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Comprehensive **NEWS** Analysis

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Polity and Governance

1. NOTA in Rajya Sabha

Context:

The Supreme Court has overruled an Election Commission notification, saying that NOTA (None Of The Above) option cannot be allowed in Rajya Sabha elections.

Where it counts
NOTA:
It allows voters to register their protest if none of the candidates are acceptable to them

IN DIRECT ELECTIONS
NOTA has only symbolic value in a direct election
.....
Regardless of NOTA numbers, candidate polling most votes is elected

IN RAJYA SABHA POLLS

- In this indirect poll, legislators elect candidates to the Upper House
- Single transferable vote involves marking order of preference among candidates
- NOTA will alter outcome, as candidates need a particular number of votes to be elected. If first preference is for NOTA, the vote becomes invalid

- As per the court, the NOTA option is meant only for universal adult suffrage and direct elections and not polls held by the system of proportional representation by means of the single transferable vote as done in the Rajya Sabha.
- NOTA in indirect elections, such as in the Rajya Sabha, would lead to horse-trading, corruption and use of extra constitutional methods to defeat a party candidate.
- NOTA also makes the system of proportional representation by means of single transferable vote nugatory and otiose.

SC on the power of ECI:

- The use of NOTA cannot be sanctioned by way of the impugned circulars which has the effect of overriding the provisions of Article 80(4), the provisions of Representation of People Act 1951 and the Conduct of Election Rules 1961.
- The circular was ex-facie illegal, arbitrary and tainted with mala fides, as an executive instruction cannot override express statutory provisions.

The use of NOTA in elections:

- The option of NOTA for Lok Sabha and assembly elections was prescribed by the SC in 2013. The option of NOTA in RS polls was introduced by the EC in 2014. Thus, India became the 14th country to institute negative voting.

How is a NOTA vote cast?

- The EVMs have the NOTA option at the end of the candidates' list. Earlier, in order to cast a negative ballot, a voter had to inform the presiding officer at the polling booth. A NOTA vote doesn't require the involvement of the presiding officer.

Why have NOTA if there's 'no electoral value'?

- NOTA gives people dissatisfied with contesting candidates an opportunity to express their disapproval. This, in turn, increases the chances of more people turning up to cast their votes, even if they do not support any candidate, and decreases the count of bogus votes. Also, the Supreme Court has observed that negative voting could bring about "a systemic change in polls and political parties will be forced to project clean candidates".

Why NOTA is good?

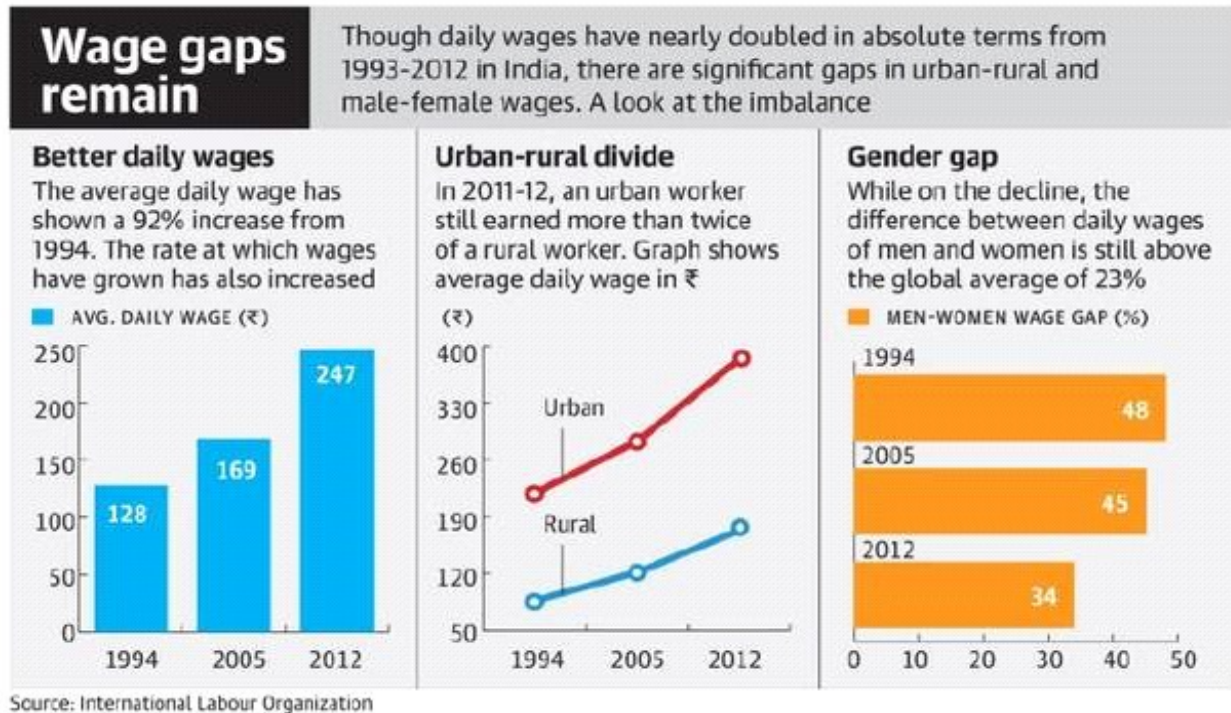
- NOTA option will force the political parties to select the honest candidates, i.e with no criminal records.
- NOTA ensures people's 'right to freedom of speech and expression'.
- This will increase the polling percentage.

2. ILO report flags wage inequality in India**Context:**

The International Labour Organization has published India Wage Report.

- Real average daily wages in India almost doubled in the first two decades after economic reforms, but low pay and wage inequality remains a serious challenge to inclusive growth.
- Overall, in 2009-10, a third of all of wage workers were paid less than the national minimum wage, which is merely indicative and not legally binding. That includes 41% of all casual workers and 15% of salaried workers.
- In 2011-12, the average wage in India was about ₹ 247 rupees a day, almost double the 1993-94 figure of ₹ 128. However, average labour productivity (as measured by GDP per worker) increased more rapidly than real average wages. Thus, India's labour share — or the proportion of national income which goes into labour compensation, as opposed to capital or landowners — has declined.

- The rise in average wages was more rapid in rural areas, and for casual workers. However, these groups started at such a low base that a yawning wage gap still remains. Thus, the average wage of casual workers — who make 62% of the earning population — was only ₹ 143 a day.



- Daily wages in urban areas (₹ 384) also remain more than twice as high as those in rural areas (₹ 175). Regional disparities in average wages have actually increased over time, with wages rising more rapidly in high-wage States than in low-wage ones.
- The gender wage gap decreased from 48% in 1993-94 to 34% in 2011-12, but still remains high by international standards. And of all worker groups, the average wages of casual rural female workers was the lowest, at just ₹ 104 a day.

Challenges:

- As per the study the minimum wage system in India is quite complex. The minimum wages are set by state governments for employees in 'selected, scheduled' employment and this has led to 1709 different rates across the country. As the coverage is not complete these rates are applicable for an estimated of 66 % of wage workers.
- A national minimum wage floor was introduced in the 1990s which has progressively increased to Rs 176 per day in 2017 but this wage floor is not legally binding, in spite of a recurrent discussion since the 1970s.

Way ahead:

- The ILO report called for extending legal coverage to all workers in an employment relationship, ensuring full consultation with social

partners on minimum wage systems, undertaking regular evidence-based adjustments, progressively consolidating and simplifying minimum wage structures, and taking stronger measures to ensure a more effective application of minimum wage law.

- It also called for collection of statistical data on a timely and regular basis and recommended other complementary actions to comprehensively address how to achieve decent work and inclusive growth like fostering accumulation of skills to boost labour productivity and growth for sustainable enterprises, promoting equal pay for work of equal value, formalising the informal economy and strengthening social protection for workers.

3. Eleventh World Hindi Conference

Context:

11th World Hindi Conference is being held at Mauritius.

Theme: "Vaishvik Hindi Aur Bharatiy Sanskriti".

About the conference:

- The event, held once in three years, is dedicated to Hindi language. It sees participation from Hindi scholars, writers and laureates from different parts of the world who contribute to the language.
- The decision to organize the 11th edition of the Conference in Mauritius was taken at the 10th World Hindi Conference held in Bhopal, India in September 2015.
- The first World Hindi Conference was held in 1975 in Nagpur, India. Since then, ten such Conferences have been held in different parts of the world.
- The MEA has also set up the World Hindi Secretariat in Mauritius. The main objective of the WHS is to promote Hindi as an international language and further its cause for recognition at the United Nations as an Official Language.

4. NCRB to track complaints on sexual violence

Context :

A high-level meeting was recently convened to discuss recommendations on ways to curb "sexual violence" videos involving women and children.

- It was decided in the meeting that the National Crime Records Bureau (NCRB) would be the designated nodal agency for monitoring the complaints received on a government portal that records child pornography and sexual violence videos.
- The NCRB would coordinate with service providers such as Facebook, YouTube and Whats App and ask them to block malicious videos and contents.

Impact:

- NCRB is only a crime record agency. Therefore, a government notification has been issued under the Information Technology Act, 2000 to enable it to take action against such videos. Now, whenever such incidents are reported, it can write to service providers and ask them to block the content.

About NCRB:

- NCRB is the Nodal Agency for authentic source of Data on crime, accidents, suicides, and prisons for policy matters and research.
- It was set-up in 1986 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).
- It was set up by merging the Directorate of Coordination and Police Computer (DCPC), Inter State Criminals Data Branch of CBI, Central Finger Print Bureau of CBI, and Statistical Branch of BPR&D.

Important functions:

- Bureau is implementing & monitoring agency for implementation of Crime & Criminal Tracking Network System (CCTNS), a Mission Mode Project under the National e-Governance Plan of Government of India. The project aims at creating a comprehensive and integrated system for enhancing the efficiency and effectiveness of policing in the country.
- NCRB also imparts training in Information Technology (IT) and Finger Print Science for Indian Police Officers as well Foreign Police officers. Central finger print bureau is under the administrative control of NCRB.

Important publications:

- NCRB publishes 4 annual publications on Crime, Accidental Deaths & Suicides, Prison Statistics and Finger Prints. These publications serve as principal reference points on crime statistics not only police officers but also for criminologists, researchers, media and policy makers not only in India but abroad well.

Background:

- In 2015, as many as 34,651 cases of rape were registered. The number increased to 38,947 in 2016. Overall crimes against women rose from 3,29,243 in 2015 to 3,38,954 in 2016, according to the NCRB data.
- A majority of cases categorised as crimes against women were reported under "cruelty by husband or his relatives" (32.6 per cent), followed by "assault on woman with intent to outrage her modesty" (25 per cent), "kidnapping and abduction of women" (19 per cent) and "rape" (11.5 per cent).

- The highest number of rapes have been reported from Madhya Pradesh (4,882), followed by Uttar Pradesh (4,816) and Maharashtra (4,189) in 2016, according to the NCRB data.

5. Criminalization of Politics

Context:

The Supreme Court has proposed to make political parties accountable for criminalizing politics by welcoming in “crooks” who may later win elections on party ticket and grab power. The court is hearing a batch of petitions to ban persons charged with heinous criminal charges from contesting elections.

Suggestion made by the court:

- The Court may direct the Election Commission to insist that parties get new members to declare in an affidavit their criminal antecedents and publish them so that the “entire country knows how many criminals there are in a party.”
- The court said the EC could de-register a party or withdraw its symbol if it refused to comply.
- The suggestion was made by the court in a bid to prevent criminals from entering politics or later contesting elections to become parliamentarians, legislators and Ministers.

However, the centre has opposed this move suggesting the following reasons:

- A political party has a right to field its candidate. Mere charges of having committed a crime cannot be used to prevent a person from contesting elections. The suggestion made by the court amounts to prematurely disqualifying a candidate. Besides, the court is taking on itself a matter of the legislature.

Provisions in this regard:

The court based its proposal on the following:

- Article 324 and Section 29A of RPA: The power of the Election Commission to conduct an election and register/de-register political parties under Article 324 of the Constitution and Section 29A of the Representation of the People Act of 1951, respectively.
- The Election Symbols (Reservation and Allotment) Order of 1968. Section 29A requires a party to swear to uphold the principles of socialism, secularism, democracy, sovereignty, unity and integrity of India.

Criminals in Politics:

- Protecting the parliamentary system from criminalization has been the intention of the law from the beginning.

- Section 8 of the Representation of the People (RP) Act, 1951 disqualifies a person convicted with a sentence of two years or more from contesting elections. But those under trial continued to be eligible to contest elections. The Lily Thomas case (2013), however, ended this unfair advantage.

Efforts by SC in this regard:

The SC has repeatedly expressed concern about the purity of legislatures.

- In 2002, it made it obligatory for all candidates to file an affidavit before the returning officer, disclosing criminal cases pending against them.
- The famous order to introduce NOTA was intended to make political parties think before giving tickets to the tainted.
- In its landmark judgment of March 2014, the SC accepted the urgent need for cleansing politics of criminalization and directed all subordinate courts to decide on cases involving legislators within a year, or give reasons for not doing so to the chief justice of the high court.

The trend:

- According to the ADR's analysis of EC data, 187 MPs in the current Lok Sabha face criminal charges (that is, 34.4 per cent). Of them, 113 face serious criminal charges. The number has gone up from 162 (76 serious) charges in 2009 and 128 (58 serious) in 2004.

Main reasons for Criminalization:

- Corruption
- Vote bank.
- Lack of governance.

What is the way out?

There are three possible options.

1. One, political parties should themselves refuse tickets to the tainted.
2. Two, the RP Act should be amended to debar persons against whom cases of a heinous nature are pending from contesting elections.
3. Three, fast-track courts should decide the cases of tainted legislators quickly.

Opposition to the proposal made by the Supreme Court:

Far from denying tickets to criminals, all political parties seem to have been in competition to give them more and more tickets. They have been unitedly opposing the proposal to debar perpetrators of even heinous offences during pendency of trial on the grounds that false criminal cases may be filed by opponents. This concern is partly valid.

Is this concern justified?

To counter the concern expressed, the proposal has three safeguards.

- First, all criminal cases would not invite the ban — only heinous offences like murder, dacoity, rape, kidnapping or moral turpitude.
- Second, the case should have been registered at least a year before the elections.
- Third, the court must have framed the charges.

Suggested measure to curb criminalization of politics:

- Bringing greater transparency in campaign financing is going to make it less attractive for political parties to involve gangsters.
- The Election Commission of India (ECI) should have the power to audit the financial accounts of political parties, or political parties' finances should be brought under the right to information (RTI) law.
- Broader governance will have to improve for voters to reduce the reliance on criminal politicians.
- Fast-track courts are necessary because politicians are able to delay the judicial process and serve for decades before prosecution.
- The Election Commission must take adequate measures to break the nexus between the criminals and the politicians.
- The forms prescribed by the Election Commission for candidates disclosing their convictions, cases pending in courts and so on in their nomination papers is a step in the right direction if it applied properly.

6. Plea challenges changes in SC/ST law**Context:**

A central government amendment passed by both Houses of Parliament in the just-concluded monsoon session, reinstating a controversial clause allowing immediate arrests in complaints filed under the SC/ST Act, has been challenged in the Supreme Court.

Arguments against the amendments by the petitioners:

- It has been alleged that the amendment has been brought in with an eye on the 2019 polls. They also argued that there can be no presumption of guilt only because the person at the receiving end was from an upper caste.
- Besides, the petitioners claimed that the number of cases being filed under the Act had shot up alarmingly in recent years to back their claim that the law was being misused.

Background:

- On March 20, the Supreme Court issued a slew of guidelines to protect

people against arbitrary arrests under the Act, directing that public servants could be arrested only with the written permission of their appointing authority, while in the case of private employees, the Senior Superintendent of Police concerned should allow it.

- A preliminary inquiry should be conducted before the FIR was registered to check if the case fell within the ambit of the Act, and whether it was frivolous or motivated, the court ruled.
- The ruling was greeted by a storm of protest from Dalit groups, which said the order diluted the law. However, the court refused to stay its ruling, leading to the demand from Dalit groups that the government introduce an ordinance or an Amendment Bill to restore the provisions.
- Following this, the government introduced a Bill to restore the original provisions of the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989.

The Amendment Bill seeks to insert three new clauses after Section 18 of the original Act:

- The first stipulates that for the purposes of the Act, “preliminary enquiry shall not be required for registration of a First Information Report against any person.”
- The second stipulates that the arrest of a person accused of having committed an offence under the Act would not require any approval.
- The third says that the provisions of Section 438 of the Code of Criminal Procedure — which deals with anticipatory bail — shall not apply to a case under this Act, “notwithstanding any judgment or order of any Court.”

7. President appoints Governors of seven states

Context:

By exercising his authority under Article 156 of the constitution, President Ram Nath Kovind has appointed Governors of seven states including Bihar, Haryana, Uttarakhand, Jammu and Kashmir, Sikkim, Meghalaya, and Tripura.

Governors of States in India:

- Governor is the head of the Executive power of any state in India, just like the President who is the head of the executive power in the Union.
- Governor is the nominal head of a state, unlike the Chief Minister who is the real head of a state in India.
- According to an amendment in the Constitution of India (7th Constitutional Amendment Act), brought about in 1956, the same person can be the Governor of two or more states.

Appointment and removal:

- The governors and lieutenant-governors are appointed by the president for a term of 5 years.
- The term of governor's office is normally 5 years but it can be terminated earlier by: Dismissal by the president on the advice of the prime minister of the country, at whose pleasure the governor holds office or Resignation by the governor.
- There is no provision of impeachment, as it happens for the president.
- Article 157 and Article 158 of the Constitution of India specify eligibility requirements for the post of governor.

Powers:

- Like the President of India, the Governor of any state in India is vested with certain executive, legislative and judicial powers.
- He or she also possesses certain discretionary or emergency powers.
- But one major difference in the powers enjoyed by the President and those enjoyed by the Governor is, the Governor does not have any diplomatic or military powers.

8. FSSAI notifies standards for honey & its products to curb adulteration**Context :**

The regulator FSSAI has come out with food safety standards for honey and its products, in a bid to curb adulteration.

- At present, there are no separate quality standards for honey and its products. The move comes in the wake of government promoting farmers to venture into the beekeeping business to increase their income. The standards will help fetch farmers better prices for their products.

The standards notified:

- Parameters: As per the FSSAI notification, honey should comply with 18 parameters like that of sucrose content, glucose ratio, pollen count, foreign oligosaccharides among others.
- Limits and standards: The FSSAI has fixed maximum 5% limit for sucrose content in the honey, while 10% for carviacallosa and Honeydew honey. The moisture percentage should be maximum 20% and pollen count should be 25,000 per gram. With regard to by-products, the FSSAI has fixed standards for 'Bees wax' and 'royal jelly' also.
- The regulator has defined honey as the natural sweet substance produced by honey bees from the nectar of blossoms or from secretions

of plants, which honey bees collect, transform and store in honey combs for ripening.

- **No additives:** If a product is sold as honey then food ingredient, including food additives should not be added to it. It should not be heated or processed to such an extent that its essential composition is changed and its quality is impaired.
- **Labelling:** Honey can be labelled according to floral or plant source, if it comes from any particular source, and has the organoleptic, physicochemical and microscopic properties corresponding with that origin.
- **Pollen content:** In the case of 'Monofloral Honey', the regulator said the minimum pollen content of the plant species concerned should not be less than 45 per cent of total pollen content. In case of 'Multi Floral Honey', the pollen content of any of the plant species should not exceed 45 per cent of the total pollen content.

Bees wax is obtained from the honeycombs of bees of Apidae family after the honey has been removed by draining or centrifuging. Beeswax consists of a mixture of esters of fatty acids and fatty alcohols, hydrocarbons and free fatty acids. Minor amounts of free fatty alcohols are also present.

- The combs are melted with hot water, steam or solar heat and the melted product is filtered and cast into cakes of yellow bees wax.
- White bees wax is obtained by bleaching the yellow bees wax with oxidising agents.
- Royal jelly is the mixture of secretions from hypopharyngeal and mandibular glands of worker bees, free from any additive. It is the food of larval and adult queens. It is a raw and natural food, unprocessed except for filtration which does not undergo addition of substances. The colour, taste and the chemical composition of royal jelly are determined by absorption and transformation by the bees fed with the following two types of foods during the royal jelly production time.

Significance of the sector:

- About 90,000 tonnes of honey of all varieties is produced annually in the country. There are about 30 lakh honey bee colonies and five lakh people are engaged in the business.
- The government is promoting honey production through the mission for integrated development of horticulture (MIDH) and the National Bee Board has been formed for implementing various activities for development of scientific beekeeping under MIDH.

9. UDAN scheme for international routes

Context:

The centre has unveiled the draft International Air Connectivity (IAC) scheme.

- The scheme envisages to increase the international ticketing to 20 crore by 2027.
- The scheme is to be made operational only for states, which demonstrate their commitment to implement and provide the requisite support for promoting operations under the scheme.
- Identification of routes: According to the draft, state governments will identify the routes to be connected, and airline operators will assess demand on the identified routes and submit proposals for providing connectivity.
- Permitted aircrafts: Operations under the scheme will be permitted through fixed-wing aircraft only with more than 70 seats.
- The scheme has proposed to set up an International Air Connectivity Fund (IACF) — a dedicated fund for providing subsidy support under the scheme. It will be created through the contributions of state governments.
- The subsidy support shall be provided to selected airlines only for the passenger seats, which remain unsold at the time of IAC flight operation, from the total number of passenger seats for which subsidy has been requested by the selected airline as part of its proposal. The subsidy support will be extended only up to three years.
- The Airport Authority of India will be the implementing agency of the scheme.

10. Health policies to cover mental illness

Context:

Insurance regulator IRDAI has issued a circular directing insurers to cover mental illness, which has reached serious proportions in the country.

- The Mental Healthcare Act, 2017 — which came into force from May 29 — has made it mandatory to provide “for medical insurance for treatment of mental illness on the same basis as is available for treatment of physical illness”.
- But to date, none of India’s 33 insurers has introduced a product that covers ailments such as depression, schizophrenia, and bipolar disorder, even though such covers are commonplace in many countries.
- The change has been long overdue. This is being seen as a progressive step. This will ensure a life of dignity to those who have mental health issues. It will create awareness, acceptance, and inclusion of mental

illness as any other physical ailment. It will 'normalise' diagnoses, by reducing associated myths and stigma.

- Mental health conditions have always been in the list of exclusions of health insurance policies. The only exceptions to this have been the coverage of development conditions such as autism and Down's syndrome by the National Health Insurance Scheme, and a few private schemes like Star Health Insurance's cover for autistic children.

What is mental illness?

- As per the Mental Healthcare Act, mental illness means a substantial disorder of thinking, mood, perception, orientation or memory that grossly impairs judgement, behaviour, capacity to recognise reality or ability to meet the ordinary demands of life.
- It also includes mental conditions associated with the abuse of alcohol and drugs, but does not include mental retardation which is a condition of arrested or incomplete development of mind of a person.
- The Act further states that every person with mental illness will be treated as equal to persons with physical illness when it comes to healthcare, including health insurance.

11. Brus of Mizoram

Context:

The Union Home Ministry has agreed to relax conditions laid down in the 'four-corner agreement' signed with Bru migrants for their repatriation from Tripura to Mizoram.

- In a major breakthrough on repatriation laced Bru persons from Mizoram, an agreement was signed by Government of India, Governments of Mizoram and Tripura and Mizoram Bru Displaced People's Forum (MBDPF) in July 2018.



- As per the agreement, the central government will provide financial assistance for rehabilitation of Bru community members in Mizoram and address their issues of security, education, livelihood, etc. in consultation with the governments of Mizoram and Tripura.

- According to the agreement, the Mizoram government would ensure security for all repatriated refugees

who were identified and verified as per the 1997 electoral rolls of Mizoram.

- The agreement also provides for free ration for two years and a monthly assistance of Rs 5,000 for each family.

New changes:

- According to the initial agreement, the cash assistance was to be provided only after three years of uninterrupted stay in Mizoram. As per the latest changes, for those (Brus) who are willing to return to Mizoram, the government might relax the period of stay for cash assistance of Rs 4 lakh from three years to two or even one and a half years. Refugees may also be allowed to withdraw 90% of the Rs 4 lakh assistance as bank loan immediately after their return.
- The Centre may also dilute the conditions in place for financial assistance. According to the original agreement, a house building assistance of Rs 1.5 lakh was to be disbursed in three instalments. This could now be relaxed further, with those Bru refugees building a house on their return to Mizoram being allowed to take the Rs 1.5 lakh assistance in a single installment or two.

Who are Brus?

- The Brus, also referred to as the Reangs, are spread across the northeastern states of Tripura, Assam, Manipur, and Mizoram.

What's the issue?

- A bout of ethnic violence forced thousands of people from the Bru tribe to leave their homes in Mizoram. As many as 32,876 people belonging to 5,407 families are living in the refugee camps in the Jampui Hills of Tripura.
- The displaced Bru people from Mizoram have been living in various camps in Tripura since 1997. In 1997, the murder of a Mizo forest guard at the Dampa Tiger Reserve in Mizoram's Mamit district allegedly by Bru militants led to a violent backlash against the community, forcing several thousand people to flee to neighbouring Tripura.
- The Bru militancy was a reactionary movement against Mizo nationalist groups who had demanded in the mid-1990s that the Brus be left out of the state's electoral rolls, contending that the tribe was not indigenous to Mizoram.

International Relations

12. Caspian Sea Agreement

Context:

Leaders from Russia, Azerbaijan, Iran, Kazakhstan and Turkmenistan have finally signed a legal convention on ways to manage Caspian sea and its surrounding areas.

- The Caspian Sea is a geopolitically strategic body of water, both in terms of its location and its resources. Situated in a transcontinental zone between Europe and Asia, it has historically been a key trade and transit corridor between eastern and western powers.
- The Caspian Sea became even more important in the modern era after the discovery of significant energy resources, including over 50 billion barrels of oil and 9 trillion cubic meters of natural gas in proven or probable reserves.



What's the issue?

- The countries surrounding the Caspian Sea make use of its strategic qualities. Russia and Iran are among the world's largest energy producers and exporters, while Kazakhstan, Turkmenistan and Azerbaijan produce significant amounts as well.
- However, since the 1991 collapse of the Soviet Union established Azerbaijan, Kazakhstan and Turkmenistan as independent states and competitors in the region, ongoing disputes about how to draw boundaries in the Caspian have limited all the surrounding countries' ability to exploit its resources.
- The primary issue has been whether to legally classify the Caspian as a sea or a lake. The former would require the division of the Caspian

to extend from the shoreline of each littoral state to the body of water's midway point, while the latter would divide the Caspian equally.

- Until now, the dispute has not stopped the Caspian states from accessing energy resources close to their shorelines, but it has prevented energy exploitation from taking place deeper offshore. Moreover, it has stalled the progress of any pipeline projects that would go across the seabed itself.

Outcomes of the latest summit:

- The convention signed at the recent summit has confirmed that the surface of the Caspian Sea would be legally classified as a sea, meaning each country would control 15 nautical miles of water from its shoreline for mineral exploration and 25 natural miles of shoreline for fishing.
- All other parts of the Caspian Sea would be considered neutral waters for common use. The summit also produced important security decisions, including an agreement that military vessels from non-Caspian states would be prohibited from entering the sea.
- This is a boon for both Russia and Iran, who have long had concerns about a U.S. or NATO military presence increasing Western influence, particularly over Azerbaijan. The agreement does not prevent the shipment of military cargo through the Caspian, though, since both Azerbaijan and Kazakhstan have played logistical supply roles for U.S. and NATO forces in Afghanistan.

Way ahead:

- The legal convention signed at the Caspian Sea summit in Aktau is far from the final word on the division of the strategic sea and its abundant energy resources. It does indicate progress in certain areas such as security, but Russia and Iran will likely try to delay any finalized protocol for managing the body of water in order to protect their strategic energy interests.
- However, many issues remain unsettled. For example, the delimitation of the seabed itself, where most energy resources are located, was left pending, meaning the Caspian countries will need to negotiate bilateral agreements.

13. Quad grouping

Context:

A report on the policy recommendations on Indian Ocean security by four think tanks from the Quad countries has been unveiled.

Important recommendations:

- Maintain the momentum of high-level consultations among the Quad countries with the aim of “free and open Indo-Pacific region” and progressively move it to a political level.

- Australia, Japan, India and the US should work with countries in the IOR to help maintain independent security and economic policies by supporting high-quality alternatives to unilateral Chinese investments and political alignment with Chinese regional objectives.
- The four countries should work to oppose the establishment of permanent Chinese military bases in the IOR. This should include demonstrating to China that its security needs can be met through cooperation and consultation with other nations and without the recourse to a “disruptive unilateral military presence.”
- Naval fleets should evolve increasingly long range operations. This may require consideration in Japan of new options such as nuclear propulsion for its submarines.

The Quad:

- Regional coalition known as the ‘Quad’, the quadrilateral formation includes Japan, India, United States and Australia.
- All four nations find a common ground of being the democratic nations and common interests of unhindered maritime trade and security.
- The idea was first mooted by Japanese Prime Minister Shinzo Abe in 2007. However, the idea couldn’t move ahead with Australia pulling out of it.

China’s concerns:

- The coming together of India, the US, Japan and Australia is being seen as building a strategic partnership to deal with China’s rise and its implications.

Way ahead:

- The Quad grouping is one of the many avenues for interaction among India, Australia, Japan and the US and should not be seen in an exclusive context. Quad should not be seen in any comparative or in an exclusive context.

Economy

14. Prompt Corrective Action (PCA) framework

Context:

PSU banks are expected to come out of the Prompt Corrective Action (PCA) framework by the end of this year. Currently, 11 out of a total of 21 state-owned banks are under the RBI's Prompt Corrective Action (PCA) framework.

- Various measures taken by the government including implementation of Insolvency and Bankruptcy Code (IBC) has yielded good results in terms of reining bad loans and increasing recovery.

What is PCA?

- PCA norms allow the regulator to place certain restrictions such as halting branch expansion and stopping dividend payment. It can even cap a bank's lending limit to one entity or sector.

Area	Risk threshold 1	Risk threshold 2	Risk threshold 3
Capital (Breach of either CRAR or CET 1 ratio)	up to 250 bps below Indicator <10.25% but $\geq 7.75\%$ upto 162.50 bps below Indicator <6.75% but $\geq 5.125\%$	more than 250 bps but not exceeding 400 bps below Indicator <7.75% but $\geq 6.25\%$ more than 162.50 bps below but not exceeding 312.50 bps below Indicator <5.125% but $\geq 3.625\%$	In excess of 312.50 bps below Indicator <3.625%
Asset Quality (Net non-performing advances ratio)	$\geq 6.0\%$ but <9.0%	$\geq 9.0\%$ but <12.0%	$\geq 12.0\%$
Profitability return on assets	Negative ROA for two consecutive years	Negative ROA for three consecutive years	Negative ROA for four consecutive years
Leverage Tier 1 Leverage ratio	$\leq 4.0\%$ but $\geq 3.5\%$ (leverage is over 25 times the Tier 1 capital)	< 3.5% (leverage is over 28.6 times the Tier 1 capital)	

- Other corrective action that can be imposed on banks include special audit, restructuring operations and activation of recovery plan. Banks' promoters can be asked to bring in new management, too. The RBI can also supersede the bank's board, under PCA.

When is PCA invoked?

- The PCA is invoked when certain risk thresholds are

breached. There are three risk thresholds which are based on certain levels of asset quality, profitability, capital and the like.

- The third such threshold, which is maximum tolerance limit, sets net NPA at over 12% and negative return on assets for four consecutive years.

What are the types of sanctions?

- There are two type of restrictions, mandatory and discretionary. Restrictions on dividend, branch expansion, directors compensation, are mandatory while discretionary restrictions could include curbs on lending and deposit.
- In the cases of two banks where PCA was invoked after the revised guidelines were issued — IDBI Bank and UCO Bank — only mandatory restrictions were imposed. Both the banks breached risk threshold 2.

What will a bank do if PCA is triggered?

- Banks are not allowed to renew or access costly deposits or take steps to increase their fee-based income. Banks will also have to launch a special drive to reduce the stock of NPAs and contain generation of fresh NPAs.
- They will also not be allowed to enter into new lines of business. RBI will also impose restrictions on the bank on borrowings from interbank market.

15. International Conference on Recent Advances in Food Processing Technology (iCRAFTPT)

Context:

International Conference on Recent Advances in Food Processing Technology (iCRAFTPT) 2018 is being held at Indian Institute of Food Processing Technology, Thanjavur in Tamilnadu.

Theme: Doubling farmers' income through food processing.

Significance of the conference:

- This conference will be a valuable and important platform for inspiring international and interdisciplinary exchange at the forefront of food research.

- Over the course of three days, internationally renowned speakers will share their research experiences in the areas of advances in food engineering and its industrial applications, food product development, food biotechnology, nano foods.

Significance and the need for strengthening of food processing sector:

- Most of the agricultural products are not consumable in their original form, for which they are processed. Wheat is converted into flour, Paddy into rice, sugarcane into jaggery, Sugar, ethanol, alcohol etc.



- These products can be further processed such as flour into bread. Apart from this, left over part of crop such as rice husk can also be processed to get some useful product for e.g. Rice Bran oil, cattle feed, Sugarcane bagasse can be used for power cogeneration.
- Hence, food processing not merely adds value to the agro products, but also increases their utility. We know that activities in an economy are broadly divided into Agriculture, industry and Services. Food processing Industry is the product of agriculture and Industry.

Food processing industry in India:

- India Food Processing Industry is estimated at \$135 billion industry which is growing at about 8% annually. This growth rate is significantly more than agricultural growth rate which remains around 4%. These signals indicate toward phenomenal shift toward food processing from traditional ways.

Food processing industry and employment growth:

- FPI is employment intensive industry; it can be an answer to jobless growth of past decade.
- Currently, only 3 % of employment is in FPI, while in developed countries it handles 14% population. Again, much of the employment will be created into rural India. This can remedy problem of distress migration. Growth in direct employment in the organized food processing sector stands at 6 % between 2011-12.

The key challenges identified overall for the food processing sector in India are as follows:

- **Poor supply chain linkages:** India's agriculture market has a long and fragmented supply chain that results in high wastage and high costs, especially due to seasonality, perishability, and variability of produce.
- **Infrastructure bottlenecks:** The export related infrastructure for agri-produce is grossly inadequate, especially at sea ports and airports. More than 30 percent of the produce from the fields gets spoilt due to poor post-harvesting facilities and lack of adequate storage infrastructure.
- **Lack of skilled manpower:** The agricultural workforce is inadequately skilled across different levels of food processing.
- **Low adherence to quality standards:** India lacks basic standardization and certification infrastructure. Given the size of the food processing industry, there is a huge gap in the availability of laboratories, trained manpower, and certification agencies.

16. NABARD study on farm household

Context:

NABARD has released its report on All India Rural Financial Inclusion Survey 2016-17.

Definition of agricultural household:

- The survey covered a sample of 1.88 lakh people from 40,327 rural households. Only 48% of these are defined as agricultural households, which have at least one member self-employed in agriculture and which received more than Rs.5,000 as value of produce from agricultural activities over the past year, whether they possessed any land or not.

Highlights of the survey:

- More than half the agricultural households in the country have outstanding debt, and their average outstanding debt is almost as high as the average annual income of all agricultural households.
- NABARD found that 52.5% of the agricultural households had an outstanding loan on the date of the survey, and thus were considered indebted. For non-agricultural households in rural India, that figure was 10 percentage points lower, at only 42.8%.
- Agricultural households reporting any outstanding debt also had a higher debt liability compared with non-agricultural ones.
- The average debt of an indebted agricultural household stood at 1,04,602 in comparison to 76,731 for indebted non-agricultural households.

Reasons for taking loans:

- The biggest reason for taking loans among agricultural households was capital expenditure for agricultural purposes, with a quarter of all loans taken for this purpose.
- While 19% of loans were taken for meeting running expenses for agricultural purposes, another 19% were taken for sundry domestic needs. Loans for housing and medical expenses stood at 11% and 12%, respectively.

Distribution:

- While all classes of farmers had debt, the highest incidence of indebtedness came from those owning more than two hectares of land. In that category, 60% of households are in debt.
- Among small and marginal farmers owning less than 0.4 hectares, slightly less than 50% of the households were in debt. Those with more land were more likely to have multiple loans.
- This may be attributed to the fact that these economically better-off households are more eligible for taking loans as they have enough

assets to serve as security against the loans taken.

State- wise variation:

- The southern States of Telangana (79%), Andhra Pradesh (77%), and Karnataka (74%) showed the highest levels of indebtedness among agricultural households, followed by Arunachal Pradesh (69%), Manipur (61%), Tamil Nadu (60%), Kerala (56%), and Odisha (54%).

Sources:

- Looking at loans taken between July 2015 and June 2016, the survey found that farm households took less than half their loans from commercial banks. While 46% of the loans were taken from commercial banks, and another 10% from self-help groups, almost 40% were taken from non-institutional sources such as relatives, friends, moneylenders and landlords.

Annual income of households:

- According to the survey, the average annual income of an agricultural household is Rs. 1.07 lakh. That is barely Rs. 2,500 more than the average outstanding debt of indebted farm households.

17. P-notes into Indian capital markets have plunged to over nine-year low

Context:

Investments through participatory notes into Indian capital markets have plunged to over nine-year low of Rs 80,341 crore till July-end amid stringent norms put in place by the watchdog Sebi to check misuse of these instruments.

- The decline could be attributed to several measures taken by the market watchdog to stop the misuse of the controversy-ridden participatory notes.
- In July 2017, Sebi had notified stricter norms stipulating a fee of USD 1,000 on each instrument to check any misuse for channelising black money. It had also prohibited FPIs from issuing such notes where the underlying asset is a derivative, except those which are used for hedging purposes.
- These measures were an outcome of a slew of other steps taken by the regulator in the recent past. In April last year, the Securities and Exchange Board of India (Sebi) had barred resident Indians, NRIs and entities owned by them from making investment through P-notes.

WHAT ARE P-NOTES?

- These are used by overseas market participants that don't want to get registered as FIIs. P-notes are not issued in India, rather these are issued by an India registered FII to other overseas investors.

- The FII will be the entity to initiate a transaction in our stock markets, which could be on behalf of foreign clients. P-notes are then issued by the FII to the client, underlining that the securities are held on behalf of the client albeit in the name of the FII.
- The P-note holder is entitled to all the dividends, capital gains and other payouts on the underlying securities. FIIs have to periodically report to Sebi on P-note issuance without the need to name the final beneficiary.

What are govt & regulator's concerns?

- The primary reason why P-Notes are worrying is because of the anonymous nature of the instrument as these investors could be beyond the reach of Indian regulators.
- Further, there is a view that it is being used in money laundering with wealthy Indians, like the promoters of companies, using it to bring back unaccounted funds and to manipulate their stock prices.

Why P-notes are popular?

- These are a popular way to invest in Indian markets as not only do these save the investor from regulatory hassles of registration, but also allow the final beneficiary to remain anonymous.
- Large hedge funds and high net worth individuals find this a hassle-free and simple way to get exposure to Indian markets.
- Reports also suggest that P-notes may aid in movement of black money or unaccounted funds. Such funds leave the country through various routes and can easily re-enter via investments aided by P-notes, which won't reveal the identity of the beneficiary. Given that P-notes are issued outside India to overseas investors, they are not regulated and are open to misuse.

18. Impact of the falling rupee on economy

Context:

With the rupee recently weakening past Rs.70 to a dollar and hovering about that level since, concerns over the impact of the devaluation on economic indicators are intensifying.

- Turkish currency turmoil: The Indian currency had plunged by Rs. 1.08, or 1.57 per cent, to a record low of 69.91 against the US currency amid fears that Turkish currency turmoil could turn out into global financial crisis.
- The Spike in oil prices has pulled down the rupee, by pushing up dollar demand.
- Global Trade war fears triggered by the US and China's retaliatory import tariffs have also weakened the Rupee.

- The Chinese yuan has fallen sharply in the last few sessions. This also has triggered a dollar flight from many emerging economies. The Spurt in dollar outflow has pulled down most Asian currencies, including the rupee.

How it affects inflation?

- With rupee falling, country's imports become more expensive and exports cheaper. The reason is simple. It takes more rupees to pay for the same quantum of imports and fewer dollars for a buyer to pay for the same quantity of exports.
- More expensive imports are likely to drive inflation upward, especially in India where input products constitute a large part of our imports. In addition, a depreciating rupee also impacts the oil import bill since it costs more rupees per barrel of oil, which plays its own part in pushing inflation up.

What happens to GDP growth?

- On the one hand, costlier inputs and the subsequent increase in the prices of finished goods should have a positive impact on GDP. But the consequent decrease in demand due to higher prices could nullify this.
- A depreciating rupee certainly affects the exports and imports, since exports are likely to receive a boost while imports could flag somewhat. It remains to be seen what impact a reduction in household consumption would have on demand, especially when the festive season is nearing.

How does it affect individuals?

- A depreciating rupee means higher prices of goods and services, costlier petrol and trips abroad turning more expensive. On the flip side, the domestic tourism could grow as more tourists visit India since their currency now buys more here. In the medium term, export-oriented industries may also create more jobs.

19. TReDS platform

Context:

State-owned aerospace and defence PSU Hindustan Aeronautics Limited (HAL) has executed its first digitized invoice discounting transaction on RXIL TReDS platform when it accepted the digital invoice uploaded by Narendra Udyog, a Nasik-based MSME vendor.

Details:

This makes HAL the first PSU (public sector unit) to transact on TReDS across platforms.

RXIL, India's first TReDS platform, enables MSMEs to gain control of their receivables with enhanced visibility and timeliness.

What is TReDS?

TReDS is an online electronic institutional mechanism for facilitating the financing of trade receivables of MSMEs through multiple financiers. The TReDS Platform will enable discounting of invoices/bills of exchange of MSME Sellers against large Corporates including Govt. Departments and PSUs, through an auction mechanism, to ensure prompt realization of trade receivables at competitive market rates.

Salient Features of TReDS:

- Unified platform for Sellers, Buyers and Financiers.
- Eliminates Paper.
- Easy Access to Funds.
- Transact Online.
- Competitive Discount Rates.
- Seamless Data Flow.
- Standardized Practices.

How does the system work?

A seller has to upload the invoice on the platform. It then goes to the buyer for acceptance. Once the buyer accepts, the invoice becomes a factoring unit. The factoring unit then goes to auction. The financiers then enter their discounting (finance) rate. The seller or buyer, whoever is bearing the interest (financing) cost, gets to accept the final bid. TReDs then settle the trade by debiting the financier and paying the seller. The amount gets credited the next working day into the seller's designated bank account through an electronic payment mode. The second leg of the settlement is when the financier makes the repayment and the amount is repaid to the financier.

City	Contact Number	Admission Dates
ASHOK NAGAR	+91 991 244 1138	JULY 09 MONDAY
MADHAPUR	+91 990 856 4438	JUNE 09 SATURDAY
NEW DELHI	+91 880 028 3132	JULY 02 MONDAY
VISAKHAPATNAM	+91 998 513 6789	JUNE 25 MONDAY
GUNTUR	+91 996 335 6789	JULY 02 MONDAY

ADMISSIONS OPEN FOR NEW BATCHES

Geography and Environment

20. Telangana govt launches Disaster Response Force

Context:

Government of Telangana has launched for the first time Disaster Response Force (DRF) vehicles in the Hyderabad city.

- The vehicles will be parked at 24 locations with Greater Hyderabad Municipal Corporation (GHMC) DRF staff and they will reach the emergency spots in no time.
- The main aim to start this DRF is that a state should have its own Disaster force.
- DRF personnel have been trained in tackling of flooding, tree falls, structural collapses and any other site of normal emergencies.
- DRF has been first brought on to the ground with 120 personal with 8 specialised vehicles and other equipment's which are required.

21. Interlinking of Rivers

Context:

15th Meeting of Special Committee for Interlinking of Rivers was recently Held.

Outcomes of the meeting:

- During the meeting, it was stressed on the need for developing consensus amongst the concerned states on interlinking of rivers so that the water draining unutilized into the sea could be utilized for the needy areas.
- States were called upon to discuss and sort out issues through active consultation so that the projects can be implemented on priority.

Developments so far:

- Steps have been taken for early implementation of five interlinking projects and Memorandum of Agreement for implementation of these projects is being finalized in consultation with the concerned state governments.
- These five projects include Ken-Betwa link project, Damanganga-Pinjal link project, Par-Tapi-Narmada link project, Godavari-Cauvery (Grand Anicut) link project and Parvati-Kali Sindhu-Chambal link.

Need for interlinking of rivers:

- The interlinking project aims to link India's rivers by a network of reservoirs and canals that will allow for their water capacities to be shared and redistributed.

- According to some experts, this is an engineered panacea that will reduce persistent floods in some parts and water shortages in other parts besides facilitating the generation of hydroelectricity for an increasingly power hungry country.

Benefits and significance of interlinking:

Enhances water and food security of the country and it is essential for providing water to drought prone and water deficit areas.

- **Proper utilization:** River interlinking projects envisage that the surplus water available in Himalayan Rivers is transferred to the areas where water supply is not adequate in the Peninsular India. Also, huge quantities of water from several Peninsular rivers drain unutilized into the sea, and river interlinking projects help transfer this water to water deficit areas of Peninsular India.
- **Boost to agriculture:** The main occupation of rural India is agriculture and if monsoon fails in a year, then agricultural activities come to a standstill and this will aggravate rural poverty. Interlinking of rivers will be a practical solution for this problem, because the water can be stored or water can be transferred from water surplus area to deficit.
- **Disaster mitigation:** The Ganga Basin, Brahmaputra basin sees floods almost every year. In order to avoid this, the water from these areas has to be diverted to other areas where there is scarcity of water. This can be achieved by linking the rivers. There is a two way advantage with this – floods will be controlled and scarcity of water will be reduced.
- **Transportation:** Interlinking of rivers will also have commercial importance on a longer run. This can be used as inland waterways and which helps in faster movement of goods from one place to other.
- **Employment generation:** Interlinking also creates a new occupation for people living in and around these canals and it can be the main areas of fishing in India.

Concerns associated:

- Interlinking of rivers will cause huge amount of distortion in the existing environment. In order to create canals and reservoirs, there will be mass deforestation. This will have impact on rains and in turn affect the whole cycle of life.
- Usually rivers change their course and direction in about 100 years and if this happens after interlinking, then the project will not be feasible for a longer run.
- Due to interlinking of rivers, there will be decrease in the amount of fresh water entering seas and this will cause a serious threat to the marine life system and will be a major ecological disaster.
- Due to the creation of Canals and Reservoirs, huge amount of area which is occupied by the people will be submerged leading to

displacement of people and government will have to spend more to rehabilitate these people.

- The amount required for these projects is so huge that government will have to take loans from the foreign sources which would increase the burden on the government and country will fall in a debt trap.

Way ahead:

- National Water Development Agency (NWDA) so far has received more than 40 proposals of intra-state links from 9 States viz. Maharashtra, Gujarat, Jharkhand, Odisha, Bihar, Rajasthan, Tamil Nadu, Karnataka and Chhattisgarh.
- The successful completion of these projects will lead to reduction in disaster during floods, improved irrigation facilities, employment generation in rural agriculture, and increase in exports and decrease in migration from villages.

22. World's largest 3D-printed reef installed in Maldives to help save corals

Context:

The world's largest 3-D printed reef has been submerged at Summer Island Maldives, in what is hoped could be a new technology-driven method to help coral reefs survive a warming climate.

- The artificial reef, assembled with hundreds of ceramic and concrete modules, was submerged at Summer Island's 'Blue Lagoon' — a sandy part of the lagoon, where the resort hopes to create a new coral reef ecosystem.

About the experiment:

- The experiment was aimed at increasing their resilience and longevity against the ongoing environmental rampage. The ceramic structures built closely resemble the original structures found in the Maldives. Ceramic itself is made of calcium carbonate, the same inert substance that occurs in abundance in corals.

Why it matters?

- Bleaching poses the most potent danger to corals, which used to abound in the Pacific Ocean and colour its waters in different hues. With imminent threats like increasing temperatures of water bodies and disposal of chemical wastes in oceans, 3D printing technology is hoped to offer a safety net for corals, for posterity.
- The technology allows to mimic the complexity of natural reef structures, so as to design artificial reefs that closely resemble those found in nature. This will be a more effective way of growing and restoring corals.

23. Union government has declared the Kerala floods a “calamity of severe nature”

Context:

Following the calls from people in Kerala that the floods be declared a national calamity, the Union government has declared the Kerala floods a “calamity of severe nature”.

- As per the Disaster Management Act, 2005, “disaster” means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man-made causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area.
- A natural disaster includes earthquake, flood, landslide, cyclone, tsunami, urban flood, heat wave; a man-made disaster can be nuclear, biological and chemical.

How can any of these be classified as a national disaster?

- There is no provision, executive or legal, to declare a natural calamity as a national calamity. The existing guidelines of State Disaster Response Fund (SDRF)/ National Disaster Response Fund (NDRF), do not contemplate declaring a disaster as a ‘National Calamity’.

How, then, does the government classify disasters/calamities?

- The 10th Finance Commission (1995-2000) examined a proposal that a disaster be termed “a national calamity of rarest severity” if it affects one-third of the population of a state.
- The panel did not define a “calamity of rare severity” but stated that a calamity of rare severity would necessarily have to be adjudged on a case-to-case basis taking into account, inter-alia, the intensity and magnitude of the calamity, level of assistance needed, the capacity of the state to tackle the problem, the alternatives and flexibility available within the plans to provide succour and relief, etc.
- The flash floods in Uttarakhand and Cyclone Hudhud were later classified as calamities of “severe nature”.

What happens if a calamity is so declared?

- When a calamity is declared to be of “rare severity”/“severe nature”, support to the state government is provided at the national level. The Centre also considers additional assistance from the NDRF. A Calamity Relief Fund (CRF) is set up, with the corpus shared 3:1 between Centre and state.
- When resources in the CRF are inadequate, additional assistance is considered from the National Calamity Contingency Fund (NCCF), funded 100% by the Centre. Relief in repayment of loans or for grant

of fresh loans to the persons affected on concessional terms, too, are considered once a calamity is declared “severe”.

How is the funding decided?

- As per the National Policy on Disaster Management, 2009, the National Crisis Management Committee headed by the Cabinet Secretary deals with major crises that have serious or national ramifications.
- For calamities of severe nature, inter-ministerial central teams are deputed to the affected states for assessment of damage and relief assistance required.
- An inter-ministerial group, headed by the Union Home Secretary, studies the assessment and recommends the quantum of assistance from the NDRF/National Calamity Contingency Fund (NCCF).
- Based on this, a high-level committee comprising the Finance Minister as chairman and the Home Minister, Agriculture Minister, and Planning Commission Deputy Chairman as members approves the central assistance.

24. ICOMOS

Context:

The ICOMOS, a global monument conservation body, has launched an initiative to assess the damage to the rich cultural and built heritage in flood-devastated Kerala and set up an emergency response platform.

- The initiative also aims at setting up a platform for emergency response to the cultural heritage damaged by the floods in Kerala.
- ICOMOS has also approached the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) to partner in the post-disaster work.
- Kerala is endowed with natural beauty, and is home to a number of iconic forts, palaces and other heritage buildings, which attract a huge number of tourists every year. The state is facing its worst floods in nearly a century.

About ICOMOS:

- The International Council on Monuments and Sites (ICOMOS) is a prestigious non-government organization.
- It promotes the application of theory, methodology and scientific techniques for conservation of architectural and archaeological heritage across the world.
- ICOMOS is also an advisory body to the UNESCO for cultural heritage, in particular for implementation of the World Heritage Convention.

Science & Technology

25. Microcrystallites

Context:

These are a new type of gold in the form of very small crystals developed by researchers from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru.

- The microcrystallites were synthesized by decomposing an organic complex containing gold and other ions under controlled conditions:
- The newly formed micro crystallites, about 3 micrometre in length were found to be of a different crystal structure.
- Normal gold has a (face-centered) cubic structure, while the new ones exhibit deformed cubic structure — tetragonal and orthorhombic cells.
- The microcrystal gold has been found to be nobler than gold — it do not dissolve in mercury and Aqua regia (a mixture of nitric acid and hydrochloric acid), and showed the least interaction with copper.
- Microcrystallites are also more stable than the normal gold.

Way ahead:

All these properties make these crystallites an ideal candidate for catalytic purposes. Gold in itself is not a catalyst but the new gold microcrystallites have very active surfaces. More studies are needed to understand them fully in the context wide range of applications in the offing.

26. Data localisation

Context:

US technology giants plan to intensify lobbying efforts against stringent Indian data localization requirements, which they say will undermine their growth ambitions in India.

- U.S trade groups, representing companies such as Amazon, American Express and Microsoft, have opposed India's push to store data locally. That push comes amid rising global efforts to protect user data but is one that could hit planned investments by the firms in the Indian market, where the companies currently have limited data storage.

Concerns:

- Though a final decision hasn't been made, the deliberations come while the United States and India are locked in a dispute over US tariff increases and on the Indian policy of capping prices of medical devices, which hurts American pharmaceutical companies.
- The issue could further undermine already strained economic relations between India and the United States.

What does Data Localization mean?

- Data localization is the act of storing data on any device that is physically present within the borders of a specific country where the data was generated.
- Free flow of digital data, especially data which could impact government operations or operations in a region, is restricted by some governments. Many attempt to protect and promote security across borders, and therefore encourage data localization.

Policy goals:

- Goals set in the Draft National Digital Communications Policy 2018, along with various government notifications and guidelines such as Reserve Bank of India's notification on Payment Data Storage 2018, and the Guidelines for Government Departments for Contractual Terms related to Cloud Storage 2017, show signs of data localization.
- The rationale behind such mandates has been attributed to various factors, such as: securing citizen's data, data privacy, data sovereignty, national security, and economic development of the country. The extensive data collection by technology companies, due to their unfettered access and control of user data, has allowed them to freely process and monetise Indian users' data outside the country.

Why technology firms are worried?

- Stricter localisation norms would help India get easier access to data when conducting investigations, but critics say it could lead to increased government demands for data access. Technology firms worry the mandate would hurt their planned investments by raising costs related to setting up new local data centres.

Why government is in favour of data localization?

- Greater use of digital platforms in India for shopping or social networking have made it a lucrative market for technology companies, but a rising number of data breaches have pushed New Delhi to develop strong data protection rules.
- Also, minimal or deregulated governance on critical data, due to absence of localization requirements, could be detrimental to India's national security as data would be outside the purview of existing data protection legislation. The ineffectiveness of Mutual Legal Assistance Treaties (MLATs) in this realm aggravates such government fears.
- In addition to these, India also aspires to become a global hub for, among others, cloud computing, data hosting and international data centres, all of which are prompting the government to enact data localization requirements for accelerating the nation's economic growth, especially in the sphere of digital technologies.

Is data localization the solution to physical data access and decryption of enciphered data? Can data localization be conflated with access?

The proposed law by Srikrishna Committee cannot be a knee-jerk reaction to some events; it has to be in line with the SC judgment, which supports the march of technology, innovations, growth of knowledge, and big data analytics for the growth of economies, and for better services to citizens. It recognizes the role of data driven innovation (DDI) for the growth of economies, and for job creation. But it emphasises that the data so collected be utilized for legitimate purposes.

Way ahead:

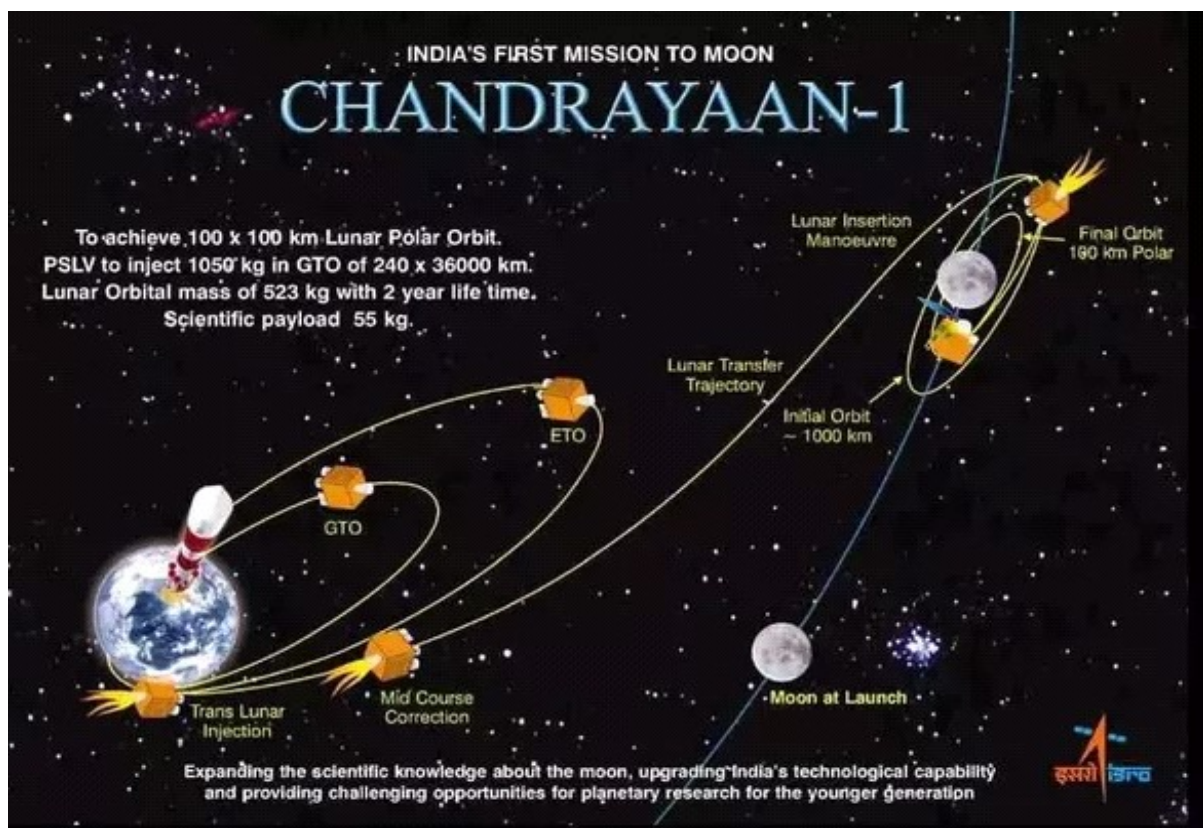
Though these policy goals are justifiable, a deeper analysis is required to determine the possible adverse spill-over effects on relevant stakeholders in case a faulty roadmap is adopted to achieve them.

Adequate attention needs to be given to the interests of India's Information Technology Enabled Services (ITeS) and Business Process Outsourcing (BPO) industries, which are thriving on cross-border data flow.

27. Chandrayaan- 1

Context:

Scientists have found frozen water deposits in the darkest and coldest parts of the Moon's polar regions using data from the Chandrayaan-1 spacecraft, that was launched by India 10 years ago.



- Scientists used data from NASA's Moon Mineralogy Mapper (M3) instrument to identify three specific signatures that definitively prove there is water ice at the surface of the Moon.

What is Moon Mineralogy Mapper (M3) instrument?

- M3, aboard the Chandrayaan-1 spacecraft, launched in 2008 by the Indian Space Research Organization (ISRO), was uniquely equipped to confirm the presence of solid ice on the Moon.
- It collected data that not only picked up the reflective properties we would expect from ice, but was able to directly measure the distinctive way its molecules absorb infrared light, so it can differentiate between liquid water or vapour and solid ice.

Highlights of the findings:

- With enough ice sitting at the surface — within the top few millimetres — water would possibly be accessible as a resource for future expeditions to explore and even stay on the Moon, and potentially easier to access than the water detected beneath the Moon's surface.
- The ice deposits are patchily distributed and could possibly be ancient. At the southern pole, most of the ice is concentrated at lunar craters, while the northern pole's ice is more widely, but sparsely spread.
- Most of the new-found water ice lies in the shadows of craters near the poles, where the warmest temperatures never reach above minus 156 degrees Celsius. Due to the very small tilt of the Moon's rotation axis, sunlight never reaches these regions.

Way ahead:

Learning more about this ice, how it got there, and how it interacts with the larger lunar environment will be a key mission focus for NASA and commercial partners, as humans endeavour to return to and explore the Moon.

About Chandrayaan-1:

- Indian Space Research Organization (ISRO) lost communication with Chandrayaan-1 on August 29, 2009, barely a year after it was launched on October 22, 2008.
- The Chandrayaan-1 mission performed high-resolution remote sensing of the moon in visible, near infrared (NIR), low energy X-rays and high-energy X-ray regions.
- One of the objectives was to prepare a three-dimensional atlas (with high spatial and altitude resolution) of both near and far side of the moon.
- It aimed at conducting chemical and mineralogical mapping of the entire lunar surface for distribution of mineral and chemical elements such as Magnesium, Aluminium, Silicon, Calcium, Iron and Titanium as well as high atomic number elements such as Radon, Uranium and Thorium with high spatial resolution.

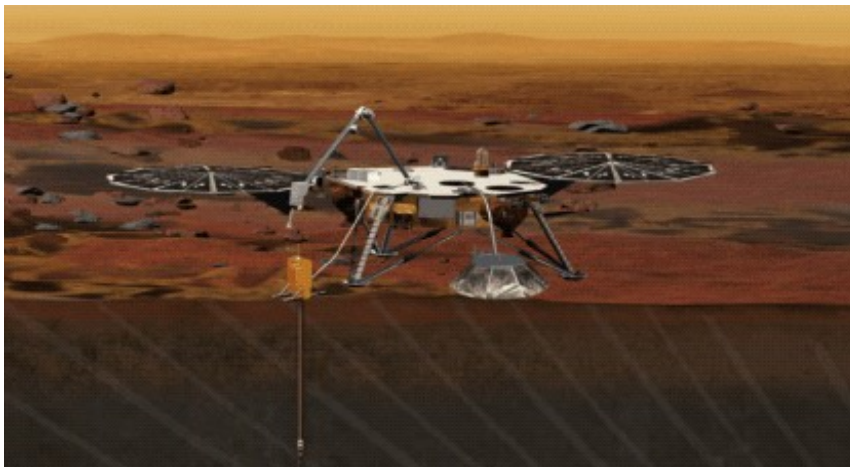
28. InSight

Context:

NASA's InSight (Interior Exploration using Seismic Investigations, Geodesy and Heat Transport) spacecraft, en route to land on Mars this November, has passed the halfway mark, covering 277 million kilometres since its launch 107 days ago. In another 98 days, it will travel another 208 million kilometres and touch down in Mars' Elysium Planitia region, where it will be the first mission to study the Red Planet's deep interior.

About InSight Mission:

- InSight is part of NASA's Discovery Program, managed by the agency's Marshall Space Flight Center in Huntsville, Alabama.



- It will be the first mission to peer deep beneath the Martian surface, studying the planet's interior by measuring its heat output and listening for mars quakes, which are seismic events similar to earthquakes on Earth.

- It will use the seismic waves generated by mars

quakes to develop a map of the planet's deep interior.

Significance of the mission:

- The findings of Mars' formation will help better understand how other rocky planets, including Earth, were and are created. But InSight is more than a Mars mission – it is a terrestrial planet explorer that would address one of the most fundamental issues of planetary and solar system science – understanding the processes that shaped the rocky planets of the inner solar system (including Earth) more than four billion years ago.
- By using sophisticated geophysical instruments, InSight would delve deep beneath the surface of Mars, detecting the fingerprints of the processes of terrestrial planet formation, as well as measuring the planet's "vital signs": Its "pulse" (seismology), "temperature" (heat flow probe), and "reflexes" (precision tracking).

Why Mars?

- Previous missions to Mars have investigated the surface history of the Red Planet by examining features like canyons, volcanoes, rocks and soil. However, signatures of the planet's formation can only be found by sensing and studying its "vital signs" far below the surface.

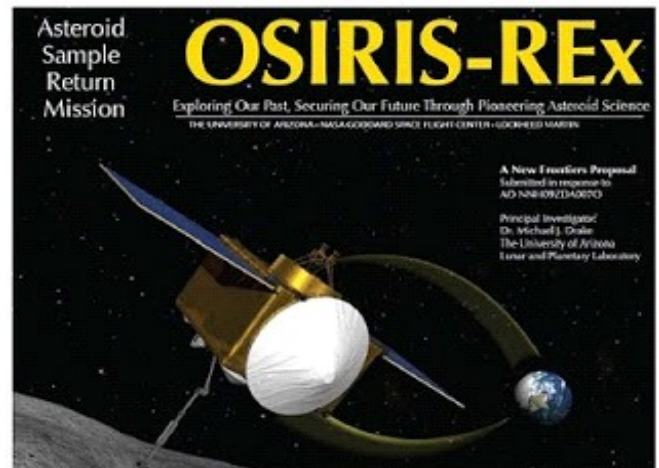
- In comparison to the other terrestrial planets, Mars is neither too big nor too small. This means that it preserves the record of its formation and can give us insight into how the terrestrial planets formed. It is the perfect laboratory from which to study the formation and evolution of rocky planets. Scientists know that Mars has low levels of geological activity. But a lander like InSight can also reveal just how active Mars really is.

29. OSIRIS-REx spacecraft

Context:

The OSIRIS-REx spacecraft has begun its final approach toward the big near-Earth asteroid Bennu. The milestone also marks the official start of OSIRIS-REx's "asteroid operations" mission phase.

- OSIRIS-REx is still about 1.2 million miles (2 million kilometers) from Bennu and won't arrive in orbit around the 1,650-foot-wide (500 meters) space rock until Dec. 3.



About the mission:

- OSIRIS-Rex stands for Origins, Spectral Interpretation, Resource Identification, Security-Regolith Explorer.
- OSIRIS-REx is the third mission in NASA's New Frontiers program, which previously sent the New Horizons spacecraft zooming by Pluto and the Juno spacecraft into orbit around Jupiter.

What will the OSIRIS-Rex do?

- OSIRIS-REx will spend two years travelling towards Bennu, arriving at the asteroid in August 2018. The probe will orbit the asteroid for 3 years, conducting several scientific experiments, before returning to Earth, with the sample capsule expected to land in Utah, USA in September 2023.

Scientific Mission Goals:

- During its three year orbit of Bennu, OSIRIS-REx will be conducting a range of scientific experiments in order to better understand the asteroid.
- As part of this, the asteroid will be mapped using instruments on the probe, in order to select a suitable site for samples to be collected from.

- The aim of the mission is to collect a sample of regolith- the loose, soil-like material which covers the surface of the asteroid.
- In July 2020, the probe will move to within a few metres of Bennu, extending its robotic arm to touch the asteroid's surface. The arm will make contact with the surface for just 5 seconds, during which a blast of nitrogen gas will be used to stir up the regolith, allowing it to be sucked into the sample collector.
- OSIRIS-REx has enough nitrogen on board for 3 sample collection attempts, and NASA are hoping to collect between 60 and 2000g of regolith material to bring back to Earth.

Why was Bennu chosen?

Bennu was selected for the OSIRIS-REx mission from over 500,000 known asteroids, due to it fitting a number of key criteria. These include:

- **Proximity to Earth:** In order for OSIRIS-REx to reach its destination in a reasonable timeframe, NASA needed to find an asteroid which had a similar orbit to Earth. Around 7000 asteroids are 'Near-Earth Objects' (NEOs), meaning they travel within around ~30million miles of the Earth. Out of these, just under 200 have orbits similar to Earth, with Bennu being one of these.
- **Size:** Small asteroids, those less than 200m in diameter, typically spin much faster than larger asteroids, meaning the regolith material can be ejected into space. Bennu is around 500m in diameter, so rotates slowly enough to ensure that the regolith stays on its surface.
- **Composition:** Bennu is a primitive asteroid, meaning it hasn't significantly changed since the beginning of the Solar System (over 4 billion years ago). It is also very carbon-rich, meaning it may contain organic molecules, which could have been precursors to life on Earth.

Additionally, Bennu is of interest as it is a Potentially Hazardous Asteroid (PHA). Every 6 years, Bennu's orbit brings it within 200,000 miles of the Earth, which means it has a high probability of impacting Earth in the late 22nd Century.

30. CERT-In report on cyber attacks

Context:

The Indian Computer Emergency Response Team (CERT-In) has prepared a report on cyber-attacks in the country.

- It has been observed that China continues to "intrude" Indian cyberspace in a "significant" way. The cyber-attacks from China made up 35% of the total number of cyber-attacks on official Indian websites, followed by US (17%), Russia (15%), Pakistan (9%), Canada (7%) and Germany (5%).

- There is also the possibility of “malicious actors from Pakistan using German and Canadian cyberspace for intruding into Indian cyberspace and carrying out malicious activities”.
- They are targeting by sending spear phishing emails with malware attachments. Phishing attacks are usually in the form of an email from a trusted source where they ask for personal details such as bank details personal details, passwords.

Institutions affected:

- Many of the institutions impacted by the malicious activities have been identified, and they have been advised to take appropriate preventive action.
- These include Oil and Natural Gas Corporation (ONGC), National Informatics Centre (NIC), Indian Railway Catering and Tourism Corporation (IRCTC), Railways, Centre for Railway Information Systems (CRIS) and some banks like Punjab National Bank among others.

About CERT-In:

- CERT-In (the Indian Computer Emergency Response Team) is a government-mandated information technology (IT) security organization. CERT-In was created by the Indian Department of Information Technology in 2004 and operates under the auspices of that department.
- The purpose of CERT-In is to respond to computer security incidents, report on vulnerabilities and promote effective IT security practices throughout the country. According to the provisions of the Information Technology Amendment Act 2008, CERT-In is responsible for overseeing administration of the Act.

31. Kowsar

Context:

It is a new domestically-produced fighter jet unveiled recently by Iran.

- Designed and manufactured solely by Iranian military experts, the Kowsar is described as a fourth-generation fighter jet, which classifies it among military fighters in service from approximately 1980 to the present day.

Implications:

- Iran is currently under economic and diplomatic pressure from a raft of sanctions reimposed by the United States earlier this month, and the unveiling could be seen as a bid to show self-sufficiency and military might in the face of that pressure.

Miscellaneous

32. Asian Games

Context:

The 18th edition of Asian Games is being held in Jakarta, Indonesia.

- For the first time, eSports, a form of competition using video games, and canoe polo will be contested as demonstration sports.
- This will be the second time that Indonesia hosts the Asian Games.
- This will be the first time that the Asian Games will be held in two cities – Jakarta and Palembang.

33. International Buddhist Conclave 2018

Context:

With an aim to encourage the prominent Buddhist heritage and pilgrim sites in the state of Maharashtra, Maharashtra Tourism Development Corporation in association with Ministry of Tourism recently organized the 6th International Buddhist Conclave 2018 in Aurangabad. The Conclave will highlight the traditional and historical facets of Buddhism across the world.

Theme: 'Buddha Path – The Living Heritage'.

Significance:

- The International Buddhist Conclave is testament of the Ministry of Tourism and Maharashtra Tourism Development Corporation towards its commitment to advance the experience of travellers as well as tourists looking to experience the spirit of Buddhist inheritance of our country.

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