infection with apparent benefit; (2) There are no vaccines widely available for human or animal use.

THE DEADLY VIRUS

Crimean-Congo Haemorrhagic Fever (CCHF) virus is considered as biosafety level 4 pathogen with up to 50% fatality rate. In case of nosocomial infection, mortality rate may go up to 80%.

It produces little or no disease in its natural hosts (animals) but causes severe infection in humans.

FROM THE PAST

It was first described in the Crimea in 1944 and was found to be responsible for an illness in a human in Congo in 1956.

The disease is also known as Khungribta (blood taking), KhumYmuny (nose bleeding) and Karakhalak (Black Death) in different parts of the world.

SYMPTOMS

Headache, high fever, back, joint & stomach pain, and vomiting. Rarer signs include jaundice, severe bruising and uncontrolled bleeding.

TREATMENT

There are limited treatment options for CCHF. Ribavirin is the only known drug that is effective against it.

RISK GROUP

Shepherds, campers, agricultural workers, veterinarians, abattoir workers, and other persons in close contact with livestock and ticks are at risk of infection.

INFECTIONS IN HUMANS

The regular mode of infection in humans are tick bites, nosocomial (originating in hospital) infection, crushing of infected ticks, direct contact with CCHF virus infected blood or tissue as during slaughtering infected animals.

Human-to-human transmission can be encountered in case of close contact with infected blood, secretions, organs or other body fluids of infected persons.

WAY FORWARD

- Need for awareness programmes for people living in close proximity to livestock, people working in slaughterhouses, those handling animal carcasses for livelihood and health workers.
- Training for those working in primary healthcare centres, rural and district hospitals on biosafety issues, including isolation.
- Better surveillance.

[RAISE 2020 to be organised](#)

Part of: GS Prelims and GS-III – Artificial Intelligence

In news

- Global Virtual Summit on Artificial Intelligence (AI), RAISE 2020- 'Responsible AI for Social Empowerment 2020,' shall be held from October 5-9, 2020.
- **Organised by:** The Ministry of Electronics and Information Technology (MeitY) and NITI Aayog
- **Inaugurated by:** Indian Prime Minister

Key takeaways

- It is a first of its-kind, global meeting of minds on [Artificial Intelligence](#) to drive India's vision for social transformation through responsible AI.
- Global industry leaders, key opinion makers, Government representatives and academia shall participate in the event.

Do you know?

- Industry analysts predict that AI could add up to USD 957 billion to India's economy by 2035.

[Modern Grand Solar Minimum](#)

Part of: GS Prelims and GS-III – Space

In news

- The magnitude of the Sun's solar activity is decreasing.
- This period of decreased solar activity is known as the Modern Grand Solar Minimum that will last from 2020 to 2053.

Key takeaways

- This is done by observing the number of [Sunspots](#) at any given time.
- The number of sunspots is directly proportional to solar activity.
- More Sunspots mean more solar activity.
- The last time such an event occurred was during the Maunder Minimum, from 1645 CE to 1710 CE.

Impact

- The surface temperatures on Earth may go down during the Modern Grand Solar Minimum due to a 70% reduction in solar magnetic activity.
- Variations in solar irradiance will lead to heating of the upper layer of the Earth's atmosphere and influences the transport of solar energy towards the planet's surface.
- Decreased solar activity has complex impacts on the abundance of ozone in the Earth's atmosphere
- It also affects the climatic cycles of Earth such as the North Atlantic Oscillation (NAO).

[Diffie-Hellman Key Exchange](#)

Part of: GS Prelims and GS-III – Science & Technology

In news

- Recently, television news channels shared leaked WhatsApp chats of film actors in their coverage of an actor's death.
- It prompted Facebook-owned [WhatsApp](#) to come out with a statement on its use of end-to-end encryption to secure user messages.

Key takeaways

- Since 2016, WhatsApp has installed an end-to-end encryption system.
- The encryption ensures that the messages sent on WhatsApp are read and seen by only those people who are communicating.
- The technology that forms the basis for this is called the 'Diffie-Hellman key exchange'.
- It is a method of securely exchanging cryptographic keys over a public channel.
- It was one of the first public-key protocols as conceived by Ralph Merkle and named after Whitfield Diffie and Martin Hellman.
- The method allows two parties that have no prior knowledge of each other to jointly establish a shared secret key over an insecure channel.
- This key can then be used to encrypt subsequent communications using a symmetric key cipher.

Mini App announced by Paytm

Part of: GS Prelims and GS-III – Technology; Telecommunications

In news

- Recently, Paytm has announced the launch of its mini app store.
- **Objective:** To support Indian developers in taking their products to the masses.
- The mini apps are custom-built mobile websites that give users app-like experience without having to download them.
- They can be built using HTML and JavaScript technologies.

Nobel Prize For Medicine Or Physiology 2020 announced

Part of: GS Prelims and GS-III – Science and technology; Biotechnology

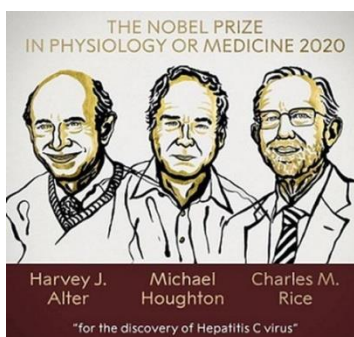
In news

- Americans Harvey J Alter and Charles M Rice, and British scientist Michael Houghton were chosen for the Nobel Prize for Medicine or Physiology for the discovery of the Hepatitis C virus.

Important value additions

Hepatitis C virus (HCV)

- It is a small (55–65 nm in size), enveloped, positive-sense single-stranded RNA virus
- **Family:** Flaviviridae.
- It is the cause of hepatitis C and some cancers such as liver cancer (hepatocellular carcinoma, abbreviated HCC) and lymphomas in humans.
- Unlike hepatitis A and B, there is currently no vaccine to prevent hepatitis C infection
- The World Health Organisation estimates there are over 70 million cases of hepatitis worldwide and 400,000 deaths each year. The disease is chronic and a major cause of liver inflammation and cancer.



Nobel Prize In Physics 2020 announced

Part of: GS Prelims and GS-III – Science and technology; Space

In news

- Nobel Prize in Physics 2020 has been awarded, with one half to Roger Penrose and the other half jointly to Reinhard Genzel and Andrea Ghez for their discoveries about Black hole.

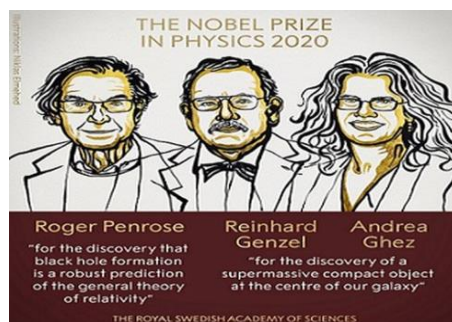
Key takeaways

- Roger Penrose used ingenious mathematical methods in his proof that black holes are a direct consequence of Albert Einstein's general theory of relativity.
- Reinhard Genzel and Andrea Ghez each lead a group of astronomers that, since the early 1990s, has focused on a region called Sagittarius A* at the centre of our galaxy.
- Their pioneering work has given the humankind the most convincing evidence yet of a supermassive black hole at the centre of the Milky Way.

Important value additions

Black Hole

- It is a region of spacetime where gravity is so strong that nothing — no particles or even electromagnetic radiation such as light — can escape from it.
- The theory of general relativity predicts that a sufficiently compact mass can deform spacetime to form a black hole.



Production Linked Incentive Scheme (PLI) For Large Scale Electronics Manufacturing

Part of: GS Prelims and GS-III – Technology

In news

- 16 eligible applicants under the PLI Scheme were approved recently.
- **Ministry:** Ministry of Electronics and Information and Technology (MeitY)

Important value additions

Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing

- It was notified on 1st April, 2020.
- It extends an incentive of 4% to 6% on incremental sales of goods under target segments that are manufactured in India to eligible companies, for a period of five years (base year- FY2019-20).
- Over the next 5 years, the approved companies under the PLI Scheme are expected to lead to total production of more than INR 10.5 lakh crore.

- The companies approved under the scheme are expected to promote exports significantly.
- The companies approved under the scheme will bring additional investment in electronics manufacturing to the tune of INR 11,000 crore.

The National Clinical Management Protocol released

Part of: GS Prelims and GS-II – Medicine

In news

- The National Clinical Management Protocol based on Ayurveda and Yoga for the management of Covid-19 was released.
- **Ministry:** Jointly by Ministry for Health and Ministry for AYUSH.
- **Prepared by:** Experts and other national research organizations
- **According to:** Report & Recommendations of the Interdisciplinary Committee

Key takeaways

- The protocol contains the details self-care guidelines for preventive health measures to help protect against COVID-19 pandemic.
- Clinical studies have established some Ayurveda interventions like Ashwagandha, Laung&Giloy as anti-inflammatory, antiviral & immunity-modulating which help protect against COVID-19.
- **Measures:** Drinking herb-infused warm water or turmeric milk, steam inhalation, gargling, moderate exercise and a set of medicines to be used for prophylaxis and treatment.

Nobel Prize in Chemistry 2020 announced

Part of: GS Prelims and GS-III – Science and Technology

In news

- Emmanuelle Charpentier of France and Jennifer Doudna of the U.S. won the Nobel Chemistry Prize for the gene-editing technique known as the CRISPR-Cas9 DNA snipping “scissors” tool.
- It is the first time a Nobel science prize has gone to a women-only team.

Key takeaways

- Using the CRISPR-Cas9 DNA snipping “scissors” tool, researchers can change the DNA of animals, plants and microorganisms with extremely high precision.
- The CRISPR-Cas9 tool has already contributed to significant gains in crop resilience, altering their genetic code to better withstand drought and pests.
- The technology has also led to innovative cancer treatments.
- Many experts hope it could one day make inherited diseases curable through gene manipulation.
- CRISPR’s relative simplicity and widespread applicability has, however, triggered the imaginations of rogue practitioners.
- In 2018 in China, scientist He Jiankui caused an international scandal when he used CRISPR to create what he called the first gene-edited humans.



[Raychaudhuri Equation](#)

Part of: GS Prelims and GS-III – Science & Technology

In news

- Recently, Kolkata-born physicist Amal Kumar Raychaudhuri was in news when British physicist Dr Roger Penrose was awarded half the Nobel Prize in Physics 2020 for his work on black holes.

Key takeaways

- The Raychaudhuri Equation in General Relativity was derived by Raychaudhuri.
- It is a fundamental result in general relativity which describes how nearby bits of matter move.
- The Equation was discovered independently by Raychaudhuri and Soviet physicist Lev Landau as a simple, general validation of the expectation that gravitation is a universal force that attracts objects with mass and energy (and Newton's theory of gravitation).
- The Raychaudhuri Equation continues to be a key tool in investigating the behaviour of black hole horizons in modern physics.

[Blocking Factor D Protein may reduce inflammatory reactions associated with Covid-19](#)

Part of: GS Prelims and GS-III – Biotechnology

In news

- A new study by Johns Hopkins Medicine researchers suggests that blocking a human protein factor D may reduce the deadly inflammatory reactions that many patients have due to COVID-19.

Key takeaways

- Team focused on two proteins, factor H and factor D.
- These are known as “complement” proteins.
- They help the immune system clear pathogens from the body.
- The researchers discovered that Covid-19's spike protein causes factor D to overstimulate the immune response, which in turn prevents factor H from mediating that response.
- When SARS-CoV-2 attacks the ACE2 receptors to proliferate and infect more cells in the human body, it also prevents Factor H from using the sugar molecule to bind with cells.
- The team found that by blocking factor D, they were able to stop the destructive chain of events triggered by SARS-CoV-2.

[Mechanism by which bacterium Xoo interacts with rice plants uncovered](#)

Part of: GS Prelims and GS-III – Biotechnology

In news

- Recently, scientists from the Centre for Plant Molecular Biology (CPMB) have uncovered the mechanism by which bacterium called Xoo causes disease in rice plants.
- Xanthomonas oryzae pv. oryzae (Xoo) causes a serious bacterial leaf blight disease in rice.
- It is also known as Bacterial blight.

Key takeaways

- The most-common method of defending against rice bacterial blight is the cultivation of rice varieties with genes that confer resistance to Xoo infection.
- However, this method involves breeding or gene manipulation techniques that are laborious and time-consuming.

New Approach

- Scientists are working to identify and develop few molecules which are derived either from the Xoo bacterium or from the infected rice cell walls.
- Treatment of rice with cellulase, a cell wall degrading enzyme secreted by Xoo induces rice immune responses and protects rice from subsequent infections by Xoo.



Important value additions

Xoo

- It is a gram-negative bacterium.
- Xoo infection causes huge yield losses to rice cultivation throughout the world.
- Since rice paddies are flooded throughout most of the growing season, Xoo may easily spread among crops.
- Bacteria travel through the water from infected plants to the roots and leaves of neighbouring rice plants.
- Wind may also help spread the Xoo bacteria to other crops and rice paddies.

Opposition Phenomenon (Mars)

Part of: GS Prelims and GS-III – Space

In news

- Recently, Mars became the third brightest object (moon and Venus are first and second, respectively) outshining Jupiter in the night sky.
- This event is referred to as “opposition”.
- It takes place every two years and two months.

Important value additions

Opposition

- It is the event when the sun, Earth and an outer planet are lined up, with the Earth in the middle.

- The time of opposition is the point when the outer planet is typically also at its closest distance to the Earth for a given year.
- Since it is close, the planet appears brighter in the sky.

MACS-6478 wheat variety doubles farmers' yield

Part of: GS Prelims and GS-III – Biotechnology

In news

- A new wheat variety MACS-6478 was recently in news.
- It has helped farmers in a village in Maharashtra to double their yield.
- **Developed by:** Scientists from Agharkar Research Institute, an autonomous institute of the Department of Science and Technology.
- The farmers are now getting a yield of 45 to 60 quintal per hectare with the new variety compared to earlier average yield ranging 25 to 30 quintal per hectare.
- It is also called high yielding Aestivum, matures in 110 days and is resistant to most races of leaf and stem rust.

Frontier Technologies Cloud Innovation Centre

Part of: GS Prelims and GS-III – Innovation; Science and Technology

In news

- NITI Aayog recently announced the establishment of a Frontier Technologies Cloud Innovation Centre (CIC) with Amazon Web Services (AWS).
- **Objective:** To address societal challenges through digital innovation
- It is the first of its kind in India.

Key takeaways

- It is a part of the AWS CIC Global Programme.
- The programme provides an opportunity for government agencies, non-profits and educational institutions, to come together on pressing challenges, apply design thinking, test new ideas, and access the technology expertise of AWS.
- The NITI Aayog Frontier Technologies CIC will be a great enabler to budding innovators and start-ups.
- It shall help in piloting state-of-the-art, cloud-centric digital innovations by making use of emerging technologies such as Artificial Intelligence, Internet Of Things, robotics, blockchain.

States show reduction in Soil-Transmitted Helminthiasis (STH)

Part of: GS Prelims and GS-III – Sci & Tech

In news

- Recently, Soil-Transmitted Helminthiasis (STH) was in news.
- Several states have shown reduction in the infection.

Important value additions

Soil-Transmitted Helminthiasis (STH)

- It is also known as parasitic intestinal worm infection.
- It is known to have detrimental effects on children's physical growth and well-being and can cause anaemia and under-nutrition.
- Regular deworming is advised by the WHO.

- It eliminates worm infestation among children and adolescents living in areas with high STH burden.
- In India, there were an estimated 64% children in the age group (1-14 years) at risk of STH as per WHO Report on STH published in 2012.
- The National Centre for Disease Control (NCDC) completed the baseline STH mapping across the country by the end of 2016.
- The data showed varied prevalence ranging from 12.5 % in Madhya Pradesh to 85% in Tamil Nadu.

SOIL-TRANSMITTED HELMINTHS



Do you know?

- The National Deworming Day (NDD) was launched in 2015.
- **Ministry:** Ministry of Health and Family Welfare in collaboration with the Ministry of Women and Child Development, Ministry of Education and technical assistance from WHO
- It is implemented as a biannual single day programme implemented through the platforms of schools and anganwadis.

India International Science Festival (IISF) 2020

Part of: GS Prelims and GS-III – Sci & Tech

In news

- The 6th edition of the India International Science Festival (IISF) will be held virtually in 2020.
- The 5th edition was held in Kolkata in 2019.
- IISF 2020 will be spearheaded by the Council of Scientific and Industrial Research (CSIR).

Important value additions

India International Science Festival (IISF)

- It is a festival to celebrate the achievements of India's scientific and technological advancements with students, innovators, technocrats, etc. from India and abroad.
- It was launched in 2015.
- **Objective:** (1) To promote Science and Technology; (2) To demonstrate how science could lead India towards a developed nation within a short span of time.
- **Aim:** (1) To engage the public with science and celebrate the joy of science; (2) To show the ways how science, technology, engineering and mathematics (STEM) provide solutions to improve people's lives.

- **Organised by:** Ministry of Science & Technology and Ministry of Earth Sciences in association with Vijnana Bharati (VIBHA)

Ministry for Shipping e-launches the development of Indigenous Software solution for VTS/ VTMS

Part of: GS Prelims and GS-III – Infrastructure; Science and Technology

In news

- Recently, the development of Indigenous Software solution for Vessel traffic services (VTS) and Vessels Traffic Monitoring Systems (VTMS) was launched.
- **Launched by:** Ministry for Shipping
- The Shipping has sanctioned an amount of Rs. 10 Crore to IIT, Chennai for development of indigenous VTS software.



Key takeaways

- VTS and VTMS are software which determine vessel positions, position of other traffic or meteorological hazard warnings and extensive management of traffic within a port or waterway.
- Vessel Traffic Services (VTS) contribute to safety of life at sea, safety and efficiency of navigation and protection of the marine environment.
- VTMS is mandatory under IMO Convention SOLAS (Safety of Life at Sea).
- The VTMS traffic image is compiled and collected by means of advanced sensors such as radar, AIS, direction finding, CCTV and VHF or other co-operative systems and services.

Do you know?

- A modern VTMS integrates all of the information into a single operator working environment for ease of use and in order to allow for effective traffic organization and communication.

Implementation of National Maritime Domain Awareness programme of Indian Navy shall become feasible with Indian VTS software at low cost.

[NASA's OSIRIS-REx to collect samples from Asteroid Bennu](#)

Part of: GS Prelims and GS-III – Space

In news

- NASA's OSIRIS-REx — Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer — spacecraft shall collect samples of dust and pebbles from asteroid Bennu and deliver them back to Earth in 2023

Important value additions

Asteroid Bennu

- The asteroid was named after an Egyptian deity by a nine-year-old boy from North Carolina in 2013 who won NASA's "Name that Asteroid" competition.
- The asteroid was discovered by a team from the NASA-funded Lincoln Near-Earth Asteroid Research team in 1999.
- Bennu is an asteroid located at a distance of about 200 million miles away from the Earth.

Asteroids

- Asteroids are rocky objects that orbit the Sun, much smaller than planets.
- They are also called minor planets.
- Asteroids are divided into three classes.
- First, those found in the main asteroid belt between Mars and Jupiter, which is estimated to contain somewhere between 1.1-1.9 million asteroids.
- The second group is that of trojans that share an orbit with a larger planet.
- NASA reports the presence of Jupiter, Neptune and Mars trojans.
- In 2011, they reported an Earth trojan as well.
- The third is Near-Earth Asteroids (NEA), which have orbits that pass close by the Earth
- Over 1,400 NEA are classified as potentially hazardous asteroids (PHAs).

Do you know?

- OSIRIS-REx mission is NASA's first mission meant to return a sample from the ancient asteroid.
- The mission was launched in 2016, it reached its target in 2018 and since then, the spacecraft has been trying to match the velocity of the asteroid.
- Scientists study asteroids to look for information about the formation and history of planets and the sun since asteroids were formed at the same time as other objects in the solar system.

Another reason for tracking them is to look for asteroids that might be potentially hazardous.

[Aditi Urja Sanch inaugurated](#)

Part of: GS Prelims and GS-III – Sources of energy

In news

- The Union Minister of Science and Technology and Earth Sciences recently inaugurated the Dimethyl ether (DME) fired "Aditi Urja Sanch" unit along with the DME-LPG blended fuel cylinders.
- It is a newly designed Burner.

Key takeaways

- The new design is efficient for both DME and the blend of DME and LPG.
- Novel design and flexible air access.
- The new nozzle design allows optimum oxygen access for combustion.
- The angles at which nozzles are placed maximize the heat transfer area across the utensils.
- Optimum flame velocity can be obtained.
- The length of the flame (high, low, and medium) can be adjusted by altering the oxygen ingress.
- The experiment shows that it increases the heat transfer rate as well.

Do you know?

- Dimethyl ether (DME) is an ultra-clean fuel.
- CSIR-NCL has developed nation's first kind of DME pilot plant with 20-24Kg/day capacity.
- The conventional LPG burner is not suitable for DME combustion as DME density is different than LPG.
- To address this issue, CSIR- NCL's "Aditi Urja Sanch" was developed.
- The new Burner is fully designed and fabricated by NCL for DME, DME -LPG blended mixtures and LPG combustion.

US Justice Department sues Google in Antitrust Case

Part of: GS Prelims and GS-III – Technology; Internet

In news

- Recently, the US Justice Department sued Google.
- It has accused the company of illegally abusing its dominance in internet search.
- It has been harming competitors and consumers.

Key takeaways

- The action against the company comes after a report by the US House of Representatives panel.
- The panel had found that Google, Facebook Inc, Apple Inc and Amazon.com Inc all abused their power as gatekeepers in the digital economy to diminish competitive threats.
- Google is illegally protecting its dominant position in the market for search and search advertising through the deals it has signed with tech companies.
- Google has contracts with smartphone makers that use its Android operating system. These require them to install its search engine as the default.
- All this stifles competition and innovation from smaller startups and harms consumers by reducing the quality of search and limiting privacy protections and alternative search options.

Do you know?

- Many countries have broad laws that protect consumers and regulate how companies operate their businesses.
- The goal of these laws is to provide an equal playing field.
- These are called antitrust laws.
- Also, various antitrust probes are going on against Google in India.
- Google has had run-ins with regulators, especially the Competition Commission of India (CCI).

Tubarial Salivary Glands: Potential new organ in the human throat

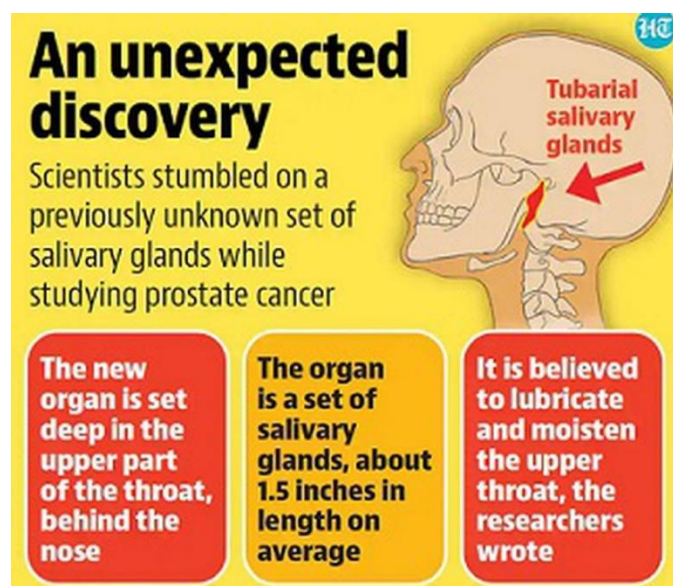
Part of: GS Prelims and GS-III - Science and Technology

In news

- Scientists in the Netherlands have discovered a potential new organ in the human throat.
- The discovery was made while carrying out research on prostate cancer.
- Researchers at the Netherlands Cancer Institute have identified a set of salivary glands deep in the upper part of the throat and have named them “tubarial salivary glands”.
- The discovery may be important for cancer treatment.
- Till now, this nasopharynx region (behind the nose) was thought to host only microscopic, diffuse, salivary glands.
- However, the newly discovered glands are about 1.5 inches (3.9 centimeters) in length on average.
- **Location:** These are located over a piece of cartilage called the torus tubarius.
- **Function:** The glands probably lubricate and moisten the upper throat behind the nose and mouth.

Do you know?

- Till now, there were three known large salivary glands in humans: one under the tongue, one under the jaw and one at the back of the jaw, behind the cheek.

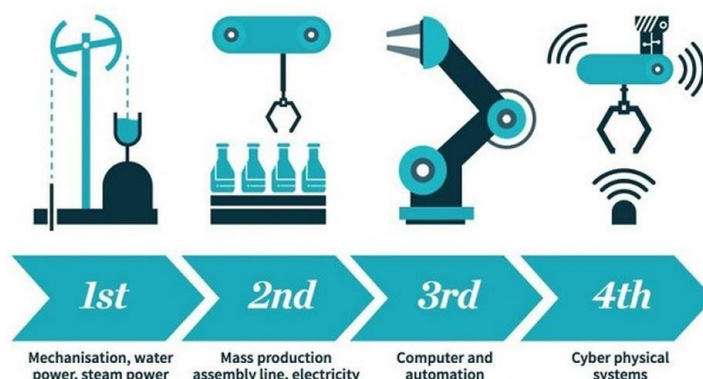


Industry 4.0 Technology jointly developed by IIT Kharagpur and TCS

Part of: GS Prelims and GS-III – Industry; Innovation; Science and Technology

In news

- IIT Kharagpur and Tata Consultancy Services (TCS) have jointly developed a novel Industry 4.0 Technology.
- It is developed for remotely controlled factory operations and real-time quality correction during industrial production so as to deliver quality output at low costs.



Important value additions

Industrial Revolution 4.0

- Klaus Schwab, founder and executive chairman of the Geneva-based WEF, published a book in 2016 titled “The Fourth Industrial Revolution” and coined the term at the Davos meeting in the same year.
- It refers to how technologies like artificial intelligence, autonomous vehicles and the internet of things are merging with humans’ physical lives.
- Examples: Voice-activated assistants, facial ID recognition or digital health-care sensors.
- There is a common theme among each of the industrial revolutions: the invention of a specific technology that changed society fundamentally.
- **Major invention of The First Industrial Revolution:** The steam engine. The steam engine enabled new manufacturing processes, leading to the creation of factories.
- **Major inventions of the Second Industrial Revolution:** Light bulb, telephone and internal combustion engine
- **Major inventions of the Third Industrial Revolution:** The semiconductor, personal computer and the Internet. This is also referred to as the “Digital Revolution.”
- The Fourth Industrial Revolution is different from the third for two reasons: the gap between the digital, physical and biological worlds is shrinking, and technology is changing faster than ever.

Countering deepfakes, the most serious AI threat

Context: Deepfakes have emerged as a new tool to spread computational propaganda and disinformation at scale and with speed.

What is Deepfake?

Deepfakes are the digital media (video, audio, and images) manipulated using Artificial Intelligence. This synthetic media content is referred to as deepfakes.

Positive Use Cases of Deepfake

1. Accessibility

- AI-Generated Synthetic media can help make the accessibility tools smarter, affordable and personalizable, which can help people augment their agency and gain independence.
- Microsoft’s Seeing.ai and Google’s Lookout leverage AI for recognition and synthetic voice to narrate objects, people, and the world. AI-Generated synthetic media can power personalized assistive navigation apps for pedestrian travel.
- Technology companies are working to enable and develop AI-Generated synthetic media scenarios for people living with ALS (Lou Gehrig’s Disease).

- Synthetic voice is also essential to enable such patients to be independent. Deepfake voice can also help with speech impediments since birth.

2. Education

- AI-Generated synthetic media can bring historical figures back to life for a more engaging and interactive classroom. This will have more impact, engagement, and will be a better learning tool.
- For example, JFK's resolution to end the cold was speech, which was never delivered, was recreated using synthetic voice with his voice and speaking style will clearly get students to learn about the issue in a creative way.
- Synthetic human anatomy, sophisticated industrial machinery, and complex industrial projects can be modeled and simulated in a mixed reality world to teach students.

3. Arts

- AI-Generated synthetic media can bring unprecedented opportunities in the entertainment business that currently use high-end CGI, VFX, and SFX technologies to create artificial but believable worlds for compelling storytelling.
- Samsung's AI lab in Moscow brought [Mona Lisa to life](#) by using Deepfake technology.
- In the video gaming industry, AI-generated graphics and imagery can accelerate the speed of game creation. Nvidia demoed a hybrid gaming environment created by deepfakes and is working on bringing it to market soon.

4. Autonomy & Expression

- Synthetic media can help human rights activists and journalists to remain anonymous in dictatorial and oppressive regimes. Deepfake can be used to anonymize voice and faces to protect their privacy.
- **Deep Empathy**, a UNICEF and MIT project, utilizes deep learning to learn the characteristics of Syrian neighborhoods affected by conflict. It then simulates how cities around the world would look amid a similar conflict.
- Deep Empathy project created synthetic war-torn images of Boston, London and other key cities around the world to help increase empathy for victims of a disaster region

The other side of Deepfake

- Such technologies can give people a voice, purpose, and ability to make an impact at scale and with speed. But as with any new innovative technology, it can be weaponised to inflict harm.
- **Overriding Consent:** Deepfake technologies make it possible to fabricate media — swap faces, lip-syncing, and puppeteer — mostly without consent and bring threat to psychology, security, political stability, and business disruption
- **Damage reputations:** Deepfakes can depict a person indulging in antisocial behaviours and saying vile things. These can have severe implications on their reputation, sabotaging their professional and personal life. Even if the victim could debunk the fake via an alibi or otherwise, it may come too late to remedy the initial harm.
- **Targeting Women:** The very first use case of malicious use of a deepfake was seen in pornography, inflicting emotional, reputational, and in some cases, violence towards the individual.
- **Exploitation:** Malicious actors can take advantage of unwitting individuals to defraud them for financial gains using audio and video deepfakes. Deepfakes can be deployed to extract money, confidential information, or exact favours from individuals.
- **Social Harm:** Deepfakes can cause short- and long-term social harm and accelerate the already declining trust in news media. Such an erosion can contribute to a culture of factual relativism

- **Creation of Echo Chambers in Social Media:** Falsity is profitable, and goes viral more than the truth on social platforms. Combined with distrust, the existing biases and political disagreement can help create echo chambers and filter bubbles, creating discord in society.
- **Undermining Democracy:** False information about institutions, public policy, and politicians powered by a deepfake can be exploited to spin the story and manipulate belief. This can aid in altering the democratic discourse and undermine trust in institutions.
- **Misused as tool of authoritarianism:** Deepfakes can become a very effective tool to sow the seeds of polarisation, amplifying division in society, and suppressing dissent.
- **Liar's dividend** - an undesirable truth is dismissed as deepfake or fake news. It can also help public figures hide their immoral acts in the veil of deepfakes and fake news, calling their actual harmful actions false.

What should be the solution for dealing with Deepfakes?

- To defend the truth and secure freedom of expression, we need a multi-stakeholder and multi-modal approach.
- **Regulation & Collaboration with Civil Society:** Meaningful regulations with a collaborative discussion with the technology industry, civil society, and policymakers can facilitate disincentivising the creation and distribution of malicious deepfakes.
- **New Technologies:** There is also need easy-to-use and accessible technology solutions to detect deepfakes, authenticate media, and amplify authoritative sources.
- **Media literacy** for consumers and journalists is the most effective tool to combat disinformation and deepfakes. As consumers of media, we must have the ability to decipher, understand, translate, and use the information we encounter
- Even a short intervention with media understanding, learning the motivations and context, can lessen the damage. Improving media literacy is a precursor to addressing the challenges presented by deepfakes.

Conclusion

- Collaborative actions and collective techniques across legislative regulations, platform policies, technology intervention, and media literacy can provide effective and ethical countermeasures to mitigate the threat of malicious deepfakes
- To counter the menace of deepfakes, we all must take the responsibility to be a critical consumer of media on the Internet, think and pause before we share on social media, and be part of the solution to this infodemic

Connecting the dots

- Justice B.N. Srikrishna Committee recommendation on data protection framework in India

[Infodemic in the wake of COVID-19](#)

[SERB – Power scheme for women scientists](#)

Part of: GS Prelims and GS-III – Science and Technology

In news

- A Scheme titled “SERB-POWER (Promoting Opportunities for Women in Exploratory Research)” was recently launched exclusively for women scientists.
- **Ministry:** Ministry of Science & Technology
- **Launched by:** The Science and Engineering Research Board (SERB), a Statutory body of the Department of Science and Technology (DST)

Key takeaways

- **Objective:** To mitigate gender disparity in science and engineering research in various S&T programs.
- It will have two components namely: (1) SERB-POWER Fellowship; (2) SERB- POWER Research Grants.

Features of the SERB-POWER Fellowship

- **Target:** Women researchers in 35-55 years of age. Up-to 25 Fellowships per year and not more than 75 at any point in time.
- **Components of support:** Fellowship of Rs. 15,000/- per month in addition to regular income; Research grant of Rs. 10 lakh per annum; and Overhead of Rs. 90,000/- per annum.
- **Duration:** Three years, without the possibility of extension. Once in a career.

Features of the SERB – POWER Research Grants

- POWER Grants will empower women researchers by funding them under following two categories: (1) Level I (Applicants from IITs, IISERs, IISc, NITs, Central Universities, and National Labs of Central Government Institutions): The scale of funding is up to 60 lakhs for three years; (2) Level II (Applicants from State Universities / Colleges and Private Academic Institutions): The scale of funding is up to 30 lakhs for three years.
- POWER Grant will be regulated through terms of reference conforming to SERB-CRG(Science and Engineering Research Board-Core Research Grant) guidelines.

PLI Schemes For Promoting Domestic Manufacturing Of Bulk Drugs & Medical Devices revised

Part of: GS Prelims and GS-III – Science and Technology

In news

- Chemicals and Fertilizers Ministry has revised the Production Linked Incentive Schemes for promoting domestic manufacturing of bulk drugs and medical devices.

Key takeaways

- In the revised guidelines, the 'Minimum Threshold' investment requirement has been replaced by 'committed investment' taking into account availability of technology choices which varies from product to product.
- The change has been made to encourage efficient use of productive capital.
- The Department of Pharmaceuticals earlier come out with the two Production Linked Incentive Schemes: (1) Production Linked Incentive scheme for promotion of domestic manufacturing of critical Key Starting Materials, Drug Intermediates and Active Pharmaceutical Ingredients in India; (2) Production Linked Incentive Scheme for Promoting Domestic Manufacturing of Medical Devices.

Do you know?

- Globally, the Indian pharmaceutical industry is the third largest in terms of volume.

PLACID Trials: convalescent plasma therapy shows no positive effects

Part of: GS Prelims and GS-III – Science and Technology

In news

- Recently, the PLACID Trial, a multicentre randomized controlled trial (RCT), has shown that convalescent plasma (CP) therapy for Covid-19 patients gave no positive effects and did not improve the outcome of the patients.

Key takeaways of the trial

- The trial results indicate that there was no difference in the 28-day mortality.

- Progression of Covid-19 from moderate to severe in patients treated with CP along with basic standard care had no difference when compared to basic standard care alone.
- The use of CP seemed to improve the resolution of shortness of breath and fatigue in patients with moderate Covid-19. However, this did not translate into a reduction in 28-day mortality or progression to severe disease.
- The ICMR is now considering removing the option of CPT from the national guidelines.

Important value additions

Convalescent Plasma Therapy

- Convalescent Plasma, extracted from the blood of patients recovering from an infection, is a source of antibodies against the infection.
- The therapy uses blood from people who have recovered from an illness to help others recover.
- Blood donated by people who have recovered from Covid-19 has antibodies to the virus that causes it.
- The donated blood is processed to remove blood cells, leaving behind liquid (plasma) and antibodies. These can be given to people with Covid-19 to boost their ability to fight the virus.
- The plasma donor would have to be a documented case of Covid-19 and healthy for 28 days since the last symptoms.

PLACID Trial

- It was conducted by the Indian Council of Medical Research (ICMR).
- **Aim:** To investigate CPT's effectiveness for the treatment of Covid-19.
- It is the first and largest randomised control trial to be completed in the world.

Do you know?

- RCT is a trial in which subjects are randomly assigned to one of two groups.
- One (the experimental group) receiving the intervention that is being tested, and the other (the comparison group or control) receiving an alternative (conventional) treatment.

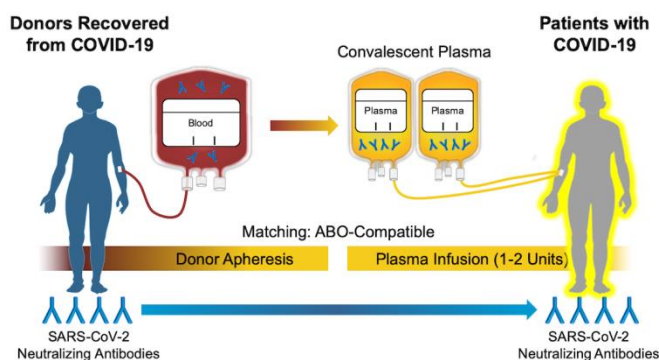


Illustration: David H. Spach, MD

Computation Analysis of Indian Genes published

Part of: GS Prelims and GS-III – Science and Technology

In news

- Recently, the results from the computation analysis of the 1029 sequenced genomes from India were published in the scientific journal, Nucleic Acid Research.
- The analysis was carried out by CSIR constituent labs, Institute of Genomics and Integrative Biology (IGIB), Delhi and Centre for Cellular and Molecular Biology (CCMB), Hyderabad.

- The analysis has found that out of approximately 55.8 million single nucleotide variants in India, around 18.01 million (32.23%) variants are unique and found only in the samples sequenced from India.
- Thus, India-centric population genomic initiative becomes important.

Important value additions

Genome

- A genome is all the genetic matter in an organism.
- It is defined as an organism's complete set of DNA including all of its genes.
- Every organism's genetic code is contained in its DNA, the building blocks of life.
- Each genome contains all of the information needed to build and maintain that organism.
- In humans, a copy of the entire genome contains more than 3 billion DNA base pairs.

Genome sequencing

- It means figuring out the order of Adenine, Cytosine, Guanine, and Thymine (DNA nucleotides) in a genome
- **Application:** (1) Crucial role for new advancements in medical science; (2) In disease management; (3) Researchers and clinicians can easily detect the disease related to genetic disorder.
- The study of entire genome sequences will help understand how genes work together to direct the growth, development and maintenance of an entire organism.
- The genes account for less than 25% of the DNA in the Genome. Thus, knowing the entire genome sequence will help scientists study the parts of the genome outside the genes.

Superconductivity achieved at Room Temperature

Part of: GS Prelims and GS-III – Science and Technology

In news

- Recently, researchers have created a material that is superconducting at room temperature.
- It only works at a pressure of 267 Gigapascals (GPa).

Key takeaways

- A mixture of carbon, hydrogen and sulfur was put in a microscopic niche carved between the tips of two diamonds (diamond anvil) and laser light was used on them to trigger chemical reactions.
- To verify that this phase was indeed a superconductor, the group ascertained that the magnetic susceptibility of the superconductor was that of a diamagnet.
- A superconducting material kept in a magnetic field expels the magnetic flux out its body when cooled below the critical temperature and exhibits perfect diamagnetism.
- It is also called the Meissner effect which simply means that magnetic lines do not pass through superconductors in a magnetic field.
- If researchers can stabilise the material at ambient pressure, applications of superconductivity at room temperatures could be achieved and will be within reach.
- Superconductors that work at room temperature could have a big technological impact, for example in electronics that run faster without overheating.

Important value additions

Superconductors

- A superconductor is a material that can conduct electricity or transport electrons from one atom to another with no resistance.
- No heat, sound or any other form of energy would be released from the material when it has reached critical temperature (T_c).
- The critical temperature for superconductors is the temperature at which the electrical resistivity of metal drops to zero.
- **Examples:** aluminium, niobium, magnesium diboride, etc.
- **Applications:** Magnetic resonance imaging (MRI) machines, low-loss power lines, ultra powerful superconducting magnets, mobile-phone towers.
- **Limitations:** They need bulky cryogenics as the common superconductors work at atmospheric pressures, but only if they are kept very cold.

Do you know?

- **Meissner Effect:** When a material makes the transition from the normal to the superconducting state, it actively excludes magnetic fields from its interior.
-

DISASTER MANAGEMENT

South Asian Flash Flood Guidance System

Part of: GS Prelims and GS-I – Natural disasters & GS-III - Science and Technology

In news

- Recently, the India Meteorological Department (IMD) has launched the South Asian Flash Flood Guidance System (FFGS).
- Aim: To help disaster management teams and governments make timely evacuation plans ahead of the actual event of flooding.

Key takeaways

- A dedicated FFGS centre will be established in New Delhi.
- Weather modelling and analysis of rainfall data observations from member countries will be done there.
- Developed by: US-based Hydrologic Research Centre
- Based on the rainfall and potential flooding scenario, flash flood warnings will be issued to respective nations.
- Flash flood threat warning will be issued six hours in advance.
- Flood risk warning will be issued 24 hours in advance.
- Warnings about watershed level will be issued 12 hours in advance.

Important value additions

Flash Floods

- These are sudden surges in water levels during or following an intense spell of rain.
- These are localised events of short duration.
- The peak is usually very high.
- The duration is less than six hours between the occurrence of the rainfall and peak flood.
- The flood situation worsens if the drainage lines are choked or the natural flow of water is obstructed.

DEFENCE/INTERNAL SECURITY/SECURITY

[India successfully test-fired BrahMos supersonic cruise missile](#)

Part of: GS Prelims and GS-III – Defence; Security

In news

India successfully test-fired BrahMos supersonic cruise missile recently.

Key takeaways

- **Carried out by:** Defence Research and Development Organisation, DRDO from Balasore in Odisha.
- BrahMos surface-to-surface supersonic cruise missile features indigenous Booster and Airframe Section along with many other 'Made in India' sub-systems.
- The BrahMos Land-Attack Cruise Missile was cruising at a top speed of Mach 2.8.
- It is one more major step in enhancing the indigenous content.
- This successful launch has paved the way for the serial production of the indigenous booster and other indigenous components of the powerful BrahMos Weapon System.

[ASCON Phase IV Network launched](#)

Part of: GS Prelims and GS-III – Defence; Science & technology

In news

- The Cabinet Committee on Security had approved the proposal for establishment of Army Static Switched Communication Network, ASCON Phase IV Network.

Key takeaways

- **Implemented by:** M/s ITI, a Public Sector Undertaking
- **Implementation schedule:** 36 months from the date of signing of the contract.
- It is a strategic and theatre area communication network.
- It will upgrade the existing Asynchronous Transfer Mode Technology to Internet Protocol, Multi-Protocol Label Switching Technology.
- Optical Fibre Cable, Microwave Radio and Satellite will be used as communication media.
- It will provide better survivability, responsiveness and high bandwidth in any operational scenario and enhance the communication coverage of the network closer to International Border, Line of Control and Line of Actual Control.

[Successful trial of Shaurya Missile conducted](#)

Part of: GS Prelims and GS-III – Defence; Security

In news

- A successful trial of the nuclear capable Shaurya missile was conducted by India recently.
- Shaurya is a land-based parallel of the submarine launched K-15 missile.
- These ballistic weapons belong to the K missile family — codenamed after late Dr APJ Abdul Kalam — which are launched from the Arihant class of nuclear submarines.

Important value additions

K family of missiles

- The K family of missiles are primarily Submarine Launched Ballistic Missiles (SLBMs).

- These missiles are fired from submarines from India's Arihant class nuclear powered platforms.
- **Indigenously developed by:** Defence Research and Development Organisation (DRDO).
- The development of these naval platform launched missiles began in the late 1990s as a step towards completing India's nuclear triad — the capability of launching nuclear weapons from land, sea and air based assets.
- These missiles are lighter, smaller and stealthier than their land-based counterparts.
- The Agni series of missiles are land-based which are medium and intercontinental range nuclear capable ballistic missiles.

Offset Clause under Defence Procurement

Context: On 28th September 2020, the new Defence Acquisition Procedure (DAP 2020) was released.

Among other things, the Defence Ministry has removed the offset clause requirement in inter-governmental agreements (IGA) and has introduced a new category for leasing of military equipment.

What is an offset clause in Defence Contract?

- A defence offset policy was promulgated under the Defence Procurement Procedure (DPP-2005) and the first offset contract was signed in 2007
- **Definition:** Under the offset clause, a foreign company that wins a defence deal is supposed to invest a part of the contract value in the country, thus developing skills and bringing in technology, while also generating employment.
- An offset provision in a contract makes it obligatory on the supplier to either “reverse purchase, execute export orders or invest in local industry or in research and development” in the buyer's domestic industry
- **Valuation for Offset:** Under the DPP 2006, the offset value was fixed at 30% of defence deals above ₹300 crore, which was revised to ₹2,000 crore in DPP 2016 for full-import deals.

What are the objectives of Offset clauses?

Comptroller and Auditor General (CAG) Defined offsets as a “mechanism generally established with the triple objectives of:

- (a) partially compensating for a significant outflow of a buyer country's resources in a large purchase of foreign goods
- (b) facilitating induction of technology and
- (c) adding capacities and capabilities of domestic industry”.

What has been the working of Offset Clause?

- Auditing the offset deals till March 2018, the Comptroller and Auditor General (CAG) said 46 offset contracts were signed for ₹66,427 crores.
- **Target:** Till December 2018, ₹19,223 crore worth of offsets should have been discharged.
- **Actual Implementation:** The vendors have claimed discharge of only ₹11,396 crore, 59%, of the offsets. But the Defence Ministry has accepted only ₹5,457 crore of these offset claims, while the rest were pending or rejected due to various deficiencies
- **Pending:** The remaining offset commitments of about ₹55,000 crore would be due for completion by 2024, but the rate of the offset discharge has been about ₹1,300 crore per year.
- **Ineffective:** At other times, international vendors reportedly discharged offsets that didn't necessarily contribute to India's defence manufacturing prowess, thereby defeating the very purpose of these deals.

Will no defence contracts have offset clauses now?

- Only government-to-government agreements (G2G), ab initio single vendor contracts or inter-governmental agreements (IGA) will not have offset clauses anymore.
- For example, the deal to buy 36 Rafale fighter jets, signed between the Indian and French governments in 2016, was an IGA.
- Ab initio single vendor means that when you start the process you have only one vendor
- According to DAP 2020, all other international deals that are competitive, and have multiple vendors vying for it, will continue to have a 30% offset clause.

Why was the clause removed?

- **To reduce procurement cost:** Generally, vendors would “load” extra cost in the contract to balance the costs of offsets, and doing away with the offsets can bring down the costs in such contracts.
- **To reduce Administrative Costs:** There are “administrative costs” involved in discharging offset obligations, which the vendors pay.
- **Criticism by CAG about Offsets:** CAG audit report “found that the foreign vendors made various offset commitments to qualify for the main supply contract but later, were not earnest about fulfilling these commitments”
- The CAG had also not found “a single case where the foreign vendor had transferred high technology to the Indian industry”.

What are the other changes announced?

- **Alternative route:** The new rules allow the military to lease equipment from defence companies or foreign governments. This is expected to bring down acquisition time and costs (since leasing is a cheaper alternative to purchasing).
- **Enhanced Flexibility:** Leasing would also give the Air Force, Army and Navy the flexibility of procuring systems at a time of their choosing.
- **Aligned with Atmanirbhar Bharat:** The new rules stipulate that under some categories procurement be reserved for “Indian vendors”, which are defined as companies that are owned and controlled by resident Indian citizens with FDI not more than 49%.
- **Aligned with Make in India:** Along similar lines, the minimum indigenous content (IC) requirement for most projects has also been raised to 50%. If a defence platform is manufactured in India, it must have 60% Indian content
- **A new procurement category** called “Buy (Global–Manufacture in India)” has been added. Under this category, manufacturers are encouraged to set up facilities in India for assembly, repair and maintenance of equipment.

Conclusion

- Allowing leasing of equipment and liberalising the procurement process seem to be steps in the right direction.
- As for offsets, the evidence suggests that they incurred auxiliary costs whilst not equipping local enterprises with any knowledge or expertise. So, it was probably reasonable to have done away with them.

Connecting the dots

- Make in India Initiative
- Rafale deal

Flight test of supersonic missile-assisted torpedo release conducted successfully

Part of: GS Prelims and GS-III – Defence

In news

- A successful flight test of the Supersonic Missile Assisted Release of Torpedo (SMART) system was conducted from Wheeler Island, off the coast of Odisha recently.
- **Conducted by:** Defence Research and Development Organisation (DRDO)
- **Developed by:** Several laboratories of DRDO

Key takeaways

- The system will be a game changer in anti-submarine warfare.
- The development of the system has been crucial in capacity building of naval platforms to strike beyond the torpedo range.
- The system will be a significant addition to India's anti-submarine warfare capabilities.
- SMART is a missile-assisted release of lightweight anti-submarine torpedo system for anti-submarine warfare (ASW) operations far beyond torpedo range.

Do you know?

- A modern torpedo is an underwater ranged weapon launched above or below the water surface, self-propelled towards a target, and with an explosive warhead designed to detonate either on contact with or in proximity to the target.

Rudram: India's first indigenous anti-radiation missile

Part of: GS Prelims and GS-III – Defence; Security

In news

- Recently, Rudram was successfully flight-tested from a Sukhoi-30 MKI jet off the east coast.
- It is India's first indigenous anti-radiation missile
- It is developed for the Indian Air Force.

Important value additions

Anti-radiation missile

- Anti-radiation missiles are designed to detect, track and neutralise the rival's radar, communication assets and other radio frequency sources.
- Such a missile's navigation mechanism comprises an inertial navigation system coupled with GPS, which is satellite-based.
- For guidance, it has a passive homing head which is a system that can detect, classify and engage targets over a wide band of frequencies.

Rudram

- Rudram is an air-to-surface missile.
- **Designed and developed by:** Defence Research and Development Organisation (DRDO)
- Once the Rudram missile locks on the target, it is capable of striking accurately even if the radiation source switches off in between.
- The missile has an operational range of more than 100 km.
- Along with Sukhoi-30 MKI, it can be adapted for launch from other fighter jets too.



BRAHMOSsupersonic cruise missile successfully test fired

Part of: GS Prelims and GS-III – Defence & Security

In news

- BRAHMOS, the supersonic cruise missile was successfully test fired from Indian Navy's indigenously-built stealth destroyer INS Chennai, hitting a target in the Arabian Sea.
- BrahMos Aerospace is an India-Russia joint venture, produces the supersonic cruise missile that can be launched from submarines, ships, aircraft, or from land platforms.

Key takeaways

- BRAHMOS as a prime strike weapon will ensure the warship's irresistibility by engaging naval surface targets at long ranges.
- In the last few weeks, India has test fired a number of missiles including a new version of the [surface-to-surface supersonic cruise missile BrahMos](#) and [anti-radiation missile Rudram-1](#).
- The original 290-km range BrahMos has already been deployed in Ladakh as well as Arunachal Pradesh during the [ongoing military confrontation with China](#).

Stand-Off Anti-Tank (SANT) Missile successfully test-fired

Part of: GS Prelims and GS-III – Defence & Security

In news

- India successfully test-fired the Stand-off Anti-tank (SANT) Missile off the coast of Odisha.



Key takeaways

- **Developed by:** DRDO's research centre, Imarat, in collaboration with the Indian Air Force.
- It will have both Lock-on After Launch and Lock-on Before Launch capability.
- It is, reportedly, an upgrade on India's Helina missile believed to have a range of 7 to 8km.
- The new missile is said to have a range of between 15 and 20km.
- It also comes equipped with a nose-mounted active radar seeker, enabling the launch platform to be located at a safe distance from the target area.

Kavaratti to be commissioned into the Indian Navy

Part of: GS Prelims and GS-III – Defence & Security

In news

- The last of four indigenously built Anti-Submarine Warfare (ASW) stealth corvettes (a small warship) "INS Kavaratti" under Project 28 (Kamorta class) is scheduled to be commissioned into the Indian Navy on 22 October 20.

Key takeaways

- It is referred to as a potent Stealth ASW Corvette.
- It has anti-submarine warfare capability
- **Indigenously designed by:** The Indian Navy's in-house organisation, Directorate of Naval Design(DND)
- **Built by:** Garden Reach Shipbuilders & Engineers (GRSE), Kolkata
- Kavaratti has a state-of-the-art weapons and sensor suite capable of detecting and prosecuting submarines.
- The ship also has a credible self defence capability and good endurance for long-range deployments.

Environmental Clearance given to the Kaleshwaram project void

Part of: GS Prelims and GS-III – Defence & Security

In news

- Recently, the National Green Tribunal has ruled that the Environmental Clearance given to the Kaleshwaram project in December 2017 was void.
- This was so because the Telangana government subsequently changed the design of the project to increase its capacity.

Key takeaways

- The petition filed in 2018 stated that while the Kaleshwaram Project was a lift irrigation system, the state government had wrongly claimed, until the grant of environmental clearance (EC), that the project was not for lift irrigation, but only for drinking water supply.
- The NGT has now directed that until the Telangana government obtains final forest clearance, it should stop all work except the drinking water component.

Important value additions

- The Kaleshwaram Lift Irrigation System is considered to be one of the world's largest multi-purpose projects.
- It is designed to provide water for irrigation and drinking purposes to districts in Telangana, apart from Hyderabad and Secunderabad.
- The project starts at the confluence point of Pranahita River and Godavari River.

Government working on the formation of Integrated Theatre Command

Part of: GS Prelims and GS-III – Defence; Security

In news

- The government is working on the formation of integrated theatre commands after the appointment of the Chief of Defence Staff (CDS).

Key takeaways

- An integrated theatre command envisions a unified command of the three Services, under a single commander, for geographical theatres (areas) that are of strategic and security concern.
- Such a commander will be able to bear all resources at his disposal with greater efficiency.
- The commander will not be answerable to individual Services.
- Integration of the three forces will also avoid duplication of resources.
- The integration will strengthen cohesion in the defence establishment.

Do you know?


- The Shekatkar committee has recommended the creation of 3 integrated theatre commands — northern for the China border, western for the Pakistan border, and southern for the maritime role.
-

MISCELLANEOUS

In News	Description
1. SPICe+ Portal	<ul style="list-style-type: none"> SPICe+ Portal was recently in the news. Ministry: Ministry for Finance & Ministry of Corporate Affairs The Ministry of Corporate Affairs (MCA) has notified and deployed a web-form namely 'SPICe+' (pronounced SPICe Plus) effective from February, 2020 as a part of Government of India's Ease of Doing Business (EODB) initiatives. The web-form offers 10 services by three Central Government Ministries and Departments (Ministry of Corporate Affairs, Ministry of Labour & Department of Revenue in the Ministry of Finance), one State Government (Maharashtra) and various Banks, thereby saving procedures, time and cost for Starting a Business in India. Services include: Name reservation, incorporation, mandatory issue of PAN, mandatory issue of EPFO registration, etc.
2. <u>Mekedatu Project</u>	<ul style="list-style-type: none"> Mekedatu Project was recently in the news. Mekedatu, meaning goat's leap, is a deep gorge situated at the confluence of the rivers Cauvery and its tributary Arkavathi. Ontigondlu is the proposed reservoir site, situated at Ramanagara district in Karnataka about 100 km away from Bengaluru. It is the midst of the Cauvery Wildlife Sanctuary. The Rs. 9,000 crore project aims to store and supply water for drinking purposes for the Bengaluru city. Around 400 megawatts (MW) of power is also proposed to be generated through the project.
3. Serial Interval and Covid-19	<ul style="list-style-type: none"> China was able to contain Covid-19 due to its ability to manage the serial interval. In simple terms, the serial interval is the gap between the onset of Covid-19 symptoms in Person A and Person B, who is infected by Person A. It depends on epidemiological parameters such as the incubation period and the reproduction rate or R nought. It helps to gauge the effectiveness of infection control interventions besides indicating rising population immunity and forecast future incidence. Thus, the more quickly people who contracted Covid-19 are identified and isolated, the shorter the serial interval becomes and cuts down opportunities for transmission of the virus.
4. Sawantwadi Toy	<ul style="list-style-type: none"> To mark the occasion of 151 years of postcards in India, Maharashtra Circle of India Post has released picture postcards on 'Sawantwadi Toys' (October 1).

		<ul style="list-style-type: none"> • It refers to hand made works of art made of wood in Sawantwadi, a town in Sindhudurg district of Maharashtra. • These toys are made from the wood of the Indian Coral tree (<i>Erythrina variegata</i>). • Craftsmen who make these toys belong to the Chittari community
5. Bharati Script		<ul style="list-style-type: none"> • Bharati is a simple and unified script which can be used to write most major Indian languages. • It is designed using simplest shapes, often borrowing simple characters from various Indian languages/scripts and English. • Scripts supported are: Hindi/Marathi (Devanagari), Tamil, Telugu, Gujarati, Punjabi (Gurmukhi), Bengali, Oriya, Kannada and Malayalam. • Developed By: SrinivasaChakravathy's team at IIT Madras. • Documents can be read in Bharati script using a multi-lingual Optical Character Recognition (OCR) scheme. • Finger-spelling Method can be used to generate a sign language for hearing-impaired persons. • It is in line with 'One Nation, One Script'. • It is an ideal script for languages like Konkani or Tulu that don't have their own script. • It can serve as a writing system for the innumerable tribal languages of India, and languages of the NorthEast.
6. Pakur Honey launched		<ul style="list-style-type: none"> • The Ministry of Tribal Affairs will launch Pakur Honey on the occasion of Gandhi Jayanti. • Pakur Honey is 100% natural honey which is Multi Floral and Forest Fresh. • It is gathered by Santhal Tribals and Vulnerable Pahadhiya tribes from Pakur, Jharkhand. • Natural Multiflora honey is a good source of antioxidants and antiseptic vitamins, nutrients, enzymes and other herbal properties that no other super-food can provide.
7. Lantana		<ul style="list-style-type: none"> • It is an invasive species which was introduced in tropical regions as an ornamental plant. • It is generally deleterious to biodiversity. • It is an agricultural weed. • It was recently in news as a special drive to uproot its bushes in the Sajjangarh Wildlife Sanctuary was carried out • It is native to Central and South America.
8. Sajjangarh Sanctuary	Wildlife	<ul style="list-style-type: none"> • Location: Udaipur, Rajasthan • It is a part of Sajjangarh Palace built in 1884. • Flora and Fauna: Animals like chitals, panthers, hares, blue bulls (Nilgais), jackals, wild boars, hyenas, and sambhar. • It is famous for Long-billed vulture, commonly known as the Indian vulture: IUCN Red List Status: Critically Endangered; CITES Status: Appendix II; Wildlife (Protection) Act, 1972 Status: Schedule I

9. Invasive Species	<ul style="list-style-type: none"> • An invasive species is an organism that is not indigenous, or native, to a particular area and causes harm. • They are capable of causing extinctions of native plants and animals, reducing biodiversity, competing with native organisms for limited resources, and altering habitats. • They can be introduced to an area by ship ballast water, accidental release, and most often, by humans.
10. Exercise Bongosagar	<ul style="list-style-type: none"> • The second edition of Indian Navy (IN) – Bangladesh Navy (BN) Bilateral Exercise Bongosagar is scheduled to commence in Northern Bay of Bengal on 03 October 2020. • Aim: To develop interoperability and joint operational skills through conduct of a wide spectrum of maritime exercises and operations. • Ships from both navies will participate in surface warfare drills, seamanship evolutions and helicopter operations. • This exercise will be followed by the 3rd edition of IN - BN Coordinated Patrol (CORPAT) wherein IN and BN units will undertake joint patrolling along the International Maritime Boundary Line (IMBL). • Conduct of CORPATs has strengthened understanding between both the navies and instituted measures to stop conduct of unlawful activities.
11. UAE's Moon Mission	<ul style="list-style-type: none"> • Recently, the United Arab Emirates (UAE) has decided to send an unmanned spacecraft to the moon in 2024. • The rover would be named Rashid after Sheikh Rashid bin Saeed Al Maktoum, one of the original founding rulers of the UAE. • Aim: To explore the surface of the moon in areas that have not been explored previously by human missions such as NASA's Apollo.
12. The Article 254(2)	<ul style="list-style-type: none"> • It enables a State government to pass a law, on any subject in the Concurrent List, that may contradict a Central law, provided it gets the President's assent. • However, the Parliament is not barred from enacting at any time any law with respect to the same matter including a law adding to, amending, varying or repealing the law so made by the Legislature of the State.
13. Dhaulasidh Project	Hydro <ul style="list-style-type: none"> • Indian Prime Minister announced the construction of 66 MW Dhaulasidh Hydro Project at Hamirpur, Himachal Pradesh.

	 <ul style="list-style-type: none"> • The project is proposed on the horseshoe curve of the Beas. • It is planned on the flow of the Beas near the temple at Amli village in Nadaun sub-division of Hamirpur district.
14. World Habitat Day	<ul style="list-style-type: none"> • World Habitat Day 2020 was observed on 5 October, 2020 • Theme: Housing For All — A Better Urban Future • Objective: To reflect on the state of our towns and cities and the basic right of all to adequate shelter; (2) To remind the world of its collective responsibility for the future of the human habitat.
15. The Habitat Scroll of Honour award	<ul style="list-style-type: none"> • Launched by: United Nations Human Settlements Programme in 1989. • It is currently the most prestigious human settlements award in the world. • Aim: To acknowledge initiatives which have made outstanding contributions in various fields such as shelter provision, highlighting the plight of the homeless and improving the human settlements and the quality of urban life. • The award is presented to the winners during the Global Observance of World Habitat Day.
16. Nobel Prize for Literature 2020 announced	<ul style="list-style-type: none"> • The 2020 Nobel Prize for Literature has been awarded to American poet Louise Glück. • A professor at Yale University, Glück made her debut in 1968 with her collection titled 'Firstborn'. • She is seen as one of the most prominent poets and essayists in American contemporary literature. • She won the Pulitzer Prize in 1993 for her collection The Wild Iris and the National Book Award for her latest collection, Faithful and Virtuous Night, in 2014. • She is the fourth woman to win the Nobel Literature Prize in the past decade.
17. Bangalore rose onion	<ul style="list-style-type: none"> • It is locally called gulabieerulli. • It is a variety of onion grown in and around Bangalore, Karnataka. • These are not cultivated in any other place in India.

	<ul style="list-style-type: none"> • The onions of this variety have bulbs with flat base and are spherical. • These have deep scarlet red colour, anthocyanin, phenols and high pungency. • They also contain higher levels of protein, phosphorus, iron and carotene. • It got the Geographical Indication tag in 2015.
18. Nechiphu Tunnel	<ul style="list-style-type: none"> • Nechiphu Tunnel shall be constructed on the Balipara-Charduar-Tawang (BCT) road in West Kameng district of Arunachal Pradesh. • Constructed by: Border Roads Organisation (BRO).
19. Operation Green	<ul style="list-style-type: none"> • It is being implemented as part of AtmanirbharAbhiyan. • Ministry: Union Ministry of Food Processing. • Under this scheme, 50% subsidy is given to the farmers for transporting the surplus produce of agricultural commodities like oranges and vegetables to the markets by rail. • 50% subsidy is also given for cold chain storage of agricultural commodities. • In order to get this subsidy, farmers have to attach self-certified documents online on 'Sampada' portal of the Ministry of Food Processing.
20. MadhucaDiplostemon	<ul style="list-style-type: none"> • Recently, Madhucadiplostemon tree has been rediscovered after a gap of more than 180 years from a sacred grove in Kollam district, Kerala. • The tree is locally known as Kavilippa in Malayalam. • It was identified by the scientists at the Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI) at Palode, Kerala. • The threatened species of the Western Ghats was believed to be extinct. • IUCN has included it in the endangered species list. • The JNTBGRI is planning to undertake the ex-situ conservation of this species through the institute's species recovery programme.
21. World Food Day	<ul style="list-style-type: none"> • World Food Day 2020 was observed on 16 October. • Theme: Grow, Nourish, Sustain Together • On this day, the Food and Agriculture Organization of the United Nations was founded in 1945.
22. Originalism	<ul style="list-style-type: none"> • US Supreme Court nominee Amy Coney Barrett had recently described originalism as her legal philosophy. • It means interpreting the country's Constitution as per the intentions of USA's 18th-century founding leaders. • In legal philosophy, this theory prescribes that while resolving disputes, judges should interpret the constitution as it was understood at the time it was ratified, irrespective of whether they

		<p>personally agree or disagree with the outcome of a case decided this way.</p> <ul style="list-style-type: none"> • The legal philosophy which is said to be the opposite of originalism is 'living constitution' or 'modernism'. • This theory, supported by likes of the late Justice Ginsburg, believes that the constitution should be updated with times to encompass changing societal needs.
23. Slinex-20		<ul style="list-style-type: none"> • The Eighth Edition of annual Indian Navy (IN) – Sri Lanka Navy (SLN) bilateral maritime exercise SLINEX-20 is scheduled off Trincomalee, Sri Lanka from 19 to 21 October 2020. • SLINEX-20 aims to enhance inter-operability, improve mutual understanding and exchange best practices and procedures for multi-faceted maritime operations between both navies.
24. CSIR Repurposed (CuRED)	Ushered Drugs	<ul style="list-style-type: none"> • Recently, Union Health and Science and Technology Minister launched CuRED. • It is a website that gives comprehensive info about the numerous COVID-19 clinical trials that the Council of Scientific & Industrial Research (CSIR) is engaged in partnership with industry, other government departments and ministries. • It provides information about the drugs, diagnostics and devices including the current stage of the trials, partnering institutions and their role in the trials and other details.
25. Girnar Ropeway		<ul style="list-style-type: none"> • Indian Prime Minister recently launched the world's longest temple ropeway project at Girnar in Junagadh. • Girnar ropeway project consists of a total of 25 cabins. • It operates at a capacity of 800 passengers per hour and 8000 per day. • It will attract more tourists and pilgrims to this historical place which will boost employment opportunities. • Mount Girnar is a major igneous plutonic complex which intruded into the basalts towards the close of the Deccan Trap period.
26. Dhammachakra Pravartan Day		<ul style="list-style-type: none"> • Dhammachakra Pravartan Day (DhammaChakra Anupravartan Din) is a day to celebrate the Buddhist conversion of B. R. Ambedkar and approximately 600,000 followers in October 1956 at Deekshabhoomi on the occasion of Vijayadashami. • It is primarily celebrated at Deeksha Bhoomi every year. • Deekshabhoomi is a sacred monument of Navayana Buddhism located at Nagpur city in Maharashtra where B. R. Ambedkar embraced Buddhism.

(TEST YOUR KNOWLEDGE)

Model questions: (Answers are provided at the end)

Q.1 Consider the following significance of Phytoplanktons:

1. Their reduction determines the overall health of the ocean ecosystem
2. They contribute more than half of the oxygen in the environment
3. They reduce global warming by absorbing human-induced carbon dioxide

Which of the above is/are correct?

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

Q.2 Consider the following statements about Kalinga Cricket Frog:

1. Morphological phenotypic plasticity (MPP) was recently reported in the Kalinga cricket frog.
2. It is endemic only to the Eastern Ghats.

Which of the above is/are correct?

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

Q.3 Which of the following Ministry is responsible for PRASHAD Scheme?

- a) Ministry of Social Justice and Empowerment
- b) Ministry of Culture
- c) Ministry of Tourism
- d) Ministry of Planning

Q.4 Consider the following statements regarding SwadeshDarshan Scheme:

1. It is a Central Sector Scheme.
2. Theme based tourist circuits are developed under this scheme.

Which of the above is/are correct?

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

Q.5 Consider the following statements regarding Graphene:

1. It is the strongest known material.
2. It is one of the allotropes of pure carbon.

Which of the above is/are correct?

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

Q.6 Headquarter of International Criminal Court is situated at?

- a) Washington
- b) Paris
- c) Netherlands
- d) United Kingdom

Q.7 Every Woman Every Child (EWEC) Movement was launched by which of the following?

- a) Ministry for Health and Family Welfare of India
- b) United Nations
- c) SAARC
- d) ASEAN

Q.8 Consider the following statements regarding ESG Fund:

1. The fund is regulated by State Bank of India.
2. The ESG fund focuses on companies with environment-friendly practices primarily.

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2

d) Neither 1 nor 2

Q.9 Consider the following threats to Wetlands:

1. Urbanization
2. Agriculture
3. Dredging and sand mining
4. Introduction of Exotic Species

Which of the above is/are correct?

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

Q.10 Which of the following Ministry is responsible for POSHAN Abhiyan?

- a) Ministry of Women & Child Development
- b) Ministry of Family and Health Welfare
- c) Ministry of Agriculture
- d) Ministry of Commerce

Q.11 Recently, World's longest Highway tunnel – Atal Tunnel was inaugurated. Consider the following statements:

1. It is constructed by Ministry of Road Transport and Highways.
2. It connects Manali to Mussoorie throughout the year.

Which of the above is/are correct?

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

Q.12 Consider the following statements regarding K family of missiles:

1. These are primarily Land based Ballistic Missiles.
2. These are indigenously developed by Department of Science and Technology.

Which of the above is/are correct?

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

Q.13 Some 111 species exist in India of Eriocaulon. These species are endemic to which of the following part of India?

- a) Western Ghats
- b) Eastern Himalayas
- c) Eastern Ghats
- d) Both (a) and (b)

Q.14 India's first Pan India time use survey was recently released by which of the following Ministry?

- a) Ministry of Statistics
- b) Ministry of Agriculture
- c) Ministry of Finance
- d) Ministry of Commerce

Q.15 Consider the following statements:

1. Polygraph Test involves the injection of sodium pentothal
2. Narcoanalysis Test measures and records several physiological indicators.

Which of the above is/are correct?

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

Q.16 Consider the following statements regarding Crime in India 2019 report which was recently released:

1. There is an increase in crimes against Scheduled Castes and women.
2. There is a decrease in crimes against Scheduled Tribes.

Which of the above is/are correct?

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

Q.17 National Crime Record Bureau (NCRB) comes under which of the following Ministry?

- a) Ministry of Home Affairs
- b) Ministry of Defence
- c) Ministry of Law and Justice
- d) Ministry of Minority Affairs

Q.18 Sittwe Port is situated in which of the following country?

- a) India
- b) Bangladesh
- c) Myanmar
- d) South Korea

Q.19 Nobel Prize for Medicine 2020 was awarded for the discovery of which of the following?

- a) Hepatitis C virus
- b) Hepatitis B virus
- c) Hepatitis A virus
- d) Polio virus

Q.20 Consider the following useful applications of CRISPR-Cas9 tool:

- 1. Crop resilience
- 2. Treatment of AIDS
- 3. Treatment of cancer
- 4. Gene-editing of humans

Which of the above are true?

- a) 1 and 2 only
- b) 1 and 3 only
- c) 3 and 4 only
- d) 2 and 4 only

Q.21 Kasturi Cotton was recently launched by which of the following Ministry?

- a) Ministry of Agriculture
- b) Ministry of Textiles
- c) Ministry of Micro, Small and Medium Enterprises
- d) Ministry of Consumer Affairs

Q.22 Which of the following is not a Fundamental Right?

- a) Freedom of Speech and expression
- b) Right to Equality
- c) Freedom of assembly with arms
- d) Right to Pollution-free water and air

Q.23 Which of the following is not a persistent organic pollutant?

- a) Heptachlor
- b) Hexachlorobenzene
- c) DDT
- d) Mercury

Q.24 Consider the following statements regarding the Conventional source of energy:

- 1. The conventional sources of energy are the fossil fuels which took millions of years for the formation of fossil fuels; hence they are limited and non-renewable.
- 2. Fossils are remains of organisms that lived in the past and fossil fuels are plants that got buried under earth that became rock over years.

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

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

Q.25 Poverty and Shared Prosperity Report was recently launched by which of the following organisation?

- a) World bank
- b) International Monetary Fund
- c) World Economic Forum
- d) None of the above

Q.26 Pusa Decomposer is associated with which of the following?

- a) Thermal Power Plants
- b) Organic Farming
- c) Stubble Burning
- d) Automobile Exhaust

Q.27 SVAMITVA scheme is associated with which of the following?

- a) Issuance of property cards in rural and urban areas.
- b) Issuance of property cards in rural areas only.
- c) Issuance of property cards in urban areas only.
- d) Issuance of property cards to businesswomen in both urban and rural areas.

Q.28 World Food Programme recently won Nobel Peace Prize for 2020 for its efforts to combat hunger. Consider the following statements regarding it:

1. It is a private not-for-profit organization.
2. It is headquartered in Rome.

Which of the above is or are correct?

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

Q.29 Arctic Amplification could be due to which of the following factors?

1. Change in weather
2. Change in ocean currents
3. Increased fishing
4. Decrease in biodiversity

Select the correct code:

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

Q.30 Consider the following statements regarding Rudram anti-radiation missile:

1. It is an air-to-air missile.
2. It is jointly developed by India and Russia.

Which of the above is or are correct?

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

Q.31 Consider the following statements:

1. Gynandromorphism is a phenomenon in which the organism shows both male and female characters.
2. IUCN status of Rose-breasted Grosbeak is Least Concern.

Which of the above is or are correct?

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

Q.32 Which of the following country is often referred to as the only democracy in the Central Asian region?

- a) Kazakhstan
- b) Tajikistan
- c) Uzbekistan
- d) Kyrgyzstan

Q.33 Which of the following Indian beaches were awarded 'Blue Flag Certification' recently?

1. Shivrajpur
2. Ghoghla
3. Kasarkod
4. Padubidri
5. Anjuna

Which of the above is/are correct?

- a) 1,2 and 3 only
- b) 2 and 4 only
- c) 2, 3, 4 and 5 only
- d) 1, 2, 3 and 4 only

Q.34 Consider the following statements regarding Tribal Cooperative Marketing Development Federation of India (TRIFED):

1. It is an autonomous cooperative.
2. It is a state-specific organization functioning only in tribal-majority regions.

Which of the above is or are correct?

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

Q.35 Recently, a new study by Johns Hopkins Medicine researchers suggests that blocking a human protein factor D may reduce the deadly inflammatory reactions that many patients

have due to COVID-19. What is the basic function of Factor D Protein?

- a) Blood clotting
- b) Clear pathogens from the body
- c) Builds muscles in the body
- d) Burns extra fat in the body

Q.36 BharatmalaPariyojana comes under which of following Ministry?

- a) Ministry of Road Transport and Highways
- b) Ministry of Commerce
- c) Ministry of Home Affairs
- d) Ministry of Tribal Affairs

Q.37 Nechiphu Tunnel shall be constructed in which of the following state/Union Territory of India?

- a) Ladakh
- b) Himachal Pradesh
- c) Arunachal Pradesh
- d) Assam

Q.38 South Asia Economic Focus Report was recently released by which of the following?

- a) World Bank
- b) Asian Development bank
- c) World Economic Freedom
- d) Asian Infrastructure Investment bank

Q.39 Lepidoptera species includes which of the following?

- a) Butterflies
- b) Moths
- c) Frogs
- d) Both (a) and (b)

Q.40 Noumea Accord is an Accord between which of the following?

- a) France and New Caledonia
- b) India and Bangladesh
- c) Israel and UAE
- d) USA and Pakistan

Q.41 Consider the following statements regarding Strengthening Teaching-Learning and Results for States -STARS project:

- 1. It will be supported by the WHO.
- 2. It is a centrally sponsored scheme

Which of the above is or are correct?

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

Q.42 Consider the following statements regardingThalassemia BalSewaYojna:

- 1. It is a centrally sponsored scheme.
- 2. It provides one time cure for Thalassemia patients only,

Which of the above is or are correct?

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

Q.43 Hemoglobinopathies are inherited disorders of red blood cells. Which of the following are examples of such disorder?

- a) Thalassemia
- b) Sickle Cell disease
- c) AIDS
- d) Only a and b

Q.44 Which of the following is not among the five rhino range Nations?

- a) India
- b) Bhutan
- c) Nepal
- d) China

Q.45 Consider the following statements regarding greater one horned Rhino:

- 1. It is included in endangered list of IUCN red list.
- 2. It is protected under Schedule I of the Wildlife Protection Act 1972.

Which of the above is or are correct?

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

Q.46 Consider the following statements:

1. The debt-to-GDP ratio indicates a particular country's ability to pay back its debts.
2. A country with a low debt-to-GDP ratio finds it difficult to pay off public debts.

Which of the above is or are correct?

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

Q.47 Where is the headquarters of UNHRC located?

- a) Geneva
- b) The Hague
- c) Paris
- d) New York

Q.48 Which of the following is not a member of ASEAN?

- a) Brunei
- b) Cambodia
- c) Myanmar
- d) Bhutan

Q.49 Consider the following statements:

1. National Authority of Ship Recycling will be set up in Alang, Gujarat.
2. Alang's beaches have become currently the world's largest ship graveyard.

Which of the above is or are correct?

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

Q.50 Consider the following statements:

1. Goods and Services Tax was introduced through the 100th Constitutional Amendment Act, 2016.
2. According to GST Compensation Act, 2017, States would be compensated for any loss of revenue in the first five years

of GST implementation including any natural disaster arising out of act of God.

Which of the above is or are correct?

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

Q.51 Which of the following are covered under 28% slab of GST?

- a) Fresh fruits and vegetables
- b) Cereals
- c) Raw silk
- d) Tobacco products

Q.52 Which of the following Arab countries have established diplomatic relations with Israel recently?

1. UAE
2. Egypt
3. Saudi Arabia
4. Bahrain

Select the correct code:

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

Q.53 Bahrain is an island situated between:

- a) Qatar and Saudi Arabia
- b) Yemen and Saudi Arabia
- c) Turkey and Syria
- d) Kuwait and Iraq

Q.54 Global Hunger Index 2020 was recently released. Consider the following statements:

1. India is placed under serious hunger category.
2. India's rank has deteriorated since last year.

Which of the above is or are correct?

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

Q.55 Consider the following statements:

1. India is one of the founding members of Shanghai Cooperation Organisation.
2. Its headquarter is situated in Shanghai, China.

Which of the above is or are correct?

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

Q.56 India's first ever Multi-Modal Logistic Park is said to be constructed in which of the following state of India?

- a) Assam
- b) Gujarat
- c) Uttar Pradesh
- d) Karnataka

Q.57 GharTak fibre scheme was recently inaugurated in which of the following state of India?

- a) Bihar
- b) Uttar Pradesh
- c) West Bengal
- d) Odisha

Q.58 Burkud Island is situated in which of the following lake of India?

- a) Loktak Lake
- b) Chilika Lake
- c) Wular Lake
- d) Pulicat Lake

Q.59 AyushmanSahakarscehme was launched by which of the following Ministry?

- a) Ministry of Health
- b) Ministry of Education
- c) Ministry of Agriculture
- d) Ministry of Medium, Small and Micro Enterprises

Q.60 Consider the following statements:

1. In India, Ferula assa-foetida is found but not cultivated.
2. Assafoetida crop remains dormant under extreme weather conditions.

Which of the above is or are correct?

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

Q.61 Soil Transmitted Helminthiasis (STH) causes infection in which of the following?

- a) Children
- b) Rice crops
- c) Earthworms
- d) Both adults and children

Q.62 Nazca desert is situated in which of the following country?

- a) Peru
- b) Brazil
- c) Argentina
- d) Columbia

Q.63 Consider the following statements regarding hydrogen enriched compressed natural gas (H-CNG):

1. It is produced directly from CNG.
2. It does not involve energy-intensive electrolysis process.
3. The production process is costlier than conventional physical blending between hydrogen and CNG.

Which of the above is/are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) None of the above

Q.64 Consider the following statements regarding Taiwan:

1. It is a member of United Nations.
2. It has its own democratic elected government.

Which of the above is/are correct?

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

Q.65 Strategic Arms Reduction Treaty is a treaty between which of the following countries?

- a) Russia and India
- b) USA and Russia
- c) Japan and Russia
- d) USA and Japan

Q.66 State of Global Air 2020 was recently released. Consider the following statements regarding the same:

- 1. India is among the top 10 countries with the highest PM2.5 exposures in 2019.
- 2. Among the 20 most populous countries, India recorded the lowest increase in Ozone concentrations in the past 10 years.

Which of the above is/are correct?

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

Q.67 Which of the following sectors are covered under Production Linked Incentive Scheme?

- 1. Mobile phones (electronic manufacturing)
- 2. Pharma products
- 3. Medical equipment
- 4. Sunrise sectors

Select the correct code

- a) 1 and 2 only
- b) 1 and 3 only
- c) 1 and 4 only
- d) All of the above

Q.68 A new organ was recently discovered in which of the following part of the human body?

- a) Throat
- b) Stomach
- c) Pancreas
- d) Lungs

Q.69 Consider the following statements regarding Unlawful Activities Prevention Act:

- 1. It includes punishment only against associations carrying out unlawful activities.
- 2. It is applicable to Indians only.

Which of the above is/are correct?

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

Q.70 Consider the following statements regarding Pradhan Mantri Krishi Sinchayee Yojana:

- 1. It is a state sponsored scheme.
- 2. One of the objectives of the scheme is to enhance recharge of aquifers.

Which of the above is/are correct?

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

Q.71 Consider the following statements link regarding UDAN (Uday Desh Ka Aam Nagrik) scheme:

- 1. It is implemented by Ministry of Civil Aviation.
- 2. It is operational for a period of 50 years.

Which of the above is/are correct?

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

Q.72 Consider the following statements regarding G20:

- 1. Every member of G20 holds the presidency for two years.
- 2. Its headquarter is in New York, USA.

Which of the above is/are correct?

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

Q.73 Which of the following countries are blacklisted by Financial Action Task Force (FATF)?

1. North Korea
2. Iran
3. Iraq
4. Pakistan

Select the correct code:

- a) 1 and 2 only
- b) 1 and 4 only
- c) 3 and 4 only
- d) 1 and 3 only

Q.74 Consider the following statements regarding Kisan Suryodaya Yojana:

1. It was launched in Rajasthan.
2. Under the scheme, 24 hours of power supply shall be provided to the farmers.

Which of the above is/are correct?

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

Q.75 Which of the following is correct regarding flash floods:

- a) Flash floods are localised events of short duration
- b) Flash floods are localised events of long duration.
- c) Flash floods are generalised events of short duration
- d) Flash floods are generalised events of long duration.

Q.76 Consider the following statements regarding South Asian Flash Flood Guidance System (FFGS):

1. A dedicated FFGS centre will be established in New Delhi.
2. It is developed by ISRO.

Which of the above is/are correct?

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

Q.77 The palk strait lies between:

- a) Bay of Bengal and Gulf of Mannar
- b) Andaman and Nicobar islands
- c) Rann of Kutch and Gulf of Kambhat
- d) Lakshadweep and Maldives

Q.78 Consider the following statements regarding Central Vigilance Commission:

1. It comes under the Ministry of Home Affairs.
2. It is a non-statutory body.

Which of the above is/are correct?

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

Q.79 Draft Personal Data Protection Bill, 2019 divides the data into 3 categories. Consider the following statements regarding the same:

1. Personal data refers to the details like name and address.
2. Sensitive personal data refers to anything that the government can deem critical such as military or national security data.
3. Critical personal data refers to details like sexual orientation, caste, religious belief.

Which of the above is/are correct?

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

Q.80 Indira Rasoi Yojana is a scheme launched in August 2020 in which of the following state of India?

- a) Rajasthan
- b) Madhya Pradesh
- c) Uttar Pradesh
- d) Haryana

Q.81 Red Sea lies between which of the following?

- a) Africa and Asia
- b) Asia and Europe

- c) North America and South America
- d) Europe and North America

Q.82 Basic exchange and cooperation agreement was recently signed between which of the following countries?

- a) India and Japan
- b) USA and Japan
- c) India and USA
- d) USA and Russia

Q.83 Feni Bridge which was in news recently is a bridge being constructed between which of the following?

- a) Tripura and Chittagong
- b) Assam and Tripura
- c) Manipur and Dhaka
- d) Mizoram and Manipur

Q.84 Which style of architecture is found in the temples constructed in Bundi Rajasthan?

- 1. Nagara style
- 2. Traditional Haveli along with classical Nagara
- 3. Jain type of architecture
- 4. Elevated Temple styles

Select the correct code:

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

Q.85 Which of the following is/are outside India's GST regime?

- 1. Petrol
- 2. Diesel
- 3. Aviation turbine fuel
- 4. Natural gas

Select the correct code:

- a) 1 and 4 only
- b) 2, 3 and 4 only
- c) 2 and 4 only

- d) 1, 2, 3 and 4

Q.86 Consider the following statements regarding Jute cultivation:

- 1. Jute requires a warm and humid climate with temperature between 24° C to 37° C.
- 2. Constant rain or water-logging is helpful for its growth.

Which of the above is/are correct?

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

Q.87 Consider the following statements:

- 1. Convalescent plasma is extracted from the blood of healthy person and transferred to the patient suffering from covid-19.
- 2. The recently conducted Placid trial has shown positive results regarding convalescent plasma therapy.

Which of the above is/are correct?

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

Q.88 Consider the following statements:

- 1. Muziris emerged as Goa's hub when it established itself as a major Centre for Spice.
- 2. Muziris Heritage project is one of the biggest conservation projects in the world.

Which of the above is/are correct?

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

2020 OCTOBER MONTH CURRENT AFFAIRS MCQs SOLUTIONS

1 C	24 C	47 A	70 B
2 A	25 A	48 D	71 D
3 C	26 C	49 B	72 D
4 C	27 B	50 D	73 A
5 C	28 B	51 D	74 D
6 C	29 A	52 C	75 A
7 B	30 D	53 A	76 A
8 B	31 C	54 A	77 A
9 D	32 D	55 D	78 D
10 A	33 D	56 A	79 A
11 D	34 D	57 A	80 A
12 D	35 B	58 B	81 A
13 D	36 A	59 C	82 C
14 A	37 C	60 B	83 A
15 D	38 A	61 A	84 D
16 A	39 D	62 A	85 D
17 A	40 A	63 A	86 A
18 C	41 B	64 B	87 B
19 A	42 D	65 B	88 B
20 B	43 D	66 A	
21 B	44 D	67 D	
22 C	45 B	68 A	
23 D	46 A	69 D	