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for

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(2nd November - 7th November)

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1. Geography

Click [here](#) to watch the following questions on YouTube

1.1. Line of Actual Control (LAC)



What is the Line of Actual Control?

- The LAC is the demarcation that separates Indian-controlled territory from Chinese-controlled territory.
- India considers the LAC to be 3,488 km long, while the Chinese consider it to be only around 2,000 km.
- It is divided into three sectors: the eastern sector which spans Arunachal Pradesh and Sikkim, the middle sector in Uttarakhand and Himachal Pradesh, and the western sector in Ladakh.

What is the disagreement?

- The alignment of the LAC in the eastern sector is along the 1914 McMahon Line, and there are minor disputes about the positions on the ground as per the principle of the high Himalayan watershed.
- This pertains to India's international boundary as well, but for certain areas such as Longju and Asaphila.
- The line in the middle sector is the least controversial but for the precise alignment to be followed in the Barahoti plains.
- The major disagreements are in the western sector where the LAC emerged from two letters written by Chinese Prime Minister Zhou Enlai to PM Jawaharlal Nehru in 1959, after he had first mentioned such a 'line' in 1956.
- In his letter, Zhou said the LAC consisted of "the so-called McMahon Line in the east and the line up to which each side exercises actual control in the west".
- India rejected the concept of LAC in both 1959 and 1962.

Is the LAC also the claim line for both countries?

- India's claim line is the line seen in the official boundary marked on the maps as released by the Survey of India, including both Aksai Chin and Gilgit-Baltistan.
- In China's case, it corresponds mostly to its claim line, but in the eastern sector, it claims entire Arunachal Pradesh as South Tibet.
- However, the claim lines come into question when a discussion on the final international boundaries takes place, and not when the conversation is about a working border, say the LAC

But why are these claim lines controversial in Ladakh?

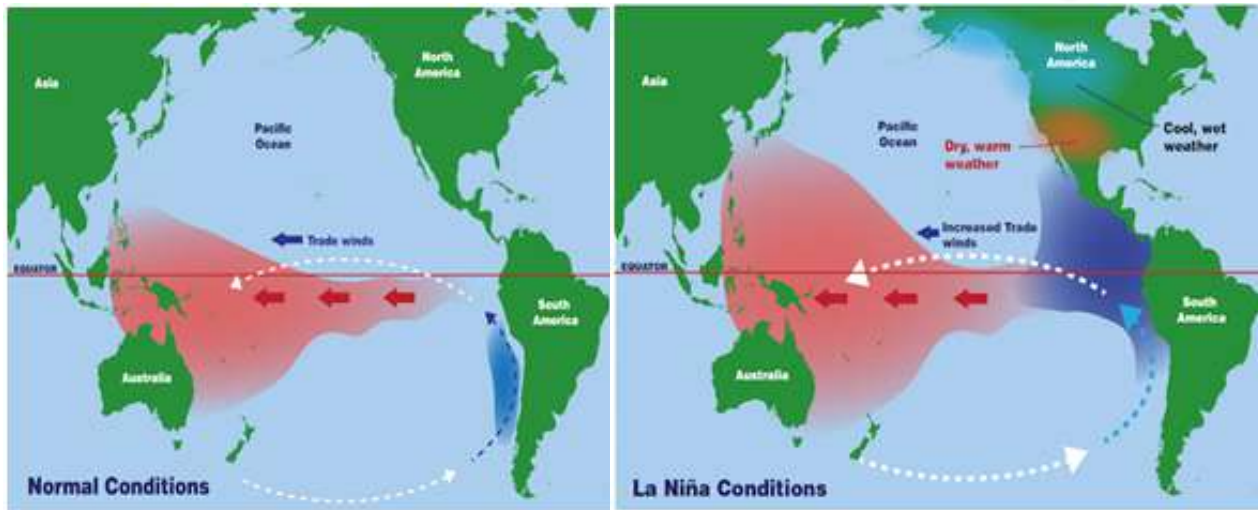
- Independent India was transferred the treaties from the British, and while the Shimla Agreement on the McMahon Line was signed by British India.
- Aksai Chin in Ladakh province of the princely state of Jammu and Kashmir was not part of British India, although it was a part of the British Empire.
- Thus, the eastern boundary was well defined in 1914 but in the west in Ladakh, it was not.

How is the LAC different from the Line of Control with Pakistan?

- The LoC emerged from the 1948 ceasefire line negotiated by the UN after the Kashmir War. It was designated as the LoC in 1972, following the Shimla Agreement between the two countries.
- It is delineated on a map signed by DGMOs of both armies and has the international sanctity of a legal agreement.
- The LAC, in contrast, is only a concept – it is not agreed upon by the two countries, neither delineated on a map nor demarcated on the ground.

1.2.Cabinet approves Externally Aided Dam Rehabilitation and Improvement Project – Phase II and Phase III

- The project was launched in 2012 by Central Water Commission (CWC) under Ministry of Water Resources with assistance from World Bank.
- The Cabinet Committee on Economic Affairs chaired by the PM has approved the Dam Rehabilitation and Improvement Project (DRIP) Phase II & Phase III.
- It is being implemented with the financial assistance of the World Bank (WB), and Asian Infrastructure Investment Bank (AIIB) to improve the safety and operational performance of selected dams across the whole country, along with institutional strengthening with system wide management approach.
- The project cost is Rs 10,211 crore. The Project will be implemented over a period of 10 years duration in two Phases, each of six years duration with two years overlapping from April, 2021 to March, 2031.
- The share of external funding is Rs 7,000 crore of the total project cost, and balance Rs 3,211 crore is to be borne by the concerned Implementing Agencies (IAs).
- The contribution of Central Government is Rs 1,024 crore as loan liability and Rs 285 crore as counter-part funding for Central Component.



Objectives

- To improve the safety and performance of selected existing dams and associated appurtenances in a sustainable manner.
- To strengthen the dam safety institutional setup in participating states as well as at central level.
- To explore the alternative incidental means a few of selected dams to generate the incidental revenue for sustainable operation and maintenance of dams.

Components

- Rehabilitation and improvement of dams and associated appurtenances,
- Dam safety institutional strengthening in participating States and Central agencies.
- Exploration of alternative incidental means a few of selected dams to generate the incidental revenue for sustainable operation and maintenance of dams, and
- Project management.
- The Scheme envisages comprehensive rehabilitation of 736 existing dams located across the country.

1.3. After nearly a decade away, La Niña weather system is back: WMO.

La Niña

- It is a weather pattern that occurs in the Pacific Ocean.
- In this pattern, strong winds blow warm water at the ocean's surface from South America to Indonesia.
- As the warm water moves west, cold water from the deep rises to the surface near the coast of South America.
- In a normal year, winds along the equator push warm water westward. Warm water at the surface of the ocean blows from South America to Indonesia. As the warm water moves west, cold water from the deep rises up to the surface. This cold water ends up on the coast of South America.

- In the winter of a La Niña year, these winds are much stronger than usual. This makes the water in the Pacific Ocean near the equator a few degrees colder than it usually is. Even this small change in the ocean's temperature can affect weather all over the world.
- Rain clouds normally form over warm ocean water.
- La Niña blows all of this warm water to the western Pacific.
- This means that places like Indonesia and Australia can get much more rain than usual.
- However, the cold water in the eastern Pacific causes less rain clouds to form there. So, places like the southwestern United States can be much drier than usual.
- La Niña is caused by an interaction between the Pacific Ocean and the atmosphere above.
- However, it can have effects on weather all over the world.
- These changes in the atmosphere can lead to more lightning activity within the Gulf of Mexico and along the Gulf Coast.
- Also, the environmental conditions during La Niña can lead to more tropical cyclones—which include hurricanes—forming in the deep tropics (near the islands in the Caribbean, for example).
- The GOES-R series of weather satellites can help weather forecasters map the increased lightning and issue earlier and more accurate severe weather warnings.
- The Horn of Africa and central Asia will see below average rainfall due to La Niña, WMO said.
- East Africa is forecast to see drier-than-usual conditions, which together with the existing impacts of the desert locust invasion, may add to regional food insecurity, WMO warned.
- La Niña could also lead to increased rainfall in southern Africa, WMO said. This was indicated by some recent seasonal forecast models, it added.
- La Niña could also affect the South West Indian Ocean Tropical Cyclone season, reducing the intensity.
- Southeast Asia, some Pacific Islands and the northern region of South America are expected to receive above-average rainfall.
- In India, La Niña means the country will receive more rainfall than normal, leading to floods.

1.4. Mobile application for Geo tagging of the components of projects under Pradhan Mantri Krishi Sinchayee Yojana

- The launch of the app is a step forward in the efforts of the Ministry of Jal Shakti for “Doubling the Farmers Income”.
- On the occasion of launch of the App through Video Conferencing from Panchkula, the Minister said that in 2016-17, the Union Govt, in consultation with States, prioritized Ninety-nine (99) ongoing Major/ Medium Irrigation (MMI) Projects in the country, for completion in phases under PMKSY-AIBP.



- The completion of these projects will ensure creation of additional irrigation potential of 34.64 lakh hectare all over the country which would result in protective irrigation and bring much desired rural prosperity.
- So far, out of 99 projects, 44 projects have been completed and 21.33 Lakh ha. of targeted irrigation potential has been achieved. Remaining projects are at various stages of completion.
- In order to track the pace of work and actual status of the projects Bhaskaracharya National Institute of Space Applications & Geo-informatics (BISAG-N) has developed and launched the mobile application.
- As a part of digital India campaign advanced Technology and Latest techniques have been adopted in the monitoring of these projects for keeping a track of their progress and bottlenecks in the execution.
- In this regard, an online Management Information System (MIS) has been developed for time to time review of the progress of works in projects.
- The Remote Sensing techniques are also being used to assess the cropped area in the command area of the prioritized projects.
- Mobile Application can be used by monitoring team/ project authorities to capture the image of project component along with other details such as location, type of canal/ structure, completion status, etc and this captured information can be submitted by the user for geo-tagging on the GIS portal developed for this purpose.
- The mobile application can be operated in both online & offline mode depending on the network availability in the region.

The broad objectives of PMKSY include



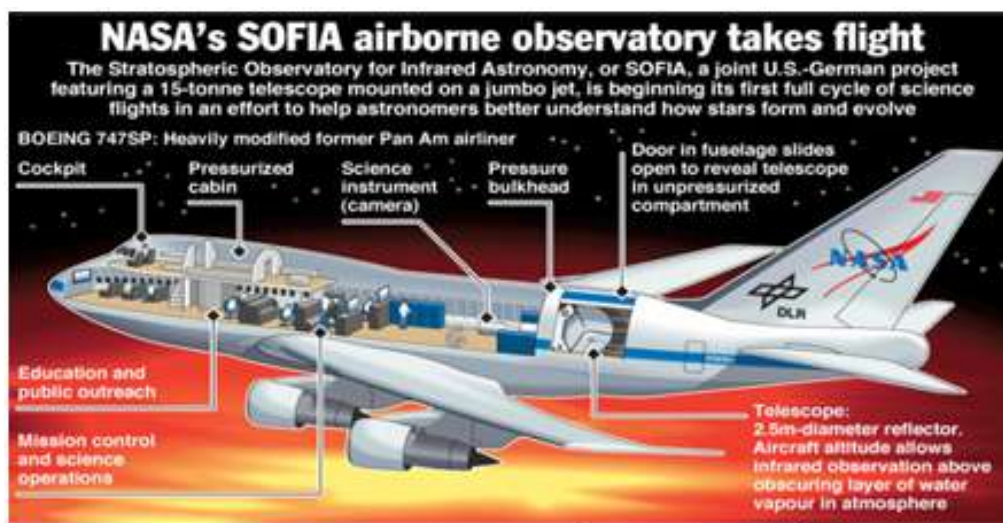
- Achieve convergence of investments in irrigation at the field level (preparation of district level and, if required, sub district level water use plans).
- Enhance the physical access of water on the farm and expand cultivable area under assured irrigation (Har Khet ko pani).
- Integration of water source, distribution and its efficient use, to make best use of water through appropriate technologies and practices.

- Improve on - farm water use efficiency to reduce wastage and increase availability both in duration and extent.
- Enhance the adoption of precision - irrigation and other water saving technologies (More crops per drop).
- Enhance recharge of aquifers and introduce sustainable water conservation practices.
- Ensure the integrated development of rainfed areas using the watershed approach towards soil and water conservation, regeneration of ground water, arresting runoff, providing livelihood options and other NRM activities.
- Promote extension activities relating to water harvesting, water management and crop alignment for farmers and grass root level field functionaries.
- Explore the feasibility of reusing treated municipal waste water for peri - urban agriculture.
- Attract greater private investments in irrigation.
- PMKSY has the following programme components:
 - ✓ Accelerated Irrigation Benefit Programme (AIBP)
 - ✓ PMKSY (Har Khet ko Pani)
 - ✓ PMKSY (Per Drop More Crop)
 - ✓ PMKSY (Watershed Development)

1.5. Water Found in Sunlight and Shadow on the Moon

- The Moon has water at places where none had been detected before, and has potentially more water than previously believed in regions where it was already understood to exist.
- Apart from being a marker of potential life, water is a precious resource in deep space.
- For astronauts landing on the Moon, water is necessary not only to sustain life but also for purposes such as generating rocket fuel.
- NASA's Artemis programme plans to send the first woman and the next man to the Moon in 2024, and hopes to establish a "sustainable human presence" there by the end of the decade.
- If space explorers can use the Moon's resources, it means they need to carry less water from Earth.
- Previous Moon studies, including by the Indian Space Research Organisation's (ISRO) Chandrayaan-1 mission, have provided evidence for the existence of water.
- In 2009, the Moon Mineralogy Mapper (M3) instrument aboard Chandrayaan-1 found water molecules in the Polar Regions. .
- However, what was not established in such studies — based on observations by the Chandrayaan-1 mission, NASA's Cassini and Deep Impact comet mission, and NASA's ground-based Infrared Telescope Facility — was whether the detected molecules were water as we know it (H₂O) or in the form of hydroxyl (OH).
- This time, it is confirmed H₂O molecules, discovered in Clavius Crater in the Moon's southern hemisphere.

- It is the first time water has been detected on the sunlit side, showing it is not restricted to the shadowy regions.
- SOFIA, which is a modified Boeing 747SP jetliner that flies at altitudes up to 45,000 feet, has an infrared camera that picked up the wavelength unique to water molecules.



- The data showed water in concentrations of 100-412 parts per million trapped in 1 cubic metre of soil.
- SOFIA's mission is to look at dark and distant objects.
- The Moon, on the other hand, is so close and bright that it fills the SOFIA guide camera's entire field of view.
- In August 2018, just to check whether SOFIA could reliably track the Moon, scientists tried a test observation. It was from this test that came the detection of water. How could the water have formed?
- Space rocks carrying small amounts of water could have bombarded the Moon.
- Alternatively, the Sun's solar wind could have carried hydrogen, which then reacted with minerals in the lunar soil to create hydroxyl, which later transformed into water.
- The sunlit surface retaining the water presents a puzzle, since the Moon does not have a thick atmosphere.
- One possibility is that the water gets trapped into tiny bead-like structures that were created in the soil by impacts from space rocks. Alternatively, the water could be hidden between grains of lunar soil and sheltered from the sunlight.
- On the sunlit side, it is not yet known whether the water SOFIA found is easily accessible.
- On the other hand, the hidden, shadowy pockets on the lunar surface called "cold traps" are spread across a combined 40,000 sq km.
- The estimate used mathematical tools to analyse data from NASA's Lunar Reconnaissance Orbiter.
- The cold traps have gone without sunlight for potentially billions of years. If they do contain ice, it means water is going to be more accessible than previously assumed.

- SOFIA will look for water in additional sunlit locations to learn more about how the water is produced, stored, and moved across the Moon.
- Meanwhile, NASA's Volatiles Investigating Polar Exploration Rover (VIPER) will carry out a mission to create the first water resource maps of the Moon.

2. History

Click [here](#) to watch the following questions on YouTube

2.1. Bundi: Architectural Heritage of a Forgotten Rajput Capital

- 'Dekho Apna Desh' Webinar Series is an effort to showcase India's rich diversity under Ek Bharat Shreshtha Bharat.
- The Series is presented in technical partnership with National e Governance Department, Ministry of Electronics and Information Technology.
- Bundi, erstwhile capital of Hada Rajput province known as Hadauti, is located in south-eastern Rajasthan.
- Bundi is also known as City of Stepwalls, blue city and also as Chotti Kashi.
- In ancient times, the area around Bundi was apparently inhabited by various local tribes, of which the Parihar Tribes, Meena was prominent.
- Later the region was governed by Rao Deva, who took over Bundi from Jaita Meena in 1242, renaming the surrounding area as Haravati or Haroti.
- For the next two centuries, the Hadas of Bundi were the vassals of the Sisodias of Mewar and ruled by the title of Rao until 1569, when Emperor Akbar conferred the title of Rao Raja upon Rao Surjan Singh after the surrender of Ranthambore Fort and his submission.
- Best example of medieval Indian city exhibiting water harvesting methods adopted at settlement level as well as finest examples of water architecture.
- Location of Baoris and Kunds outside the walled city was also influenced by social considerations as access to baoris and kunds were located within walled city was controlled.

Architectural heritage of Bundi can be classified in six typologies

- Garh (Fort)
 - ✓ Taragarh
- Garh Mahal (Royal Palace)
 - ✓ Bhj Mahal
 - ✓ Chattar Mahal
 - ✓ Ummed Mahal
- Baori (Step well)
 - ✓ Khoj Darwaja ki Baori
 - ✓ Bhawal di Baori
- Kund (Stepped tank)
 - ✓ Dhabhai ji ka Kund
 - ✓ Nagar Sagar Kund

✓ Rani Kund

● Sagar mahal (Lake Palace)

✓ Moti Mahal

✓ Sukh Mahal

✓ Shikar Burj

● Chhatri (Cenotaph)

✓ Chaurasi

● Unlike most forts in Rajasthan which are made of Sandstone the Taragarh Fort is made of serpentine stone which is green in colour.

● It remains one of the few forts in Rajasthan which does not show influences of Mughal style of art and architecture.



● Rani Kund



2.2. Girnar Ropeway - Asia's longest ropeway

- Girnar is located in the Junagadh region of Gujarat.
- Since the 3rd century, Girnar has been a sacred place for Jains and the Hindus.
- Girnar Temples is known to be the “anthology of mountains” which contains about five mountains.
- Fourteen of Ashoka's Major Rock Edicts, dating to circa 250 BCE, are inscribed on a large boulder that is housed in a small building located outside the town of Junagadh on Saurashtra peninsula in the state of Gujarat, India.
- On the same rock there are inscriptions in Sanskrit added around 150 CE by Mahakshatrap Rudradaman I, the Saka (Scythian) ruler of Malwa, a member of the Western Satraps dynasty (see Junagadh rock inscription of Rudradaman). The edict also narrates the story of Sudarshan Lake which



was built or renovated by Rudradaman I.

- Another inscription dates from about 450 CE and refers to Skandagupta, the last Gupta Empire.


Girnar Temples

- The Neminath temple at Girnar is the major temple, which was built in the 11th century.
- The temple contains the deity of Lord Neminath, which is made of black granite and the eyes of the deity are made of precious jewels.
- It is dedicated to 24 Tirthankars of Jain religion.
- According to Jain religious beliefs, Neminath, the 22nd Tirthankar became an ascetic after he saw the slaughter of animals for food on his wedding.
- He renounced all worldly pleasures and came to Mount Girnar to attain salvation. Here, Bhagwan Neminath reached the highest state of enlightenment, Keval Gyan and Moksha, after great austerities.
- His bride-to-be also followed his path and founded the 'Sandhvi Sangh', the organization of women ascetics.
- There is another temple known as Mallinath temple within the Neminath temple which is devoted to Tirthankar (Jain god). The temple was built in 1231 AD by Tejpal and Vastupal.
- Besides these temples there are some minor temples namely Meravasi built in the 15th century. Married couples visit this temple to seek blessings.
- A race is conducted every year, the race involves climbing to the top of the 10,000 steps.




2.3.Parampara Series 2020-National Festival of Music and Dance

- The virtual festival of 'Parampara Series 2020-National Festival of Music and Dance was launched.
- It is organised by Natya Tarangini in partnership with the United Nations.
- Natya Tarangini has been organising the 'Parampara Series' continuously since past 23 years.
- Parampara' means 'tradition', the transmission of cultural treasure house from one generation to the next.
- This festival has been organized to coincide with the World Day for Audio-visual Heritage (27 OCTOBER).



UNITED NATIONS
INDIA

KAUSHALYA REDDY




24 Years of

Parampara

S e r i e s





National Festival of Music and Dance












A celebration of Indian Classical Music and Dance to promote Hope, Harmony and Solidarity.



Curated by Kaushalya Reddy

Supported by

3. Polity

Click [here](#) to watch the following questions on YouTube

3.1.NMC notifies new norms for MBBS admissions, setting up of medical colleges

- The National Medical Commission (NMC), since its constitution on September 25, 2020, has come out with a detailed list of requirements applicable for setting a new medical college, and to the established medical colleges proposing to increase their annual MBBS intake from the academic year 2021-22.
- It replaces the "Minimum Standard Requirements for Medical Colleges, 1999 (for 50/100/150/200/250 Annual Admissions)" of the erstwhile Medical Council of India (MCI).
- The new regulations shall be applicable to all new medical colleges proposing to be established, and to the established medical colleges proposing to increase their annual MBBS intake from the academic year 2021-22.
- During the transitory period, the established medical colleges will be governed by the relevant regulations existing prior to the current notification.
- The new regulations have deleted the quantum of land required for setting up a medical college and its affiliated teaching hospitals (all buildings are expected to conform to existing building bye-laws).
- The notification defines the minimum requirements of space for all student centric areas in the institution and the functional areas required.
- The standards outline the sharing of all available teaching spaces by all departments (compared to the inflexibility in the regulations so far) thereby mandating all teaching spaces to be enabled for e-learning and also digitally linked to one another (it was only desirable earlier).
- Under the new regulations, a well-equipped "Skills Laboratory" for training students is essential now.
- It also defines a Medical Education Unit for training medical teachers in educational pedagogy.
- The space required for library and the number of books and journals have been rationalized and reduced.
- Student counselling services has been mandated recognizing the increasing stress observed amongst medical students and residents in recent times.
- Recognizing that a well-functioning hospital is at the core of medical training, the new regulation now mandates the availability of a fully functional 300 bed multi-speciality hospital for at least 2 years at the time of application for establishing a new medical college (the earlier regulations did not specify the period of functionality).
- The human resource of teaching faculty has also been rationalized in the new regulation.
- Over and above the minimum prescribed faculty, provision for "visiting faculty" has been made to enhance quality of training.
- Two new teaching departments have now become mandatory in all medical college hospitals for the training of undergraduate medical students.

- These include the Department of Emergency Medicine (which has replaced the earlier Casualty Department) and will ensure access and prompt, appropriate response to emergencies particularly trauma;
- and the Department of Physical Medicine and Rehabilitation which shall fill a large gap for those in need of comprehensive rehabilitative care.
- The regulations have also outlined "desirable" and "aspirational" goals beyond the minimum requirements stated in the standards so as to stimulate medical institutions to strive for excellence.

NMC

- The National Medical Commission (NMC) replaced the Medical Council of India (BoG-MCI).
- NMC will be an overarching body that will frame policies and co-ordinate the activities of the autonomous boards, including the Under-Graduate Medical Education Board, Post-Graduate Medical Education Board, Medical Assessment and Rating Board, and the Ethics and Medical Registration Board.
- One of the mandates of NMC is to look at the cost of medical education.
- NMC will also work to regulate fees and all other charges in 50% seats in private colleges, as well as deemed to be universities.

3.2. Twitter Representatives Apologise for Showing Leh in China at Joint Parliamentary Panel hearing

- Twitter representatives verbally apologised for geo-tagging Leh, the capital city of the Union Territory of Ladakh, as part of China while appearing before the Joint Parliamentary Committee on Personal Data Protection Bill, 2019.
- A structured committee system was introduced in 1993 to provide for greater scrutiny of government functioning by Parliament.

What is a Joint Parliamentary Committee (JPC)?

- A Joint Parliamentary Committee (JPC) is set up to examine a particular bill presented before the Parliament, or for the purpose of investigating cases of financial irregularities in any government activity.
- The JPC, an ad-hoc body, is set up for a given period of time and is aimed at addressing a specific issue.
- In order to set up a JPC, a motion is passed in one House and supported by the other House.
- The committee's members are decided by Parliament.
- The number of members can vary.
- A JPC is authorised to collect evidence in oral or written form or demand documents in connection with the matter.
- The proceedings and findings of the committee are confidential, except in matters of public interest.
- The government can take the decision to withhold a document if it is considered prejudicial to the safety or interest of the State.



- The Speaker has the final word in case of a dispute over calling for evidence.
- The committee can invite interested parties for inquiry and summon people to appear before it.
- In the usual course of proceedings, the committee does not summon ministers to give evidence.
- The committee gets disbanded following the submission of its report to Parliament.

MINT QUICK READS

PRIVACY LAW IN THE MAKING

- ▶ Data Protection Authority of India (DPA), an independent regulatory body responsible for the **enforcement and effective implementation** of the law, will be established
- ▶ An appellate tribunal to be established or grant powers to an **existing appellate tribunal** to hear and dispose of any appeal against an order of the DPA
- ▶ The panel has identified **50 statutes and regulations**, which have potential overlap with the data protection framework
- ▶ The Aadhaar Act needs to be amended to **bolster data protection**, and the committee has suggested some amendments
- ▶ The law will cover processing of personal data by both **public and private entities**

The data protection law will be like a new shoe, tight in the beginning but comfortable eventually.

Justice B.N. Srikrishna

Decoding the data protection bill

WHAT IT MEANS FOR CONSUMERS

- **DATA** can be processed or shared by any entity only after consent.
- **SAFEGUARDS**, including penalties, introduced to prevent misuse of personal data.
- **ALL** data to be categorized under three heads—general, sensitive and critical.

THE GOVERNMENT & REGULATORY ROLE

- **GOVT** will have the power to obtain any user's non-personal data from companies.
- **THE** bill mandates that all financial and critical data has to be stored in India.
- **SENSITIVE** data has to be stored in India but can be processed outside with consent.

WHAT COMPANIES HAVE TO DO

- **SOCIAL** media firms to formulate a voluntary verification process for users.
- **SHARING** data without consent will entail a fine of ₹15 crore or 4% of global turnover.
- **DATA** breach or inaction will entail a fine of ₹5 crore or 2% of global turnover.

Source: Mint research

3.3. Now, anyone can buy land in Kashmir, government notifies order

- The new laws will now allow any Indian citizen to purchase non-agricultural land in the Union territory.
- These rules have also omitted any need for being a domicile or having a permanent resident certificate for the purchase of land in J&K.
- This is significant since till now only permanent residents of J&K could buy land in the region.
- The rules also do not impose restrictions on the quantum of area for building a residence or a shop, as it exists in certain states including Himachal Pradesh.
- However, agricultural land can only be purchased by agriculturalists or people engaged in farm-related activities.
- Through Section 133 H in the Agrarian Reforms Act, the Centre has completely barred the sale of agricultural land to non-agriculturist.
- No sale, gift, exchange, or mortgage of any land will be valid in favour of a person who is not an agriculturist, unless the government or an officer authorised by it in this behalf may grant permission for the same.
- This technically means that once permission is granted, the agricultural land can also be sold, gifted or mortgaged with specified terms. As per the rules, although agricultural land cannot be used for non-agricultural purposes in normal circumstances, it however can be done with prior permission from the government.
- The new rules also state that the government may, on the written request of an Army officer not below the rank of corps commander, declare an area as "strategic area within a local area".

- This land can be used for direct operational and training requirements of armed forces.
- This area will have to be declared and the government may satisfy itself about the reasons cited for declaring the area as a strategic area and will have such area notified accordingly with such conditions as may be required.
- It is in line with process of removing the special status of J&K with the removal of Article 370 in August 2019.
- After the J&K's special status under Article 370 of the Constitution was withdrawn on August 5, 2019, the Reorganisation Act bifurcated the erstwhile state into two union territories.

3.4.Niti Aayog releases draft model Act on land titles

- The Niti Aayog has released a draft model Act and rules for states on conclusive land titling with an aim to reduce litigations and ease the land acquisition process for infrastructure projects.
- The model Act and rules will provide state governments power to order for establishment, administration and management of a system of title registration of immovable properties.
- Under the model Act, the land dispute resolution officer and land title appellate tribunal are one-shot institutions which will fade away as the work reduces.
- After three years of its notification, the register of title attains conclusively without any external action.
- Conclusive land titles are guaranteed by the state for correctness and entail provision for compensation by the state in case of any dispute.
- Any person aggrieved by an entry in the Record of Titles notified under Section 11 may file an objection before the Title Registration Officer within three years from the date of such notification.
- Following this, the Title Registration Officer shall make an entry to that effect in Register of Titles and in the Register of Disputes and refer the case to the land dispute resolution officer.
- A party aggrieved with an order of the land dispute resolution officer may file an appeal before the Land Titling Appellate Tribunal within 30 days of passing of such an order.
- A special bench of High court shall be designated to deal with appeals against the orders passed by the Land Titling Appellate Tribunal.



3.5.Election Commission "Has No Power," Says Supreme Court On Kamal Nath Case

- The Election Commission's order removing Congress's Kamal Nath as the star campaigner for the by-elections in Madhya Pradesh has been put on hold by the Supreme Court.

Who is a star campaigner?

- A star campaigner is a celebrity vote seeker in an election for a party.
- This person can be a politician or even a film star.
- There is no law governing who can or cannot be made a star campaigner.
- They are nominated by the concerned political parties specifying their constituencies and duration of the status.

How many star campaigners can be there?

- Since political parties appoint star campaigners, the Election Commission has issued guidelines the Model Code of Conduct regulating poll campaign by them.
- A 'recognised' party declared as such by the Election Commission -- can nominate a maximum of 40 star campaigners.
- An unrecognised political party can nominate a maximum of 20 star campaigners.

Why political parties need a star campaigner?

- It has a lot to do with poll expenditure.
- The Election Commission keeps a tab on expenditure incurred by individual candidates during campaign Rs 70 lakh for most states in one constituency by each candidate.
- Expenditure incurred on electioneering by the star campaigner is not added to a candidate's poll expenditure giving him/her more leeway.
- According to the Representation of People's Act, these expenses will be borne by the political parties.

But terms and conditions apply

- For an individual candidate to get a relief from campaign expenditure, the star campaigner has to limit oneself to general campaigning for the party.
- If she/he shares stage with a candidate, the entire campaign cost except expenditure incurred on travelling will added to the candidate's election expenses.
- This applies even if the star campaigner seeks vote for the candidate taking his or her name.
- If more than one candidates share the stage with the star campaigner, the expenditure incurred on the rally will be shared equally by the contestants.
- If the candidates are not present but their posters or photographs have been displayed in their constituencies where a star campaigner holds a poll rally, the entire expense will be added to the election expenses of the contestants.

When PM is the star campaigner?

- The MCC guidelines say when a prime minister or a former prime minister is star campaigner, the expenditure incurred on security including on the bullet-proof vehicles will be borne by the government and will not be added to the election expenses of the party or the individual candidate.
- However, if another campaigner travels with the prime minister or a former minister, the individual candidate will have to bear 50 per cent of the expenditure incurred on the security arrangements.
- Chief Justice of India (CJI) Sharad A. Bobde, heading a three-judge Bench, said the Commission had no power to determine who should be 'star campaigner' of a political party.
- Section 77(1) of the Representation of People Act, 1951 read with Guidelines for Star Campaigners issued by the Election Commission, from time to time, makes selection/revocation of 'star campaigners' the sole prerogative of the political party.

4. Economy

Click [here](#) to watch the following questions on YouTube

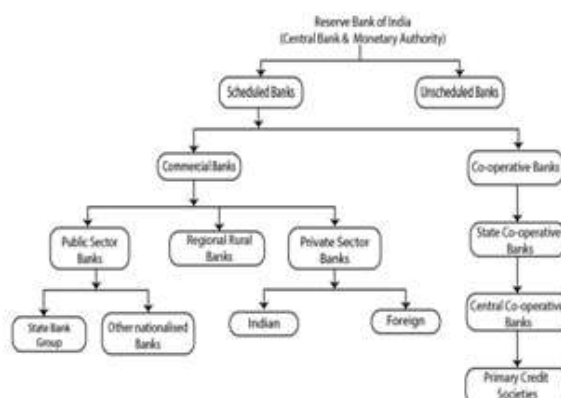
4.1. Centre provides Rs 670-crore support to Regional Rural Banks to meet regulatory capital

CRAR: Capital to Risk Weighted Assets Ratio

- CRAR is also known as Capital adequacy Ratio, the ratio of a bank's capital to its risk.
- The banking regulator tracks a bank's CAR to ensure that the bank can absorb a reasonable amount of loss and complies with statutory Capital requirements.
- Higher CRAR indicates a bank is better capitalized.
- CRAR is decided by central banks and bank regulators to prevent commercial banks from taking excess leverage and becoming insolvent in the process.
- The Basel III norms stipulated a capital to risk-weighted assets of 8%.
- In India, scheduled commercial banks are required to maintain a CAR of 9% while Indian public sector banks are emphasized to maintain a CAR of 12% as per RBI norms.

Regional Rural Banks

- In a bid to strengthen capital base, the union government has provided Rs 670 crore to Regional Rural Banks (RRBs) considering their importance in agriculture finance during these difficult times.
- On the recommendation of Narsimhan Committee, The Regional Rural Banks (RRBs) were established in 1975 under the provisions of the Ordinance promulgated on 26th September, 1975 and Regional Rural Banks Act, 1976.
- It was to develop the rural economy by providing, for the purpose of development of agriculture, trade, commerce, industry and other productive activities in the rural areas, credit and other facilities, particularly to small and marginal farmers, agricultural labourers, artisans and small entrepreneurs, and for matters connected therewith and incidental thereto.
- RRBs are jointly owned by the Central government, the State government concerned and the sponsor (usually public sector) bank, with the issued capital shared in the proportion of 50 per cent, 15 per cent and 35 per cent.



- The RRBs have to provide 75 per cent of their total credit under priority sector lending.
- RRBs are primarily catering to the credit and banking requirements of agriculture sector and rural areas with a focus on small and marginal farmers, micro and small enterprises, rural artisans and weaker sections of the society.
- RRBs also provide lending to micro/small enterprises and small entrepreneurs in rural areas.
- With a view to enable RRBs to minimise their overhead expenses, optimise the use of technology, enhance the capital base area of operation and increase their exposure, the government has initiated structural consolidation of RRBs in three phase, thereby reducing the number of RRBs from 196 in 2005 to around 43 at present.

PSL: Priority Sector Lending

- It is an important role given by the RBI to the banks for providing a specified portion of the bank lending to few specific sectors like agriculture and allied activities, micro and small enterprises, poor people for housing, students for education and other low-income groups and weaker sections.
- This is essentially meant for an all-round development of the economy as opposed to focusing only on the financial sector.

NPA

- Reserve Bank of India defines NPA as any advance or loan that is overdue for more than 90 days.
- An asset becomes non-performing when it ceases to generate income for the bank.
- NPAs can be classified as a substandard asset, doubtful asset, or loss asset, depending on the length of time overdue and probability of repayment.

4.2.Rural Development Fund

What is Rural Development Fund or RDF?

- RDF is the 3 per cent cess levied on the purchase or sale of agricultural produce under the Rural Development Fund Act, 1987

What is Rural Development Board (RDB)?

- The RDB was incorporated in April 1987 under Rural Development Act, 1987.
- It is mandated with the promotion of better agriculture, and granting relief for the loss and damage to agricultural produce.
- It also provides the facility of streets lights, dharamshalas, panchayat ghars, canals and drains, government health infrastructure, drinking water, sanitation, and government educational institutions in rural areas.

From where does Punjab get this fund and what is it used for?

- It comes mainly from central government's purchase agency, Food Corporation of India, which buys around 13 million tonnes of wheat and 16 million tonnes of paddy every year

Why is it in News recently?

- The central government has suspended this fund for Punjab.

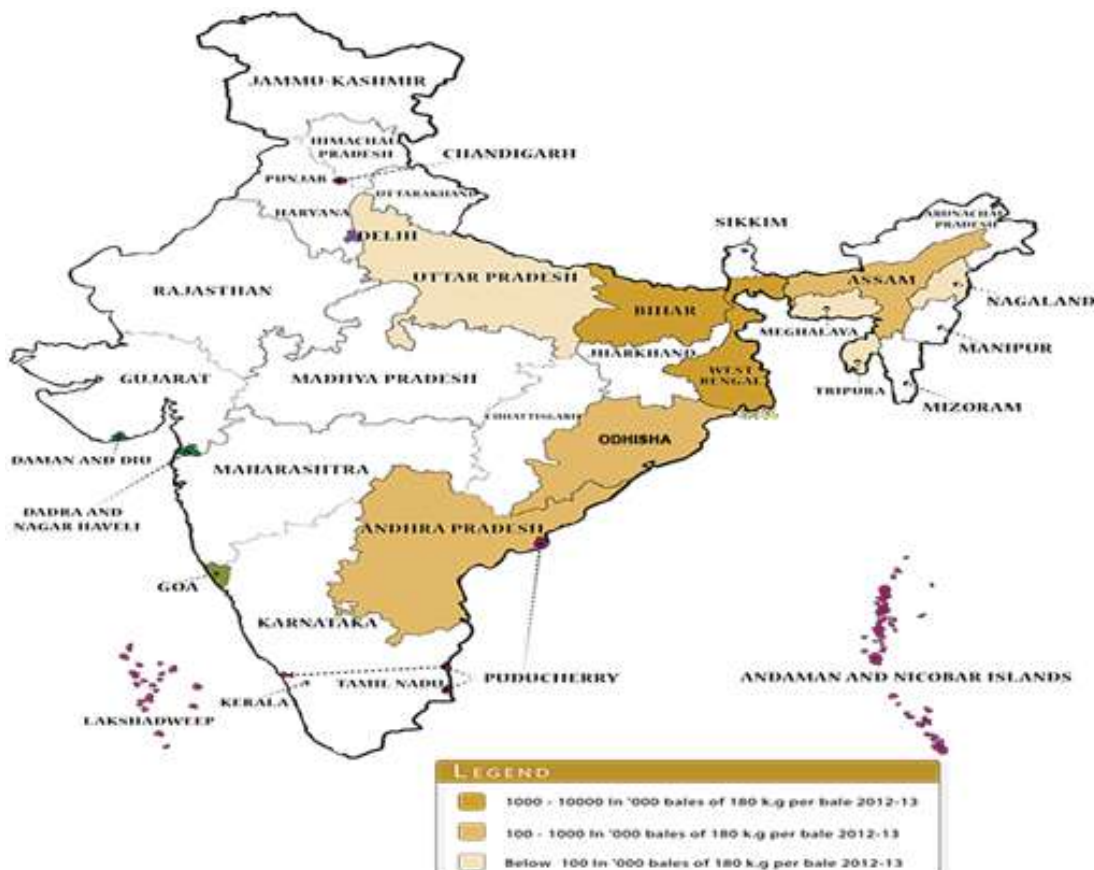


- The central government, in a letter from the Union Ministry of Consumer Affairs, Food and Public Distribution, has observed that the fund is being diverted, and has asked the state government to explain how it is utilising this money.
- Please See: Not to be confused with Rural Infrastructure Development Fund.

4.3.Cabinet approves extension of norms for mandatory packaging in jute materials

Jute producing states in India

- To give an impetus to the diversification of the jute industry, the Cabinet Committee on Economic Affairs (CCEA) extended the norms for mandatory packaging of 100% food grains and 20% sugar in diversified jute bags.
- The decision also mandates that initially 10% of the indents of jute bags for packing food grains would be placed through a reverse auction on the Government e-Marketplace portal to gradually usher in a regime of price discovery.
- The government has expanded the scope of mandatory packaging norms under the Jute Packaging Material (JPM) Act, 1987.
- In case of any shortage or disruption in the supply of jute packaging material or in other contingency/exigency, the textiles ministry may, in consultation with the user ministries concerned relax these provisions further, up to a maximum of 30 % of the production of food grains over and above the provisions.



- Under the Jute Packaging Materials (Compulsory use in Packing Commodities) Act, 1987, the government is required to consider and provide for the compulsory use of jute packaging material in the supply and distribution of certain commodities in the interest of production of raw jute and jute packaging material and of persons engaged in the production.
- West Bengal produces the maximum jute in the country (more than 50%).
- The world's leading jute producing countries are India, Bangladesh, China and Thailand.
- India is the world's largest producer of raw jute and jute goods, contributing to over 50 percent and 40 percent respectively of global production.
- Jute crop requires humid climate with temperature fluctuating between 24 degree Celsius and 38 degree Celsius.
- Minimum rainfall required for jute cultivation is 1000 mm. New grey alluvial soil of good depth receiving silt from annual floods is most suitable for jute growth.
- However, jute is grown widely in sandy looms and clay loams.

4.4.Future-Reliance vs Amazon?

Context

- A tribunal in Singapore restrained Future Group and Reliance Industries Limited from proceeding with a Rs 24,713-crore deal signed in August for Future Retail to sell its retail, wholesale, logistics and warehousing units to Reliance Retail and Fashion style.
- Singapore International Arbitration Centre (SIAC):
 - ✓ It is a not-for-profit international arbitration organisation based in Singapore, which administers arbitrations under its own rules of arbitration and the UNCITRAL Arbitration Rules.
 - ✓ It was established in 1991.

UNCITRAL

- The United Nations Commission on International Trade Law UNCITRAL is a subsidiary body of the U.N. General Assembly (UNGA) responsible for helping to facilitate international trade and investment.

Why did Amazon approach SIAC for arbitration?

- Amazon believes that two separate shareholder agreement(s), one between Amazon and FRL's promoters (to which FRL is not a party) and another between FRL and its promoter (to which Amazon is not a party) constitute one single integrated transaction and that by such a composite transaction Amazon has an interest in and rights against FRL.
- The arbitral institution administering the arbitration, the applicable rules and the seat of arbitration is decided as per the contractual agreement between the parties.
- In this case Amazon and Future Group have under their agreement agreed to refer their disputes to SIAC, with Singapore presumably being the contractual choice for the seat/place of arbitration.



- As part of statutory requirements, a nod or NOC is required from BSE, NSE and Sebi who will review the deal. A green signal is required from these bodies for the deal and the related scheme of arrangement to be filed before the National Company Law Tribunal as part of due process. Amazon is relying on the emergency arbitrator order and has reportedly urged the bourses and the regulator not to approve the Future Retail-Reliance Retail deal.

Why was an emergency award passed to stop the Future-RIL deal?

- Once a dispute is referred to arbitration pursuant to the agreement between the parties, the process of appointment of the arbitral tribunal takes place.
- Typically, in case of a three member tribunal, both the parties appoint one member each to the tribunal, while the third member is jointly appointed by the two nominees or, if they fail to agree, by SIAC.
- However, under the rules of SIAC, parties can move SIAC to appoint an emergency arbitrator to get urgent interim relief, even as the process of appointment of the main arbitral tribunal is underway.
- An Emergency Arbitrator was appointed by SIAC, who after hearing the parties passed the emergency award.

How can this interim award be enforced on the parties in India?

- Currently under Indian law, there is no express mechanism for enforcement of the orders of the Emergency Arbitrator.
- Typically, the parties voluntarily comply with the Emergency Award.
- However, if the parties don't comply with the order voluntarily, then the party which has won the emergency award, in this case Amazon, can move the High Court in India under Section 9 of the Arbitration & Conciliation Act, 1996, to get similar reliefs as granted by the Emergency Arbitrator.
- In the past, High Courts in India have passed orders which indirectly enforced the reliefs granted by the Emergency Arbitrator

Can Future Group challenge the interim award of the emergency arbitrator in India?

- The Future Group cannot challenge the order passed by the Emergency Arbitrator in India.
- It may either apply before the Emergency Arbitrator itself showing cause why the order should be vacated or modified, or await the constitution of the arbitral tribunal and then apply before the main tribunal.
- However, if a petition is filed before the High Court in India under Section 9 of the Arbitration & Conciliation Act, 1996, then the Future Group could put forth its objections on why the reliefs as granted by the Emergency Arbitrator should not be granted by the High Court.

Why has Singapore become the hub of international arbitration?

- Singapore has emerged as the preferred location for international arbitration involving Indian companies as foreign investors typically want to avoid the rigmarole of the Indian courts.
- Foreign investors who have invested in India feel that Singapore is neutral ground for dispute resolution.

- Singapore itself over time has built a stellar reputation as jurisdiction driven by rule of law with international standards and high integrity
- India now has its own international arbitration centre in Mumbai. But in context of arbitration, this is a recent development.
- According to the 2019 annual report of SIAC, India was the top user of its arbitration seat with 485 cases being referred to SIAC, followed by Philippines at 122, China at 76 and the United States at 65.
- Will this interim award have any impact on the Competition Commission of India (CCI) decision in the Future-RIL deal?
 - ✓ There is no specific requirement under the regulations that requires the CCI to defer its decision due this order of the Emergency Arbitrator.
 - ✓ However, passive or perception-based impact of the order cannot be ruled out.

4.5. India opposes WTO's binding commitments for faster trade clearances

- In an effort to help governments address climate change goals and the global impact of Covid-19, five members — Australia, Canada, Mexico, New Zealand and Switzerland — have pitched for a greater opening of architectural design, engineering, consulting, and construction services at the World Trade Organisation (WTO).
- It was being discussed at the 'Trade in Services' negotiations at the WTO.
- India has asked to reconsider the importance of built-in flexibilities for developing countries provided by the General Agreement for Trade in Service (GATS) instead of going for further opening of reforms.

Climate-neutral status

- The proposal also got the support of a number of delegations including Brazil, China, Chile, the EU, Japan and the UK, which expressed their interest on the matter.
- The EU said that environmental protection was in line with the European Green Deal and it also matched its goal of achieving climate-neutral status by 2050.
- India informed members that all negotiations in the area of services have to recognise the special status of developing countries and least-developed countries (LDCs) and extend flexibilities to them.
- Other delegations, such as Barbados, Fiji and South Africa, on behalf of the African Group, said that developing countries need to be assisted to increase their share of environmental-related services exports, build capacities and address their infrastructural constraints.

WTO

- The World Trade Organization is an intergovernmental organization that is concerned with the regulation of international trade between nations.
- The WTO officially commenced on 1 January 1995 under the Marrakesh Agreement, signed by 123 nations on 15 April 1994, replacing the General Agreement on Tariffs and Trade (GATT), which commenced in 1948.
- It is the largest international economic organization in the world.



- The WTO deals with regulation of trade in goods, services and intellectual property between participating countries by providing a framework for negotiating trade agreements and a dispute resolution process aimed at enforcing participants.
- The WTO prohibits discrimination between trading partners, but provides exceptions for environmental protection, national security, and other important goals.
- Trade-related disputes are resolved by independent judges at the WTO through a dispute resolution process.


MFN

- In international economic relations and international politics, most favoured nation (MFN) is a status or level of treatment accorded by one state to another in international trade.
- The country which is the recipient of this treatment must nominally receive equal trade advantages as the "most favoured nation" by the country granting such treatment (trade advantages include low tariffs or high import quotas).
- In effect, a country that has been accorded MFN status may not be treated less advantageously than any other country with MFN status by the promising country.

GATS

- The General Agreement on Trade in Services is a treaty of WTO which entered into force in January 1995 as a result of the Uruguay Round negotiations.
- The treaty was created to extend the multilateral trading system to service sector, in the same way the General Agreement on Tariffs and Trade (GATT) provides such a system for merchandise trade.
- All members of the WTO are parties to the GATS.
- The basic WTO principle of most favoured nation (MFN) applies to GATS as well. However, upon accession, members may introduce temporary exemptions to this rule.

FOUR MODES OF SUPPLY



Modes	Criteria	Supplier Presence
Mode 1: Cross-border supply	Service delivered within the territory of the Member, from the territory of another Member	
Mode 2: Consumption abroad	Service delivered outside the territory of the Member, in the territory of another Member, to a service consumer of the Member	Service supplier not present within the territory of the member
Mode 3: Commercial presence	Service delivered within the territory of the Member, through the commercial presence of the supplier	
Mode 4: Presence of a natural person	Service delivered within the territory of the Member, with supplier present as a natural person.	Service supplier present within the territory of the Member

4.6. India begins anti-dumping probe into low density polyethylene imports

- India has begun an anti-dumping investigation into the imports of low density polyethylene (LDPE) from the US, UAE, Qatar, Saudi Arabia, Singapore and Thailand after the Chemicals and Petrochemicals Manufacturers Association (CPMA) filed an application to initiate the anti-dumping

investigation.

Use of LDPE

- LDPE is used for producing trash bags, frozen food packaging, lamination film, bubble wrap, adhesive tape backing films and foam for manufacture of mattresses, among others.
- The association has claimed that due to the price effect of dumped imports, performance of the domestic industry has been adversely impacted leading to an increase in its inventories, decline in its profitability, and return on capital employed.

What Is an Anti-Dumping Duty?

- An anti-dumping duty is a protectionist tariff that a domestic government imposes on foreign imports that it believes are priced below fair market value.
- Dumping is a process wherein a company exports a product at a price that is significantly lower than the price it normally charges in its home (or its domestic) market.
- In order to protect their respective economy, many countries impose duties on products they believe are being dumped in their national market; this is done with the rationale that these products have the potential to undercut local businesses and the local economy.
- While the intention of anti-dumping duties is to save domestic jobs, these tariffs can also lead to higher prices for domestic consumers.
- In the long-term, anti-dumping duties can reduce the international competition of domestic companies producing similar goods.
- While the Designated Authority (in the Department of Commerce) recommends the anti-dumping duty, provisional or final, it is the Ministry of Finance, Dept. of Revenue which acts upon such recommendation within three months and imposes/levies such duty.

5. Environment

Click [here](#) to watch the following questions on YouTube

5.1.Green Fireworks

BATTLE FOR GOOD AIR

Green firecrackers have been defined as those made with a reduction in size of shell, elimination of ash, reduced use of raw materials and/or use of additives as dust suppressants to reduce emissions

Coming this Diwali, 'green' crackers with logo, QR codes

WHAT IS IT?
New Delhi: This Diwali, CSIR, a center is set to launch a range of 'green' crackers with a unique logo and QR code on the box. The crackers are expected to be available in Delhi. According to CSIR, the new crackers will emit 25-30% lower levels of particulate matter (PM2.5 and PM10) compared to conventional ones.

WHAT ARE THE STANDARDS?

- ▶ Minimum particulate matter reduction of 30%
- ▶ Barium nitrate replaced by potassium nitrate to reduce emissions ranging 30-90%

TYPES OF GREEN CRACKERS

Cost: Less than or equal to commercial firecrackers

- ▶ SAFAL (Safe minimal aluminium cracker) | STAR (Safe thermite cracker) | SWAS (Safe water releaser)

What they do | Reduce PM, SO₂ and NO_x emissions



HOW TO IDENTIFY THEM

- ▶ A green fireworks logo will be displayed on boxes along with a QR code that a customer can scan to find its composition. Boxes without any of these two are fake

WHAT ARE 'GREEN CRACKERS'?

Firecrackers that have "less dangerous" and "less harmful" chemicals than conventional ones

GREEN BECAUSE...

- ▶ they have a chemical formulation that produces water molecules
- ▶ this substantially reduces emission levels and absorbs dust
- ▶ is basically a light and sound show that produces lower emissions
- ▶ promise **30-35% reduction** in particulate matter, nitrous oxide and sulphur oxide

OTHER INITIATIVES

- Crackers with lower aluminium to reduce emissions substantially
- 'Anar' or flower pots made using "eco-friendly material" that can reduce particulate matter by 40%
- Bijli crackers that eliminate use of ash as desiccants
- Firecrackers without antimony, lithium, mercury, arsenic and lead as directed by PESO last year

ALSO IN THE WORKS...

E-CRACKERS BEING DEVELOPED BY CSIR'S CENTRAL ELECTRONICS ENGINEERING RESEARCH INSTITUTE

CSIR - Council of Scientific and Industrial Research

Toxic nature

Conventional firecrackers contain chemicals which produce effects like bright lighting and colours. However, these chemicals can have adverse effects on human health and the environment

Initial ingredient	Use in crackers	Health hazards
Charcoal, potassium nitrate and sulphur	Black powder which is the primary fuel in the cracker	The dust released is hazardous when inhaled; different compounds formed can be carcinogenic
Strontium and lithium	Colouring agent (Red)	Strontium can replace calcium in the body which can be toxic; Lithium releases harmful fumes
Barium	Colouring agent (Orange)	Fumes can cause respiratory and other health issues
Nitrates, chlorates/perchlorates	Oxidising agents	The compounds can hamper the growth of small children; they remain airborne for days and can be poisonous

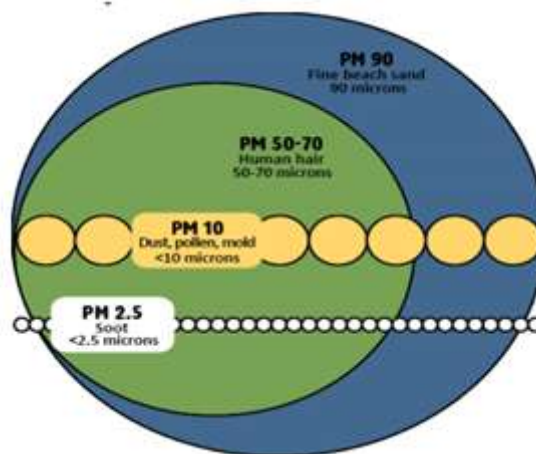


- In October 2018, the Supreme Court allowed bursting of low-emission crackers relaxing the 'complete ban' issued in 2017.
- Such 'green' crackers were researched and developed by scientists at CSIR-NEERI as per the court's directions.
- 'Green' crackers have a small shell size compared to traditional crackers.
- These supposedly emit 25 to 30 percent less of PM 2.5 than traditional fireworks.

- This is the particulate matter with a diameter of less than 2.5 micrometers that pollutes the atmosphere when you burn crackers.
- It's basically what chokes you, irritates your eyes, and pretty much wreaks havoc on pollution levels.
- They are produced using less harmful raw materials and have additives which reduce emissions by suppressing dust.
- CSIR signed agreements with 230 companies to manufacture the crackers and make them available for sale. Green crackers don't contain banned chemicals such as lithium, arsenic, barium and lead.
- They are called Safe Water Releaser (SWAS), Safe Thermite Cracker (STAR) and Safe.
- Green crackers release water vapour and don't allow the dust particles to rise.
- They are designed to have 30% less particulate matter pollution.
- QR codes on green cracker packages will help consumers scan and identify counterfeits.
- The guidelines and standards to define 'green crackers' were formulated by CSIR-NEERI, along with Petroleum and Explosive Safety Organisation, Central Pollution Control Board and the Union ministry of environment, forests and climate change.
- The Delhi government has also launch an anti-cracker campaign from November 3.

PM

- Particulate Matter is the sum of all solid and liquid particles suspended in air many of which are hazardous.



- This complex mixture includes both organic and inorganic particles, such as dust, pollen, soot, smoke, and liquid droplets. These particles vary greatly in size, composition, and origin.

AQI

- An air quality index (AQI) is used by government agencies to communicate to the public how polluted the air currently is or how polluted it is forecast to become.
- Public health risks increase as the AQI rises.
- Different countries have their own air quality indices, corresponding to different national air quality standards



- The System of Air Quality and Weather Forecasting and Research (SAFAR) is a national initiative introduced by the Ministry of Earth Sciences (MoES) to measure the air quality of a metropolitan city, by measuring the overall pollution level and the location-specific air quality of the city.
- The system is indigenously developed by the Indian Institute of Tropical Meteorology (IITM), Pune and is operationalized by the India Meteorological Department (IMD).
- It monitors all weather parameters like temperature, rainfall, humidity, wind speed, and wind direction, UV radiation, and solar radiation.
- Pollutants monitored: PM2.5, PM10, Ozone, Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Sulphur Dioxide (SO₂), Benzene, Toluene, Xylene, and Mercury.

5.2.WWF identifies 100 cities, including 30 in India, facing 'severe water risk' by 2050

- Water scarcity is the lack of fresh water resources to meet the standard water demand. Water scarcity can also be caused by droughts, lack of rainfall, or pollution. This was listed in 2019 by the World Economic Forum as one of the largest global risks in terms of potential impact over the next decade.
- A hundred cities worldwide, including 30 in India, face the risk of 'severe water scarcity' by 2050, according to a recent report by World Wide Fund for Nature (WWF)
- The cities would face a 'grave water risk' by 2050 due to a dramatic increase in their population percentage to 51 per cent by 2050, from 17 per cent in 2020, according to a press statement by WWF-India.
- The cities include global hubs such as Beijing, Jakarta, Johannesburg, Istanbul, Hong Kong, Mecca and Rio de Janeiro.
- Listed Indian cities are:

1. Jaipur	11. Kolkata	21. Jalandhar
2. Indore	12. Ahmedabad	22. Pune
3. Thane	13. Jabalpur	23. Dhanbad
4. Vadodara	14. Mumbai	24. Bhopal
5. Srinagar	15. Lucknow	25. Gwalior
6. Rajkot	16. Hubli-Dharwad	26. Surat
7. Kota	17. Nagpur	27. Delhi
8. Nashik	18. Chandigarh	28. Aligarh
9. Visakhapatnam	19. Amritsar	29. Kozhikode
10. Bengaluru	20. Ludhiana	30. Kannur

- Cities needed to invest more in nature-based solutions and enhance the health of river basins, watersheds and wetlands to build resilience to water risks.
- To manage these initiatives, a public funding pool needed to be created in collaboration with the private sector to invest, reduce risk and generate returns and fuel sustainable economic growth.
- Cities also needed to support greater global efforts to mitigate greenhouse gas emissions to avoid reaching these scenarios, Morgan added.

- WWF also launched an online tool called the WWF Water Risk Filter to help cities imagine future water risks and plan a better and sustainable future facilitating climate and water resilience.

WWF

- It is an international non-governmental organization
- It was Founded in 1961
- Headquarter is in Gland (Switzerland).
- Aim : wilderness preservation & the reduction of human impact on the environment
- It is the world's largest conservation organization

Objectives are

- Conserving the world's biological diversity
- Ensuring that the use of renewable natural resources is sustainable.
- Promoting the reduction of pollution and wasteful consumption.

Reports & programmes by WWF

- Living Planet Report: It is published every two years by WWF since 1998; it is based on a Living Planet Index and ecological footprint calculation
- Earth hour: is a global grassroots movement uniting people to take action on environmental issues and protect the planet. It is one hour lights out event.
- Debt-for-nature swaps: an arrangement in which financial transactions in which a portion of a developing nation's foreign debt is forgiven in exchange for local investments in environmental conservation measures. Marine Stewardship Council (MSC): It is an independent nonprofit organization which sets a standard for sustainable fishing
- Healthy Grown Potato: An eco-brand that provides high-quality, sustainably grown, packaged, and shipped potatoes to consumers by leveraging integrated pest management (IPM) farming practices on large scale farms.

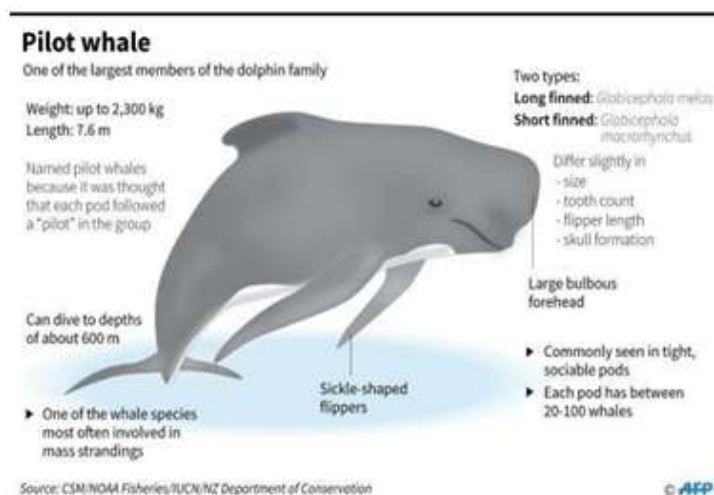
5.3.Sri Lanka rescues 120 stranded whales

- • Cetacean stranding, commonly known as beaching, is a phenomenon in which whales and dolphins strand themselves on land, usually on a beach.
- Beached whales often die due to dehydration, collapsing under their own weight, or drowning when high tide covers the blowhole.
- Cetacean stranding has occurred since before recorded history.
- Several explanations for why cetaceans strand themselves have been proposed, including changes in water temperatures, peculiarities of whales' echolocation in certain surroundings,[and geomagnetic disturbances, but none have so far been universally accepted as a definitive reason for the behavior.
- However, a link between the mass beaching of beaked whales and use of mid-frequency active sonar has been found.



- In a joint overnight operation, Sri Lanka's navy, coast guard, local volunteers and conservation experts have rescued nearly 120 stranded whales back into the deep sea.
- It's thought to be the largest stranding in Sri Lanka. It is not known why whales beach themselves.
- Scientists say the reason is often unknown but they have a range of theories, including whales following fish to shore and becoming disorientated.
- In September, several hundred whales died on the coast of Tasmania in Australia in one of the country's biggest stranding on record and one of the largest in the world.
- The largest mass stranding in history was 1,000 whales on the shores of the Chatham Islands, a New Zealand territory in the Pacific Ocean in 1918.
- Cape Cod in Massachusetts, a hook-shaped peninsula extending into the Atlantic Ocean, is another global hotspot, with an average of more than 200 stranded whales or dolphins each year.

Pilot Whales



- Pilot whales are so named because it was once believed that each observed group was navigated by a pilot or leader.
- While normally oceanic in their distribution, pilot whales can also approach coastal areas, and are frequently seen on whale watching tours around the world
- There are two species of pilot whales:
- Short finned pilot whales (*Globicephala macrorhynchus*), which are mainly found in tropical and warm-temperate regions.
- Long-finned pilot whales (*G. melas*), which inhabit colder waters and are further subdivided into three sub-species:
 - ✓ the Southern long-finned pilot whale
 - ✓ the North Atlantic long-finned pilot whale
 - ✓ the now extinct North Pacific long-finned pilot whale

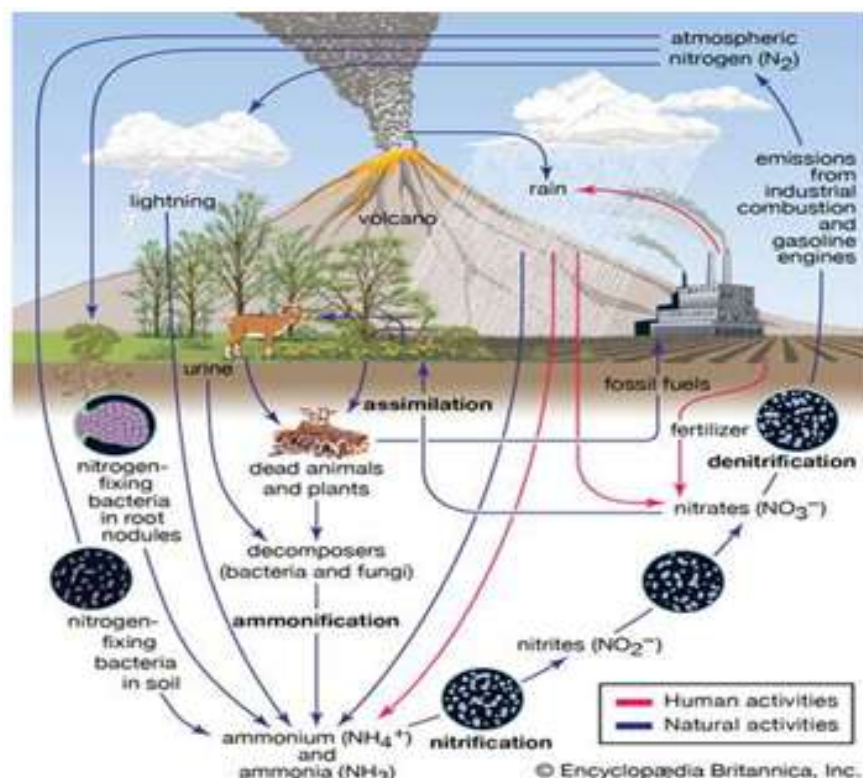
5.4.Spike in ammonia levels in Yamuna water from Haryana to hit supply in Delhi

- Ammonia levels in Yamuna reached nearly 3 parts per million (ppm), almost six times above the acceptable limit of 0.5 ppm.
- Officials have credited this spike to industrial effluents and sewage released into the river in different parts of Haryana.
- The rise in ammonia levels was also caused due to the closure of the Upper Ganga Canal – which provides 250 million gallons per day.
- The acceptable maximum limit of ammonia in drinking water prescribed by Bureau of Indian Standards is 0.5 ppm.

What is ammonia?

- Ammonia (NH_3) is one of the most commonly produced industrial chemicals.
- It is used in industry and commerce, and also exists naturally in humans and in the environment.
- Ammonia is essential for many biological processes and serves as a precursor for amino acid and nucleotide synthesis.
- In the environment, ammonia is part of the nitrogen cycle and is produced in soil from bacterial processes.
- Ammonia is also produced naturally from decomposition of organic matter, including plants, animals and animal wastes.

Nitrogen Cycle





- When ammonia is present in water at high enough levels, it is difficult for aquatic organisms to sufficiently excrete the toxicant, leading to toxic buildup in internal tissues and blood, and potentially death. Environmental factors, such as pH and temperature, can affect ammonia toxicity to aquatic animals.

5.5. Wildlife Institute of India scientists anxious after Finance Ministry recommends funding cut

WII

- Wildlife Institute of India (WII) is an internationally acclaimed Institution, which offers training program, academic courses and advisory in wildlife research and management.
- WII carries out wildlife research in areas of study like Biodiversity, Endangered Species, Wildlife Policy, Wildlife Management, Wildlife Forensics, Spatial Modeling, Eco development, Habitat Ecology and Climate Change.
- It was established in 1982.
- It is an autonomous institution under the Ministry of Environment Forest and Climate change.
- The institute is based in Dehradun.
- Finance Ministry has recommended to divest the Dehradun-based Wildlife Institute of India (WII) of its status as an autonomous body.
- The major responsibility of this Institute is to provide advice to MoEFCC based on scientific information on policy and management of the country's Wildlife Resources.
- The Finance Ministry moves follow a review by its Expenditure Department of 194 autonomous bodies across 18 Ministries. Of them, 109 bodies must be merged into 26, and government must "disengage" from 23, one which is the WII.
- The institute has an annual expenditure of ₹34 crore that was sourced from the Environment Ministry. It generated only ₹3.5 crore from consultancy and advisory services, which went towards paying pensions to employees appointed before 2004.
- In the case of WII, the government will cut funding to the institute by 25% every year, and it could become a 'Deemed University' engaged in teaching and research.
- The Central government could continue to access WII advisory and training services as a "client."
- Along with the WII, other autonomous bodies that have been recommended to be disengaged are the Indian Institute of Forest Management, and the Indian Plywood Industries Research and Training Institute.
- Other Environment Ministry organisations, such as the Salim Ali Centre for Ornithology and Natural History will be subsumed within the activities of the Environment Ministry.
- Still others, such as the Society of Integrated Coastal Management and the National Centre for Sustainable Coastal Management, will be merged.

5.6. Odisha requests WII to conduct fresh study on Olive Ridley turtle movement

- The name for this sea turtle is tied to the colour of its shell—an olive green hue.
- They are currently the most abundant of all sea turtles.
- Their vulnerable status comes from the fact that they nest in a very small number of places, and therefore any disturbance to even one nest beach could have huge repercussions on the entire population.
- The Odisha government has requested the Wildlife Institute of India (WII) to conduct a fresh study for identifying the movement of endangered Olive Ridley sea turtles, which would help the State renew its conservation efforts along its coast.
- Odisha's conservation strategy for Olive Ridley turtles is one of the most successful models in the world.
- A growing number of trawlers, less fish in the oceans and a lack of enforcement of existing laws is leading to a desperate situation for fisheries. And olive ridley turtles are caught in the crossfire.
- A decade ago, a large number of turtles used to die along the State's coast.
- The turtle mortality has been drastically brought down through intra sectoral coordination.
- The State now works with the Navy, the Coastguard, port and defence establishments and the fisheries department,
- Lakhs of Olive Ridley turtles congregate for mass nesting along the Odisha coast, particularly at the Gahirmatha marine sanctuary, Rushikulya river mouth and Devi river mouth annually.
- The last study was conducted by WII in 2007-2010. "The WII had conducted the study to study the movement of Olive Ridley turtles in the sea so that the area can be avoided for hydrocarbon exploration.
- The WII is planning a similar study for the Maharashtra coast, which also sees turtle movement
- The olive ridley turtle is one of the five varieties of sea turtles found in Indian waters.
- They are listed as a 'vulnerable' species in the 'Red List' maintained by the International Union for the Conservation of Nature.
- They are also protected under Schedule 1 of the Indian Wildlife Protection Act, 1972.

5.7. Panna Tiger Reserve designated as UNESCO Biosphere Reserve

- Panna National Park in Madhya Pradesh, a popular tourist spot for wildlife lovers has been declared as a UNESCO Biosphere Reserve.
- Every year UNESCO designates new Biosphere reserves and removes others to promote the conservation of biodiversity and resolve man-animal conflict at that site and enable sustainable use of natural resources.



- Panna Tiger Reserve last year witnessed a remarkable turnaround in tiger population by increasing the number of big cats to 50 from zero estimated a decade ago, reported PTI. The Tiger Reintroduction Project started in 2009 by bringing five female and two male felines from Bandhavgarh and Kanha national parks.
- Covering an area of approx 542.67 sq km, the thick deciduous forest of the Panna National Reserve is the natural habitat of sloth, Indian wolf, Bear Pangolin, Leopard, Gharial, Indian fox and a lot more.



- While visiting the park, tourists also get to witness stone carvings that date back to the Neolithic era. The
- Panna National Park got the status of Project Tiger Reserve 13 years after its formation in 1981. Report by the All India Tiger Estimation made Madhya Pradesh the state with the highest number of tigers.
- The state had a total of 526 big cats according to 2018 census. After Madhya Pradesh, Karnataka and Uttarakhand have the highest number of tigers.

6. Science & Technology

Click [here](#) to watch the following questions on YouTube

6.1.DRDO successfully flight tests Indigenously Developed Anti-Radiation Missile (RUDRAM)

What is an anti-radiation missile?

- Anti-radiation missiles are designed to detect, track and neutralise the adversary's radar, communication assets and other radio frequency sources, which are generally part of their air defence systems.
- Such a missile's navigation mechanism comprises an inertial navigation system — a computerised mechanism that uses changes in the object's own position — coupled with GPS, which is satellite-based.
- For guidance, it has a "passive homing head" — a system that can detect, classify and engage targets (radio frequency sources in this case) over a wide band of frequencies as programmed.
- 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, based on the launch parameters from the fighter jet.
- Rudram has been developed for the IAF's requirement to enhance its Suppression of Enemy Air Defence (SEAD) capability.
- As one of the many aspects of SEAD tactics, anti-radiation missiles are used mainly in the initial part of air conflict to strike at the air defence assets of the enemy, and also in later parts, leading to higher survivability to a country's own aircraft.
- Neutralising or disrupting the operations of the adversary's early warning radars, command and control systems, surveillance systems that use radio frequencies and give inputs for anti-aircraft weaponry, can be very crucial.
- New generation Anti Radiation Missile (RUDRAM) was successfully Flight tested onto a radiation target located on Wheeler Island off the coast of Odisha.
- The missile was launched from SU-30 MKI fighter aircraft.
- The RUDRAM is first indigenous anti-radiation missile of the country for Indian Air Force (IAF), being developed by Defence Research and Development Organisation (DRDO).
- The missile is integrated on SU-30 MKI fighter aircraft as the launch platform, having capability of varying ranges based on launch conditions.

6.2.Using holographic imaging to detect viruses and antibodies

- Scientists have developed a method using holographic imaging to detect both viruses and antibodies.
- In simple terms, a hologram technology is a three-dimensional projection which can be seen without using any special equipment such as cameras or glasses.



- The image can be viewed from any angle, so as the user walks around the display the object will appear to move and shift realistically.
- Holographic images can be static, such as a picture of a product, or they may be animated sequences which can be watched by multiple people from any viewpoint.
- They have based their test on holographic video microscopy, which uses laser beams to record holograms of their test beads.
- The surfaces of the beads are activated with biochemical binding sites that attract either antibodies or virus particles, depending on the intended test.
- Binding antibodies or viruses causes the beads to grow by a few billionths of a meter, which the researchers have shown they can detect through changes in the beads' holograms.
- Each type of bead tests for the presence of a particular target, but can also test for several targets simultaneously.
- This holographic analysis distinguishes the different test beads by their size and by their refractive index—an easily controlled optical property.
- The scientists say that this capability can be used to develop libraries of test beads that may be combined into test kits for mixing with patient samples.
- This will support doctors in distinguishing among possible diagnoses, speeding patients' treatment, reducing the risk of misdiagnosis, and cutting the cost of healthcare.

6.3. Basic Exchange and Cooperation Agreement, which India and US are all set to sign

- India and the US plan to sign a significant pact, the Basic Exchange and Cooperation Agreement (BECA), for geo-spatial cooperation which will enable the two countries to share military information and strengthen their defence partnership.
- India and the US have already signed three key foundational agreements:
 - ✓ General Security of Military Information Agreement (GSOMIA) in 2002
 - ✓ The Logistics Exchange Memorandum of Agreement (LEMOA) in 2016
 - ✓ Communications Compatibility and Security Agreement (COMCASA) in 2018.
- These covered areas of security and military information, compatibility and security and logistics exchange and communications.
- The Basic Exchange and Cooperation Agreement (BECA) for geo-spatial cooperation is essentially a communication agreement proposed between the National Geospatial-Intelligence Agency of the US Department of Defence and the Ministry of Defence of the Government of India.
- It will allow India and the US to share military information including advanced satellite and topographic data such as maps, nautical and aeronautical charts and geodetic, geophysical, geomagnetic and gravity data.
- Most of the information shared will be unclassified. However, the pact includes a provision of sharing classified information with safeguards to prevent it from being shared with any third party.

- The BECA will allow US armed forces to provide advanced navigational aids and avionics on US-supplied aircraft to India.
- Sharing geospatial intelligence with the US through BECA will boost the Indian military's accuracy of automated hardware systems and weapons like cruise missiles, ballistic missiles and drones. Also, it is a key step for India when it comes to acquiring armed drones such as MQ-9B from the US.
- BECA is to help India and the US counter growing Chinese influence in the Indo-Pacific region.



6.4. Bulk drug park

What are bulk drugs or APIs?

- A bulk drug, also called an active pharmaceutical ingredient (API), is the key ingredient of a drug or medicine, which lends it the desired therapeutic effect or produces the intended pharmacological activity.
- For example, paracetamol is a bulk drug, which acts against pain.
- It is mixed with binding agents or solvents to prepare the finished pharmaceutical product, i.e. a paracetamol tablet, capsule or syrup, which is consumed by the patient.

What are KSMs and DIs?

- APIs are prepared from multiple reactions involving chemicals and solvents.
- The primary chemical or the basic raw material which undergoes reactions to form an API is called the key starting material, or KSM.
- Chemical compounds formed during the intermediate stages during these reactions are called drug intermediates or DIs.

What will a bulk drug park look like and what does the scheme offer?

- A bulk drug park will have a designated contiguous area of land with common infrastructure facilities for the exclusive manufacture of APIs, DIs or KSMs, and also a common waste management system.
- These parks are expected to bring down manufacturing costs of bulk drugs in the country and increase competitiveness in the domestic bulk drug industry.
- The Centre's scheme will support three selected parks in the country by providing a one-time grant-in-aid for the creation of common infrastructure facilities.



BULK DRUG PARK SCHEME

- To develop 3 (three) bulk drug parks in the country
- Grant-in-Aid to State Govt. to develop Bulk Drug Park
- World class common infrastructure to be developed in the park
- 70% of the project cost (90% in case of hilly areas) or Rs.1000 crore which is maximum (Area of each Park 1000 acres)

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AN OPPORTUNITY FOR GROWTH

- Centre has proposed the creation of three bulk drug parks
- Grant-in-aid will be up to 90% for NE and hilly states; 70% for other states
- Maximum grant-in-aid for one bulk drug park limited to **₹1,000cr**
- States will be selected through a challenge method

WHAT MUST STATES DO?

- Ensure **24X7** supply of electricity and water to the bulk drug units in the park
- Offer competitive land lease rates to bulk drug
- Location of proposed park from environmental and logistics angles will be important

- The grant-in-aid will be 70 per cent of the cost of the common facilities but in the case of Himachal Pradesh and other hill states, it will be 90 per cent.
- The Centre will provide a maximum of Rs 1,000 crore per park.

How will the Centre select the three parks?

- Several states including Andhra Pradesh, Maharashtra, Gujarat, Haryana, Punjab, Tamil Nadu and Telangana have expressed interest in the scheme, and are likely to send their respective proposals.
- A state can only propose one site, which is not less than a thousand acres in area, or not less than 700 acres in the case of hill states.
- The proposals should contain the estimated cost, feasibility studies, environmental risk assessment etc.
- A project management agency, nominated by the department of pharmaceuticals, will examine these proposals and make recommendations to a scheme steering committee, which will then approve the proposals.
- The state government of HP has identified around 1,400 acres in Una district and sent a proposal to the Centre seeking grant to set up a bulk drug park there.

6.5. Honduras becomes 50th country to ratify TPNW

- The Treaty on the Prohibition of Nuclear Weapons (TPNW), or the Nuclear Weapon Ban Treaty, is the first legally binding international agreement to comprehensively prohibit nuclear weapons, with the goal of leading towards their total elimination.
- Adopted on 7 July 2017, the treaty will enter into force on 22 January 2021, 90 days after the 50th ratification, by Honduras, on 24 October 2020.
- For those nations that are party to it, the treaty prohibits the development, testing, production, stockpiling, stationing, transfer, use and threat of use of nuclear weapons, as well as assistance and encouragement to the prohibited activities.
- For nuclear armed states joining the treaty, it provides for a time-bound framework for negotiations leading to the verified and irreversible elimination of its nuclear weapons programme.
- India abstained from voting: India maintained that it recognises the “Geneva-based Conference on Disarmament”-(CD) as the single multilateral disarmament negotiation forum & it is not convinced of the potential of the current treaty to address the disarmament issue.

6.6. Europe, Japan send spacecraft on 7-year journey to Mercury

- European and Japanese space agencies Ariane 5 rocket successfully lifted a spacecraft carrying two probes into orbit for a joint mission to Mercury, the closest planet to the sun.
- The European Space Agency and the Japan Aerospace Exploration Agency said the unmanned BepiColombo spacecraft successfully separated and was sent into orbit from French Guiana as planned to begin a seven-year journey to Mercury.
- Mercury’s extreme temperatures, the intense gravity pull of the sun and blistering solar radiation make for hellish conditions.
- The BepiColombo spacecraft will have to follow an elliptical path that involves a fly-by of Earth, two of Venus and six of Mercury itself so it can slow down before arriving at its destination in December 2025.
- When it arrives, BepiColombo will release two probes — Bepi and Mio — that will independently investigate the surface and magnetic field of Mercury.
- The probes are designed to cope with temperatures varying from 430 degrees Celsius (806 F) on the side facing the sun, and -180 degrees Celsius (-292 F) in Mercury’s shadow.
- The ESA-developed Bepi will operate in Mercury’s inner orbit, and JAXA’s Mio will be in the outer orbit to gather data that would reveal the internal structure of the planet, its surface and geological evolution.
- Scientists hope to build on the insights gained by NASA’s Messenger probe, which ended its mission in 2015 after a four-year orbit of Mercury.
- The only other spacecraft to visit Mercury was NASA’s Mariner 10 that flew past the planet in the mid-1970s.
- Mercury, which is only slightly larger than Earth’s moon, has a massive iron core about which little is known.



- Researchers are also hoping to learn more about the formation of the solar system from the data gathered by the BepiColombo mission.
- Detailed observations of Mercury will help us better understand the environment of the planet, and ultimately, the origin of the Solar System including that of Earth.
- It is the second recent cooperation between the Europeans and the Japan Aerospace Exploration Agency.
- JAXA's Hayabusa2 probe dropped a German-French rover on the asteroid Ryugu earlier this month.

6.7.Scientists discover new organ in the throat

- Scientists have discovered a new organ: a set of salivary glands set deep in the upper part of the throat.
- This nasopharynx region — behind the nose — was not thought to host anything but microscopic, diffuse, salivary glands;
- But the newly discovered sets are about 1.5 inches (3.9 centimeters) in length on average.
- Because of their location over a piece of cartilage called the torus tubarius, the discoverers of these new glands have dubbed them the tubarial salivary glands.
- The glands probably lubricate and moisten the upper throat behind the nose and mouth.
- The discovery could be important for cancer treatment. Doctors using radiation on the head and neck to treat cancer try to avoid irradiating the salivary glands, because damage to these glands can impact quality of life.