

WEEKLY CURRENT AFFAIRS MAGAZINE for



U.P.S.C. - C.S.E.

OCTOBER-VOL-II-2020

08 October to 15 October



-
- **UPSC/MPSC/NDA/CDS**
 - **PUNE/THANE/DADAR/ANDHERI**
 - **Offline/Online batches/Video course**
 - **www.pioneeracademypace.com/.in**
 - **IVR No. - 80 80 046 046**
-

PIONEER ACADEMY

PUNE



PUNE Address:

301/5 3rd Flr, Pinnacle Prestige (Near Durvankur Hotel), Above Cosmos Bank, Opp. Maharashtra Electronics, Tilak Road, Sadashiv Peth, Pune - 411 030
Mob.: 91453 39324 / 25

THANE



THANE Address:

201/202, 2nd Floor, Laizer Arcade, Raghoba Shankar Road, Chendani, Thane(W) - 400 601.
Mob.: 75060 10635

Email : pioneeracademypace@gmail.com

Website: www.pioneeracademypace.com / .in

IVR Number : 8080 046 046

ANDHERI



ANDHERI Address:

3rd Flr, Syndicate Chamber, Above Vaibhav Restaurant, Next To Better Home Hotel, Opp. Andheri (E) Station, Andheri (E) - 400 601
Mob. 84518 55673 / 70302 92316

DADAR



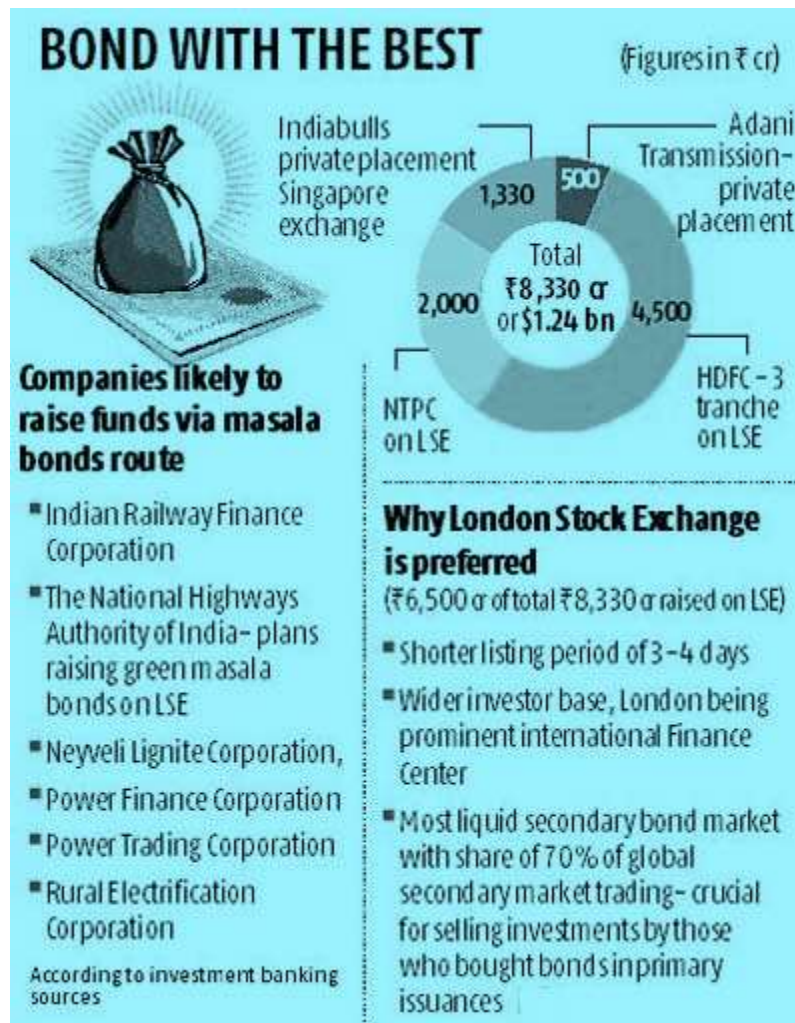
DADAR Address:

306/7/8, 3rd Flr, Blue Pearl Society, Senapati Bapat Road, Plot No. 14, Near Janata Cloth Market, Near Dadar Railway Station, Dadar (W), Mumbai-400 028
Mob : 93241 69627 / 91375 41508

Success is born of action...

Topic 1: MASALA BONDS

Importance for Prelims: Economy



Overseas borrowing through rupee-denominated bonds (masala bonds), which has been declining over the last few years, witnessed a sudden surge in interest from domestic borrowers.

- Masala bond – a form of external commercial borrowing (ECB) – was **launched by the government and International Finance Corporation (IFC) in 2014-15** to contain the account deficit, reducing rupee volatility, attracting long-term funds for infrastructure projects and internationalising the rupee.

- The term ‘masala’ was ascribed to these bonds to give an Indian flavour, similar to ‘Dim Sum Bonds’ of China or Turkey’s ‘Baklava Bonds’ **Masala Bonds They are rupee-denominated bonds** i.e. the funds would be raised from overseas market in Indian rupees.
- According to RBI, any corporate, body corporate and Indian bank is eligible to issue Rupee denominated bonds overseas.
- While companies can raise funds through these bonds, there are limitations for the use of such proceeds.
- RBI mandates that the money raised through such bonds cannot be used for real estate activities other than for development of integrated township or affordable housing projects.
- It also can’t be used for investing in capital markets, purchase of land and on-lending to other entities for such activities as stated above.

Minimum maturity of masala bonds

- According to RBI, the minimum maturity period for Masala Bonds raised up to Rupee equivalent of USD 50 million in a financial year should be 3 years.
- And for bonds raised above USD 50 million equivalents in INR per financial year should be 5 years.
- The conversion for such bonds will happen at the market rate on the date of settlement of transactions undertaken for issue and servicing of the bonds, including its redemption.

Where can these bonds be issued and who can subscribe?

- The bonds can only be issued in a country and subscribed by a resident of such country that is a member of FATF and whose securities market regulator is a member of International Organisation of Securities Commission.
- While residents of such countries can subscribe to the bonds, it can also be subscribed by multilateral and regional financial institutions where India is a member country.

Topic 2: Natural Gas Reforms

Importance for Prelims: Economy



Union Cabinet chaired by Prime Minister Narendra Modi approved the natural gas marketing reforms. The reforms aim to fix the gas prices in the market through transparent and competitive processes.

- **E-Bidding Platform:** The main objective of the reforms is to provide standard procedure for the sale of Natural Gas in the country. It also aims to provide a transparent and competitive method of discovering market prices through e-bidding.
- **Permit for the Affiliate Companies to participate in bidding:** The reforms permit the associated Gas companies to participate in the bidding. This in turn will kindle the competition in the gas market.
- Producers will have choice to select a platform
- The reforms will give massive push towards gas consumption
- The open acreage licensing policy has increased investor driven acreage auction process.

- Currently, under the reforms, acreages are being allocated only in category 2 and category 3 basins.
- Complete marketing and pricing freedom have been provided to domestic gas production companies. This was provided especially to those companies that discovered and developed field plans after February 2019.

Benefits:

- The policy will help in bringing uniformity in the bidding process.
- It will contribute towards each of doing business.
- The reforms will provide a huge boost to the atmanirbhar Bharat Abhiyan as it will encourage domestic investments in the production of natural gas. On the other hand, it will reduce the gas imports.

Pradhan Mantri Urja Ganga

- It is a national gas grid project that aims to provide pipe natural gas connection to every household in the Eastern part of the country. This is to be done by developing 15,000 kilometres of piped gas network.

Exploration and Production

- the Hydrocarbon Exploration Licensing Policy (2016) was notified in 2016. This was introduced to award hydrocarbon acreages. The open acreage licensing policy that was launched in 2017 augmented HELP.

- After these steps, the Government of India approved 129 marginal fields to explore hydrocarbons under discovered small fields policy.

Natural Gas in India

- There are 26 sedimentary basins in India. Of these 12% are located in Shallow water, 49 percentage are located on land and 39% are located in the deep-sea water. The basins are divided into three categories as follows

Category 1: these are basins that have reserves and are already producing.

Category 2: these are basins with contingent resources and their commercial production are pending.

Category 3: these basins have prospective resources and are awaiting discovery.

Topic 3: STAR CAMPAIGNER

Importance for Prelims: Polity



The Election Commission (EC) reduced the maximum number of star campaigners permitted for campaigning during Bihar elections amid concerns over large gatherings in view of the pandemic.

Who are star campaigners?

- They can be described as persons who are nominated by parties to campaign in a given set of Constituencies. These persons are, in almost all cases, prominent and popular faces within the Party. However there are no specific definitions according to law or the Election Commission of India.

Conditions for star campaigners

- Star campaigners of a party will not exceed 40 where it is a recognized political party.
- For parties that are deemed unrecognized, the number of star

campaigners will not be more than 20.

- According to **Section 77 (b) of The Representation of People's Act, 1951** expenses incurred by the campaigner shall not be deemed to be expenditure in connection with the election. In other words, the expenses will be borne by the respective political party. [However if a star campaigner is present with the candidate on stage while campaigning, then half the expenditure of the event will go to the candidate's account].
- The manual to the Model Code of Conduct states that for the benefit of availing Section 77 (1) of The Representation of People's Act, a permit for the mode of transport for every star campaigner will be issued centrally and against their name. It is also mandatory for this permit to be stuck on a prominent and visible place on the vehicle.
- The **Model Code of Conduct** states that if the star campaigner is a prime minister or a former prime minister, then expenses incurred for bullet-proof vehicles required by centrally appointed security personnel will be borne by the government.

Topic 4: WORLD ECONOMIC FORUM

Importance for Prelims: International Organisations



Tamil Nadu government's nodal agency for investment promotion and single window facilitation, has partnered with the World Economic Forum (WEF) to establish India's first advanced manufacturing hub (AMHUB)

World Economic Forum:

- The World Economic Forum is the International Organization **for Public-Private Cooperation.**
- The Forum engages the foremost political, business, cultural and other leaders of society to shape global, regional and industry agendas.
- It was established in **1971 as a not-for-profit foundation and is headquartered in Geneva, Switzerland.**
- It is **independent, impartial and not tied to any special interests.**
- The Forum strives in all its efforts to demonstrate

entrepreneurship in the global public interest while upholding the highest standards of governance. Moral and intellectual integrity is at the heart of everything it does.

- The activities are shaped by a unique institutional culture founded on the stakeholder theory, which asserts that an organization is accountable to all parts of society. The institution carefully blends and balances the best of many kinds of organizations, from both the public and private sectors, international organizations and academic institutions.
- It believes that progress happens by bringing together people from all walks of life who have the drive and the influence to make positive change.
- The Forum strategy is simple and effective: bring together the most relevant leaders from all sectors of global society, and identify the best ways to address the world's most significant challenges.
- It works. For almost 50 years, the Forum has been the catalyst for global initiatives, historic shifts, industry breakthroughs, economic ideas and tens of thousands of projects and collaborations.

2020 theme: Stakeholders for a Cohesive and Sustainable World

Publications

- ✓ Global risk report
- ✓ Readiness for the future of production

- ✓ Global gender gap report
- ✓ Inclusive development index
- ✓ Global competitiveness report (index)
- ✓ Global human capital report (index)
- ✓ Travel and tourism competitiveness report (index)
- ✓ Global energy architecture performance index report

Topic 5: TRIBAL COUNCIL

Importance for Prelims: Polity



Gorkhaland Janmukthi Morcha (GJM) delegation to union minister meeting demands separate state.

- **Gorkhaland consists of Nepali-speaking people of Darjeeling, Kalimpong, Kurseong and other hilly districts of West-Bengal.** The people belonging to these areas have ethical, cultural and language differences with the Bengali community of West-Bengal. It is scheduled area under fifth schedule of Indian constitution.

Schedule & Tribal Areas – Fifth Schedule and Sixth Schedule of the Constitution

- The two schedules entail the details about the control and management of the Scheduled and Tribal Areas:

Fifth Schedule of the Indian Constitution	Sixth Schedule of the Indian Constitution
The provisions regarding the administration and control of Scheduled and Tribal Areas of any state except the four states are mentioned under this schedule:	This schedule deals with the administration and control of the scheduled and tribal areas of the four states of the northeast, that are excluded in the fifth schedule:
Assam	Assam
Meghalaya	Meghalaya
Tripura	Tripura
Mizoram	Mizoram

- The Scheduled and Tribal Areas are dealt with two articles:

Article 244	Article 244 A
This article deals with the administration of the Scheduled and Tribal Areas	This article deals with the formation of an autonomous state that comprises certain tribal areas of Assam and having a council of ministers therefore

- Note: Article 339 of the Indian Constitution mentions the Union government's control over the Scheduled Areas administration and welfare of the Scheduled Tribes

Definition of Scheduled and Tribal Areas

- The areas inhabited by the socially and educationally backward 'Aboriginals' are called Scheduled Areas.

Quick Facts about Scheduled Areas

- Part 10 of the Indian Constitution entails the provisions related

to Scheduled and Tribal Areas with Articles 244 – 244 A.

- President is empowered to declare an area as Scheduled Area
With the consultation of the governor of the state, the President can alter, add, diminish the boundary of a Scheduled Area
- Both the Centre and the State have their roles to play in the administration of the Scheduled areas. While the governor of the state has to report annually to the President over the management of such area, the Centre gives directions to the state regarding the administration of such areas.

A tribal advisory council is a must for the states having scheduled areas

- It has 20 members (Three-Fourth of which are Scheduled Tribes' representatives in that state legislative assembly.)
- The power to decide whether any central or state legislation implies over the state having scheduled areas, lies in the hands of the Governor.
- Governor can also repeal or amend any regulations w.r.t to the state having scheduled areas but only with the assent of the President of India
- **The first commission to report on the administration and welfare of the Scheduled Areas was established in 1960 and was headed by UN Dhebar There are 10 states having scheduled areas:**

➤ Andhra Pradesh

- Chhattisgarh
- Gujarat
- Himachal Pradesh
- Jharkhand
- Madhya Pradesh
- Maharashtra
- Odisha
- Rajasthan and
- Telangana

Criteria for the declaration of the Scheduled Area:

- ❖ Prominent numbers of tribal population, i.e. when tribal people are in majority in an area
- ❖ Compactness and reasonable size of the area
- ❖ A viable administrative entity such as a district, block or taluk, and
- ❖ Economic backwardness of the area as compared to the neighbouring areas.

Quick Facts about Tribal Areas

- **Sixth Schedule** mentions the provisions related to the tribal areas of the four states –**Assam, Meghalaya, Tripura and Mizoram**
- Sizeable amount of autonomy has been given to the people belonging to the tribal areas of these four states to govern themselves

- The tribal areas in these four states come under the name of ‘Autonomous Districts,’ but the state still has its executive authority over them
- The power to organise and reorganise the tribal areas as autonomous districts lie with the governor of the state. He can also alter the name, boundary of such tribal areas.
- One autonomous district can have different tribes, which for better administration is divided into autonomous regions by the governor

There is a district council for each autonomous district:

- It has 30 members
- Four are nominated by the governor – They perform their duties during the pleasure of the governor
- 26 are elected using the adult franchise – Their term of office is five years.
- There is a separate regional council for each autonomous district

The laws related to the following can be made by the regional and autonomous councils with the assent of the governor:

- Land
- Forests
- Canal water
- Shifting cultivation
- Village administration
- Inheritance of property

- Marriage and divorce
- Social customs
- The territorial jurisdictions of autonomous and regional councils may or may not have village councils and courts of trials of suits to mend issues rising between tribes. Such cases can also be taken over by the High Court but only after being specified by the governor.

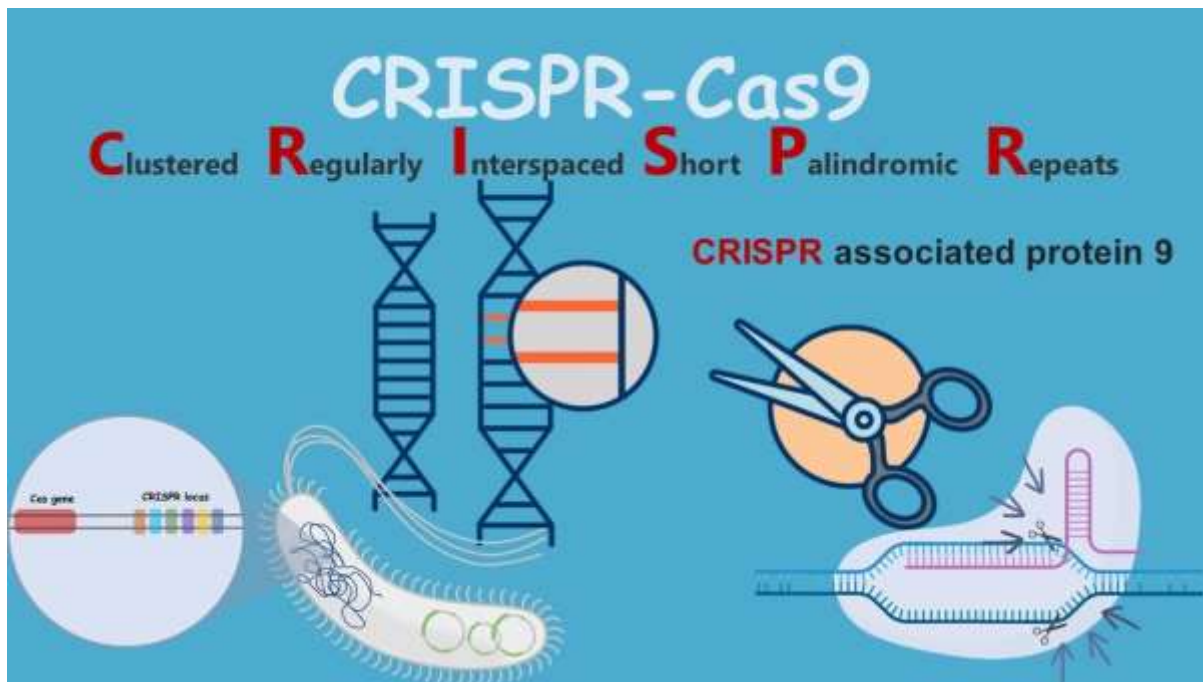
The central and state acts do not apply to these autonomous and regional councils (unless modified and accepted.)

The tribal areas in the four states are given below:

Assam	North Cachar Hills District The Karbi Anglong District The Bodoland Territorial Areas District
Meghalaya	Khasi Hills District Jaintia Hills District The Garo Hills District
Tripura	Tripura Tribal Areas District
Mizoram	The Chakma District The Mara District The Lai District

Topic 6: CRISPR-CAS9

Importance for Prelims: Science and tech



French-American duo Emmanuelle Charpentier and Jennifer Doudna have been awarded the 2020 Nobel Prize for the chemistry of CRISPR, which allows scientists to ‘cut-paste’ inside a genetic sequence

The **CRISPR** technology

- The CRISPR is an acronym for **Clustered Regularly Interspaced Short Palindromic Repeats**, developed in the year 2012
- CRISPR has made gene editing very easy and simple, and at the same time extremely efficient.
- The technology works in a simple way — it locates the specific area in the genetic sequence which has been diagnosed to be the cause of the problem, cuts it out, and replaces it with a new and

correct sequence that no longer causes the problem.

- The technology replicates a natural defence mechanism in some bacteria that use a similar method to protect itself from virus attacks.

Working of CRISPR

- An RNA molecule is programmed to locate the particular problematic sequence on the DNA strand.
- A special protein called Cas9, often described in popular literature as ‘**genetic scissor**’, is used to break and remove the problematic sequence.
- A DNA strand, when broken, has a natural tendency to repair itself. But the auto-repair mechanism can lead to the re-growth of a problematic sequence.
- Scientists intervene during this auto-repair process by supplying the desired sequence of genetic codes, which replaces the original sequence.
- It is like cutting a portion of a long zipper somewhere in between and replacing that portion with a fresh segment.
- Because the entire process is programmable, it has a remarkable efficiency and has already brought almost miraculous results.

Uses of CRISPR

- There are a whole lot of diseases and disorders, including some forms of cancer, that are caused by an undesired genetic mutation.

- These can all be fixed with this technology. There are vast applications elsewhere as well. Genetic sequences of disease-causing organisms can be altered to make them ineffective.
- Genes of plants can be edited to make them withstand pests, or improve their tolerance to drought or temperature.

Ethical concerns

- In November 2018, a Chinese researcher in Shenzhen created an international sensation with his claim that he had altered the genes of a human embryo that eventually resulted in the birth of twin baby girls.
- This was the **first documented case of a ‘designer babies’ being produced using the new gene-editing tools like CRISPR.**
- What made matters worse was that the gene-editing was probably done without any regulatory permission or oversight.

Topic 7: STUBBLE BURNING

Importance for Prelims: Agriculture

HOW CAPSULES WILL WORK

- IARI's microbiology division has developed four capsules using different fungi for the degradation process
- A farmer has to prepare a solution of 25 litres by mixing four capsules with water, jaggery, and gram flour
- After the 25-litre solution is ready, it can be sprayed on crop residue spread over one hectare of land
- After spraying, the farmer has to use a rotavator machine to ensure the solution is properly mixed with the residue
- A farmer can start preparation for wheat crop



IARI has developed ‘**decomposer**’ capsules, which when mixed in a water solution and sprayed on land, gets to work on paddy stubble, softening and decomposing it to the extent it can mix with soil and act as compost

- Paddy stubble-burning season is here, and satellite remote sensing data from the **Indian Agriculture Research Institute (IARI)** show a **five-fold increase in the number of farm fires in Punjab, Haryana, and Uttar Pradesh** during the first six days of October compared to the corresponding dates in 2019.

What is stubble burning?

- It is a common practice in October and November across North West India, but primarily in Punjab, Haryana, and Uttar Pradesh

to quickly clear crop residue from their fields before planting the rabi wheat crop

- The burning of paddy stubble left in the fields after harvest has been a cause of concern for the past several years as it contributes to air pollution in the northern Gangetic plains and its already polluted cities like Delhi.
- Several solutions have been proposed over the years to tackle the issue. The most recent one, which has been billed as a game-changer if found successful, is the ‘Pusa Decomposer’ capsule developed by IARI.

What is the ‘Pusa Decomposer’?

- It is essentially a **fungi-based liquid solution that can soften hard stubble to the extent that it can be easily mixed with soil in the field to act as compost.**
- This would then rule out the need to burn the stubble, and also help in retaining the essential microbes and nutrients in soil that are otherwise damaged when the residue is burned.

How long does it take for the decomposer to work?

- The window of time required for the solution to work, which is currently the main concern of farmers, is around 20 to 25 days, as per the IARI. Farmers argue that this window is too long for them, as they ideally wait about a week or 10 days after harvesting the non-basmati variety of rice — which leaves hard stubble — to sow the wheat crop. IARI scientists, however, say

that farmers do not necessarily have to plant the next crop in a rush — and that 20-25 days is enough waiting time.

How is this technology being used?

- Union Environment Minister Prakash Javadekar has said that the decomposer will be used on a trial basis this year in Punjab, Haryana, Uttar Pradesh and Delhi.
- Ministry officials said the technology would be used over 100 hectares of land in Punjab and Haryana, 800 hectares in Delhi and 10,000 hectares in Uttar Pradesh, which they said has been experimenting with a similar technology for the last three years.
- IARI has been conducting experiments for a year-and-a-half on the decomposer. The technology was licensed for commercial use to four companies in 2019, and to two other companies in 2020.
- Delhi has started preparing the solution with help from IARI and would begin spraying it over fields October 11 onwards.

Topic 8: TRP SYSTEM

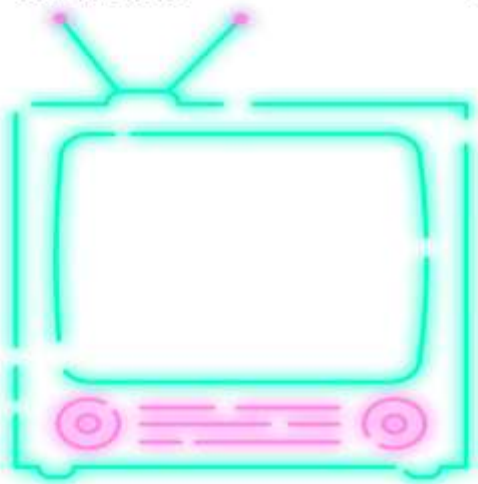
Importance for Prelims: Economy


NEWSHOUND INDIA
FOUNDATION

NH REPORT

EXPLAINER: WHAT IS TRP?

OCT 13, 2020 - CAROLINE D'SOUZA (CLASS OF 2020), MUMBAI





In recent events, Television Rating Point (TRP) has become a topic of controversy in regard to news channels. It becomes a point of discussion every time a certain broadcasting network or company is blamed for TRP manipulation. The article explains how the TRP system works and answers some frequently asked questions:

(Link in Bio)

Mumbai Police Commissioner said that police are looking into a scam about manipulation of TRPs (Television Rating Points) by rigging the devices used by the Broadcast Audience Research Council (BARC) India, which has the mandate to measure television audience in India.

What is TRP?

- In simple terms, TRPs represent how many people, from which socio-economic categories, watched which channels for how much time during a particular period. This could be for an hour,

a day, or even a week; India follows the international standard of one minute. The data is usually made public every week.

- A consultation paper about television audience measurement and ratings in India floated by the **Telecom Regulatory Authority of India (TRAI) in 2018 defined its importance as:**
“On the basis of audience measurement data, ratings are assigned to various programmes on television. Television ratings in turn influence programmes produced for the viewers. Better ratings would promote a programme while poor ratings will discourage a programme. Incorrect ratings will lead to production of programmes which may not be really popular while good programmes may be left out.”

What is BARC?

- It is an **industry body** jointly owned by advertisers, ad agencies, and broadcasting companies, represented by The Indian Society of Advertisers, the Indian Broadcasting Foundation and the Advertising Agencies Association of India. Though it was created in 2010, the I&B Ministry notified the Policy Guidelines for Television Rating Agencies in India on January 10, 2014 and registered BARC in July 2015 under these guidelines, to carry out television ratings in India.

How is TRP calculated?

- BARC has installed “BAR-O-meters” in over 45,000 empanelled households. These households are classified into 12

categories under the New Consumer Classification System (NCCS), the so-called “new SEC” adopted by BARC in 2015, based on the education level of the main wage earner and the ownership of consumer durables from a list of 11 items ranging from an electricity connection to a car.

- While watching a show, members of the household register their presence by pressing their viewer ID button — every person in household has a separate ID — thus capturing the duration for which the channel was watched and by whom, and providing data on viewership habits across age and socio-economic groups. The panel chosen to capture TRPs must be representative of the country’s population, and the methodology must be economically viable for the industry.

How can TRP data be rigged?

- If broadcasters can find the households where devices are installed, they can either bribe them to watch their channels, or ask cable operators or multi-system operators to ensure their channel is available as the “landing page” when the TV is switched on.
- For TRPs, it does not matter what the entire country is watching, but essentially what the 45,000-odd households supposed to represent TV viewership of the country have watched. Broadcasters can target these households to fudge actual viewership data.

- In the 2018 consultation paper, TRAI said: “One of the biggest challenges has been the absence of any specific law through which the agents/ suspects involved in panel tampering/infiltration could be penalised”. It noted that BARC “has filed FIRs in various police stations against the agents/ suspects involved in panel tampering/infiltration” but its efforts “to mitigate panel tampering/ infiltration have been hampered due to absence of any legal framework”.

How does panel tampering affect TRPs?

- TRAI mentioned “panel infiltration has a significant impact when the panel size is smaller” and “with the increase in panel size, infiltration of panel homes becomes challenging”.
- In the current case, an FIR was filed against employees of Hansa Research, which BARC hires for certain field jobs like going to panel households. BARC hires multiple agencies so that no single agency has the entire map of panel households across the country.
- For instance taking the example of English TV news, which has a small share of the national viewership pie at around 1.5%, which means that for around 45,000 panel households, around 700 households will contribute to the viewership. “What actually happens is that while your sample is around 700, not all of them are watching English TV news every day. Actual watching will be around 350 homes.” In such a scenario, “if

someone manage to rig 10 among the heavy viewing homes, then one can swing the needle big time”.

- When the sample is smaller, “manipulation becomes easier”. In a genre like English news, “because fewer homes will have larger weightage, change in behaviour of one home gets amplified at a much larger scale nationwide”.
- Additionally, as each channel tries to project itself as a market leader in a particular segment, it slices the data into socio-economic brackets on the basis of NCCS, age, gender, time slots (primetime) etc to find the perfect data slice. This too increases relative error in the data, because of the small sample size.

How often have allegations been made ?

- For over a decade, questions have been raised by people from within the industry.
- Two years ago, the I&B Ministry had raised concerns that BARC was under-reporting viewership of Doordarshan, and floated the idea of chip-based activity logs through all set-top boxes. The idea was finally rejected.
- In 2017, the editor of one of the top five English news channels had written to BARC about how a few households from Gujarat were contributing heavily to a rival channel’s overall viewership.

Topic 9: BAD BANKS

Importance for Prelims: Economy



It is reported that the former RBI Governor D Subbarao made a strong case for setting up a bad bank saying it is not just necessary but unavoidable in the present circumstances when NPAs are likely to balloon and much of the resolution will have to take place outside the IBC framework.

Bad Bank:

- A bad bank is a bank set up to buy the bad loans and other illiquid holdings of another financial institution.
- The entity holding significant nonperforming assets will sell these holdings to the bad bank at market price.
- By transferring such assets to the bad bank, the original

institution may clear its balance sheet—although it will still be forced to take writedowns.

- A bad bank structure may also assume the risky assets of a group of financial institutions, instead of a single bank.
- Bad banks are typically set up in times of crisis when long-standing financial institutions are trying to recuperate their reputations and wallets. While shareholders and bondholders generally stand to lose money from this solution, depositors usually do not.
- Banks that become insolvent as a result of the process can be recapitalized, nationalized, or liquidated. If they do not become insolvent, it is possible for a bad bank's managers to focus exclusively on maximizing the value of its newly acquired high-risk assets.
- Some criticize the setup of bad banks, highlighting how if states take over nonperforming loans, this encourages banks to take undue risks, leading to a moral hazard.
- The **2017 Economic Survey examined this idea, suggesting the creation of a Public Sector Asset Rehabilitation Agency (PARA).**
- Before that, the 2015 Asset Quality Review conducted by Reserve Bank under Governor RaghuramRajan, which forced banks to recognise problem accounts as non-performing assets, had also sparked a debate on bad bank as a possible solution.

- In short, the idea is not novel and has been suggested by various people at different points of time.

Why be concerned about bad loans?

- Indian banks' pile of bad loans is a huge drag on the economy.
- It's a drain on banks' profits. Because profits are eroded, public sector banks (PSBs), where the bulk of the bad loans reside, cannot raise enough capital to fund credit growth.
- Lack of credit growth, in turn, comes in the way of the economy's return to an 8% growth trajectory. Therefore, the bad loan problem requires effective resolution.

Is the current framework equipped to handle NPAs?

- If there is no appetite for AMCs, AIFs and ARCs to take over bad loans, it could be because the owners of those assets want a price higher than the fair market value.
- ARCs will buy those pools of stressed assets only if they see continued viability of those pools being recovered and if they are able to get higher returns than the original purchase price

Topic 10: CANNABIS PLANT and NDPS ACT

Importance for Prelims: Legislations



Cannabis plant and NDPS Act is recently in news.

What is the cannabis plant?

- According to the World Health Organisation (WHO), cannabis is a generic term used to denote the several psychoactive preparations of the plant *Cannabis sativa*. The major psychoactive constituent in cannabis is Delta-9 tetrahydrocannabinol (THC).
- The Mexican name ‘marijuana’ is frequently used in referring to cannabis leaves or other crude plant material in many countries. Most species of cannabis are dioecious plants that can be identified as either male or female. The unpollinated female plants are called hashish.
- Cannabis oil (hashish oil) is a concentrate of cannabinoids — compounds which are structurally similar to THC — obtained by solvent extraction of the crude plant material or of the resin.
- The WHO says that cannabis is by far the most widely

cultivated, trafficked and abused illicit drug in the world.

How does the NDPS Act define cannabis?

- According to the NDPS Act “cannabis plant” means any plant of the genus cannabis. The legislation that was enacted in 1985 succeeded the Dangerous Drugs Act, 1930.
- It was introduced as lawmakers felt that the older legislation that entailed a maximum punishment of up to four years was not strict enough to check drug trafficking.
- Under section 2 (iii), the Act defines cannabis (hemp). The subsections refer to parts of the plant that come under the purview of the Act.
- ‘Charas’ is the separated resin extracted from the cannabis plant. The NDPS Act covers separated resin, in whatever form, whether crude or purified, obtained from the cannabis plant and also includes concentrated preparation and resin known as hashish oil or liquid hashish.
- According to a 2018 WHO report by the Secretariat of the Expert Committee on Drug Dependence (ECDD), “The resin can resemble a resinous secretion of the plant, which is produced in the glandular trichomes, but also occurs as finer plant material, which appears as loose or pressed sticky powder, depending on the method of production.”
- Charas is also commonly called ‘hash’.
- Section 2(iii)(b) of the NDPS Act defines ‘ganja’ as the

flowering or fruiting tops of the cannabis plant but it clearly excludes the seeds and leaves, when not accompanied by the tops, by whatever name they may be known or designated. Street names for the drug include ‘weed’ and ‘marijuana’.

- The Act also illegalises any mixture with or without any neutral material, of any of the two forms of cannabis – charas and ganja — or any drink prepared from it.

Are substances made from cannabis leaves also illegal under the NDPS Act?

- No. As defined in the Act, the legislature left seeds and leaves of the cannabis plant out of the ambit of the NDPS Act.
- The serrated leaves of the plant have negligible THC content. THC is the psychoactive or intoxicating compound present in the cannabis plant that is mainly responsible for giving consumers the ‘high’. ‘Bhang’, which is commonly consumed during festivals like Holi, is a paste made out of the leaves of the cannabis plant, and is hence not outlawed.
- Similarly, CBD oil — an acronym for cannabidiol derived from the cannabis plant — would not come under the NDPS Act.
- It also does not bear the ‘NRx’ sign that prescription drugs that contain substances that may come under the NDPS Act, are required to have according to section 97(c) of the Drugs and Cosmetics Act that refers to labelling of medicines.

Then why is the use of CBD oil still contentious in India?

- The NDPS Act does not permit the recreational use of cannabis in India. While CBD oil manufactured with a licence under the Drugs and Cosmetics Act, 1940 can be legally used, it is not very common. Some Indian websites do sell CBD oil with a prescription and many even facilitate it.
- Some states in the US have legalised CBD oil but not in India. Cannabis content is very low and it has very low THC and has no addictive properties. More than anxiety and depression, it has been found useful in cancer treatment like in multiple myeloma. For associated symptoms of cancer it has been found useful. There have been several discussions on this. Cannabis is mired in so much controversy. It should not have been in the NDPS Act, but unfortunately, it is.
- CBD also has a non-specific recommendation. People think it will at least have a 'feel good' factor or cheer up the person.
- Medical practitioners said many people suffering from anxiety and depression are known to buy it legally in the US and bring it back to India for personal use in small quantities.

Topic 11: WORLD FOOD PROGRAMME

Importance for Prelims: International Organisation



2020 Nobel Peace Prize to the UN agency World Food Programme (WFP) for its efforts to combat hunger, for its contribution to bettering conditions for peace in conflict-affected areas and for acting as a driving force in efforts to prevent the use of hunger as a weapon of war and conflict.

- The World Food Programme is the food-assistance branch of the United Nations and the world's largest humanitarian organization focused on hunger and food security.
- WFP is headquartered in Rome, Italy. It is governed by an Executive Board, which consists of 36 member states.
- It is headed by an Executive Director, who is **appointed jointly by the UN Secretary-General and the Director-General of the Food and Agriculture Organization of the United Nations.**
- The Executive Director is appointed for fixed five-year terms.
- The WFP operations are **funded by voluntary donations from**

world governments, corporations and private donors.

- WFP food aid is also directed to fight micronutrient deficiencies, reduce child mortality, improve maternal health, and combat disease, including HIV and AIDS.

Objectives of the World Food Programme:

- ✓ Save lives and protect livelihoods in emergencies.
- ✓ Support food security and nutrition and (re)build livelihoods in fragile settings and following emergencies.
- ✓ Reduce risk and enable people, communities and countries to meet their own food and nutrition needs.
- ✓ Reduce under-nutrition and break the inter-generational cycle of hunger.
- ✓ Zero Hunger in 2030.

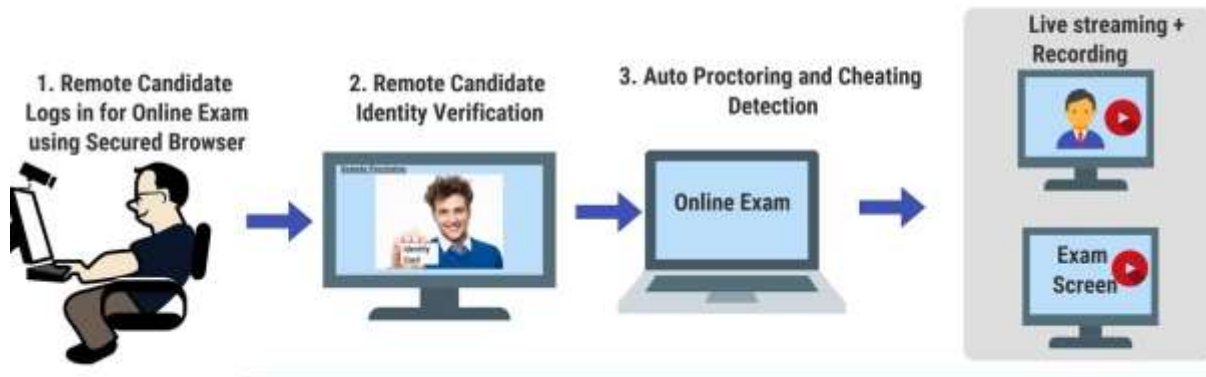
WFP initiatives in India:

- WFP has proposed some unique initiatives like Automatic Grain Dispensing Machine (Annapurti) and Mobile Storage Units for the effective implementation of TPDS.
- It has completed a pilot on rice fortification used in the government's Mid-day Meals scheme in Varanasi.
- WFP will provide technical assistance for setting up supplementary nutrition production units in 18 districts for supply of quality food to about 33 lakh beneficiaries of the Anganwadi scheme (Integrated Child Development Services).

Topic 12: PROCTORING

Importance for Prelims: Science and tech .

Detailed Demo of Remote Proctored Exam



Proctored exams are viewed as a technological solution to curb malpractices exercised during online exams.

- Proctoring enables students to write a test online in a remote location, while maintaining the integrity of the test. Students must confirm their identity and they may be monitored through video. That video is then used to flag any irregular student behaviour.

Types:

- Auto proctoring : Highly Supported by AI ,which flags suspicious events and provide a vast ability to continuously track a large number of candidates.
- Live proctoring: It incorporates real human with technology. An invigilator sits and controls the video feeds with live proctoring.

- Image proctoring: It provides flexibility to the invigilator to monitor the images of students captured during exams.

The Ministry of HRD conducted the first-ever Indian Scholastic Assessment (IND-SAT) Test 2020 under its ‘Study in India’ programme. The exam is conducted in the proctored internet mode by the National Testing Agency.

Topic 13: COVAX

Importance for Prelims: Science and tech



China announced that it is joining the coronavirus vaccine alliance known as COVAX.

- COVAX is co-led by Gavi, the Coalition for Epidemic Preparedness Innovations (CEPI) and WHO. Its aim is to accelerate the development and manufacture of COVID-19 vaccines, and to guarantee fair and equitable access for every country in the world. COVAX facility, launched in April 2020, is stitching together agreements with developers and manufacturers of vaccine candidates it thinks are most likely to succeed. The facility is trying to raise funds to support the rapid development of promising candidates, and the quick expansion of manufacturing capacities, so that the vaccines once approved, could be produced on mass scale.
- The facility aims to procure at least two billion doses of a novel Coronavirus vaccine by the end of next year, for deployment and distribution mainly in the low and middle income countries.
- The countries who join the initiative are also assured supply of vaccines whenever they become successful. The countries will get assured supplies to protect at least 20 per cent of their populations.

Topic 14: ANTI- RADIATION MISSILE

Importance for Prelims: Defence technology



A New Generation Anti Radiation Missile (NGARM), Rudra M-I, was successfully flight-tested by the Defence Research and Development Organisation (DRDO).

- RudraM-I is an anti-radiation missile can locate and target any radiation-emitting source like enemy radars, communication sites and other Radio Frequency (RF) emitting targets.
- This is the first indigenous anti-radiation missile of the country. It has a range of up to 200 km depending upon the launch conditions.
- It can be launched from altitudes of 500 m to 15 km and speeds of 0.6 to 2.

How does it work?

- Anti-radiation missiles are designed to detect, track and

neutralize 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.

Topic 15: SCIENTIFIC SOCIAL RESPONSIBILITY (SSR)

Importance for Prelims: Science and tech



Central government may soon announce a national policy on SSR.

- Scientific Social Responsibility (SSR) is the confluence of scientific knowledge with visionary leadership and social conscience.
- It is about building synergies among all stakeholders in scientific knowledge community and also about developing linkages between science and society.
- It will include a range of activities like delivering lectures in educational institutes, writing an article in a magazine or doing

something beyond the curriculum.

- However, this initiative **may not be mandatory like the Corporate Social Responsibility** (where large companies have to spend 2 per cent of the average profit of the previous three years on specified CSR activities) in legal perspective.
- The initiative is being spearheaded by the **Science and Engineering Research Board (SERB)**, which is part of the government.

SERB:

- It is a **statutory body under the Department of Science and Technology**, Ministry of Science and Technology.
- It is **chaired by the Secretary to the Government of India** in the Department of Science and Technology.
- It was set up for promoting basic research in science and engineering and to provide financial assistance to scientists, academic institutions, Research and Development laboratories, industrial concerns and other agencies for such research.

Topic 16: SATHI SCHEME

Importance for Prelims: Schemes

SATHI A FILLIP TO CUTTING AGE RESEARCH		
<p>➤ DST launches sophisticated analytical & technical help institute (SATHI) scheme at BHU</p> <p>➤ A fund of ₹ 125 crore sanctioned to set up SATHI Centre</p> <p>➤ SATHI will motivate researchers of other institutions of the region</p>	 <p>Photo: Sanjay Gupta</p>	<p>➤ Three such centres set up in first phase, one each at IIT (BHU), IIT-Kharagpur and IIT-Delhi</p> <p>➤ It will provide centralized facilities, guidance and hand-holding for promoting innovation in BHU</p>

The Department of Science & Technology has launched a unique scheme called “Sophisticated Analytical & Technical Help Institutes (SATHI)”.

Aim:

- To address the need for building shared, professionally managed and strong S&T infrastructure in the country which is readily accessible to academia, start-ups, manufacturing, industry and R&D labs etc.

Implementation:

- These Centres are expected to house major analytical instruments to provide common services of high-end analytical testing, thus avoiding duplication and reduced dependency on foreign sources.

- These would be operated with a transparent, open access policy. About 80% of the time should be devoted to non host institutes.
- DST has already set up three such centres in the country, one each at IIT Kharagpur, IIT Delhi and BHU.

Objectives of the Scheme:

- To address the problems of accessibility, maintenance, redundancy and duplication of expensive equipment in the institutions.
- This will also foster a strong culture of collaboration between institutions and across disciplines to take advantage of developments, innovations and expertise in diverse areas.

Other Similar schemes:

1) **SAATHI** (Sustainable and Accelerated Adoption of efficient Textile technologies to Help Small Industries) Initiative It is an initiative of the Ministry of Textiles.

To sustain and accelerate the adoption of energy efficient textile technologies in the powerloom sector and cost savings due to use of such technology.

2) **SATH**(Sustainable Action for Transforming Human capital) Program It is a program of NITI Aayog.

To initiate transformation in the education and health sectors and build 3 future ‘role model’ states.

The program addresses the need expressed by many states for technical support.

Topic 17: CYBER PHYSICAL SYSTEMS MISSION

Importance for Prelims: Schemes

National Mission on Inter-Disciplinary Cyber Physical Systems

- Address **increasing technological requirements of society** according to international trends
- 15 Technology & 6 Application Innovation Hubs, 4 Technology translation Research Hubs** to be set up
- Outlay of **₹3,660 crores** for a period of **5 years**
- To accelerate **entrepreneurship & start-up ecosystem**

Cyber Physical Systems (CPS) are a new class of engineered systems that integrate computation and physical processes in a dynamic environment. CPS encompasses technology areas of Cybernetics, Mechatronics, Design and Embedded systems, Internet of Things (IoT), Big Data, Artificial Intelligence (AI) among others.

National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS):

- To harness the potential of this new wave of technology and make India a leading player in CPS. It had a total outlay of INR 3,660 crores for a period of five years.
- The mission implementation would develop and bring:
- Cyber Physical Systems (CPS) and associated technologies within reach in the country, adoption of CPS technologies to address India specific National / Regional issues, produce Next Generation skilled manpower in CPS, catalyse Translational Research, accelerate entrepreneurship and start-up ecosystem development in CPS, give impetus to advanced research in CPS, Technology development and higher education in Science, Technology and Engineering disciplines, and place India at par with other advanced countries and derive several direct and indirect benefits.

Implementation:

- The Mission aims at establishment of 15 numbers of Technology Innovation Hubs (TIH), six numbers of Application Innovation Hubs (AIH) and four numbers of Technology Translation Research Parks (TTRP).
- These Hubs & TTRPs will connect to Academics, Industry, Central Ministries and State Government in developing solutions at reputed academic, R&D and other organizations across the country in a hub and spoke model.

Topic 18: RTGS vs NEFT

Importance for Prelims: Schemes

RTGS vs NEFT

Real Time Gross Settlement	National Electronics Funds Transfer
<ul style="list-style-type: none"> Real-time settlement 	<ul style="list-style-type: none"> Deferred net settlement basis
<ul style="list-style-type: none"> Funds transfers at the time they are received 	<ul style="list-style-type: none"> Transfer after a cut-off time
<ul style="list-style-type: none"> Settlement of funds transfer instructions occurs individually 	<ul style="list-style-type: none"> Operates in hourly batches
<ul style="list-style-type: none"> Processed continuously throughout the business hours. 	<ul style="list-style-type: none"> Eleven settlements from 9 am to 7 pm on weekdays
<ul style="list-style-type: none"> Meant for Rs. 2 lakhs and above 	<ul style="list-style-type: none"> Five settlements from 9 am to 1 pm on Saturdays
<ul style="list-style-type: none"> 9.00 to 16.30 on weekdays. 9.00 to 13.30 hours on Saturdays. 	<ul style="list-style-type: none"> After this you will have to wait till the next designated time

The Reserve Bank of India (RBI) has announced that the money transfer facility, RTGS, will be available round the clock, 24 hours a day. The announcement comes after the RBI made the NEFT facility available 24X7 from 2019.

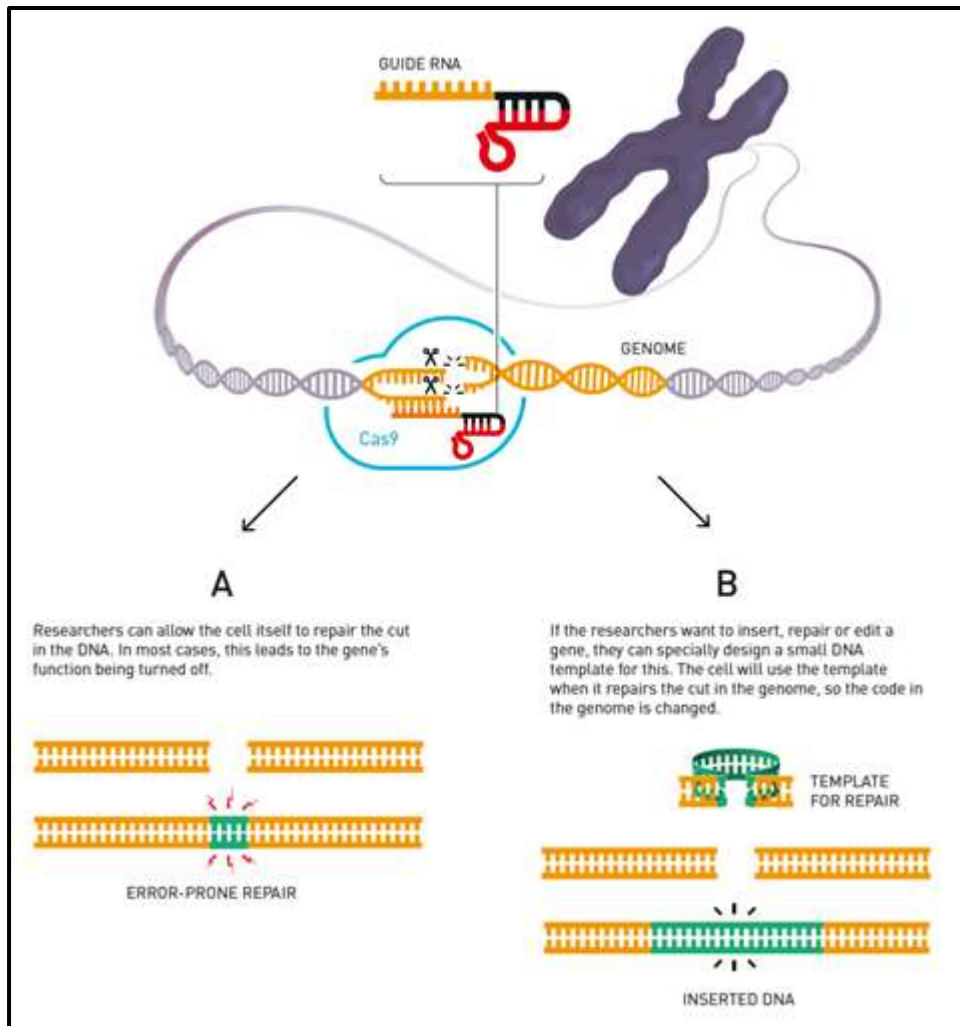
- **National Electronic Funds Transfer (NEFT)** is an online system used for transferring small to large amounts of money from one financial entity to another within India.
- **Real-Time Gross Settlement (RTGS)** is a funds transfer system where funds of high quantity are transferred from one bank to another in ‘real-time’ and on a gross basis.

Differences between NEFT and RTGS

- National Electronic Funds Transfer, transactions of any amount can be sent to the recipient's account without any maximum limit to the funds that can be sent in a day. Large amounts of funds can be used to transfer instantly with Real-Time Gross Settlement. The transaction speed is faster than any other form of online payment.
- The National Electronic Funds Transfer method does not have a minimum transfer limit ceiling. The minimum amount needed to be transferred has to be of Rs. 2 Lakhs and above for RTGS
- The settlement of funds happens on a half-hourly basis The settlement of funds is instantaneous and happens in real-time
- The NEFT mode is used when the transactions are of smaller values. RTGS is used in high-value transactions.

Topic 19: GENETIC SCISSORS

Importance for Prelims: Science and tech .



The 2020 Nobel Prizes for sciences announced for scientists Jennifer Doudna and Emmanuelle Charpentier bagged the Nobel Prize for Chemistry “for the development of a method for genome editing”.

The discovery of the CRISPR/Cas9 genetic scissors will lead to the emergence of novel biological applications by making it easier to edit genes, and “may make the dream of curing inherited diseases come true”.

Gene Editing

- Gene editing is also called as genetic modification, genetic manipulation or genetic engineering.
- Genome editing is a group of technologies that give scientists the ability to change an organism's DNA (Deoxyribonucleic acid). These technologies allow genetic material to be added, removed, or altered at particular locations in the genome.

What is CRISPR-Cas9?

- CRISPR is a dynamic, versatile tool that allows us to target nearly any genomic location and potentially repair broken genes. .
- CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) are sections of DNA and are sections of genetic code containing short repetitions of base sequences followed by spacer DNA segments.
- CAS-9 (CRISPR-associated protein 9) is an enzyme. It uses a synthetic guide RNA to introduce a double strand break at a specific location within a strand of DNA. It is a system used by bacterial cells to recognize and destroy viral DNA as a form of adaptive immunity.

Discovery:

- TracrRNA was part of bacteria's (the *Streptococcus pyogenes*) ancient immune system, CRISPR/Cas, that disarmed viruses by cleaving (cutting) their DNA.
- It is programmed to locate the particular problematic sequence

on the DNA strand, and a special protein called Cas9 (also known as genetic scissor) is used to break and remove the problematic sequence.

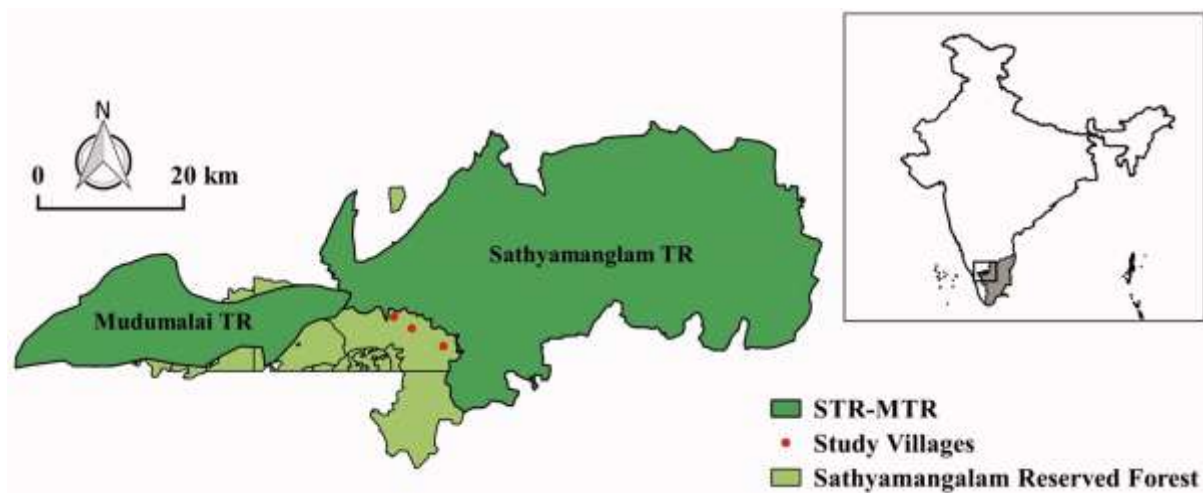
- They succeeded in recreating the bacteria's genetic scissors in a test tube and simplifying the scissors molecular components making it easier to use.
- In their natural form, the scissors recognise DNA from viruses but the duo reprogrammed them so that they could be controlled and can cut any DNA molecule at a predetermined site.

How does CRISPR – Cas9 work?

- CRISPR scans the genome looking for the right location and then uses the Cas9 protein as molecular scissors to snip through the DNA.
- Cas9 endonuclease – guide RNAs to direct it to a particular sequence to be edited.
- The genetic sequence of the RNA matches the target sequence of the DNA that has to be edited.
- When Cas9 cuts the target sequence, the cell repairs the damage by replacing the original sequence with an altered version.
- Unlike other gene-editing methods, it is cheap, quick, easy, safer and more accurate to use because it relies on RNA–DNA base pairing, rather than the engineering of proteins that bind particular DNA sequences.

Topic 20: MGNREGA

Importance for Prelims: Govt Schemes



Tribal Families return to settlements in Sathyamangalam Tiger Reserve, take up works under MGNREGA.

MGNREGA

- MGNREGA is one of the largest work guarantee programmes in the world. It is one of the core of the core scheme under Government of India.

Objective:

- The primary objective of the scheme is to guarantee 100 days of employment in every financial year to adult members of any rural household willing to do public work-related unskilled manual work.

Legal Right to Work:

- Unlike earlier employment guarantee schemes, the act aims at addressing the causes of chronic poverty through a rights-based framework.

- At least one-third of beneficiaries have to be women.
- Wages must be paid according to the statutory minimum wages specified for agricultural labourers in the state under the Minimum Wages Act, 1948.

Demand-Driven Scheme:

- The most important part of MGNREGA's design is its legally-backed guarantee for any rural adult to get work within 15 days of demanding it, failing which an 'unemployment allowance' must be given.
- This demand-driven scheme enables the self-selection of workers.

Decentralised planning:

- There is an emphasis on strengthening the process of decentralisation by giving a significant role in Panchayati Raj Institutions (PRIs) in planning and implementing these works.
- The act mandates Gram sabhas to recommend the works that are to be undertaken and at least 50% of the works must be executed by them.

Satyamangalam Tiger Reserve:

- Sathyamangalam Wildlife Sanctuary and Tiger Reserve is a protected area and tiger reserve along the Western Ghats in Tamil Nadu. It covers a forest area of 1,411.6 km² and is the largest wildlife sanctuary in Tamil Nadu.
- The wildlife sanctuary is part of Project Tiger and Project

Elephant conservation programmes.

- These forests are home to indigenous tribal people belonging largely to the Irula tribe (also known as the Urali) and Soliga communities

Flora:

- It is mostly tropical dry forest, part of the South Deccan Plateau dry deciduous forests ecoregion. There are five distinct forest types: tropical evergreen (Shola), semi-evergreen, mixed-deciduous, dry deciduous and thorn forests.

Fauna:

- It links the Eastern Ghats and Western Ghats allowing gene flow between diverse fauna populations of the two eco-regions. Important fauna include- Bengal tigers, Indian elephants, gaurs, leopards ,spotted deer, blackbucks, sambar deer, barking deer ,four-horned antelopes, wild boars, sloth bears , striped hyenas and feral buffaloes .

Birds:

- Many bird species including treepies, bulbuls, babblers, mynahs , crows and critically endangered Indian vulture (*Gyps indicus*) are noted.

Topic 21: PASSEX

Importance for Prelims: Security



Navy is scheduled to hold a Passage Exercise (PASSEX) with a U.S. Navy aircraft carrier group. The PASSEX is likely to be held in the waters off Kochi.

- A passage exercise is normally undertaken whenever an opportunity arises, in contrast to pre-planned maritime drills.
- India has conducted passage exercises with French Navy, Japanese Navy and US Navy.

Aim:

- To improve the cooperation between the U.S. and Indian maritime forces and to maximize training and interoperability, which also include air defence.

Impact:

- It will enhance both sides' ability to counter threats at sea, from piracy to violent extremism.
- A free and open sea promotes an international rules-based order wherein each country can reach its potential without sacrificing

national sovereignty.

- It will also present opportunities to build upon the pre-existing strong relationship between the United States and India and allow both countries to learn from each other.

Topic 22: NPA CLASSIFICATION

Importance for Prelims: Schemes

BusinessToday.In

GROSS NON-PERFORMING ASSETS OF BANKING SECTOR

Components	2018 (₹cr)	2019 (₹cr)	2020 Estimate (₹cr)
Opening NPAs	7,26,500	10,38,684	9,50,000
Addition	6,04,300	3,14,449	4,77,000
Reduction	1,28,300	1,79,711	1,94,000
Write-Off	1,62,700	2,36,948	2,60,000
Closing NPAs	10,39,800	9,36,474	9,73,000
Gross NPA%	11.20%	9.10%	9.14%
Gross Advances (For NPA computation)	92,83,929	102,90,923	106,50,000

NPAs of banks are recently in news.

What are NPA's?

- NPA is any asset of a bank which is not producing any income. In other words, a loan or lease that is not meeting its stated principal and interest payments.
- On a bank's balance sheet, loans made to customers are listed as assets. The biggest risk to a bank is when customers who take out loans stop making their payments, causing the value of the loan assets to decline.

Criteria

- Loans don't go bad right away. Most loans allow customers a certain grace period.
- Then they are marked overdue. After a certain number of days, the loan is classified as a nonperforming loan.
- Banks usually classify as nonperforming assets any commercial loans which are more than 90 days overdue and any consumer loans which are more than 180 days overdue.
- For agricultural loans, if the interest and/or the installment or principal remains overdue for two harvest seasons; it is declared as NPAs. But, this period should not exceed two years. After two years any unpaid loan/installment will be classified as NPA.

Categories

1. Sub-standard: When the NPAs have aged \leq 12 months.
2. Doubtful: When the NPAs have aged $>$ 12 months.
3. Loss assets: When the bank or its auditors have identified the loss, but it has not been written off.

Topic 23: SWAMITVA SCHEME

Importance for Prelims: Government Schemes

Digitalising Land Records, Empowering Rural India

PM Modi Launches Physical Distribution of Property Cards under SVAMITVA Scheme

- 'Record of Rights' accorded to village landowners through issuance of Property cards
- Being implemented across the country in a phased manner over 4 years (2020-2024) to cover approx. 6.62 lakh villages
- Nearly 1 lakh Property holders from the following 763 villages can now download their Property cards (physical copies)

221 Haryana	02 Karnataka	100 Maharashtra	50 Uttarakhand
44 Madhya Pradesh	346 Uttar Pradesh		

Digitalising Land Records, Empowering Rural India

PM Modi Launches Physical Distribution of Property Cards under SVAMITVA Scheme

- Drone surveying technology used for demarcating inhabitant land
- Land ownership protected through issuance of Property Card to household owners
- Enhanced credibility & induced greater devolution of funds to Panchayats
- It will provide a basis for planning of rural areas with a view to provide better amenities & living conditions

Date: 11 October, 2020

PM launches physical distribution of property cards under SWAMITVA scheme. The move will pave the way for villagers to use property as a financial asset for taking loans and other financial benefits

- Survey of Villages and Mapping with Improved Technology in Village Areas (SVAMITVA) scheme aims to map residential land ownership in the rural sector using modern technology like the **use of drones**.
- It will create property ownership record of land in villages and empower rural population with grant of official document

confirming their ownership of land titles.

Measurement:

- The residential land in villages will be measured using drones to create a non-disputable record. It is the latest technology for surveying and measuring of land. Drones will draw a digital map of every property falling within the geographical limits of a village and demarcate the boundaries of every revenue area.
- The scheme will be carried out in close coordination with the Central Panchayati Raj ministry, Survey of India, Panchayati Raj departments and Revenue departments of various states.

Property card:

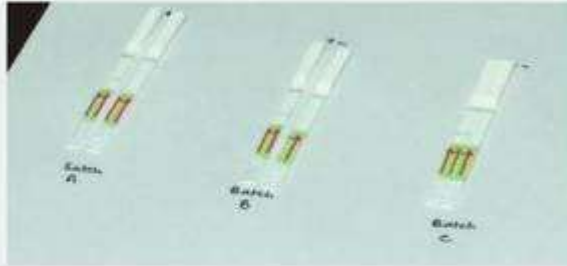
- Property card for every property in the village will be prepared by states using accurate measurements delivered by drone-mapping.
- These cards will be given to property owners and will be recognised by the land revenue records department.
- The scheme is piloted by the Panchayati Raj ministry of the Union government.
- The property records for a village will also be maintained at the Panchayat level, allowing for the collection of associated taxes from the owners.
- The money generated from these local taxes will be used to build rural infrastructure and facilities.

Topic 24: FELUDA

Importance for Prelims: Science and tech

A new test in horizon

A COVID-19 test named FELUDA, developed by the Delhi-based CSIR-Institute of Genomics and Integrative Biology, is quicker and cheaper. A lowdown on the test:



(RT-PCR) test takes 1.5 hours; Rapid antigen test takes 30-40 minutes and TruNat test gives results in 60 minutes

Test in time: The paper strip test has been approved for a commercial launch. • ANI

Cost: It is expected to cost between ₹500 and ₹600

Accuracy: Based on tests in over 2,000 patients, it showed **96% sensitivity** (100% sensitivity = all positive samples return positive results) and **98% specificity** (100% specificity = all negative samples return negative results)

Type of sample: Either saliva or blood, but saliva is preferred for testing

Turnaround time: The kit takes 45 minutes to give a result. In comparison, the real-time polymerase chain reaction

Is it similar to the pregnancy color-code test?

The paper strip generates two lines for a positive result and one line in the case of a negative result, much like a pregnancy test kit. However, this is a nucleic acid test and not a protein based one

Union Health Minister announced that a paper strip test for COVID-19, named Feluda, will be commercially launched within next few weeks.

- Feluda is the acronym for FNCAS9 Editor Linked Uniform Detection Assay.
- It is an accurate and low-cost paper-based test strip to detect

Covid-19 in less than 30 minutes.

- It was approved recently for commercial launch by the Drugs Controller General of India.
- Developed by the Council of Scientific and Industrial Research (CSIR) and Tata Group.
- It **uses indigenously developed CRISPR gene-editing technology** to identify and target the genetic material of SARS-CoV2, the virus that causes Covid-19.

Significance:


- According to CSIR, the test matches accuracy levels of RT-PCR tests.
- It has a quicker turnaround time and requires less expensive equipment.
- ‘Feluda’ is also the world’s first diagnostic test to deploy a specially adapted Cas9 protein to successfully detect the virus.

Topic 25: BLUE FLAG CERTIFICATION

Importance for Prelims: Environment

THE MAGNIFICENT EIGHT

<p>Shivrajpur (Dwarka, Gujarat)</p> <p>Ghoghla (Diu)</p> <p>Kappad (Kerala)</p>	<p>Rushikonda (Andhra Pradesh)</p> <p>Golden Beach (Puri, Odisha)</p> <p>Radhanagar (A&N Islands)</p> <p>Kasarkod & Padubidri (Karnataka)</p>
--	---



Kasarkod beach in Karnataka is one of eight beaches to get the coveted Blue Flag certification

India received the prestigious ‘Blue Flag’ certification for all its eight beaches that it recommended, the environment ministry said.

The beaches which have been awarded the certification are Shivrajpur in Gujarat, Ghoghla in Diu, Kasarkod and Padubidri in Karnataka, Kappad in Kerala, Rushikonda in Andhra Pradesh, Golden in Odisha and Radhanagar in Andaman and Nicobar Islands.

- It is an international recognition conferred on beaches that meet certain criteria of cleanliness and environmental propriety.
- The ‘Blue Flag’ beach is an ‘**eco-tourism model**’ and marks

out beaches as providing tourists and beachgoers clean and hygienic bathing water, facilities/amenities, a safe and healthy environment and sustainable development of the area.

- The Blue Flag Programme was started in France in 1985 and has been implemented in Europe since 1987 and in areas outside Europe since 2001 when South Africa joined.
- The certification is accorded by the Denmark-based Foundation for Environment Education(International non profit organisaiton) with 33 stringent criteria under four major heads for the beaches, that are-
 - ✓ Environmental Education and Information
 - ✓ Bathing Water Quality
 - ✓ Environment Management and Conservation
 - ✓ Safety and Services
- Spain tops the list with 566 such beaches; Greece and France follow with 515 and 395 Blue Flag beaches, respectively.
- Previously, Japan and South Korea are the only countries in the south and southeastern Asia to have Blue Flag beaches. Now , India has also blue flag beaches.

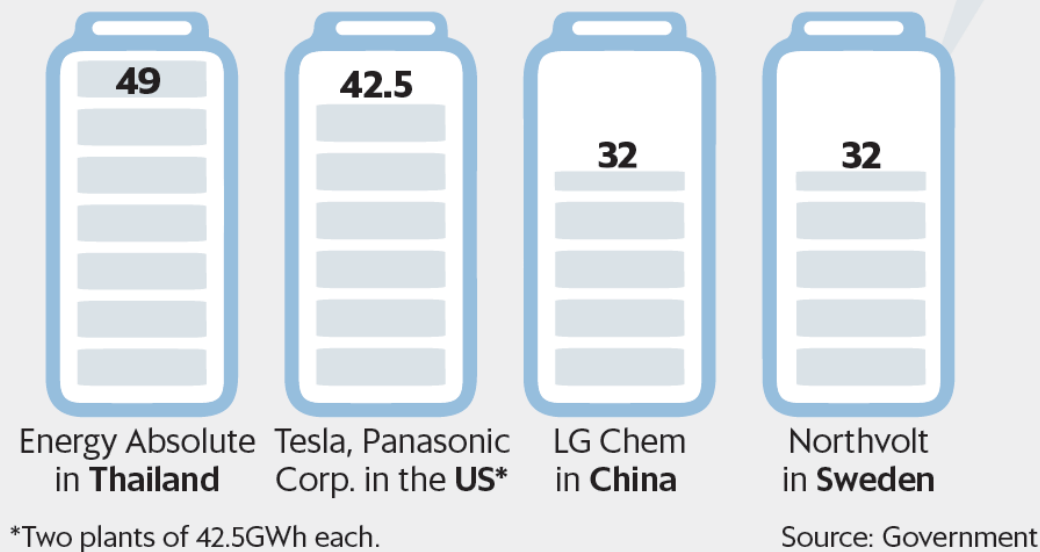
Topic 26: GIGA FACTORIES

Importance for Prelims: Economy

Power surge

India's plan to set up giga factories is aimed at securing its energy needs. A look at the world's top battery storage plants that have been announced.

(In GWh)



Battery Companies are keen to setup advanced Giga factories in India. Elon Musk is believed to have first coined the term ‘Gigafactory’. In simpler terms, these are huge advanced manufacturing units.

- In India, Recently, the LIBCOIN consortium with Magnis Energy Technologies Limited holding 20 percent of non-dilutive ownership along with state-owned BHEL finalised a deal with the Government of India, Ministry of Heavy Industries and Public Enterprises, to build ‘India’s first Lithium-ion Battery Gigafactory’.

Topic 27: IN-SPACE

Importance for Prelims: Science and tech



Government has announced a new organisation, IN-SPACE, part of reforms to increase private participation in the space sector. IN-SPACE is the second space organisation created by the government in the last two years

- **Indian National Space Promotion and Authorization Centre (IN-SPACE)** will act as a single-point interface between Indian Space Research Organisation (ISRO), and everyone who wants to participate in space-related activities, or use India's space resources. It will also hand-hold, promote and guide the private industries in space activities through encouraging policies and a friendly regulatory environment.
- **Indian National Space Promotion Board:** It would be set up to

strengthen the Department of Space and for the promotion of the private space entrepreneurs or non-government space entrepreneurs,

- **Role of ISRO:** The overall idea is to let ISRO concentrate on essential activities like research and development, planetary exploration, and strategic use of space, while freeing itself from ancillary or routine work which could easily be done by private industry.
- **Demand Driven Model:** By the support of **New Space India Limited (NSIL)**, It would endeavour to reorient space activities from a ‘supply driven’ model to a ‘demand driven’ one, thereby ensuring optimum utilisation of the nation’s space assets.
- The main objective of NSIL is to scale up industry participation in Indian space programmes in comparison to IN-SPACE which gives emphasis on the participation of the private sector.

New Space India Limited

- NSIL is a Central Public Sector Enterprise of the Government of India.
- It was established in 2019 under the administrative control of the Department of Space headquartered at Bengaluru.
- NSIL is the commercial arm of Indian Space Research Organisation (ISRO) with the primary responsibility of enabling Indian industries to take up high technology space related activities

Topic 28: RED SANDERS

Importance for Prelims: Environment



Tamilnadu police seized red sanders logs worth crores in Tiruvallur.

About Red Sanders:

- Pterocarpus santalinus or Red Sanders is an endemic tree of South India .
- They are found in Tropical Dry Deciduous forest of the Palakonda and Seshachalam hill ranges of Andhra Pradesh and also found in Tamil Nadu and Karnataka.
- Red Sanders usually grow in the rocky, degraded and fallow lands with Red Soil and hot and dry climate.
- IUCN has put it under the category of endangered species in the Red List due to the dwindling population because of illegal felling and smuggling.
- Its export is banned in India in accordance with the CITES and Wildlife Protection Act 1972.
- It is used for various purposes such as immunity medicine, furniture, radiation absorbent, musical instrument, food dyes and spices, Ayurveda and Siddha medicine, decorative and ornamental purposes etc.

Topic 29: CRZ Norms

Importance for Prelims: Environment

Coastal Zone Regulations

CRZ - I

Ecologically Sensitive Areas

CRZ-II

Urban (developed) areas up to the shoreline of the coast

CRZ-III

Rural and urban areas which fall outside CRZ-I and CRZ-II

CRZ-III (Rural Area)

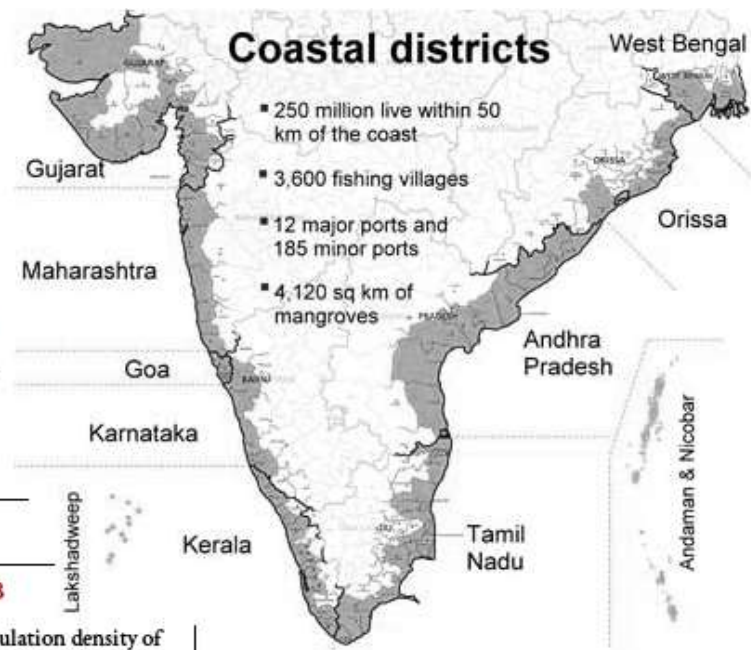
CRZ-III A

Densely populated areas with a population density of 2161 per square kilometre. A NDZ of 50 meters from HTL.

CRZ-III B

Areas with population density of below 2161 per square kilometre. A NDZ of 200 meters from HTL.

Coastal districts



CRZ -IV

Aquatic areas up to territorial limits

Central government has allowed various exemptions for beaches from CRZ Norms to ease blue flag certification for Indian Beaches.

- The coastal areas of seas, bays, creeks, rivers, and backwaters which get influenced by tides up to 500 m from the high tide line (HTL) and the land between the low tide line (LTL) and the high tide line have been declared as coastal regulation zone (CRZ) in 1991.
- The coastal regulation zones have been declared by the Ministry of Environment, Forest and Climate change under the Environment Protection Act 1986.
- While the CRZ Rules are made by the Union environment

ministry, implementation is to be ensured by state governments through their Coastal Zone Management Authorities.

HTL and LTL

- High Tide Line: HTL means the line on the land up to which the highest water line reaches during the spring tide.
- Low Tide Line: Similarly, it means the line on the land up to which the lowest water line reaches during the spring tide.

Classifications of Coastal Zones under CRZ Notification 2011

- CRZ-I (ecologically sensitive areas like mangroves, coral reefs, biosphere reserves etc.).
- CRZ-II (Areas which are developed up to the shoreline and falling within the municipal limits; includes built-up area – villages and towns are that are already well established).
- CRZ-III: Areas that are relatively undisturbed and do not fall under either in Category I or II and also include rural and urban areas that are not substantially developed.
- CRZ-IV: The aquatic area from low tide line up to territorial limits is classified as CRZ-IV including the area of the tidal influenced water body.
- Based on **the recommendations of Shailesh Nayak committee**, the suggestions were given by the coastal states and union territories, and the CRZ 2019 rules were notified.
- CRZ 3 areas (land areas that are relatively undisturbed and those which do not fall under CRZ 2) are divided into CRZ 3A and 3B

based on the density of population.

- Areas with a population density of 2,161 persons or more per sq km (2011 census), will become CRZ 3A.
- All other CRZ 3 areas with population density of less than 2,161 persons per sq km will be designated as CRZ 3B.
- A No Development Zone (NDZ) of 20m has been stipulated for all Islands.
- Temporary tourism facilities such as shacks, toilet blocks, change rooms, drinking water facilities etc.. Are permitted in the beaches.
- The powers for clearances with respect to CRZ 2 and 3 have been delegated at the State level.

Topic 30: FORENSIC AUDIT

Importance for Prelims: Economy

Statutory Vs Forensic Audit

Sr	Particulars	Statutory Audit	Forensic Audit
1.	Objective	Express opinion as to 'true & fair' presentation.	Whether any fraud has actually taken place in books.
2.	Techniques	'Substantive' and 'compliance' procedures. Sample based.	Investigative, substantive or in depth checking
3.	Period	Normally for a particular accounting period	No such limitations.
4.	Verification of stock, estimation of realizable value of current assets, provisions/ Liability estimation, etc.	Relies on the management certificate/Management Representation	Independent verification of suspected/ selected items
5.	Off balance-sheet items (like contracts etc.)	Used to vouch the arithmetic accuracy & compliance with procedures.	Regularity and propriety of these transactions/contracts are examined.
6.	Adverse findings, if any	Negative opinion or qualified opinion expressed, with/without quantification.	Legal determination of fraud and naming persons behind such frauds.

Growing importance of forensic audit in every sectors of the economy.

Forensic audit

- A forensic audit is an examination and evaluation of a firm's or individual's financial information for use as evidence in court.
- Forensic auditing is a specialization within the field of accounting, and forensic auditors often provide expert testimony during trial proceedings.
- Most large accounting firms have a forensic auditing

department.

- The audit covers a wide range of investigative activities performed by accountants.
- The process may also include serving as an expert witness in a fraud trial.
- A forensic audit could also cover situations that do not involve fraud or embezzlement, such as disputes related to a bankruptcy, business closures, and divorces.
- It helps detect diversion of funds, wilful defaults and window dressing of financial statements.

When Are Forensic Audits Used?

- Forensic audits are used wherever an entity's finances present a legal concern. For instance, it is used in cases of suspected embezzlement or fraud, to determine tax liability, to investigate a spouse during divorce proceedings or to investigate allegations of bribery, etc.
- An audit may be conducted to determine negligence or even to determine how much spousal or child support an individual will have to pay.

Common Areas where forensic audit is used,

- ✓ Asset Misappropriation
- ✓ Financial statement fraud
- ✓ Corruption.
- ✓ Conflicts of interest

Topic 31: MOUSHIK

Importance for Prelims: Science and tech



The Department of Computer Science and Engineering of IIT-Madras recently announced that it had developed a microprocessor christened (named) 'Moushik'.

- It is a processor-cum-system on a chip that can cater to the rapidly-growing IoT devices.
- It was conceptualised, designed and developed at Pratap Subrahmanyam Centre for Digital Intelligence and Secure Hardware Architecture (PS-CDISHA) of RISE group.
- The project was **funded by the Ministry of Electronics and Information Technology.**
- The design of the microprocessor, motherboard printed circuit board design, assembly and post-silicon boot-up were done at

IIT Madras.

- The foundry-specific back-end design and fabrication was undertaken at Semi- Conductor Laboratory of Indian Space Research Organization (ISRO).

Shakthi Moushik SOC will constitute the heart of an indigenously-developed motherboard called Ardonyx 1.0.

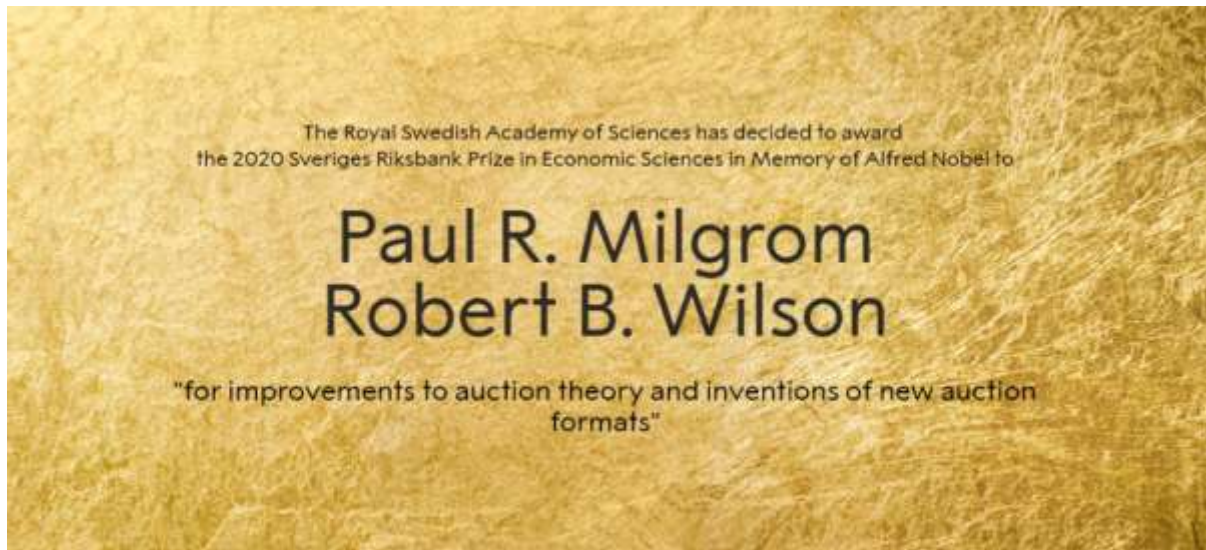
- The field application of Moushik includes smart cards, such as credit and debit cards; ID cards; travel cards for Metros and driving licences; electronic voting machines; office management systems including attendance, surveillance cameras and safe locks; personalised health management systems; consumer electronics, including washing machines and water pump monitoring systems.
- The indigenous effort reduces the risk of deploying systems that may be infected with back-doors and hardware Trojans.

Additional Information:

- IIT Madras developed a biodegradable wrapping material, with a built in antibacterial compound to prevent food contamination and to reduce plastic waste.
- It has won SITARE – Gandhian young technological innovation appreciation 2020.

Topic 32: ECONOMICS NOBEL PRIZE

Importance for Prelims: Schemes



The Nobel Prize for Economics, 2020 was awarded to Paul R Milogrom and Robert B Wilson. They were awarded for improvements to Auction Theory and also for inventing new auction formats.

What is Auction Theory?

- It is an applied branch of economics that speaks of people action in auction markets. It deals with how people research the properties of auction markets. The theory is more suited for auctions for privatization of public-sector companies or sale of electromagnetic spectrum.

Topic 33: OATH OF GOVERNOR

Importance for Prelims: Polity

After recent controversy between Maharashtra CM and Governor , the oath of office of governor has gained importance.

- **Article 159** of Indian Constitution mentions about the Oath or Affirmation by the governor.
- The oath of office to the governor **is administered by the chief justice of the concerned state high court** and in his absence , the senior most judge of that court available.
- Governor swears to,
 - a) to faithfully execute the office
 - b) to preserve , protect and defend the constitution and the law; and
 - c) to devote himself to the service and well being of the people of the state.

Topic 34: WORLD ECONOMIC OUTLOOK

Importance for Prelims: International Report

**Latest World Economic Outlook
Growth Projections**

(real GDP, annual percent change)

	2019	2020	2021
World Output	2.8	-4.4	5.2
Advanced Economies	1.7	-5.8	3.9
United States	2.2	-4.3	3.1
Euro Area	1.3	-8.3	5.2
Germany	0.6	-6.0	4.2
France	1.5	-9.8	6.0
Italy	0.3	-10.6	5.2
Spain	2.0	-12.8	7.2
Japan	0.7	-5.3	2.3
United Kingdom	1.5	-9.8	5.9
Canada	1.7	-7.1	5.2
Other Advanced Economies	1.7	-3.8	3.6
Emerging Markets and Developing Economies	3.7	-3.3	6.0
Emerging and Developing Asia	5.5	-1.7	8.0
China	6.1	1.9	8.2
India	4.2	-10.3	8.8
ASEAN-5	4.9	-3.4	6.2

Indian Economy is expected to contract by 10.3% in current fiscal year and the world by 4.4% ,according to IMF(WEO).

World Economic Outlook

- WEO is a survey by the IMF that is usually published twice a year in the months of April and October.
- It analyzes and predicts global economic developments during the near and medium term.
- In response to the growing demand for more frequent forecast

updates, the WEO Update is published in January and July between the two main WEO publications released usually in April and October.

International Monetary Fund

- IMF is an organization working to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty around the world.
- Created in 1945, the IMF is governed by and accountable to the 189 countries that make up its near-global membership. India Joined on December 27, 1945.
- The IMF's primary purpose is to ensure the stability of the international monetary system—the system of exchange rates and international payments that enables countries (and their citizens) to transact with each other.
- The Fund's mandate was updated in 2012 to **include all macroeconomic and financial sector issues that bear on global stability.**

Topic 35: RAW DRUG REPOSITORY

Importance for Prelims: Science and tech



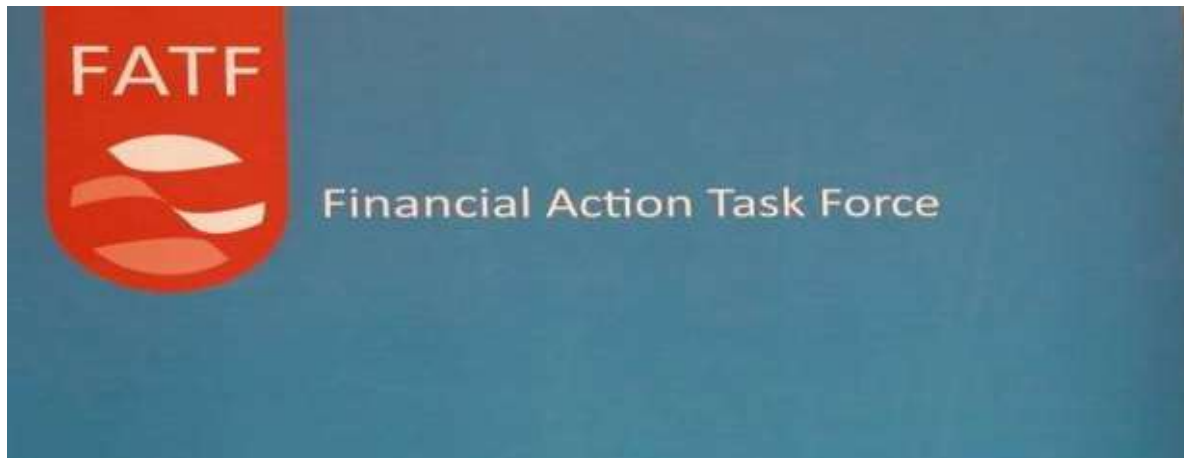
A Regional Raw Drug Repository (RRDR) for Ayurveda, Siddha and Unani medicines for the southern plateau region is being set up at the National Institute of Siddha, Chennai.

- The repository will serve as a library-cum-museum and house database of raw drugs of Ayurveda, Unani and Siddha in the southern region.
- This repository will provide A to Z details of a drug, comprising all scientific data, under one roof.
- Though most of the raw drugs are commonly available, there is a lack of scientific documentation that makes research on these medicines difficult.
- Easy availability of authentic scientific data of raw drugs will promote research on the medicines belonging to the AYUSH system.
- The establishment of RRDRs was a component of the Union government's **National AYUSH Mission**.

- **National Medicinal Plants Board** (under AYUSH Ministry), has initiated the establishment of the National Raw Drug Repository and Regional Raw Drug Repositories.

Topic 36: FATF

Importance for Prelims: International Organisation



Pakistan likely to remain on FATF grey list.

Financial Action Task Force

The Financial Action Task Force (FATF) is an **inter-governmental** body established in 1989 during the G7 Summit in Paris.

- The objectives of the FATF are to set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.
- Its Secretariat is located at the Organisation for Economic Cooperation and Development (OECD) **headquarters in Paris**.
- Member Countries: it consists of thirty-seven member jurisdictions. India is one of the members.

FATF has two lists:

Grey List: Countries that are considered safe haven for supporting

terror funding and money laundering are put in the FATF grey list. This inclusion serves as a warning to the country that it may enter the blacklist.

Black List: Countries known as Non-Cooperative Countries or Territories (NCCTs) are put in the blacklist. These countries support terror funding and money laundering activities. The FATF revises the blacklist regularly, adding or deleting entries.

The FATF Plenary is the decision making body of the FATF. It meets three times per year.

Status of Pakistan:

- Pakistan, which **continues to remain on the “grey list”** of FATF, had been given the deadline till the October 2020 to ensure compliance with the 27-point action plan against terror funding networks and money laundering syndicates, or face black listing.

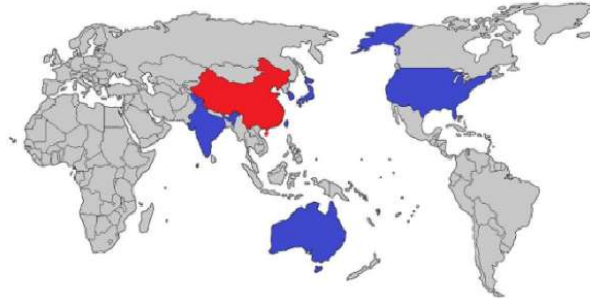
Additional Information:

Eurasian Group on Combating Money Laundering and Financing of Terrorism (EAG)

- It is a regional body comprising nine countries: India, Russia, China, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan and Belarus.
- It is an associate member of the FATF.

Topic 37: QUAD

Importance for Prelims: International Relations



Chinese Foreign Minister said USA was aiming to build an “Indo-Pacific NATO” that would be founded on the U.S., India, Japan and Australia grouping.

QUAD

- Quadrilateral Security Dialogue (Quad) is the **informal strategic dialogue** between India, USA, Japan and Australia with a shared objective to ensure and support a “free, open and prosperous” Indo-Pacific region.
- The idea of Quad was first mooted by Japanese Prime Minister Shinzo Abe in 2007. However, the idea couldn’t move ahead with Australia pulling out of it, apparently due to Chinese pressure.
- In November 2017, India, the US, Australia and Japan gave shape to the longpending “Quad” Coalition to develop a new strategy to keep the critical sea routes in the Indo-Pacific free of any influence (especially China).

Topic 38: Storms and Cyclone

Importance for Prelims: Geography

The sub-cyclonic system or “deep depression” that inundated Telangana and Andhra Pradesh is likely to peter out in a day, but will regain in strength again once it crosses the Maharashtra coast according to IMD.

- October and November are cyclone months with several storms originating in the Bay of Bengal. Most that gain enough energy to become full-fledged cyclones eventually dissipate once they make landfall in a day or so.
- However, **it’s rare for a storm that never became a cyclone to manage a crossing across India’s east and west coasts.** Moisture from the sea imparts energy to tropical storms and can make them stronger.
- Cyclones Gaja (2018) and Vardah (2016) were both cyclonic storms that originated in the Bay of Bengal and crossed over all the way into the Arabian sea.
- Only storms that whip up wind speeds greater than 62 kmph are classified as cyclones and the current disturbance is hovering over north Karnataka and Maharashtra with wind speeds of 30-40 kmph.

India Meteorological Department (IMD)

- Formed in 1875, the India Meteorological Department (IMD) is the national meteorological service of the country and it is the

chief government agency dealing in everything related to meteorology, seismology, and associated subjects.

- The administrative responsibilities of the Department are under the supervision of the **Ministry of Earth Sciences** of the Indian Government. The IMD is headquartered in New Delhi.

Topic 39: UNHRC

Importance for Prelims: International Organisation



Pakistan has been re-elected to the United Nations Human Rights Council despite opposition from activist groups over its abysmal human rights records

The UNHRC

- The UNHRC describes itself as **an inter-governmental body** within the UN system responsible for strengthening the promotion and protection of human rights around the globe.
- It addresses situations of human rights violations and make recommendations on them.
- The UNHRC has the ability to discuss all thematic human rights issues and situations that require its attention throughout the year.
- The UNHRC replaced the former United Nations Commission on Human Rights (UNCHR).

HRC Meetings

- The Human Rights Council holds no fewer than three regular

sessions a year, for a total of at least 10 weeks.

- The sessions are held at the UN Office in Geneva, Switzerland.
- If one-third of the Member States so request, the HRC can decide at any time to hold a special session to address human rights violations and emergencies.

Membership

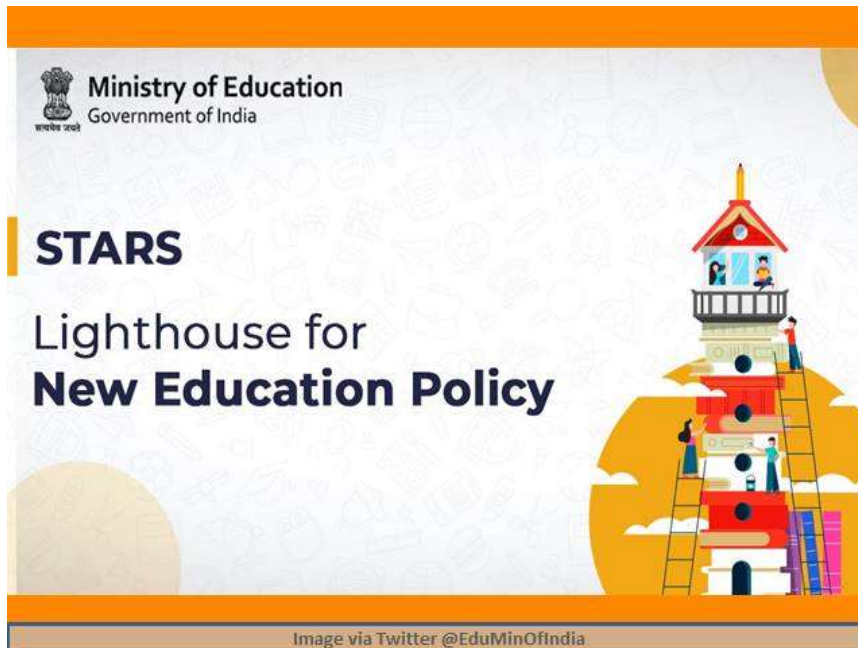
- The Council is made up of 47 UN Member States, which are elected by the UNGA through a direct and secret ballot.
- The General Assembly takes into account the contribution of the candidate states to the promotion and protection of human rights, as well as their voluntary pledges and commitments in this regard.
- Members of the Council serve for a period of three years, and are not eligible for immediate re-election after serving two consecutive terms.

Seats distribution

- African States: 13 seats, Asia-Pacific States: 13 seats, Latin American and Caribbean States: 8 seats, Western European and other States: 7 seats and Eastern European States: 6 seats.

Topic 40: STARS Programme

Importance for Prelims: Govt Schemes



Union Cabinet approves STARS programme for school education reform. It is partially funded by World Bank.

STARS Project

- The STARS project will be implemented through the Samagra Shiksha Abhiyan, the flagship central scheme.
- The six states include- Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha and Rajasthan.
- It will help improve learning assessment systems, strengthen classroom instruction and remediation, facilitate school-to-work transition, and strengthen governance and decentralized management.
- A major component of the project is the establishment of

PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development) as a National Assessment Centre. It is included in the National Education Policy 2020, This autonomous institution under the Union Education Ministry will set norms for student assessment and evaluation for all school boards across the country, most of which currently follow norms set by State governments.

- Some 250 million students (between the age of 6 and 17) in 1.5 million schools and over 10 million teachers will benefit from the STARS program.
- STARS will support India's renewed focus on addressing the 'learning outcome' challenge and help students better prepare for the jobs of the future – through a series of reform initiatives.

Topic 41: NEW SHEPHARD

Importance for Prelims: Science and tech



New Shepard has been named after astronaut Alan Shepard, the first American to go to space, and offers flights to space over 100 km above the Earth and accommodation for payloads.

- Blue Origin(company which built new shephard) will eventually allow space tourists to experience microgravity by taking them over 100 km above the Earth.
- Essentially, it is a rocket system that has been designed to take astronauts and research payloads past the Karman line – the internationally recognised boundary of space.
- The idea is to provide easier and more cost-effective access to space meant for purposes such as academic research, corporate technology development and entrepreneurial ventures among others.