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INDEX

G.S PAPER II.....3**1. POLITY3**

- 1.1 Supreme Court Quashing AP's 100% Quota Order 3
- 1.2 Technology and Privacy Rights - COVID-19 4
- 1.3 Epidemic Diseases Ordinance, 2020..... 6
- 1.4 CM's Nomination to State Legislative Council 7
- 1.5 Retired Judges & Executive Posts 8
- 1.6 Moving Towards Virtual Courts..... 9

2. GOVERNMENT POLICIES10

- 2.1 Census-NPR Postponement..... 10
- 2.2 The Companies (Amendment) Bill, 2020..... 10
- 2.3 Government Measures to Tackle COVID-19..... 12
- 2.4 Suspension of MPLAD Scheme 13

3. SOCIAL JUSTICE14

- 3.1 Covid-19: Impact on Women..... 14
- 3.2 NREGA at COVID Times 15

4. Health.....16

- 4.1 Diseases of Animal Origin 16
- 4.2 Initial Infection Points for SARS-CoV2..... 17
- 4.3 Testing Covid-19 - RT-PCR and Antibody tests 19
- 4.4 Covid-19 - Importance of Testing..... 21
- 4.5 Rapid Testing Kits 23

5. Governance.....24

- 5.1 Kasaragod Model..... 24
- 5.2 Tablighi Jamaat Episode..... 25

6. INDIA & ITS NEIGHBORHOOD26

- 6.1 Afghan Peace Process and India..... 26

7. INTERNATIONAL ISSUES.....28

- 7.1 South Korea General Elections - President Moon Jae-in's Victory..... 28
- 7.2 U.S Aid to Greenland - Denmark's Concerns..... 29
- 7.3 The Armenian Genocide..... 30
- 7.4 Dispute over Paracel and Spratly Islands 32
- 7.5 Evolution of CTBT..... 34

G.S PAPER III35**8. ECONOMY35**

- 8.1 RBI's Second Lockdown Stimulus 35
- 8.2 Ways and Means Advances 36
- 8.3 Reverse Repo Rate - Benchmark Interest Rate 37
- 8.4 Franklin Templeton Mutual Fund 39
- 8.5 RBI's Liquidity Offer for Mutual Funds 40
- 8.6 Indian Rupees and COVID-19..... 41
- 8.7 Dollar Swap Line 43

- 8.8 Banning FDI from Neighbours 44

- 8.9 Revised FDI Policy..... 44

- 8.10 Falling Crude Oil Prices - Below the \$0 Mark..... 45

- 8.11 Falling Oil Prices - Impact on India..... 47

- 8.12 Covid-19 & Retailing..... 48

9. INFRASTRUCTURE 49

- 9.1 Protecting the Power Sector..... 49

- 9.2 Stocking Petroleum..... 50

10. AGRICULTURE 51

- 10.1 Exempting Farming Activities..... 51

- 10.2 Oil Price Impact on Sugar Prices..... 52

PRELIM BITS 53**11. History 53**

- Tablighi Jamaat 53

- Maulana Ilayaz 54

- Acharya Prafulla Chandra Ray 54

- Maulana Abul Kalam Azad 54

- Dr. B R Ambedkar's Birth Anniversary 55

12. Art & Culture..... 55

- Pattachitra Painting 55

- New Additions to Intangible Cultural Heritage List 56

- World Heritage Day-2020 56

- Edakkal Caves 57

- Bihu Festival..... 58

- Meru Jatra Festival 58

13. Geography 58

- Indian Meteorological Department..... 58

- Long Period Average 58

- Rohtang Pass 59

- Mekong River..... 59

- Yarlung Tsangpo..... 59

- Kasowal Bridge..... 60

- Litchi Production 60

- Yanomami Tribes 60

14. Polity 61

- Article 254 61

- Kerala Ordinance for Salary Deferment..... 61

- Banking under Public Utility Service..... 61

- SC verdict on NEET..... 61

15. Government Initiatives..... 62

- Aarogya Setu..... 62

- New Features to e-NAM Platform..... 62

- Lifeline UDAN flights 63



VidyaDaan 2.0.....	63	Madhuban Gajar.....	76
e-Raktosh portal	63	Dehing Patkai Elephant Reserve	76
SAMADHAN Challenge.....	64	Agasthyavanam.....	76
Operation SHIELD.....	64	23. Agriculture	77
Initiatives for Improving Online Education Ecosystem	64	Nutrient Based Subsidy Scheme.....	77
SATYAM Program.....	65	National Commission on Farmers	78
Green Zone State.....	65	Pricing Policy for Sugarcane.....	78
e-Gram Swaraj Portal.....	65	Army Worm Attack.....	78
World Wide Help.....	65	24. Science and Technology.....	79
16. Government Schemes	66	Primordial Black Holes	79
Pradhan Mantri Garib Kalyan Yojana.....	66	Merger of two Black holes	79
PM Garib Kalyan Ann Yojana.....	66	Apollo Mission to Moon.....	79
Swamitva Scheme	66	Research on Blazars.....	80
17. NATIONAL INSTITUTES	67	Major Atmospheric Cerenkov Experiment Telescope	80
National Innovation Foundation	67	Gamma Ray Band.....	81
Indian Council for Cultural Relations	67	X-Ray Polarimeter Satellite	81
National Informatics Centre.....	67	Digital Map of Moon	81
Software Technology Parks of India.....	68	Lunar South Pole	82
Indian Strategic Petroleum Reserve	68	Big Bang Nucleosynthesis.....	82
Indian Institute of Geomagnetism.....	68	Planetary Engulfment	82
18. Bilateral Issues.....	68	Red Flag Exercise.....	82
WISTEMM.....	68	Operation Sanjeevani.....	83
19. International organisations	69	US-India Missile Deal.....	83
Funding Pattern of WHO	69	Pitch Black 2020.....	83
Global Initiative on Sharing All Influenza Data	69	Hydroxychloroquine	84
The International Council on Monuments and Sites.....	70	Cytokine Storm Syndrome.....	84
Migration Policy Institute.....	70	Project Praana.....	85
Singapore Convention on Mediation.....	70	Ventilator.....	85
20. International issues and events	71	Jeevan Ventilators.....	85
Haftar forces	71	B814 Virus	85
Zero yield	71	CollabCAD	86
21. Economy.....	71	Geo-Fencing	86
Fully Accessible Route	71	25. Disaster Management	86
Price Monitoring & Resource Unit	72	PM-CARES Fund.....	86
Targeted Long Term Repo Operation.....	72	Foreign contribution to PM-CARES Fund.....	87
CARES Programme.....	73	Prime Minister's National Relief Fund.....	87
Exchange Traded Fund	73	Chief Minister Relief Fund.....	87
Deferred Counter Cyclical Capital Buffer (CCyB).....	73	26. Index and Report	88
22. Environment.....	74	Remittance Prices Worldwide.....	88
Community Forest resources Guidelines.....	74	SIPRI Report.....	88
Forest Rights Act.....	74	USCIRF Annual Report	88
Common Bio-Medical Waste Treatment Facilities.....	74	Migration and Development Brief	89
COVID-19 on Tigers	75	Global Terrorism Index	89
Trimeresurus salazar.....	75	Findings of Annual Special 301 Report	89
Devanahalli Pomelo.....	76		



APRIL 2020 G.S PAPER II

1. POLITY

1.1 Supreme Court Quashing AP's 100% Quota Order

Why in news?

- The Supreme Court (SC) has quashed a January 2000 order of the erstwhile state of Andhra Pradesh.
- [The order provided 100% reservation to Scheduled Tribe (ST) candidates for the post of teachers in schools in the scheduled areas.]

What was the State's rationale?

- There was chronic absenteeism among teachers who did not belong to those remote scheduled areas where the schools were located.
- The State government's original orders of 1986, and the subsequent order in 2000, were an attempt to address this.
- The Governor of then undivided Andhra Pradesh had cited Schedule V of the Constitution to pass the order.
- It provides for administration of Scheduled Areas in states other than Assam, Meghalaya, Tripura and Mizoram.

What are the SC's arguments now?

- **Equality** - The scheme was not against affirmative programmes as such, but the implementation manner was detrimental to the rest of society.
- Andhra Pradesh has a local area system of recruitment to public services.
- The President, under Article 371D, has issued orders that a resident of a district/zone cannot apply to another district/zone for appointment.
- The 100% reservation thus adversely affected the interests of other candidates.
- These include not only Scheduled Castes and other backward communities but also other ST communities not native to those areas.
- The court thus concluded that the reservation violated Articles 14 (equality before law), 15(1) (discrimination against citizens) and 16 (equal opportunity) of the Constitution.
- SC ruling stresses that overzealous reservation tends to affect rights of other communities.
- **Schedule V** - The court held that creation of 100% reservation through the government order was akin to making a new law.
- But the Schedule V only allows the Governor to not apply or apply a law to a scheduled area with modifications.
- It does not allow the Governor to make a new law altogether.
- **Suggestions** - The court noted the move of drafting only members of the local tribes was not a viable solution to teachers' absenteeism.
- It noted that the government could have come up with other incentives to ensure the attendance of teachers.
- The court however agreed to not quash the appointments to the posts made since 1986.
- This was done on the condition that the states of Andhra Pradesh and Telangana would not attempt to bring in a similar quota in the future.

What are the larger concerns in this regard?

- **Reservation ceiling** - Dr. B.R. Ambedkar had observed that any reservation normally ought to be for a “minority of seats”.
- This is one of the points often urged in favour of the 50% cap imposed by the Court on total reservation (although with exceptions in special circumstances).
- If at all the cap be breached, a special case must be made for it.
- However, it must also be noted that there is a continuing need for a significant quota for STs, especially those living in Fifth Schedule areas.
- **Revision of list** - In this backdrop, courts tend to emphasise on revision of the list of SCs and STs.
- The power to amend the lists notified by the President is not in dispute.
- However, it is not totally acceptable to say that the advanced and “affluent” sections within SCs and STs are cornering all benefits.
- The SCs and STs thus need due representation for their rightful empowerment.

1.2 Technology and Privacy Rights - COVID-19

What is the issue?

- Given the grave public health crisis of COVID-19, there is little doubt that the government is best placed to tackle it.
- However, there is a concern that the government’s technology solutions in fighting this fall short of meeting the minimum legal requirements.

What are the contentious measures?

- The state’s most significant responses to the pandemic have been based on an invasive use of technology to utilise people’s personal health data.
- Broadly, technology has been invoked at three levels:
 1. in creating a list of persons suspected to be infected with COVID-19
 2. in deploying geo-fencing and drone imagery to monitor compliance by quarantined individuals
 3. through the use of contact-tracing smartphone applications, such as AarogyaSetu
- The measures deployed sound reasonable.
- But the mediums for implementation overlook important concerns relating to the rights to human dignity and privacy.

What are the concerns?

- **List of infected persons** - In creating a list of infected persons, State governments have channelled the Epidemic Diseases Act of 1897.
- But this law scarcely accords the state the power to publicise this information.
- These lists have also generated substantial second-order harms as the stigma attached has led to an increase in morbidity and mortality rates.
- This is because many with COVID-19 or flu-like symptoms have refused to go to hospitals.
- **Geo-fencing and drone imagery** - The use of geo-fencing and drone technologies is unsanctioned.
- Cell-phone based surveillance might be possible under the Telegraph Act of 1885.
- But until now, the ‘orders authorising surveillance’ have not been published.
- Moreover, the modified surveillance drones used are equipped with -
 - i. the ability to conduct thermal imaging
 - ii. night-time reconnaissance

- iii. the ability to integrate facial recognition into existing databases such as Aadhaar (a feature claimed by some private vendors)
- The drones deployed also do not appear to possess any visible registration/licensing contrary to the Aircraft Act of 1934 regulations.
- Indeed, many of the models deployed are simply not permitted for use in India.
- **Contact-tracing applications** - The Union government has made **AarogyaSetu**, its contact-tracing application, its signal response to the pandemic.
- Such applications promise to provide users a deep insight into the movements of a COVID-19 carrier.
- The purported aim here is to ensure that a person who comes into contact with a carrier can quarantine herself.
- Notably, the efficacy of such applications have been questioned by early adopters, such as Singapore.
- Thus far, details of the application's technical architecture and its source code have not been made public.
- The programme also shares the concerns with the Aadhaar project in that its institution is not backed by legislation.
- Like Aadhaar it increasingly seems that the application will be used as an object of coercion.
- There have already been reports of employees of both private and public institutions being compelled to download the application.
- Also, much like Aadhaar, AarogyaSetu is framed as a necessary technological invasion into personal privacy, in a bid to achieve a larger social purpose.
- But without a statutory framework, and in the absence of a data protection law, the application's reach is boundless.

What are the conflicting arguments in this regard?

- The pandemic is becoming an existential threat and so the paramount need to save lives is said to take precedence over all other interests.
- This supports the idea that if the government chooses, fundamental rights can be suspended at will.
- The judgement given by Justice H.R. Khanna at the height of Indira Gandhi's Emergency holds much relevance in this context.
- Justice Khanna was not speaking about the crushing of freedom at the point of a weapon.
- He was concerned, rather, about situations where the government used the excuse of a catastrophe to ignore the rule of law.

Why is overreach dangerous?

- When faced with crises, governments, acting for all the right reasons, are invariably prone to overreach.
- But, any temporary measures they impose have a disturbing habit of entrenching themselves into the existing system.
- Over the time, this may get to be the 'new normal' well after the crisis has passed.
- Paying close attention to civil rights, therefore, becomes critical as rights are particularly vulnerable in a crisis situation.

What caution should the government take?

- The Supreme Court's judgment in *K.S. Puttaswamy v. Union of India* (2017) spelt out on the guarantee of a fundamental right to privacy.
- But the Court also recognised that the Constitution is not the sole repository of this right, or indeed of the right to personal liberty.
- To be sure, the right to privacy is not absolute.
- There exist circumstances in which the right can be legitimately curtailed.

- However, any such restriction must be tested against the requirements of legality, necessity and the doctrine of proportionality.
- This will require the government to show that -
 1. the restriction is sanctioned by legislation
 2. the restriction made is in pursuance of a legitimate state aim
 3. there exists a rational relationship between the purpose and the restriction made
 4. the State has chosen the "least restrictive" measure available to achieve its objective
- In the present case, the government's technological solutions are unfounded in legislation.
- Also, there is little to suggest that they represent the least restrictive measures available.
- A pandemic cannot thus be a pretext to renounce the Constitution.

1.3 Epidemic Diseases Ordinance, 2020

Why in news?

The Epidemic Diseases (Amendment) Ordinance, 2020 is promulgated to protect the healthcare workers.

What is the Ordinance?

- This 2020 ordinance will amend the Epidemic Act, 1867.
- It will **criminalise attacks on healthcare personnel**, including doctors, nurses, paramedics and ASHA workers.
- It will make them a **non-bailable offence**.
- Ordinarily, the guilty can be sent to jail for 3 months to 5 years, with a fine of Rs 50,000 to Rs 2 lakh.
- If there is grievous injury, the guilty could be sent to jail for 6 months to 7 years and fined Rs 1 lakh to Rs 5 lakh.

Why this ordinance was promulgated?

- There are several incidences of frontline workers being attacked or facing harassment across the country.
- [Frontline workers - Healthcare workers, civic workers, emergency responders, police personnel]
- India's shortage in healthcare manpower already places a heavy burden on the existing workforce.
- The pandemic has compounded this burden many times over.
- If India ends up seeing the infection spread and hospitalisation numbers projected for it, it will need every healthcare hand available.
- So, protecting these healthcare workers is a need of the time.

Is this Ordinance enough?

- The ordinance's provision for harsher punishment and its strict enforcement should serve as a deterrent.
- However, the government must look at a more permanent way to protect healthcare workers.
- It framed the Healthcare Service Personnel and Clinical Establishments Bill 2019 to deter attacks on, and harassment of hospital staff.
- However, this is yet to be enacted.

What could be done?

- **Sensitizing the masses** to support frontline workers is needed.
- If not, India's battle against the disease will truly be lost.
- The government must run **awareness campaigns** to address citizens' fears about exposure to the pathogen via healthcare workers.
- It must pass the 2019 Bill to protect healthcare workers in a more permanent way.

1.4 CM's Nomination to State Legislative Council

Why in news?

Maharashtra Governor Bhagat Singh Koshiyari is yet to act on Maharashtra Cabinet's recommendations

What did the Cabinet recommend?

- It recommended the Governor to nominate Chief Minister Uddhav Thackeray to a seat in the state Legislative Council.
- This nomination is to be made for one of the seats reserved for the Governor's nominee.
- Even as the Chief Minister's current term in office approaches its end, the Governor is yet to act. A Constitutional crisis looms.

What is the need for nomination?

- Thackeray took oath as Chief Minister (CM) on November 28, 2019.
- **Article 164(4)** - A Minister who for any period of 6 consecutive months is not a member of the State Legislature shall cease to be a Minister.
- It follows that Thackeray must become part of the Maharashtra legislature before May 27.
- With the pandemic raging, a by-election cannot be held.
- Therefore, the only way to fulfil the requirement is for Thackeray to be nominated to the Upper House by the Governor.
- If that does not happen, he will have to make way for someone else.

What is the nomination route?

- A situation in which an individual who is not a member of the legislature becomes CM is in itself fairly common.
- The nomination route for non-member Ministers is less common - but not unconstitutional.
- **Article 171(5)** - Governor can nominate persons with special knowledge in literature, science, art, co-operative movement and social service.
- Thackeray can be said to have a stronger claim in this regard, he is an ace wildlife photographer.
- As per the Allahabad High Court in Har Sharan Varma vs Chandra Bhan Gupta and Ors (1961), politics can be seen as 'social service'.

What is the role of the Governor?

- **Vacancy** - Two Legislative Council seats in the Governor's quota are currently vacant.
- However, the terms of these vacancies end on June 6, 2020.
- A fresh appointment can be made only for the remainder of the term.
- Representation of the People Act, 1951, prohibits the filling of a vacancy if the remainder of the term of a member in relation to a vacancy is less than a year.
- This bar is in respect of by-election to fill a vacancy, not nomination.
- So, the Governor cannot use this as a reason to refuse nomination.
- **No obligation** - Of course, Governor is not obligated under the Constitution to act swiftly on the advice of the Council of Ministers.
- But, Maharashtra has the highest coronavirus caseload and death toll by far in the country.
- Political uncertainty is the last thing that Maharashtra needs now.

What are the limits to the Governor's discretion?

- **Article 163(1)** - The Governor must follow the recommendations of the Council of Ministers in all situations except in so far as he is by this Constitution must exercise his functions in his discretion.
- The Governor is bound by the advice of the Council of Ministers only in executive matters as defined in Article 162.
- The **nomination** of members is **not an executive power**.
- Therefore, the Governor can act in his discretion here.
- Also, the Constitution specifically mentions the situations in which the Governor can act in his discretion.
- The Governor has a general discretion in appointing the Chief Minister.
- But there are well established conventions governing the exercise of such discretion.

1.5 Retired Judges & Executive Posts

What is the issue?

- Many judges over the years have begun to accept posts offered by the government.
- Due to this, the clear demarcation between the judiciary and executive has been blurred.

How does the Constitution secure judges' independence?

- Chapter 4 of Part V of the Constitution deals with the Supreme Court.
- Chapter 5 of Part VI of the Constitution deals with the High Courts.
- The **salaries** of judges and their **age of retirement** are guaranteed in order to secure their independence.
- The judges cannot be easily removed except by **way of impeachment** under Articles 124(4) and 217(1)(b).
- They have the power to **review legislation** and strike it down.
- They also have the power to **question the executive acts**.
- **Why?** - All these make it clear that the framers of the Constitution wanted an unambitious judiciary.

What does the Gogoi example reveal?

- The President of India nominates the former CJI Ranjan Gogoi to the Rajya Sabha (RS) as a Member of Parliament (MP).
- During his tenure as CJI, Justice Gogoi presided over important cases and all the decisions went in favour of the government.
- This gave an impression that his nomination was a reward for these favours.

In what context Gogoi's appointment should be seen?

- The desire of a post-retirement job influences pre-retirement judgments.
- It is a threat to the independence of the Judiciary.
- It is in this context that the appointment of Mr. Gogoi has to be seen.
- **Article 80** - The President can nominate persons having special knowledge in literature, science, art and social service as Rajya Sabha MP.
- It is difficult to imagine that the Constitution-makers had in mind a retired CJI while framing this provision.

What is the problem with such appointments?

- Post-retirement appointments will undermine the constitutional values of impartiality in the dispensation of justice.
- These appointments will undermine confidence in the judiciary.
- It will also go against the clear demarcation of separation of powers.
- It is true that there are no rules that stood in Justice Gogoi's appointment to the Rajya Sabha.



- But such matters cannot be left to the individual vagaries of judges.

What could be done?

- It is time to have a law in place barring post-retirement appointments.
- This is the only way to secure the confidence of the people.
- Judges can be compensated by being given their last drawn salary as pension.
- The age of retirement for judges can be increased by a year or two.

1.6 Moving Towards Virtual Courts

What is the issue?

- Amidst the national lockdown, the Supreme Court and several other courts have been holding virtual proceedings.
- This has triggered a rethink on the nature of judicial processes and judicial administration.

What are the concerns raised by the Bar Association?

- The Supreme Court Bar Association (SCBA) has written to the CJI and other judges.
- They called for earliest restoration of the open court hearings, subject of course to the lockdown ending.
- They cited the earlier judgments on the importance of open court hearings.
- The SCBA has requested that the use of video conferencing should be limited to the duration of the current crisis.
- They spelt that this should not become the “new normal” or go on to replace open court hearings.
- The SCBA also has a specific request that proceedings held virtually may also be streamed live.
- This will ensure that access is not just limited to the lawyers concerned, but is also available to the litigants and the public.

How would live streaming help?

- Advocates appearing in a particular case are now barred from sharing the passwords given to them to join the proceedings through video conference.
- It is theoretically possible for the parties to join their lawyers during the hearing.
- But in practice, they may be unable to travel to their offices.
- Media access is also limited.
- These issues can be resolved through live-streaming.

What is the higher judiciary's opinion?

- A three-judge Bench headed by the CJI, in a recent order, laid down broad norms for courts using video-conferencing.
- It also ratified the validity of virtual judicial proceedings.
- Present Chief Justice of India S.A. Bobde emphasised that virtual courts are open courts too.
- So, one cannot describe them as closed or in camera proceedings.
- He said that the correct way of framing the difference was to call them virtual courts as distinct from “courts in congregation”.

2. GOVERNMENT POLICIES

2.1 Census-NPR Postponement

Why in News?

The Centre has decided to postpone the first phase of the 2021 Census, earlier planned to start on 1st April 2020, due to the COVID-19 outbreak.

What is the current situation?

- The 21-day national lockdown called by Prime Minister Narendra Modi is until April 15.
- But the return of any semblance of normalcy in daily life will take many more weeks, if not months.
- India is still struggling to make sense of the extent and intensity of the pandemic and the accompanying and inevitable economic calamity.
- It is certain that all resources will need to be mobilised, first for combating the malady and then for tending society and the economy back to its health and dynamism.

What was the original schedule?

- According to the original schedule, there were two phases,
 - a) 1st phase (April to September 2020) - House listing and updating of the National Population Register, and
 - b) 2nd phase (February 2021) - Population enumeration.
- As the Census is a massive exercise, which involves mass contact and diversion of resources, the Centre has postponed it.

What does this suspension mean?

- As the Centre has put off the first phase until further orders, the State governments can now focus on the pressing task of combating the coronavirus.
- This suspension opens a fresh window, and an entirely new context, for reconciliation between the Centre and States on the exercise itself.
- The NPR exercise and the allied questions regarding citizenship rights had turned India into a cauldron of discord.
- But, the pandemic has forced the collective attention of the country on the interconnectedness of modern life.

Why did the State governments oppose?

- Several State governments had made their opposition clear to the Citizenship (Amendment) Act, 2019.
- They also made their opposition to the additional questions in the NPR pro forma that many fear is a prelude to something more cynical and divisive that is based on some quaint ideas of nationhood.
- The Centre clarified that people could choose not to respond to these questions, but never bothered to address the underlying concerns.

What could the Centre do?

- The Centre can turn this crisis into an opportunity to restore mutually respectful terms for relations with States and harmony among communities — both currently frayed.
- Unshakeable national unity is essential for the country to tide over the pandemic crisis.
- The Centre must use this sobering backdrop to analyse India's priorities as a country and revisit its idea of citizenship and plans for the NPR.

2.2 The Companies (Amendment) Bill, 2020

Why in News?

The Companies (Amendment) Bill, 2020 was introduced in the Lok Sabha in March 2020.

Why this Bill was introduced?

- The Ministry of Corporate Affairs (MCA) wanted to facilitate ease of doing business in India.
- It also wanted to decriminalise the Companies Act, 2013.
- Therefore, it introduced the Companies (Amendment) Act, 2019, and the Companies (Amendment) Bill, 2020.

What did the Companies Act, 2019 do?

- It decriminalised 16 sections of Companies Act, 2013 to civil violations.
- It eliminates the criminality of these violations by levying monetary penalties instead of criminal fines.
- Levying these penalties has been shifted from courts to in-house adjudication mechanisms (IAM) under Section 454 of the Act.
- The adjudicating officers who are to be appointed by the Central Government determine the offences.
- These officers also enable companies to promptly communicate, represent, and resolve defaults.

Why was the CLC, 2019 constituted?

- The Company Law Committee (CLC) was constituted to further decriminalise the 2013 Act.
- It decriminalises the technical and minor non-compliance.
- But, it retains the strict criminal enforcement for serious, fraudulent offences that jeopardise and prejudice public interest.
- This decriminalisation will instil confidence in both domestic and global players and boosts foreign investments.

What did the Companies (Amendment) Bill, 2020 propose?

- Based on the recommendations of the report, the Bill proposes to decriminalise the Act under the following frameworks.
- **Re-categorization of 23 compoundable offences to the IAM** -
- Offences that do not involve objective determination and that are easily determined by the MCA21 system may be treated as civil wrongs.
- The IAM framework will determine these offences.
- **Omission of 7 compoundable offences** - These offences proposed to be omitted are those that may be dealt with through other laws.
- **Limiting 11 compoundable offences to criminal fine only** - These are offences that are substantial enough to warrant criminal liability, but don't warrant punishment by incarceration upon conviction.
- **Alternate framework for 5 offences** - This proposal could better achieve the intended aim of certain penal provisions in the Act with the company liquidator.
- For this, the corresponding provisions of the Insolvency and Bankruptcy Code (IBC) may be inserted.

What is the significance?

- **Lesser penalties for certain offences:** For this, the Section 446B is amended.
- Non-compliance by certain type of companies or by any of its default officer are only liable to one-half the penalty specified in the respective provisions.
- **Benefit to IDs:** The amendments are vital for Independent Directors (IDs) to dissociate them from personal liabilities of the operational lapses and violations.
- The Ministry's notification directs that unless there is sufficient evidence, civil or criminal proceedings should not be initiated against the IDs.
- It added that if the proceedings were already initiated, they must be reviewed.
- These recommendations seek to accelerate the processes of rectifying defaults by paying penalties, instead of fighting a criminal trial.

What goals do these amendments seek to achieve?

- These amendments are admirable steps towards the 3-pronged goal of:
 1. Reducing the burden on company courts,
 2. Ensuring investor interests, and
 3. Facilitating the ease of doing business while collaterally incentivizing senior management to remain invested.
- This could well be the step towards showing intent to incentivize domestic and global investments, especially post COVID-19.

2.3 Government Measures to Tackle COVID-19

Why in news?

As the nation tackles the COVID-19 pandemic, the government takes some measures to save costs.

What were the measures?

- Parliament has reduced the salary and allowances of Members of Parliament (MPs) and Ministers.
- The Union Cabinet has decided to cancel the Members of Parliament Local Area Development Scheme (MPLADS) for two years.

Will there be any impact due to salary cuts?

- A 30% cut was made in Rs. 1 lakh/month salary of MPs and ministers.
- Rs. 27,000 cut was made in their office and constituency allowances.
- Both these amounts to a savings of about Rs. 5 crore/month.
- These amounts are immaterial for the Central government with an average monthly budget of Rs. 2.5-lakh crore.
- The Parliament has abdicated its constitutional role as the elected body that checks the work of government on behalf of citizens.
- Instead, it gave a symbolic gesture of reductions in pay and allowances.

What should the MPs do?

- During the crisis, MPs should be planning on the actions and policies to be taken to manage the epidemic.
- They should be working on the costs and consequences of various alternatives.
- They should be figuring out ways to have meetings of the committee and of the full House through video-conferencing.
- By doing these, the Parliament can check the work of government.

Why cancelling MPLADS is a welcome move?

- MPLADS creates several issues of accountability and jurisdiction.
- The MPLADS scheme should not be resumed after the crisis because,
 1. In financial terms, there is nearly Rs. 4,000 crore per year savings.
 2. This will help MPs focus on their roles as national legislators.
- It impinges on separation of powers, both horizontally across different organs of state, and vertically across different levels of governance.

What duties of MPs does the MPLADS affect?

- Other than making laws, MPs have two key duties.
 1. They sanction the size and allocation of the government budget.
 2. They also hold the government accountable for its work, including that of spending funds appropriately.

- MPLADS brings in a conflict in both these roles.
- It asks them to identify and get specific projects executed rather than to focus on policy measures to achieve the same results.
- It distracts them from allocating and monitoring the Union Budget of Rs. 30-lakh crore to micro-managing the constituency fund of Rs. 5 crore.

What is the scope for reform that the current crisis provides?

- **Technology** - Technological reform will improve efficiency.
- Much of the daily paper work of the Parliament have been digitised.
- However, protocols and infrastructure may be needed if meetings have to be held through secure video-conferencing.
- **Payandallowances** - The MPs should be provided with office space and research staff.
- They should be compensated in line with their duties as legislators.
- At the same time, hidden perks such as housing must be made transparent.
- **Accountability** - There is a need to hold MPs accountable for their work as national legislators.
- A representative democracy functions only as well as its legislatures do.

2.4 Suspension of MPLAD Scheme

Why in news?

The Centre suspended the Member of Parliament Local Area Development (MPLAD) Scheme to use its funds for COVID-related efforts.

What is the MPLAD Scheme?

- MPLAD is a central government scheme.
- Prime Minister P V Narasimha Rao announced it in Lok Sabha (1993).
- Each MP can recommend development works involving spending of **Rs 5 crore every year** in their constituency.
- MPs from both Lok Sabha and Rajya Sabha can do so.
- Over the years, it was adopted and adapted by state governments.

How does the scheme work?

- MPs and MLAs do not receive any money under these schemes.
- The government transfers it directly to the respective local authorities.
- After the legislators give the list of developmental works, the district authorities as per the government rules execute them.

How can the legislators recommend the works?

- The legislators can recommend works in their constituencies based on a set of guidelines.
- The guidelines focus on the creation of durable community assets like roads, school buildings, etc.
- Recommendations for non-durable assets can be made only under limited circumstances.
- The guidelines for use of MLALAD funds differ across states.

How long are the schemes supposed to continue?

- The central scheme has continued uninterrupted for 27 years.
- It is budgeted through the finances of government.
- It will continue as long as the government is agreeable.

- In 2018, the Cabinet Committee on Economic Affairs approved the scheme until the term of 14th Finance Commission (March 31, 2020).

What has been the impact of the MPLAD scheme?

- Until 2017, nearly 19 lakh projects worth Rs 45,000 crore had been sanctioned under the MPLAD Scheme.
- Creation of durable assets of locally felt needs has positive impact on the local economy, social fabric and feasible environment.
- Further, 82% of the projects have been in rural areas and the remaining in urban/semi-urban areas.

What are the criticisms of the scheme?

- It is **inconsistent with the Constitution** as it co-opts legislators into executive functioning.
- The workload on MPs created by the scheme diverted their attention from holding the government accountable and other legislative work.
- The Second Administrative Reforms Commission (2007) recommended the discontinuation of this scheme.
- There is a claim of **corruption** associated with allocation of works.
- On many occasions, the Comptroller and Auditor General has highlighted gaps in implementation.

3. SOCIAL JUSTICE

3.1 Covid-19: Impact on Women

What is the issue?

- Covid-19 pandemic is exposing and exploiting inequalities of all kinds, including gender inequality.
- In the long term, its impact on women's health, rights and freedoms could harm us all.

How the pandemic affects women?

- Women are already suffering the deadly impact of lockdowns.
- These essential restrictions increase the risk of violence towards women trapped with abusive partners.
- Recent weeks have seen a global surge in domestic violence.
- The support services for women at risk also face cuts and closures.
- The threat to women's rights and freedoms posed by COVID-19 goes far beyond physical violence.
- The deep economic downturn accompanying the pandemic is likely to have a female face.

What are the actions taken?

- These negative impacts on women led to the Secretary-General of the United Nations (UN) to appeal for peace in homes around the world.
- Since then, over 143 governments have committed to supporting women and girls at risk of violence during the pandemic.
- Every country can take action by,
 1. Moving services online,
 2. Expanding domestic violence shelters, and
 3. Increasing the support to frontline organisations.
- The **Spotlight Initiative** is working with governments in more than 25 countries on these and similar measures.
- [Spotlight Initiative is a partnership between the UN and the European Union.]

What is the inequality that women face?

- Women comprise just one in every 10 political leaders worldwide.
- They are disproportionately represented in poorly paid jobs without benefits, as domestic workers, casual labourers, street vendors, etc.,
- The International Labour Organization estimates that nearly 200 million jobs will be lost in the next 3 months alone.
- As women are losing their paid employment, they face a huge increase in care work due to school closures, overwhelmed health systems, etc.,
- This will **delay their return to the paid labour force**.
- Many girls have had their **education cut short**.

What could be done?

- Women in pandemic-related **decision-making** will prevent worst-case scenarios like second spike in infections, labour shortages, etc.
- **Basic social protections** should be given to women in insecure jobs.
- Measures to stimulate the economy, like cash transfers, credits, loans and bailouts, must be targeted at women.
- Women's **unpaid domestic work** at home must be **included** in economic metrics and decision-making.
- With women's interests and rights front, getting through this pandemic will be faster.

3.2 NREGA at COVID Times

What is the issue?

- The lockdown due to Coronavirus spread has made a massive economic impact on the most vulnerable sections of the society.
- In this light, here is a look at the response in relation to the National Rural Employment Guarantee Act (NREGA).

What are the existing concerns with NREGA?

- The wage rates under this rural employment programme are abysmally low.
- Also, access to work and regular payments has been a challenge for workers.
- Insufficient fund allocation and perpetual delays in releasing funds by the Centre have led to extensive delays in wage payments.
- As on March 2020, the total pending NREGA wages was at Rs 6,000 crore.
- Pending material payments have mounted to Rs 9,700 crore.
- Besides this, misleading information and interpretation of data has been commonplace in the implementation of the scheme in the last 6 years.
- On the other hand, negligible monitoring of NREGA on the ground and lack of sufficient social audits has diminished the spirit of the scheme.

What is the present relief package?

- The Finance Ministry has announced a Rs 1.7 lakh crore relief package in response to dealing with the COVID-19 pandemic.
- MGNREGS daily wage rate was increased by Rs 20 (Rs 202 from Rs 182).
- This will result in a Rs 2,000 increase in annual income of workers under the schemes.
- NREGA workers can work on ground by following the central advisory for maintaining social distancing.
- Later, the rural development ministry announced that they were releasing Rs 4,431 crore to different states.
- This is to clear the arrears of wages and materials under different NREGA schemes.



- It added that all pending payments will be made till April 10, 2020.

Are these measures effective in addressing the distress?

- Practically, no additional resources have been allocated to NREGA.
- The wage increment was done as part of routine yearly process of wage notification.
- The revised wages were notified 3 days before the relief package was announced.
- It bears no connection with the additional emergency measures in regards with the Covid-19 pandemic.
- The increment of wages too is abysmally low.
- It is far less than agricultural minimum wages of respective states.
- No one knows what NREGA employment levels are going to be in 2020-21, so the average increase in wages by Rs 20 is arbitrary.
- The relief towards clearing arrears would mean that a significant amount of the Budget 2020-21 will have to be spent on clearing arrears of FY 2019-20.
- Notably, even the Rs 4,431 crore would be inadequate to settle all dues.

What should be done?

- NREGA workers belong to the most vulnerable sections of the society.
- The urgent need now is to release all money pending across states and give them full compensation for delay in payments.
- The advisory on social distancing norms for NREGA is not pragmatic.
- This is because working in NREGA involves processes with significant physical proximity.
- Many state governments have decided to suspend NREGA work temporarily, which is a relief.
- In such a scenario, it is imperative that the government pays full notified minimum wage for each day of the lockdown.
- As thousands of migrant workers returned to their native villages, many more will need work under NREGA over the next year.
- In short, workers' dependence on NREGA for survival and coping with immediate stress will increase manifold in the country.
- Given this, the number of days of work per rural household should not be limited to 100 days per year.
- Categories of permissible work should also be expanded to include specific individual benefit schemes and community assets construction.
- The work demand can be aggravated by focusing on water-related schemes that are the need of the hour.
- Unlike the affluent and the middle class, the poor have an additional burden of fighting with hunger and distress.
- So, any relief measure in the interim period and in the long-run should be in line with this fact.

4. HEALTH

4.1 Diseases of Animal Origin

What is the issue?

- COVID-19 virus' spread has focused attention on the invisible processes, which help pathogens found in wild animals make the leap to humans.
- Diseases of animal origin such as Ebola, SARS, bird flu, swine flu, etc., have raised alarm over potential pandemics in recent years.

How did the virus spread?

- The Covid-19 infection, thought to have originated in a **wet market** that kept live animals in Wuhan, China, points to many underlying factors:
 1. The destruction of forests and trapping or farming of wild species has brought these animals closer to humans, and
 2. The viruses these animals harbour find ready hosts in domestic animals, moving to humans.
- **Rising economic activity**, such as road building and mining cutting through forests, has brought more people in close contact with animals.
- Another dimension is the **global trade in wild species** and their sale in markets along with domestic animals.

What does the pandemic prove?

- As COVID-19 pandemic has proved, these short-term high growth trajectories can come to an abrupt halt with a pandemic.
- Such a terrible outcome could be witnessed again, potentially caused by reckless exploitation of the environment.
- In spite of repeated warnings of crippling pandemics waiting in the wings, governments paid little attention.

What does the history say?

- The history of the lethal Nipah virus, involving transfer from bats to pigs, underscores the value of maintaining viable ecosystems, and eliminating the need for wild bats to colonise human surroundings.
- Biodiversity in forests harmlessly retains dangerous viruses and other pathogens among a vast pool of wild animals, away from people.
- This phenomenon makes clear that governments should stop viewing undisturbed landscapes as an impediment to economic growth.

What is the warning?

- Novel virus that can move effortlessly from human to human has found a large reservoir of hosts in a globalised world.
- Unlike previous epidemics, the Covid-19 has extracted a staggering toll, killing people, forcing a lockdown and causing economic devastation.
- This should serve as a warning to the government that the hasty permissions granted for new roads, dams, mines and power projects in already enfeebled forests can unleash more scourges.

What could be done?

- The government would do well, if it roll backs its dilution of the environmental clearance system.
- The government could strengthen this with a mandate to the States, and leave protected areas to scientific experts.
- Pristine forests with diverse species keep viruses virtually bottled up, out of man's way. They should be left undisturbed.

4.2 Initial Infection Points for SARS-CoV2

Why in news?

Scientists have identified two specific types of cells in nose as the likely initial infection points for the novel coronavirus (SARS-CoV2).

Was the infection mechanism not already known?

- Yes, previous studies have shown what happens at the cellular level.
- The entry of the virus takes place by means of a "lock and key" effect.
- SARS-CoV2 has a fatty envelope with a spike protein on the surface.

- The spike (key) unlocks the ACE2 protein (lock) on the human cell, which acts as the receptor for the virus.
- Once inside the cell, the virus uses TMPRSS2 protein to complete its entry.
- TMPRSS2 protein allows the virus to reproduce and transmit itself inside the cell.

What has the new study found?

- The new study has identified the specific cells where the mechanism of entry most likely comes into play when the virus begins its attack.
- These are the goblet cells and ciliated cells in the nose.
- **Goblet cells** are mucus-producing cells on the surface of organs.
- They are found along the surface of the respiratory tract, intestinal tract, in the upper eyelid, etc.
- **Ciliated cells** are hair-like cells that occur on the surface of organs.
- They help sweep mucus, dust, etc to the throat, where it can be swallowed.

How did the study identify these cells?

- The researchers looked for areas where the two key proteins, ACE2 and TMPRSS2, express themselves most prominently.
- For this, they turned to the Human Cell Atlas.
- [Human Cell Atlas - An international consortium that aims to create comprehensive reference maps of all human cells]
- They looked at multiple datasets of cells from more than 20 different tissues of non-infected people.

What did the data show?

- Both the proteins were found in multiple organs.
- However, ACE2 expression was generally low while TMPRSS2 was highly expressed with a broader distribution.
- This suggests that ACE2 (rather than TMPRSS2) may be a limiting factor for viral entry at the initial infection stage.
- Goblet cells and ciliated cells in the nose had the highest levels of both these COVID-19 virus proteins, of all cells in the airways.
- This makes these cells the most likely initial infection route for the virus.

Does this rule out other entry points?

- The other two entry proteins were also found in cells in the **cornea** of the eye and in the **lining of the intestine**.
- This suggests another possible route of infection via the eye and tears ducts, and possible oral-faecal transmission.
- However, they note that:
 1. The two cell types in the nose are located at a place that is highly accessible for the virus.
 2. ACE2 is produced in the nose cells at the same time as various immune genes that would be activated when the cells are fighting the infection.
 3. The virus is thought to be spread through respiratory droplets produced when an infected person coughs or sneezes.

How does the knowledge help?

- This is the first time that these two cell types have been pinpointed as the likely points of initial entry.
- Their identification could help **explain the high transmission rate** of Covid-19.
- Knowing which cell types are important for virus transmission provides a basis for **developing treatments** to reduce its spread.



4.3 Testing Covid-19 - RT-PCR and Antibody tests

What is the issue?

- The role of 'silent spreaders' in the coronavirus pandemic highlights the significance of testing. Click here to know more on this
- In this backdrop, here is a look at the two types of tests to detect the virus infection - RT-PCR based and the antibody based.

How does the Coronavirus express itself?

- A virus is a microscopic package of genetic material (either DNA or RNA) surrounded by a molecular envelope.
- Some viruses such as the coronavirus (SARS-Cov2) only contain RNA.
- This means that they rely on infiltrating healthy cells to multiply and survive.
- Once inside the cell, the virus uses its own genetic code to take control of and 'reprogramme' the cells to make them become virus-making factories.

What is the RT-PCR method in testing?

- Real time RT-PCR (reverse transcription-polymerase chain reaction) is now one of the most accurate laboratory methods for detecting, tracking, and studying the coronavirus.
- RT-PCR is a nuclear-derived method for detecting the presence of specific genetic material from any pathogen, including a virus.
- It uses markers to detect the presence targeted genetic materials.
- Originally, radioactive isotope markers were used.
- Subsequent refining has led to the replacement of the isotopic labelling with special markers, most frequently fluorescent dyes.
- With real time RT-PCR, scientists can see the results almost immediately while the process is still ongoing. [Conventional RT-PCR only provides results at the end.]

What is the principle behind?

- In order for a virus like the coronavirus to be detected early in the body, using real time RT-PCR, scientists need to convert the RNA to DNA.
- This is a process called 'reverse transcription'.
- They do this because only DNA can be copied - or amplified - which is a key part of the real time RT-PCR process for detecting viruses.
- Scientists amplify a specific part of the transcribed viral DNA hundreds of thousands of times.
- By this amplification, instead of trying to spot a minuscule amount of the virus among millions of strands of genetic information, scientists have a large enough quantity of the target sections of viral DNA.
- This facilitates in the accurate confirmation that the virus is present.

How does RT-PCR work in Coronavirus case?

- A sample is collected from parts of the body where the coronavirus gathers, such as a person's nose or throat.
- The sample is treated with several chemical solutions.
- This remove the substances, such as proteins and fats, and extracts only the RNA present in the sample.
- This extracted RNA is a mix of a person's own genetic material and, if present, the coronavirus' RNA.
- The RNA is reverse transcribed to DNA using a specific enzyme.
- Then, additional short fragments of DNA are added that are complementary to specific parts of the transcribed viral DNA.
 - i. Some of the added genetic fragments are for building DNA strands during amplification.

ii. The others are for building the DNA and adding marker labels to the strands, which are then used to detect the virus.

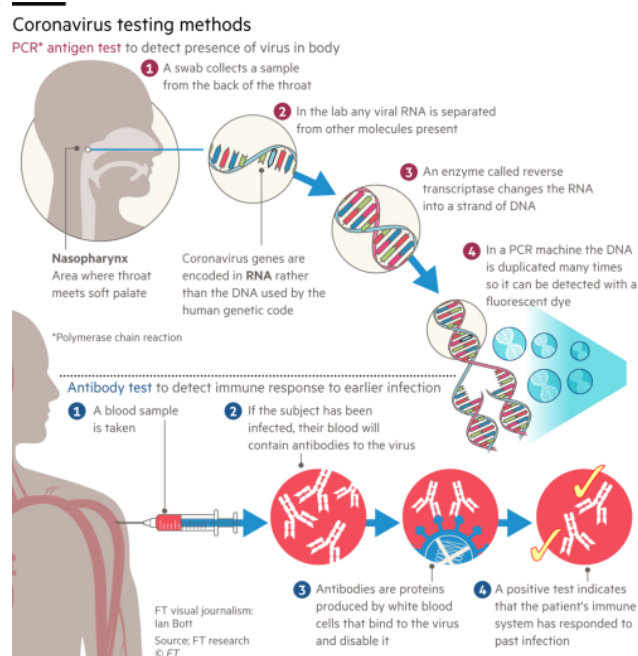
- These fragments attach themselves to target sections of the viral DNA if the virus is present in a sample.
- The mixture is then placed in a RT-PCR machine.
- The machine cycles through temperatures that heat and cool the mixture to trigger specific chemical reactions.
- These reactions then create new, identical copies of the target sections of viral DNA, and the cycle repeats over and over to continue copying.
- [Each cycle doubles the previous amount: two copies become four, four copies become eight, and so on.]
- A standard real time RT-PCR setup usually goes through 35 cycles.
- So, by the end of the process, around 35 billion new copies of the sections of viral DNA are created from each strand of the virus present in the sample.]
- As new copies of the viral DNA sections are built, the marker labels attach to the DNA strands and then release a fluorescent dye.
- This is measured by the machine's computer and presented in real time on the screen.
- The computer tracks the amount of fluorescence in the sample after each cycle.
- When the amount goes over a certain level of fluorescence, this confirms that the virus is present.
- Scientists also monitor how many cycles it takes to reach this level in order to estimate the severity of the infection.
- [The fewer the cycles, the more severe the viral infection is.]
- **Advantages** - This technique is highly sensitive and specific and can deliver a reliable diagnosis as fast as 3 hours, though usually laboratories take on average between 6 to 8 hours.
- Comparatively, real time RT-PCR is significantly faster and has a lower potential for contamination or errors.
- This is because the entire process can be done within a closed tube.

What is the anti-body test?

- The antibody test is based on a biological phenomenon.
- In response to entry of any 'foreign invader' (virus, in this case), antibodies are generated by the body's own immune system.
- Such antibodies are specific to that invader.
- Therefore, detection of specific antibodies in a blood sample may indicate that 'at some point', that individual is exposed to that invader.

What are the drawbacks in anti-body test?

- Unlike DNA, antibodies cannot be copied in a test tube, and therefore, this test is generally less sensitive than PCR.
- Also, the human body takes some time to generate antibodies after it is exposed to an invader.
- Antibodies continue to be present in the blood for some time even after the invader is completely eliminated from the body and there are no clinical symptoms.
- [The human body is capable of generating immunological memory after first infection.
- So, the next time, if same invader re-enters, the body is better prepared to eliminate the infection (a principle behind all vaccinations).



- In some cases, this memory (which is typically called “immunity”) is life long; in other cases, it is short termed.]

Why are both tests relevant now?

- Clearly, the controversy of one test over the other is misplaced; both are important, but their purposes are different.
- RT-PCR is the confirmatory test to be done when someone comes with clinical symptoms.
- The same test will certify if the patient is fully recovered or not.
- RT-PCR will give an idea if people within the immediate proximity of a newly-confirmed patient are infected by the virus.
- However, in this case, the first negative result does not completely rule out lack of infection.
- Therefore, quarantine/isolation of these people (who were in proximity with patient) is essential.
- On the other hand, the vast majority (by some estimates 70-80%) would have sub-clinical infection (they have never shown any symptoms).
- So, in this case, the antibody test will give data on how many people are exposed to the virus at some point of time.
- This would be essential to estimate the extent of virus spread in the community and to respond appropriately.

4.4 Covid-19 - Importance of Testing

What is the issue?

As the world is faced with the challenge of Covid-19, here is a look at the role of ‘silent spreaders’ and the importance of testing in tackling the pandemic.

Who are the silent spreaders?

- Silent spreaders are people who spread the disease unknowingly or to avoid the social stigma.
- The silent spreaders include asymptomatic, pre-symptomatic and undocumented symptomatic cases.
- **Asymptomatic cases:** These are people who carry the active virus in their body, but never develop any symptoms.
- They, however, shed virus and can infect others.
- Studies show that as many as one in four people infected with Covid-19 could be asymptomatic.
- **Pre-symptomatic cases:** These include those who are incubating the virus and would show symptoms only after a few days or even weeks.
- They also transmit the virus to others.
- **Undocumented symptomatic cases:** These cover people who have mild symptoms, but did not get tested.
- The reasons may be lack of access to testing or the stigma attached to the disease.
- They have a very high potential to spread the disease.

What is the current level of testing in India?

- Presently, the Covid-19 positive cases as reported in India are relatively low.
- However, this is said to be much due to the low level of testing.
- Getting a test for Covid-19 is still an arduous task for common people in India.
- The data on the number of tests reveal that India is just focusing on symptomatic cases as the Indian Council of Medical Research (ICMR) guidelines recommend so.
- Other than that, only asymptomatic family members of infected people, and asymptomatic healthcare workers are being tested.
- Certainly, the prescribed regime leaves a large number of potential cases untested.

- Also, with a stigma now attached to this disease, people are even less forthcoming to get tested.

What are the shortfalls?

- For a long time, ICMR only recommended *RT-PCR method* for testing individuals.
- RT-PCR, while accurate, takes a lot of time in testing and limits the capability in doing large-scale tests.
- Only 20,000-25,000 tests are done in a day, which is a minuscule, compared to what is required.
- Private labs were allowed to test only 7 weeks after the first case was detected in India.
- So, a large pool of resources at our disposal was not used for quite some time.
- The ICMR issued guidelines for the rapid antibody blood test only 9 weeks after the first reported case.
- The Kerala government's plans for rapid testing got ICMR approval much later than the proposal was made.
- It was after full 10 weeks since the first confirmed case that ICMR issued an advisory on pooled testing using RT-PCR.
- Even this advisory limits the number of samples to five and only for areas where the prevalence rate is low.
- For comparison, Israel has allowed pooled testing of as many as 64 samples using the standard PCR testing procedure.
- Clearly, ICMR advisories, therefore, are at least a month behind global developments.
- While the desire for accuracy is understandable, there has to be a balance between accuracy and speed, where India seems to be missing out.

How all does testing help?

- Testing, in this context, is generally driven by the need for data.
- Data is key to make public health determinations.
- It also provides some guidance to individuals doubting on their immunity level.
- Enough 'testing as communities' is crucial to understand, with certainty, how many people are acutely infected.
- It also provides information on whether or not, and how many people, show symptoms.
- Since people without symptoms can spread the infection, it is important to have this insight.
- It does not mean everybody should be tested all the time.
- But having a big enough sample is important to have a reasonable degree of certainty that the numbers are correct.
- Knowing who is infected will give better information on -
 - i. the Ro (rate of spread)
 - ii. understanding the risk at present
 - iii. looking at infection as efforts are made to ease social restrictions

How does it help with the immunity factor?

- There is notable variation among countries in the nature of spread and the number of cases.
- Given this variation by location, having the data by geographic area is important.
- It is essential to know how many people have antibodies, and presumed immunity.
- This is important to determine when "*herd immunity*" exists and how far countries are from that goal.
- That number needs to be informed by the Ro and rate of

Herd Immunity

- Herd immunity happens when so many people in a community become immune to an infectious disease that it stops the disease from spreading.
- This can happen in two ways:
 1. many people contract the disease and in time build up an immune response to it (natural immunity)
 2. many people are vaccinated against the disease to achieve immunity
- But, it is hard to predict things in a pandemic.
- So, in the case of COVID-19, herd immunity without a vaccine is by definition not much a preventative

transmission.

- This is because, greater number of people should be immune if the R_0 is higher.
- However, despite this, in the case of COVID-19, a country could not ensure herd immunity until there is an effective vaccine.

4.5 Rapid Testing Kits

Why in news?

Rapid testing kits used to detect antibodies to the novel coronavirus have proved unreliable.

Why such kits are needed?

- Governments around the world are looking for an accurate blood test that can tell people if they have immunity through past Covid-19.
- The diagnostic **RT-PCR test** to confirm the presence of the virus using a nasal swab in a laboratory setting is considered **reliable**.
- The attempts to design a **rapid test** that uses a blood sample to find antibodies after past infection have been proved **unreliable**.
- They have missed about 30% of positive cases, showing low sensitivity.

What concerns many countries?

- The **low sensitivity** of the kit is the phenomenon that is worrying India.
- Many Indian States have already imported several hundred thousand rapid testing kits, mainly from China.
- India's experience is shared by the US, UK, Spain and other countries.
- ICMR has advised States to use these kits for surveillance testing rather than to make medically important decisions.

What is the challenge now?

- Narrowing down the test to reliable methods is the challenge.
- The WHO is working to identify them and the results will be crucial.
- All countries are looking at sero-surveillance as a process that may determine the status of population on Covid-19.
- An exit from lockdown and other public health measures depend on such testing.

What should India focus on?

- India should remain focused on **identifying tests** that work well.
- This requires close integration with efforts launched by diagnostics regulators in the U.S., Europe and China.
- These countries have allowed early use of these kits, which themselves are under evaluation.
- Some vendors of rapid testing devices in China have run afoul of regulators since they have no prior expertise in the field.
- Therefore, making purchase decisions calls for **rigorous review**.

What should be done?

- In the immediate context, the message should go out to States that rapid tests cannot substitute for RT-PCR to diagnose infection.
- It is by no means clear that antibodies developed in response to COVID-19 provide long-term protection against re-infection.
- A good reliable test to certify that a large section of the population have developed immunity against Covid-19 is needed.
- These tests would be a promising tool to reopen the economy with confidence.



5. GOVERNANCE

5.1 Kasaragod Model

Why in news?

The Centre showcased the contact tracing and containment model of Kerala's Kasaragod as a successful containment exercise.

Why showcase Kasaragod?

- Kasaragod reported the third case of COVID-19 in the country - a student airlifted from Wuhan on February 3.
- The district administration mounted a **massive exercise to trace** the 150-odd contacts of that one student.
- Kasaragod had 169 cases and zero deaths until April 19.
- Of these, 123 people had already **recovered**.
- Most of the cases were of those who had caught the virus during their travels abroad and those who returned from the Middle East.

What is the Kasaragod model?

- The **district administration** relied on aggressive testing, technology, foolproof contact tracing, etc., to achieve the results it can now show.
- The state government appointed a **special officer** to,
 1. Coordinate functioning of the district administration.
 2. Coordinate between departments at field and secretariat levels.
- **Section 144** was imposed in the entire district, with 7 drones employed for surveillance.
- Under the **Care for Kasaragod** initiative, a common coordinated action plan was drawn up for combating COVID-19.

What was this action plan?

- All quarantined people were tracked using GPS.
- All essentials were home-delivered in the containment zones.
- A campaign on social distancing called "Break the Chain" was carried out to deliver the message of social distancing.
- Core teams were formed with incident commanders to rush to various areas and take quick action.
- The plan was carried out with a very strong social welfare component, which included free food kits for the poor and migrant workers.
- Health checkup was carried out on alternate days for migrants or the destitute. There is a 709-bed COVID-19 care centre.
- ASHAs and health inspectors carried out household surveys.

What are the other successful models?

- **Agra Model:** The district administration identified epicentres.
- They delineated the impact of positive confirmed cases on the map.
- A special task force was deployed as per a micro plan made by the district administration.
- The hotspot area was identified within a 3 km radius from the epicentre.
- They were managed through an active survey and containment plan.
- A 5 km buffer zone was identified as the containment zone.
- **Bhilwara Model:** This entailed complete isolation of Bhilwara city with Section 144 CrPC being imposed.
- The shutdown was total with the city and district borders sealed and checkposts at every entry and exit point.

- **Pathanamthitta Model:** Every person who had entered the district was screened.
- A database was created so that they could be reached at short notice.
- Graphics were created showing the travel route of the positive cases and publicised. This led to self-reporting.

5.2 Tablighi Jamaat Episode

Why in News?

Many attendees of a big religious congregation organised by the Tablighi Jamaat held in mid-March have been affected by novel coronavirus .

What has happened after this gathering?

- More than 400 people showing symptoms have been hospitalised in Delhi alone and nearly 240 have tested positive.
- The spectre of large-scale community spread by a few hundred attendees from different States cannot be ruled out.
- That the 3-day event began on March 13 when the Health Ministry said that it did not consider the novel coronavirus as a health emergency.
- After all, WHO had called COVID-19 a pandemic on March 11, 2020.

Who is to be blamed?

- The organisers should have been aware that a similar congregation organised by them in Malaysia in end-February led to a spike in cases there and the attendees carried the virus to other countries.
- Community leaders have been irresponsible, but those in the government have been lax too.
- The Delhi government did nothing to stop such a meeting except issuing an order on March 13 prohibiting the assembly of more than 200 people.
- On March 6, the Centre advised the States to avoid or postpone mass gatherings till the pandemic was contained.
- There is a question on what prevented the State government from following this March 6 advice.

Were there such gatherings at national level?

- There have been several such large gatherings, religious and non-religious in the country, even after India reported its first case.
- Until the lockdown began, many places of worship were open and political events held.
- Each such event could have potentially seeded the virus into the population and should have therefore been cancelled or prevented.
- But India failed despite being aware how global congregations had led to an alarming spread of the virus, examples being the large outbreaks in South Korea, Singapore, southern Italy and Spain.

What could be done?

- States that already have cases with a link to the Nizamuddin event should now use the lockdown period effectively.
- They should actively find everyone who had attended the event, trace their contacts, quarantine, test and treat them without losing time.
- Both South Korea and Singapore have demonstrated how meticulous tracing of contacts of a church event, isolation and aggressive testing helped prevent the highly infectious virus from spreading widely.
- The last thing that India can afford in the war against the virus is the disease acquiring a religious or class colour.

6. INDIA & ITS NEIGHBORHOOD

6.1 Afghan Peace Process and India

What is the issue?

- Recently, the UN Secretariat held a meeting of what it calls the “6+2+1” group on regional efforts to support peace in Afghanistan.
- Though sidelined from regional discussions, India must still pursue the ample chances in the peace process.

What is the “6+2+1” group?

- The group includes six neighbouring countries of Afghanistan namely China, Iran, Pakistan, Tajikistan, Turkmenistan and Uzbekistan.
- The '2' indicates the two global players - the U.S. and Russia, and '1', Afghanistan itself.
- India's absence was evident, given its historical and strategic ties with Afghanistan.

Is this rejection for the first time?

- This is not the first time that India is kept out of the discussions concerning Afghanistan.
- In December 2001, the Indian team led by special envoy Satinder Lambah arrived in Germany's Petersberg hotel near Bonn.
- [It was where the famous Bonn agreement on Afghanistan was negotiated.]
- They found no reservations being made for them at the official venue.
- In January 2010, India was invited to attend the “London Conference” on Afghanistan.
- But India was left out of the room during a crucial meeting that decided on opening talks with the Taliban.

How has India responded?

- In both 2001 and 2010, India fought back its exclusion successfully.
- At the Bonn agreement, Ambassador Lambah ensured that Northern Alliance leaders came to a consensus to accept Hamid Karzai as the Chairman of the interim arrangement that replaced the Taliban regime.
- After the 2010 conference, New Delhi redoubled its efforts with Kabul.
- In 2011, Prime Minister Manmohan Singh and Afghanistan President Karzai signed the historic Strategic Partnership Agreement.
- This was Afghanistan's first such agreement with any country.

What is India's present stance?

- In 2020, the reason given for keeping India out of the discussions was supposedly that it holds no “boundary” with Afghanistan.
- But in fact, it is because New Delhi has never announced its support for the U.S.-Taliban peace process.
- India's resistance to publicly talking to the Taliban has made it an awkward interlocutor at these discussions.
- India maintains that only an Afghan-led, Afghan-owned, and Afghan-controlled process can be allowed.
- This is a principled one, but has no takers.
- Kabul, or the Ashraf Ghani government, does not lead, own or control the reconciliation process today.
- The U.S.-Taliban peace deal only means that the Taliban will become more potent as the U.S. withdraws soldiers from the country.
- It will hold more sway in the inter-Afghan process as well, as the U.S. withdraws funding for the government in Kabul.

How has India's stance affected it?

- New Delhi's decision to find grounds for Ashraf Ghani government has had a two-fold effect:

1. its voice in the reconciliation process has been limited
 2. it has weakened its position with other leaders of the deeply divided democratic setup in Kabul such as the former chief executive Abdullah Abdullah
- Meanwhile, India's presence inside Afghanistan, painstakingly built up since 2001, is being threatened anew by terror groups.
 - These include the Islamic State Khorasan Province (ISKP), believed to be backed by Pakistan's establishment.
 - The recent brutal attack that killed 25 at a gurudwara in Kabul was meant for the embassy in Kabul.
 - Intelligence agencies had also warned of suicide car bomb threats to the consulates in Jalalabad and Herat in December 2019.
 - The government has said that the novel coronavirus pandemic prompted its decision to clear out both consulates in April 2020.
 - But the truth is that a full security reassessment is under way for them.
 - Either way, India's diplomatic strength in Afghanistan should not appear to be in retreat just when it is needed the most.

What affects India's goodwill in Afghanistan?

- India must consider the damage done to the vast reservoir of goodwill India enjoys in Afghanistan because of recent events here in India.
- This especially includes the controversy over the Citizenship (Amendment) Act.
- Afghanistan's majority-Muslim citizens, many of whom have treated India as a second home, have felt cut out of the move.
- The building blocks of that goodwill are India's assistance in infrastructure projects, health care, education, trade and food security.
- The reports of anti-Muslim rhetoric and incidents of violence in India have disturbed India's example as a pluralistic, inclusive democracy that inspired many.

What should India do?

- New Delhi must move swiftly to regain the upper hand in the narrative in Afghanistan.
- The following should assure India a leading position in Afghanistan's regional formulation:
 - i. India's assistance of more than \$3 billion in projects
 - ii. trade of about \$1 billion
 - iii. a \$20 billion projected development expenditure of an alternate route through Chabahar
 - iv. India's support to the Afghan National Army, bureaucrats, doctors and other professionals for training
- Three major projects include the Afghan Parliament, the Zaranj-Delaram Highway, and the Afghanistan-India Friendship Dam (Salma dam).
- These and other hundreds of small development projects have cemented India's position there, regardless of Pakistan's attempts to undermine it.
- So, it would be a mistake, at this point, if India's support is only to Kabul or the Ghani government.
- The Indian government must strive to endure that its aid and assistance is broad-based, to centres outside the capital (Kabul) as well.
- This should be the case even if some lie in areas held by the Taliban.
- India must also pursue opportunities to fulfil its role in the peace efforts in Afghanistan, starting with efforts to bridge the Ghani-Abdullah divide.
- An understanding between Iran and the U.S. on Afghanistan is necessary for lasting peace as well, and India could play a mediatory part.
- India should also use the UN's call for a pause in conflicts during the novel coronavirus pandemic, to ensure a hold on hostilities with Pakistan.

- Above all, New Delhi must consider the appointment of a special envoy, as it has been done in the past, to deal with its efforts in Afghanistan.

7. INTERNATIONAL ISSUES

7.1 South Korea General Elections - President Moon Jae-in's Victory

Why in news?

President Moon Jae-in's Democratic Party (DP) of Korea won a big mandate in South Korea's 21st General Election.

Why is this victory notable?

- The results marked a substantial change in public sentiments from the last year.
- South Korea witnessed 3 years of slow economic growth.
- In 2019, protests broke out amid a slowing economy and corruption allegations.
- President Moon Jae-in's diplomatic efforts with North Korea also made no big changes.
- Given these, Moon's popularity had fallen in early 2020.
- He was expected to follow the same trend as previous Korean presidents, lapsing into lame duck status in the final 2 years of presidency.
- But the coronavirus changed everything.
- South Korea under Moon's Presidentship, took up aggressive test and trace measures, widespread monitoring, and strict quarantine measures.
- It flattened the curve faster than almost any other country.
- As a result, Moon's popularity rose above 50% before the election.
- Despite the health-care crisis, he decided to go ahead with the poll, with stringent precautionary measures in place.
- Now, the Democrats have won more seats than even the most audacious analysts predicted.
- President Moon Jae-in is into the third year of his five-year presidency.
- With more parliamentary seats, he can now follow his reform agenda and North Korean rapprochement without legislative bottlenecks.

What are the tasks before Moon now?

- The ruling party's win is a chance for President Moon to expedite peace efforts.
- The desire for normalcy with North Korea is evident among other things.
- There is a growing impatience to end the disruption of business activity across the border.
- Since the thaw in ties between the neighbours began in 2018, Mr. Moon and North's leader Kim Jong-un have also met on the Demilitarised Zone.
- A foremost priority for Moon would be to consider the implications of his initiatives towards North, given South's military alliance with the U.S.

What are the challenges in this regard?

- Seoul (South) and Washington have suspended their annual military exercises in South Korea.
- But besides this, they have been unable to agree on more substantial measures to ease tensions with the North.
- There is the more recent international demand for the Korean Peninsula's denuclearisation.
- So the formal declaration of an end to the Korean war of the 1950s, where the U.S. was involved, would be dependent on the above demand.

- But progress on the North's nuclear stand-off has been stalled ever since the Trump-Kim Hanoi summit, in February 2019, broke down.
- Their meeting, in Singapore in June 2018, resulted in no more than vague promises to end the long deadlock.
- Pyongyang (North) insists on ending the crippling economic sanctions as a precondition for any meaningful reduction of nuclear testing in future.
- Washington has, on the other hand, been demanding access to the North's nuclear sites in exchange for a relaxation of sanctions.

7.2 U.S Aid to Greenland - Denmark's Concerns

Why in news?

The United States has made an offer of financial aid to Greenland, which has angered Denmark.

What is the U.S.'s proposed rationale?

- The U.S. iterates that the decision was to aid “sustainable growth” in the autonomous island.
- The other reasons for the US government's decision include -
 - i. Russia's "aggressive behaviour and increased militarisation in the Arctic"
 - ii. China's “predatory economic interests”

What is the Political relationship between Denmark and Greenland?

- Denmark established trading colonies in Greenland, and between late 1700s and mid-1900s, the Danish government assumed full control over Greenland.
- During World War II, Denmark came under the occupation of Germany.
- Also, Greenland's protection became the responsibility of the United States.
- However, Greenland was returned to Denmark in 1945.
- Following this, numerous social and economic reforms were undertaken by the Danish government.
- Greenland was granted autonomy on May 1st, 1979.
- In 1973, Greenland had joined the European Union as part of Denmark but left in 1985.
- The foreign affairs and defense of Greenland is managed by Denmark.
- Denmark also contributes to about two-thirds of Greenland's budget.



Why is Denmark concerned?

- Greenland is an autonomous island that falls within the territory of the Kingdom of Denmark.
- Earlier U.S. had a row with Denmark over a proposal to “purchase” Greenland from the Denmark.
- The Danish Prime Minister Mette Frederiksen had earlier dismissed the possibility of the US acquiring Greenland.
- Denmark maintained that Greenland was not for sale, was not Danish too but belonged to Greenland itself.
- The financial aid proposal follows plans by the US government to open a consulate in Suuk, Greenland's capital.
- Members of Denmark's parliament expressed outrage at this attempt of the US government.
- Some politicians considered the steps to be “extremely provocative” interference by the US.
- Both Greenland and Denmark are well-aware of the shifting geo-politics in the region.
- But the decisions are seen as an extension of the Trump administration's colonial policies towards the island.

Why is Trump so interested in Greenland?

- Trump's interest in Greenland is almost an extension of his worldview and US foreign policy in his administration.
- Purchasing another country or territory is unusual, but the US government has done this twice before -
 1. when President Thomas Jefferson acquired Louisiana from the French in 1803
 2. when President Andrew Johnson purchased Alaska from Russia in 1867
- If the plan ever materialises, Trump would secure a place in US history of being the third president to add land to the country's territory.
- For many among Trump's voter base in the US, acquiring new territory would appeal to their nationalistic and imperialistic views.
- **Greenland** - Interestingly, Greenland, though the world's largest island, is geographically a part of the North American continent.
- However, it has always been culturally aligned with Europe.
- Greenland is also a resource rich land mass, strategically located between the Arctic Sea and the Atlantic Ocean.
- It has some of the largest deposits of rare-earth metals, including iron-ore, uranium, byproducts of zinc, neodymium, praseodymium, dysprosium and terbium.
- These rare-earth metals are used in the production of electric cars, mobile phones and computers.
- **Geopolitical** - For the longest time, China has been the world's largest supplier of the above rare-earth metals.
- An acquisition of Greenland would make the US less reliant on China for these rare-earth metals.
- Greenland, as a part of the Arctic region, also has large deposits of undiscovered oil and gas.
- The US is opening a consulate in Greenland after nearly seven decades of closing its first consulate after the Second World War.
- The move is largely to counteract Russia and China's aggressive foreign policy moves to gain more influence in the region.
- Russia has been steadily expanding its military presence in the Arctic.
- China has done its bit on the economic front.
- Due to climate change, the Arctic ice is melting at an accelerated rate, opening up water routes for military and maritime trade.
- This is in addition to global superpowers and regional players vying for control over Greenland's vast untapped natural resources.

7.3 The Armenian Genocide

Why in news?

This year (2020) marks the 105th Anniversary of the Armenian Genocide.

What is the Armenian Genocide?

- The Armenian Genocide is called the first genocide of the 20th century.
- It refers to the systematic **annihilation of Armenians in the Ottoman Empire** from 1915 to 1917.
- Approximately 1.5 million Armenians died during the genocide, something Turkey has consistently denied.
- The Armenian diaspora marks April 24 as Armenian Genocide Remembrance Day.

Why did the Armenian Genocide occur?

- The Armenian Genocide is a direct result of the developments during the First World War.



- Although Armenians had always faced discrimination, harassment and persecution in Asia Minor, this heightened around 1908.
- The Armenians were an educated and wealthy community, characteristics that drew resentment from others.
- The Armenians in the Ottoman empire were Christians by faith.
- The Ottoman Caliphate feared that they would bear allegiance to Russia with similar religious affiliations than the Ottoman Empire.
- **Hamidian Massacres (1894–1896)** - It is the first state-sanctioned pogrom which is a result of the continued hostility towards Armenians.
- [Pogrom - An organized massacre of a particular ethnic group]
- The Hamidian Massacres were a prelude to the Armenian Genocide.
- But, the reigning monarch, Abdul Hamid II was never held accountable for the massacres.

Who were the Young Turks?

- In 1908, a **political reform movement** that called itself the Young Turks formed of intellectuals and revolutionaries.
- It led a rebellion against Abdul Hamid II in an attempt to **overthrow the monarchy** in favour of a constitutional government.
- When the monarchy was overthrown, Armenians believed they may finally get a chance at equality in the state.
- However, as the political ideology of the Young Turks changed, they **became less tolerant of Armenians**.
- The Russo-Turkish wars and the conflict in the Balkans and Russia further increased hostilities against the Armenians.

What happened during World War I?

- After the World War I broke out in November 1914, the Ottoman Turks participated in the war, siding with Germany.
- The Armenians began organising volunteer battalions to fight for Russia against the Ottoman Turks.
- This resulted in the Ottoman Turks engaging in a mass-removal campaign of Armenians from the border areas along the Eastern Front.
- On April 24, 1915, Ottoman Turkish government officials executed many Armenian intellectuals.
- It was the start of the Armenian Genocide.
- As the Armenians were forced to walk for days in the deserts of Syria and Arabia, many died in the journey.
- They faced brutality in concentration camps across Syria and Iraq.
- Armenians in villages were burned in large groups and were intentionally drowned in the Black Sea.



What happened in the aftermath?

- Many documents and evidence pertaining to the Armenian Genocide were destroyed a few years before and after the end of the war.
- Many Armenians were displaced.
- They fled to countries around the world seeking refuge.
- Diplomats posted in the region during the Armenian Genocide had documented the occurrences in personal diaries and official records.
- Displaced Armenians were not permitted to reacquire the property that they were forced to leave behind during the genocide.

Does Turkey recognise the Armenian Genocide?

- Turkey has dismissed the use of the term “Armenian genocide”.
- In 2007, then Turkish Prime Minister, called for an alternative term to be used for the ‘Genocide’ - 1915 Olayları, the ‘Events of 1915’.
- In Turkey, intellectuals who have openly written about the Armenian Genocide have faced violence, arrest and have even been killed.
- As of 2020, 32 countries and Parliaments have formally recognised the Armenian Genocide.
- Only Turkey and Azerbaijan openly deny its occurrence.
- Remaining countries, including India, have not officially recognised the Armenian genocide.

7.4 Dispute over Paracel and Spratly Islands

Why in news?

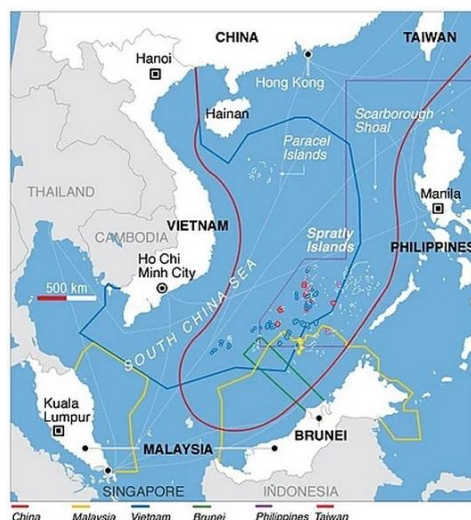
- In the middle of the global coronavirus pandemic, China is busy increasing its presence in the South China Sea.
- This has again brought the dispute over Spratly and Paracel Islands to the fore.

What are the recent developments?

- Both these islands are in the middle of the South China Sea waters, between the territory of Vietnam and the Philippines.
- Very recently, Beijing unilaterally renamed 80 islands and other geographical features in the area.
- This drew criticism from neighbouring countries who have also laid claim to the same territory.
- If the dispute were to aggravate, it could likely have serious consequences for diplomatic relations and stability in the region.

What is the Spratly Islands dispute about?

- This relates to the tussle over the ownership of the Spratly Islands archipelago and nearby geographical features like corals reefs, cays etc.
- The ongoing territorial dispute is among China, Taiwan, Vietnam, the Philippines, and Malaysia.
- Since 1968, these nations have engaged in varying kinds of military occupation of the islands and the surrounding waters.
- The only exception is Brunei that has contained its objections to the use of its maritime waters for commercial fishing.
- The Spratly Islands are largely uninhabited.
- But there is a possibility that they may have large reserves of untapped natural resources.
- However, due to the ongoing dispute, there have been few initiatives to explore the scale of these reserves.
- So, the amount of natural resources present there is based on speculation and extrapolation by studying resources available in nearby islands.
- In the 1970s, oil was discovered in neighbouring islands, specifically off the coast of Palawan.
- This discovery ramped up territorial claims by these countries.
- Over the years, US government agencies have claimed that there is little to no oil and natural gas in these islands.
- But these reports have done little to reduce the territorial dispute.





What is the Paracel Islands dispute about?

- The Paracel Islands dispute is slightly more complex.
- This archipelago is a collection of 130 islands and coral reefs and is located in the South China Sea.
- This is almost equidistant from China and Vietnam.
- Beijing says that references to the Paracel Islands as a part of China sovereign territory can be found in 14th century writings from the Song Dynasty.
- Vietnam on the other hand, says that historical texts from at least the 15th century show that the islands were a part of its territory.
- These islands also find mention in records starting from the 16th century by explorers who led expeditions to the East.
- These include the Portuguese, British, Dutch, French and Spanish.
- They have all written about the Paracel Islands in various texts.
- Colonial powers of the French-Indochina further accelerated the tensions with regard to the Islands due to their colonial policies in the 20th century.
- By 1954, tensions had dramatically increased between China and Vietnam over the archipelago.
- In January 1974, China and Vietnam fought over their territorial disputes after which China took over control of the islands.
- In retaliation, in 1982, Vietnam said it had extended its administrative powers over these islands.
- In 1999, Taiwan jumped into the fray laying its claim over the entire archipelago.
- Since 2012, China, Taiwan and Vietnam have attempted to reinforce their claims on the territory.
- They have engaged in construction of government administrative buildings, tourism, land-reclamation initiatives etc.
- Countries have also established and expanded military presence on the archipelago.

What are China's recent moves?

- China recently established new administrative districts on both Spratly and Paracel Islands.
- Following this, the Chinese government had renamed 80 islands, reefs and other geographical features around the two archipelagos with Chinese names.
- The last time China had unilaterally engaged in a similar initiative was in 1983 (287 geographical features had been renamed in the disputed chain of islands).
- In the past few years, China has stepped up military aggression and has created artificial islands for military and economic purposes in the South China Sea.
- This invited criticisms from neighbouring countries and other western powers as well.
- Recently, Vietnam had lodged a complaint at the UN stating that China had illegally sunk a fishing trawler near Paracel Islands, killing 8 people on board.
- In March 2020, China built two research stations on territory claimed by the Philippines.

What is the U.S.'s role?

- The US has no territorial claims in the South China Sea.
- But it is known to send its naval force into the waters each time there are provocative developments in the waters, particularly angering China.
- Following China's renaming of the islands, the US sent in an assault ship and a guided missile cruiser into the waters near Spratly and Paracel Islands, off the coast of Malaysia.
- Soon after, Chinese and Australian warships also entered the fray.
- The arrival of American warships, indicate that the US's presence may only serve to heighten tensions.

7.5 Evolution of CTBT

What is the issue?

- Suspicions were recently raised in the U.S. on China violating the Comprehensive Test Ban Treaty (CTBT).
- In this backdrop, here is an overview of the evolution of the CTBT and its effectiveness.

What is CTBT?

- The Comprehensive Nuclear-Test-Ban Treaty (CTBT) is the Treaty banning all nuclear explosions - everywhere, by everyone.
- The Treaty was negotiated at the Conference on Disarmament in Geneva and adopted by the United Nations General Assembly.
- It was opened for signature on 24 September 1996.
- The Treaty has not entered into force yet.
- [The signature to a treaty indicates that the country accepts the treaty.
- The ratification symbolizes the official sanction of a treaty to make it legally binding for the government of a country.]
- The CTBT is essentially a “**zero-yield**” treaty.
- This means that the agreement prohibits all nuclear explosions that produce a self-sustaining, supercritical chain reaction of any kind whether for weapons or peaceful purposes.

How has banning nuclear testing evolved?

- For decades, a ban on nuclear testing was seen as the necessary first step towards curbing the nuclear arms race.
- But Cold War politics made it impossible.
- A Partial Test Ban Treaty was concluded in 1963 banning underwater and atmospheric tests but this only drove testing underground.
- By the time the CTBT negotiations began in Geneva in 1994, global politics had changed.
- The Cold War had ended and the nuclear arms race was over.
- The USSR had broken up and its principal testing site, Semipalatinsk, was in Kazakhstan (Russia still had access to Novaya Zemlya near the Arctic circle).
- In 1991, Russia declared a unilateral moratorium on testing, followed by the U.S. in 1992.
- By this time, the U.S. had conducted 1,054 tests and Russia, 715.

What were the challenges in the process?

- Negotiations on nuclear test ban were often contentious.
- France and China continued testing, claiming that they had conducted far fewer tests and needed to validate new designs.
- They argued that the CTBT did not imply an end to nuclear deterrence.
- France and the U.S. even exploited the idea of a CTBT that would permit testing at a low threshold, below 500 tonnes of TNT (trinitrotoluene) equivalent.
- This was one-thirtieth of the “Little Boy”, the bomb that U.S. dropped on Hiroshima on August 6, 1945.
- Civil society and the non-nuclear weapon states reacted negatively to such an idea and it was dropped.
- Some countries proposed permanently shutting down all test sites as the best way to verify a comprehensive test ban.
- This was unwelcome to the nuclear weapon states.

What was the U.S-proposed idea then?

- The U.S. came up with the idea of defining the “comprehensive test ban” as a “zero yield” test ban.



- This would prohibit supercritical hydro-nuclear tests but not sub-critical hydrodynamic nuclear tests.
- [Hydronuclear experiments, as distinguished from hydrodynamic ones, use actual fissile material assembled to form a supercritical mass in which a chain reaction begins.]
- Dynamic experiments are used to gain information on the physical properties and dynamic behavior of materials used in nuclear weapons.]
- Once the UK and France agreed, the U.S. was able to prevail upon Russia and China to accept this understanding.
- This was a moment of the U.S.'s unipolar supremacy.
- The Clinton administration in the U.S. announced a science-based nuclear Stockpile Stewardship and Management Program.
- This was a generously funded project to keep the nuclear laboratories in business and the Pentagon happy.
- Accordingly, the CTBT prohibits all parties from carrying out "any nuclear weapon test explosion or any other nuclear explosion."
- The above terms are neither defined nor elaborated.

Why does CTBT lack authority?

- Another controversy arose regarding the entry-into-force provisions (Article 14) of the treaty.
- India's proposals for anchoring the CTBT in a disarmament framework did not find acceptance.
- In June 1996, India announced its decision to withdraw from the negotiations.
- Unhappy at this turn, the U.K., China and Pakistan took the lead in revising the entry-into-force provisions.
- The new provisions listed 44 countries by name whose ratification was necessary for the treaty to enter into force and included India.
- India protested that this attempt violated a country's sovereign right to decide if it wanted to join a treaty; but this was ignored.
- The CTBT was adopted by a majority vote and opened for signature.
- Of the 44 listed countries, to date only 36 have ratified the treaty.
- China, Egypt, Iran, Israel and the U.S. have signed but not ratified.
- China maintains that it will only ratify it after the U.S. does so but the Republican dominated Senate in the U.S. had rejected it in 1999.
- In addition, North Korea, India and Pakistan are the three who have not signed.
- All three have also undertaken tests after 1996; India and Pakistan in May 1998 and North Korea six times between 2006 and 2017.
- The CTBT has, therefore, not entered into force yet, and lacks legal authority.

G.S PAPER III

8. ECONOMY

8.1 RBI's Second Lockdown Stimulus

Why in news?

The RBI has announced a second set of financial measures to combat the lockdown impact on the economy.

What are the measures?

- The RBI has increased the Ways and Means Advances (WMA) limit of the state governments by 60% over the level as on March 31, 2020.

- It has extended a special refinance facility of ₹ 50,000 crore to NABARD, SIDBI and NHB.
- There will be an asset classification standstill during the moratorium period for accounts that were not NPAs as of March 1.
- Most of these RBI measures are liquidity maintenance measures.

What do these measures mean?

- State finances have got some breathing space through the 60% increase of WMA limit.
- The special refinance facility extended to NABARD, SIDBI and NHB will help them to prop up their respective constituents.
- With asset classification standstill, the RBI has relieved the borrowers who were worried about the moratorium turning them into NPAs.

Why banks are not lending currently?

- The RBI has reduced the reverse repo rate by 25 basis points to 3.75%
- [**Reverse repo rate** is the rate at which the RBI borrows money from commercial banks within India.]
- By reducing this rate, the banks have parked as much as ₹ 6.9-lakh crore with the RBI as on April 15.
- This is the time, when banks will have to be extending help for working capital loans and overdrafts to their borrowers, including MSMEs.
- The government could help here by extending a credit assurance scheme.
- This will encourage banks to be more liberal in their risk outlook.

What could be done?

- The objective now should be to keep the economy afloat by deploying all the instruments at the RBI's command.
- The RBI has done what it can.
- It is now over to the government for the fiscal support package.

8.2 Ways and Means Advances

Why in News?

The Reserve Bank of India (RBI) increased the Ways and Means Advances (WMA) limit of state governments.

Why the WMA limit was increased?

- On 17th April 2020, the RBI announced a 60% increase in the WMA limit of the state governments.
- This increase is over the level as on March 31, 2020.
- It would enable the state governments to undertake effective COVID-19 containment and mitigation efforts.
- It would also enable them to better plan their market borrowings.

What is WMA?

- Section 17(5) of the RBI Act, 1934 authorises the RBI to lend to the Centre and state governments as WMA.
- It can lend them only if they can repay it within 3 months from the date of making the advance.
- These borrowings may help the governments to **tide over temporary mismatches** in cash flows of their receipts and expenditures.

How much does the RBI charge on these advances?

- The interest rate on WMA is the RBI's repo rate, which is currently 4.4%
- [Repo rate is a rate at which the RBI lends short-term money to banks.]
- But the governments can draw amounts in excess of their WMA limits.
- The interest on such overdraft is 2 percentage points above the repo rate, which now works out to 6.4%.



- Further, no state can run an overdraft with the RBI for more than a certain period.

What are the existing WMA limits and overdraft conditions?

- **For the Centre** - The WMA limit for the period of April-September, 2020-21 has been fixed at Rs 120,000 crore.
- This is 60% higher than the limit for the same period of 2019-20.
- **For the states** - After a 60% increase, the aggregate WMA limit is at Rs 51,560 crore.
- The higher limit will be valid until September 30.

Why all these relaxations been made?

- Due to lockdown, the revenues are collapsing and uncertain.
- The expenditures for combating the novel coronavirus are mounting.
- Therefore, the states are facing an unprecedented cash crunch.
- Most of the states are slashing expenditures of other departments in order to meet COVID-19 exigencies.
- However, these measures have not addressed the underlying problem of liquidity and cash flow mismatches.

So, will the increase in the WMA limits help?

- There is a likelihood of the total government borrowings crossing Rs 20 lakh crore.
- So a WMA limit of Rs 120,000 crore for the Centre and Rs 51,560 crore for states may prove grossly insufficient.

What could be done further?

- **Centre** - The Centre may invoke Section 5(3) of its Fiscal Responsibility & Budget Management Act, 2003.
- This would allow the RBI to subscribe to the primary issues of Central Government securities under very specified grounds.
- Those cover, among other things, “act of war” and “national calamity”.
- **RBI** - It may undertake increased secondary market purchases and sales of central and state government securities.

8.3 Reverse Repo Rate - Benchmark Interest Rate

What is the issue?

- To meet with the economic slowdown due to the spread of COVID-19, the RBI has cut interest rates to boost the economy.
- However, unlike in the past, it is the reverse repo rate that is effectively setting the benchmark. Here is why.

What is the current economic scenario?

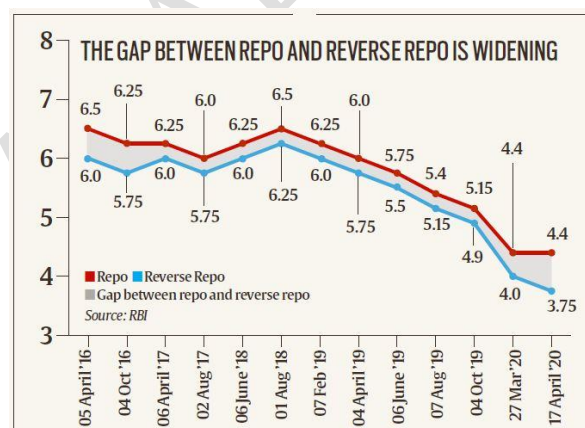
- Over the last couple of years, India’s economic growth has decelerated sharply.
- This has happened for a variety of reasons and apparently, the consumer demand is lower.
- In response, businesses are cautious in making fresh investments and so, do not ask for as many new loans.
- The pre-existing incidence of high non-performing assets (NPAs) within the banking system is another factor as banks are too risk-averse to lend.
- In all, the banks’ demand for fresh funds from the RBI has diminished.
- This whole cycle has acutely intensified with the ongoing lockdown due to the Coronavirus.
- In effect, the banking system is now flush with liquidity for two broad reasons:
 1. the RBI is cutting interest rates and other policy variables like the CRR to release additional and cheaper funds into the banking system
 2. banks are not lending to businesses

What is the normal benchmark rate?

- The repo rate is the rate at which the RBI lends money to the banking system (or banks) for short durations.
- The reverse repo rate is the rate at which banks can park their money with the RBI.
- Under normal circumstances, the repo rate is the benchmark interest rate in the economy.
- Because, it is the lowest rate of interest at which funds can be borrowed.
- So, it also forms the floor rate for all other interest rates in the economy.
- So the RBI usually uses the repo rate as the main instrument to tweak the interest rates.

Why is reverse repo becoming significant now?

- The sources of lending to businesses for commercial banks are primarily two.
- One is the money that banks receive from common people who maintain savings deposits with the banks, and the other is the Repo option.
- As mentioned earlier, there is now excess liquidity in the banking system.
- This has meant that during March and the first half of April 2020, banks have been using only the reverse repo (park funds with the RBI) instead of the repo (borrow).
- As of April 15, 2020 RBI had close to Rs 7 lakh crore of banks' money parked with it.
- In other words, the reverse repo rate has become the most influential rate in the economy.
- Recognising this and the current economic scenario, the central bank has cut the reverse repo rate more than the repo.



What is the RBI's rationale?

- Banks doing nothing with their funds hurts the economy and starves the businesses that genuinely need funds.
- The idea is thus to make it less attractive for banks to just park their funds and not lend.

Will the move help revive the economy?

- More than the availability of funds with banks, it all now depends on the revival of consumer demand in the country.
- If the lockdown and disruptions due to the novel coronavirus continue for a long time, the above is less likely to happen.
- Consumer demand, which was already quite weak, is likely to stay muted and businesses might not borrow heavily to make fresh investments.
- On the other hand, it is important for the banks to be confident about new loans not turning into NPAs.
- So for cuts in reverse repo rates to fructify, reviving consumer demand as well as banks being confident about economic prospects is crucial.

What could be done?

- Banks could be offered credit guarantee, say 10%, for fresh loans given to micro, small and medium (MSME) enterprises.
- The government has done a similar thing to encourage banks to lend to the stressed non-banking financial companies.
- It can do that for the MSME segment, affected the most by Covid-19 and most critical for bringing the economy back on the growth path.

8.4 Franklin Templeton Mutual Fund

Why in news?

Franklin Templeton Mutual Fund (MF) in India recently made a decision to wind up six yield-oriented managed credit funds.

How does a mutual fund work?

- Mutual Fund (MF) is an investment vehicle made up of a pool of moneys collected from public investors.
- The pooled money is used to buy other securities by professional money managers (fund house).
- It gives small or individual investors access to professionally managed portfolios of equities, bonds and other securities.

What does winding up of the schemes mean?

- Winding up of the schemes essentially means that the MF will first liquidate the assets in the schemes.
- It will then return the money to investors.
- The six schemes have combined assets under management of around Rs 28,000 crore.
- This is nearly 25% of the total assets under management of Franklin Templeton MF in India.

Why was the decision now?

- The fund house said the decision was to protect value for investors via a managed sale of the portfolio.
- This comes amid the severe market dislocation and illiquidity caused by the COVID-19 pandemic.
- Reportedly, the ongoing liquidity crisis in the market has impacted higher yielding, lower-rated credit securities in India.
- Since these six schemes had direct exposure to them, they have been impacted.
- [**Higher-rated bonds** of companies are more secure and offer lower interest rates.
- On the other hand, credit risk funds generally invest in **lower-rated bonds** that offer higher return but also carry a higher risk.]

What led to this condition?

- Credit risk funds are debt funds that play on the principle of high-risk-high-reward.
- The managers of most credit risk funds have been seen chasing high yields and ignoring the associated higher risk.
- This worked well when the external environment was good, with high economic growth rate and no undue pressures on the liquidity front.
- However, when there is stress in the economy, even strong companies find it tough to raise funds.
- So naturally, companies with a weaker balance sheet and higher leverage are most vulnerable to chances of default.
- At such a time, banks, mutual funds and financial institutions that have lending exposure to such companies will see stress building.
- Also, borrowers will not be able to service the interest and principal payment.
- The COVID-19 pandemic and the lockdown resulted in a combination of these factors.

What are the implications?

- With the market situation tough for now, investors may not get an immediate exit.
- The fund house may find it difficult to get a buyer for the low-rated assets in the portfolio.
- In effect, the investors may have to wait.
- If at all the fund house pushes hard to get new buyers for those assets, it will go at a substantial haircut.
- This would mean a big loss for investors on their capital investment.

- In essence, investors will have to pay a heavy price for the incompetence of the fund house.

What caution should investors take now?

- The fund house has said that all other funds it manages - equity, debt and hybrid - are unaffected by the decision.
- So, the winding up of the six schemes will have a limited impact on investors of other schemes.
- However, as the economy is facing a serious challenge, investors should look at the quality of the companies where their investments lie.
- If their investments have exposure to lower-rated companies that are highly leveraged, they must consider reallocating them.
- The Association of Mutual Funds in India has assured investors of the healthy credit and liquidity profiles of investments.
- Despite all, shutting down six schemes is unprecedented and can break investor confidence in mutual funds.

How important is the role of the fund manager?

- Franklin Templeton Mutual Fund is the 9th largest in the country.
- Investors are now questioning why only Franklin Templeton was unable to anticipate the unfavourable developments.
- Generally, all credit risk funds invest up to 65% in bonds rated AA or below.
- However, market experts say that fund managers can lower their risk by following a higher diversification strategy.
- On significant diversification on the asset side (not given large exposure to a few companies), the entire portfolio will not be affected even if there is a default by one or two companies.
- Similarly, on significant diversification on the liability side (not having just a few large investors), fund houses may not have to sell even if one or two investors seek redemption.

What should the policy support be?

- The results of the latest round of the RBI's targeted long-term repo operations suggest that banks are unwilling to take on credit risk.
- So, the RBI should fill this vacuum in taking credit risk.
- It should consider providing direct liquidity to intermediaries, similar to what was done during the financial crisis of 2008-09.
- The costs of intervening early are less than the price of delayed action.

8.5 RBI's Liquidity Offer for Mutual Funds

Why in news?

The RBI recently announced a special liquidity window of Rs 50, 000 crore to bail out mutual funds hit by the crisis in the debt fund segment.

How does the liquidity window work?

- Under the special liquidity facility for mutual funds (SLF-MF), the RBI will conduct repo operations of 90 days tenor at the fixed repo rate.
- The SLF-MF is on-tap (on demand, anytime) and open-ended.
- Banks can submit their bids to avail the funding till May 11, 2020 or up to utilization of the allocated amount, whichever is earlier.
- Funds availed under the SLF-MF will be used by banks exclusively for meeting the liquidity requirements of MFs.

What are the features of the offer?

- The RBI says exposures under this facility will not be reckoned under the *Large Exposure Framework* (LEF).

- It thus gives greater comfort for banks to borrow under this window.
- The face value of securities acquired under the SLF-MF and kept in the *HTM category* will not be counted for *adjusted non-food bank credit* (ANBC) for determining priority sector targets or sub-targets.
- The support extended to MFs under the SLF-MF will be exempted from banks' capital market exposure limits.

What will banks do with this money?

- Banks can extend loans to mutual funds.
- They can undertake the outright purchase of and/or repos.
- This can be offered against the collateral of investment grade corporate bonds, commercial papers (CPs), debentures and certificates of Deposit (CDs) held by MFs.

Why is the offer now?

- There is heightened volatility in capital markets in reaction to Covid-19 pandemic.
- This has imposed liquidity strains on mutual funds.
- The stress is however confined to the high-risk debt funds segment.
- The debt segment has witnessed outflows of Rs 1.94 lakh crore in the month of March 2020.
- The credit risk fund category, notably, has assets of over Rs 55,000 crore.
- The condition has intensified more in the wake of redemption pressures related to closure of six debt schemes of Franklin Templeton.
- The RBI's liquidity offer is thus expected to bring some degree of comfort in the debt market, given such huge redemption pressure.

Quick Facts

Large Exposure Framework (LEF)

- The large exposures framework sets prudent limits to large exposures.
- A large exposure is defined as the sum of all exposures of a bank to a single counterparty that is equal to or above 10% of its Tier 1 capital.

HTM category

- The investment portfolio of banks is classified under three categories:
 1. Held to Maturity (HTM)
 2. Available for Sale (AFS)
 3. Held for Trading (HFT)
- Banks normally hold securities acquired by them with the intention to hold them up to maturity under HTM category.
- Only debt securities are permitted to be held under HTM with a few exceptions, e.g., equity held in subsidiaries.
- Holding securities under HTM provides cushion for banks from valuation changes.
- However, holding in HTM book is subjected to a ceiling.

Adjusted non-food bank credit

- This includes non-food bank credit and total non-statutory liquidity ratio (SLR) investments of banks in commercial papers, shares and bonds/debentures.

8.6 Indian Rupees and COVID-19

What is the issue?

- Due to the outbreak of Covid-19, the global economy is likely to slip into a sharp recession.
- Also, the economic activity in an emerging-market country like India has been severely affected.

What is the impact of the pandemic?

- The impact of the pandemic on economic activity and the ensuing uncertainty has resulted in a wider sell-off in risk assets.
- Global portfolio managers pulled out over \$80 billion from emerging markets in March, 2020.
- Foreign portfolio investors sold Indian stocks and bonds worth over \$15 billion in March, resulting in significant volatility in both the markets.
- The benchmark stock-market indices declined by over 20%

What is the status of the Indian Rupee?

- Despite the global turmoil, the rupee has remained comparatively stable.
- It has declined about 6% against the US dollar since the beginning of the year, though the bulk of the fall came in March.
- **Reason** - The Reserve Bank of India (RBI) has been actively intervening in the currency market.
- Foreign exchange reserves of India fell by \$12 billion in the week ended in March 20, and is likely to have been used to contain the currency market's volatility.
- Excess currency volatility in times of financial stress can become self-fulfilling and induce greater instability in financial markets.

What are the RBI's interventions?

- The RBI has been intervening heavily in the **currency market** now.
- It managed to accumulate about \$68 billion worth of reserves in 2019.
- India's foreign exchange reserves were close to a high of about \$490 billion in early March 2020.
- RBI will allow Indian banks, which operate International Financial Services Centre Banking Units, to participate in the offshore market.
- The RBI is reported to have intervened even in the **offshore market** recently to contain volatility.
- The offshore non-deliverable forward (NDF) market tends to increase volatility in the currency market.

What is the concern?

- The RBI's decision is not in line with the recommendations of the taskforce headed by former RBI deputy governor Usha Thorat.
- The taskforce suggested that removing the separation between the offshore and onshore markets will improve liquidity and price discovery.
- But the taskforce also felt that it was important to bring the NDF market onshore before allowing Indian banks to participate in that market.
- The RBI's move is likely to contain volatility in the offshore market.
- However, the central bank should make sure that it doesn't end up hurting the onshore market in the long run.

What outcome should RBI avoid?

- RBI has done well to contain excess volatility in the currency market.
- But, it is important to note that the Indian rupee is still overvalued in real terms and should be allowed to depreciate.
- The decline in crude oil prices and reduction in the current account deficit will give strength to the rupee.
- The oil price decline in 2014-15 resulted in significant appreciation in real terms. The RBI should avoid such an outcome.

What could be done further?

- When the Covid-19-related economic risks start to ebb, the massive injection of liquidity by large central banks (like the US Federal Reserve) will find its way to emerging-market countries like India.
- This would put upward pressure on the rupee.

- So, apart from containing excess volatility, the RBI should ensure that the value of the rupee doesn't affect India's external competitiveness.

8.7 Dollar Swap Line

Why in News?

India is working with the United States (US) to secure a dollar swap line.

Are India's forex reserves enough?

- As per the RBI, India's foreign exchange reserves have fallen by \$ 13 billion from March 6 to April 3, 2020.
- This is due to a sharp outflow of funds of the foreign portfolio investors, who wanted safer havens amidst the current global uncertainty.
- After a smooth run during which India's foreign exchange reserves rose week-on-week for nearly six months, they started to decline in March.
- According to RBI data, 63.7% of India's foreign currency assets are held in overseas securities, mainly in the US treasury.

What are the benefits of a swap line?

- A swap line with the US Federal Reserve would help in better management of the external account of India.
- It would also provide extra cushion in the event of an abrupt outflow of funds from the forex markets.
- So far, foreign institutional investors (FIIs) have been large sellers in the Indian equity and debt markets in March and April 2020.
- There is apprehension that the economic impact of COVID-19 will last for a significant length of time.
- So, the government and the Reserve Bank of India (RBI) cannot lower their guard on the management of the economy and external account.

How does a swap facility work?

- In a swap arrangement, based on the market exchange rate at the time of the transaction,
 1. The US Fed provides dollars to a foreign central bank, and
 2. The bank provides the equivalent funds in its currency to the Fed.
- The parties agree to swap back their currencies at a specified date in the future, at the same exchange rate as in the first transaction.
- These swap operations carry no exchange rate or other market risks, as transaction terms are set in advance.

Does India have a swap line with any other country?

- **Japan** - India has a \$75 billion bilateral currency swap line with Japan, which has the second highest dollar reserves after China.
- This provides India with the flexibility to use these reserves at any time in order to maintain the balance of payments or short-term liquidity.
- **SAARC** - The RBI offers similar swap lines to central banks in the SAARC region within a total corpus of \$2 billion for 2019-22.
- This facility will further the financial stability and economic cooperation within the SAARC region.

With which countries does the US have swap lines?

- **Temporary** - On March 19, 2020, the Fed opened temporary swap arrangements with the central banks of Australia, Brazil, Norway, etc.
- This is to be in place for at least six months for a combined \$450 billion.
- **Permanent** - The Fed already has permanent swap arrangements with the Banks of Canada, England, Japan, the European Central Bank, etc.,
- Currently, India, China, Russia, Saudi Arabia and South Africa do not have a currency swap line with the US.



8.8 Banning FDI from Neighbours

Why in News?

India has decided to ban foreign direct investments (FDI) through automatic route from neighbouring countries that share a land border with it.

Why was this decision taken?

- FDI was banned because the Chinese investors may exploit cheap valuations in the depressed economic conditions post-lockdown.
- They may pick up equity interest in select companies.
- Italy, Spain, France and Australia have already taken similar action to protect their businesses from Chinese investors.
- These investors are fishing for distressed entities in need of cash in the post-COVID-19 scenario.

What is the current investment status?

- China's investment in India has been on an up curve in the last 5 years.
- According to a Brookings India study, the total current and planned investment by Chinese entities is over \$26 billion.
- Chinese capital is invested in brick-and-mortar industries, technology and fintech start-ups.
- The move to control Chinese investment in Indian companies was always on the cards and COVID-19 was a good excuse to pull the trigger.
- The decision to introduce a layer of government approval is valid in the current circumstances.
- But the government could have adopted a more nuanced approach.

What approach the government could have adopted?

- **Greenfield investments** should have been kept out of the purview as they create new capacities and businesses in the country.
- [Greenfield investment is a type of FDI in which a parent company creates a subsidiary in a different country, building its operations from the ground up]
- A **distinction** should have been made based on the class of investors.
- Venture capital funds are financial investors who may not necessarily be interested in taking over and running a business.
- While the FDI route has been plugged, it is not clear what happens to investments that come through the market route.

8.9 Revised FDI Policy

Why in news?

India revised its Foreign Direct Investment policy to prevent opportunistic takeovers of firms hit by the lockdown.

What was the amendment?

- India said that an entity of a country that shares a land border with India can invest in firms here only through government route.
- This applies to "beneficial owners" who is resident of a neighbouring country - even if the investing company is not located there.
- While the note did not name any country, analysts see the amendments as aimed at possible Chinese investments.

Why was this decision taken?

- The decision came days after China's central bank had raised its shareholding in HDFC to over 1% from 0.8%.
- As of December 2019, China's cumulative investment in India has exceeded \$8 billion.



- This is far more than investments by other countries that share borders with India.
- A Brookings India paper pegs the total current and planned Chinese investment in India at over \$26 billion.

What was China's response?

- China has termed the move as violation of international trade principles.
- It has called for India to revise these “discriminatory practices” and treat investments from different countries equally.
- Chinese Embassy in India said that India's move violates WTO's (World Trade Organisation's) principle of non-discrimination.
- It says that India's move goes against the general trend of liberalization and facilitation of trade and investment.

What is India's argument?

- India maintains that its FDI policy is not aimed at any one country.
- It says that this move only aims to curb “opportunistic” takeovers of Indian firms, which are under strain.
- India says that the amendments are not prohibiting investments.
- It has only changed the approval route for investments.
- Many sectors in India are already subject to this approval route.

What is the ground on which India's move is discriminatory?

- India's move is seen as a discrimination against certain countries for non-security reasons.
- This may not be seen favourably on the global stage.
- Most of the countries that have tightened their investment regulations have done in such a way that it would apply to all countries.

What have other countries done?

- **European Commission** - It issued guidelines to ensure a strong EU-wide approach to foreign investment screening at such a time.
- The aim was to preserve EU companies and critical assets in areas like health, med research, infrastructure essential for security, etc.
- **Australia** - It temporarily tightened rules on foreign takeovers over concerns that strategic assets could be sold off cheaply.
- All foreign takeover and investment proposals will now be scrutinised by Australia's foreign investment review board.
- **Spain, Italy and the US** too have implemented investment-related restrictions.

Has India done this before?

- It is the first-time that a move to impose additional requirements for **certain countries** is taken.
- However, India has imposed such measures on investments into **certain sectors**.
- From 2011, the government had mandated approval for any FDI coming into the pharmaceuticals sector.
- In 2010, the government banned FDI in cigarette manufacturing.
- India had also blocked certain FDI investments during bilateral standoffs with China.

8.10 Falling Crude Oil Prices - Below the \$0 Mark

Why in news?

The oil prices of West Texas Intermediate (WTI), the best quality of crude oil in the world, fell to “minus” \$40.32 a barrel in New York, US.



What is the key reason?

- Even before the Covid-19 induced global lockdown, crude oil prices had been falling over the past few months.
- They were closer to \$60 a barrel at the start of 2020 and by March-end, they were closer to \$20 a barrel.
- To a great extent, oil markets, globally and more so in the US, are facing an enormous glut.
- Certainly, the price fall is thus a result of the supply being more than the demand.
- [This is not only the lowest crude oil price ever known but also well below the zero-mark. The previous lowest was said to be immediately after World War II.]

What are the other recent developments?

- Historically, the Organization of the Petroleum Exporting Countries (OPEC) used to work as a cartel and fix prices in a favourable band.
- [The OPEC is lead by Saudi Arabia, the largest exporter of crude oil in the world (single-handedly exporting 10% of the global demand).]
- It could bring down prices by increasing oil production and raise prices by cutting production.
- In the recent past, the OPEC has been working with Russia, as OPEC+, to fix the global prices and supply.
- But in early March 2020, this cooperation that is crucial for the global oil market's seamless operations came to an end.
- Saudi Arabia and Russia disagreed over the production cuts required to keep prices stable.
- As a result, oil-exporting countries, led by Saudi Arabia, started undercutting each other on price.
- However, they continued to produce the same quantities of oil.
- The Saudi Arabia and Russia discord was sorted out recently, under pressure from US President Donald Trump.
- However, it was too late.
- The oil-exporting countries decided to cut production by 6 million barrels a day, the highest production cuts.
- But, the demand for oil has been shrinking by 9 to 10 million barrels a day.
- This was an unsustainable strategy under normal circumstances.
- The growing spread of Coronavirus made it even more calamitous.

How has the lockdown worsened the situation?

- Given the lockdown condition, there is a sharp reduction in economic activity.
- With fewer flights and fewer cars, the demand for oil has been shrinking (9 to 10 million barrels a day).
- The supply-demand mismatch continued to worsen right through March and April 2020.
- The mismatch resulted in almost all storage capacity being exhausted.
- Trains and ships, which were typically used to transport oil, too, were used up just for storing oil.

What is the immediate cause?

- The May contracts for WTI, the American crude oil variant, were due to expire on April 21, 2020.
- As the deadline came near, prices started reducing, for two broad reasons.
- By April 20, 2020, many oil producers wanted to get rid of their oil even at unbelievably low prices.
- The other unattractive option was to shut production, which would have been much more costly to restart.
- The consumer side that is those holding these contracts could not go by the compulsion to buy more oil.
- This is because there was no space to store the oil if they were to take the delivery.
- It would be more costly for them to accept the oil delivery, pay for its transportation and then pay for storing it (possibly for a longer period).

- This desperation from both sides - buyers and sellers - to get rid of oil led to the present condition.
- In the short-term, for both the contract holders and the oil producers, it was less costly to pay \$40 a barrel, and get rid of the oil.
- [This means the seller would be paying the buyer of crude oil \$40 for each barrel.]
- All this meant that the oil prices not only dropped to zero but also went deep into the negative territory.

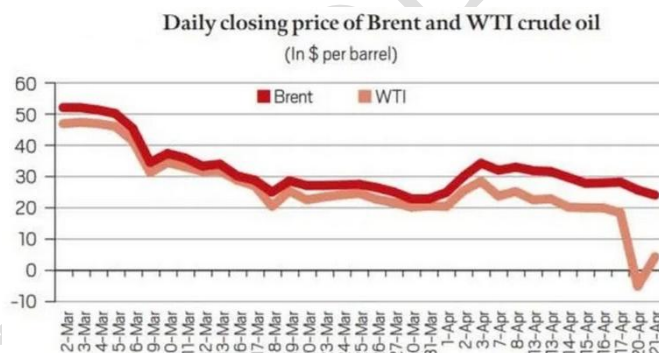
8.11 Falling Oil Prices - Impact on India

What is the issue?

- The prices of West Texas Intermediate (WTI), the best quality of crude oil in the world, fell to “minus” \$40.32 a barrel in New York, US.
- In this backdrop, here is a look at the impact this would have on the Indian oil market.

How will this impact India?

- The Indian crude oil basket does not comprise WTI.
- It only has *Brent* and oil from some of the Gulf countries.
- So, technically, there is no direct impact on India.
- However, oil is traded globally, and weakness in WTI gets reflected in the falling prices of the Indian basket as well.



What concerns does this pose?

- India has wisely been using the sharp fall in both crude prices and domestic demand to accelerate the build-up of its strategic oil reserve.
- The sliding oil prices would help significantly cut India's energy import bill.
- However, a prolonged demand drought would end up hurting the government's tax revenues severely.
- This is especially impactful at a time when the government badly needs every additional rupee it can garner.
- Also, such low oil prices risk damaging the economies of producer countries including those in West Asia.
- This would, in turn, hurt the inward remittances for India.

What options does India have?

- There are two ways in which this lower price can help India.
- The government can pass on the lower prices to consumers.
- In this case, whenever the economic recovery starts in India, individual consumption will be boosted.
- The other option is for the governments (both at the Centre and the states) to decide to levy higher taxes on oil.
- This can work to boost the government revenues.
- If it chooses to cut retail fuel prices by foregoing some excise revenue for a while, the wider economy could get the much-needed momentum.

Brent Crude

- When it comes to physical oil, there are different grades.
- The most popular traded grades are:
- Brent North Sea Crude (commonly known as Brent Crude)
- West Texas Intermediate (commonly known as WTI)
- Brent refers to oil that is produced in the Brent oil fields and other sites in the North Sea.
- Brent Crude's price is the benchmark for African, European, and Middle Eastern crude oil.
- The pricing mechanism for Brent dictates the value of roughly two-thirds of the world's crude oil production.

8.12 Covid-19 & Retailing

What is the issue?

- Since 24th March 2020, online retailers had contended with poorly communicated policy decisions and a notification U-turn.
- Renewed lobbying by physical retail associations had intensified the situation.

What are the recent problems faced by online retailers?

- The problems began immediately after the announcement of national lockdown.
- The initial orders of the Central government permitted the delivery of essential goods by e-commerce companies.
- However, police across the states assaulted online delivery personnel.
- Though state administrations clarified the policy, police intimidation in forms of arbitrary border-checks and interrogations continued.
- This discouraged the delivery agents from showing up for work.

What is notification that created a problem?

- The Prime Minister announced allowing certain economic activities in areas outside containment or sealed zones after April 20.
- A Home Ministry notification permitted the delivery of essential and non-essential goods by e-retailers from April 20.
- Later, the home ministry declared that e-commerce players wouldn't be allowed to deliver non-essential goods.
- It did not clarify when they would restart.
- This caused a big inconvenience to online retailers, who had started hiring warehouse and delivery staff in readiness.

Why was this last-minute flip made?

- It was the result of an urgent appeal made by two well-established small retailers' lobbies to the Central Government.
- Their argument was that physical retailers had already built up summer inventories in non-essentials.
- They also said that allowing online retailers into this space would crowd them out.
- This is not the first time e-commerce has been impeded in favour of their physical counterparts.
- It has been subject to regular business rule changes.

What are the privileges for physical retailers?

- **Rules of 2019** - These rules debarred companies from selling products via firms in which they have an equity interest.
- It also barred the companies from making deals with sellers to sell exclusively on their platforms.
- These rules do not apply to physical retailers, for whom in-store brands can account for up to a quarter of revenues.
- **Investigation** - The government also opened investigation into these platforms' discount policies during festive season.
- This privileging of one form of retailing over another is illogical and risky.
- It is unlikely to be helpful for an economy that urgently needs to expand employment and strengthen national supply chains.

9. INFRASTRUCTURE

9.1 Protecting the Power Sector

What is the issue?

- Most of the industrial units are either shut or operating at a fraction of their capacity, due to Covid-19 led nationwide lockdown.
- One consequence is that demand for electricity has fallen sharply, hitting a five-month low on just the first day of the national lockdown.

Why is there such a fall in demand?

- Industrial demand, together with the off take from Indian Railways (passenger services have been suspended) constitutes 40% of national power demand.
- The other issue is that the industrial segment of the market is the paying section, which helps cross-subsidise domestic power consumption.

What is bad with the timing?

- These issues comes at a bad time for electricity distribution companies (discoms) which owe over Rs 80,000 crore to generation companies.
- The number of consumers not able to pay their power dues will increase in this period, further hampering the discoms' liquidity situation.
- If discoms are unable to buy power from generation companies, there is a real possibility of widespread load shedding.
- This would hamper the output of those working from home and might have serious public-health effects if hospitals, quarantine centres, etc., find themselves without power to run lifesaving equipment.

What did the government do?

- The government has stepped in to improve the situation by announcing a package targeted at the power sector. This would include,
 1. A moratorium on debt repayment for 3 months,
 2. An instruction to the generating companies that they should continue to supply to discoms and
 3. Relaxation of the payment security mechanisms built into newer power-purchase agreements (PPAs).
- This might help manage the situation for some time. Yet both on a temporary and on a permanent basis, a more solid solution is needed.

What sectors will be affected?

- India's fragile banking sector is over-exposed to the power sector.
- So, a breakdown here will have severe effects on the broader economy and cripple India's recovery from the sudden stop imposed by the national lockdown.
- Also suffering is a part of the power sector - the renewable energy sector.
- Capacity addition in the sector has been hit by a double setback.

What are the two setbacks?

- There is an **interruption in the supply** of new components, that depends upon global supply chains.
- This has affected the speed of capacity build-up as well as the financial indicators of the sector.
- **Scarcity of dollars** for emerging-market companies at the moment means that the renewables sector is having trouble raising money and repaying its debts.
- This section of the power sector requires special attention, given the government's ambitious targets.

9.2 Stocking Petroleum

Why in News?

The Indian government has decided to boost the petroleum stocks in strategic reserve of India.

Why this decision was taken?

- On April 1, the Brent crude oil was traded at a low price that was under \$25 a barrel.
- Now the price of a barrel in the international market has rebounded.
- However, it is still almost \$22 a barrel cheaper than the average of the past year, which was \$57.70 per barrel.
- Therefore, one should make use of this low price situation and buy more oil barrels to stock up the nation's petroleum reserves.

What is India's storage capacity?

- India's storage capacity in its strategic petroleum reserve is at under 40 million barrels.
- This low capacity would not be convenient at this point.
- This would satisfy Indian demand for less than 10 days.
- However, there is space for only about additional 15 million barrels at oil-storage farms located in Mangalore, Vizag, and Padur.

Where the additional oil will come from?

- The government had made efforts to tie up with West Asian oil producers (The Gulf) to have them store their own oil on Indian soil.
- The government continues its attempts to buy over 5 million barrels from the United Arab Emirates and over 9 million barrels for Padur.
- It has directed the state-owned refiners to deal with the collapse in domestic demand.
- Therefore, these refiners operate at 50% capacity by storing their excess crude oil supplies in the strategic petroleum reserve.
- Details of how these refiners will be compensated are as yet unclear.

What is the current significance of storage?

- Storage is at a premium at the moment since across the world, oil facilities are filling up.
- The global storage capacity is over 6 billion barrels, but only 1.6 billion barrels worth of capacity is empty at this point.
- A shortage of storage capacity has forced some producers in the US to lower their prices below zero (i.e.) paying people to take away their oil.
- South Korea and China have been proactive in recent years in building up their oil storage capacity.

What should India prove?

- **Increasing the Capacity** - India has planned to build its additional storage capacity of almost 50 million barrels.
- This capacity would take India to just over 20 days' worth of imports in its reserves.
- India should seek to have more than a month's at least.
- **Stabilizer of market** - India should signal that it is a responsible consumer of petroleum by trying to stabilise the crude oil market.
- Supporting the effort to keep output flowing and addressing the storage deficit are important steps in that direction.

What are the pillars of the India-Gulf economic ties?

- **Strong bilateral economic ties:** the India-Gulf trade stood around \$162 billion in 2018-19, being nearly a fifth of India's global trade.

- India's import of crude oil and natural gas from the Gulf meets 65% of its total requirements.
- Some of these countries have large Indian investments.
- **Number of Indian Expatriates** in the Gulf states is about 9 million.
- They remitted nearly \$40 billion back home.
- Both the intertwined pillars of India-Gulf ties have been affected by the recent pandemic and the reduction in oil price.

How the India-Gulf ties could be protected?

- In the longer run, we need to find new drivers for the India-Gulf synergy.
- This search could begin with cooperation in healthcare.
- This cooperation should gradually extend to pharmaceutical research, petrochemical complexes.
- Building infrastructure as well as the economic activities in bilateral free zones along our Arabian Sea coast may lead to an India-Gulf Cooperation Council Free Trade Area.

10. AGRICULTURE

10.1 Exempting Farming Activities

Why in news?

The government has exempted all agricultural, horticultural activities and those relating to harvesting, transportation, etc from the lockdown.

What is the issued order?

- The order has exempted the agencies engaged in procurement of agriculture products, including MSP operations and mandis.
- It also exempted the farmers and farm workers in the field.
- It exempted the custom hiring centres related to farm machinery.
- It also allowed the intra- state and inter-state movement of machines.
- The functioning of manufacturing and packaging units of fertilizers, pesticides, seeds, etc is allowed now.

Why was this order made?

- This order was made so that harvesting would continue uninterrupted.
- This decision has been taken to facilitate unhindered farming activities to ensure essential supplies.
- It was also taken so that the farmers and common people do not face any difficulty.

What is AIKSCC's current concern?

- All India Kisan Sangharsh Coordinating Committee's (AIKSCC) concern is about all farmers/workers being shut behind the doors.
- The AIKSCC is concerned about this because now is the peak time to harvest winter crops (wheat, barley, pulses).
- It is worried about the fate of vegetables/fruit growers, milk producers, the landless labourers and their families.
- Everything can wait but not farming as a season lost means a year lost.
- It will lead to a major crisis in food availability and may result in large numbers of hunger deaths.

What does the AIKSCC want?

- The AIKSCC, in a representation to the government, had asked the police not to stop peasants, farmers, vendors and transporters.

- It demanded that all harvested crops, milk, poultry, meat and eggs should be procured.
- It demanded that the regulated markets should operate at requisite strength.

What were the activities that stopped abruptly?

- The lockdown was introduced without ensuring the continuation of provisions mandated under the National Food Security Act, 2013.
- Consequently, the **anganwadis** were closed.
- Therefore, supplementary nutrition for children below age six, adolescent girls, pregnant women and lactating mothers came to a stop.
- **Mid-day meal**, which reaches millions of school-going students, discontinued abruptly.
- The provision of **Rs. 6,000 to every pregnant & lactating** woman, mandated under the Maternity Benefit Act, also virtually ended.
- Officials have hindered with the **collection of non-timber forest produce** by the forest dwellers (allowed by the Forest Rights Act).
- This has caused hunger and distress to many tribal people.

What could the judiciary do?

- There is a harshness, arbitrariness and lack of thought and preparation in the execution of the lockdown.
- Starvation deaths on account of hunger and merciless police beatings have been reported from across the country.
- With the crisis spreading to agriculture, the judiciary must abandon this hands-off approach.
- It must carefully review its approach of modestly following the executive.

10.2 Oil Price Impact on Sugar Prices

Why in news?

The prices of raw sugar for May 2020 delivery at New York crashed to 9.75 cents per pound, the lowest closing for a nearest-month futures contract since June 2008.

Why have global sugar prices collapsed?

- All commodities have taken a demand hit from subdued economic activity and lockdowns imposed to combat the COVID-19 pandemic.
- But sugar is one commodity that, until quite recently, was on growth phase.
- [Most estimates showed global production in 2019-20 (October-September) to fall short of consumption by 8-9 million tonnes (mt).]
- One reason for the collapse now is the closure of restaurants, weddings and other social functions not taking place.
- People are also avoiding ice-creams and sweetened cold beverages that might cause throat infections.
- The impact of coronavirus-induced lockdowns on out-of-home consumption and institutional demand for sugar is thus obvious.
- Sugar consumption in India alone is said to dip by 1.5-2 mt in 2019-20, from the normal 25.5-26 mt levels.

Have oil prices played a role?

- The juice from crushing sugarcane can be crystallised into sugar or fermented into alcohol.
- When oil prices are high, mills (especially in Brazil) tend to divert cane for making ethanol (alcohol of 99%-plus purity) to be blended with petrol.
- In 2019-20 (April-March), only 34.32% of cane crushed by Brazilian mills went for manufacturing 26.73 mt of sugar.
- The rest was used to produce 31.62 billion litres of ethanol.



- But with oil prices falling, mills will not find it attractive to divert cane for ethanol.
- Brazil's mills are thus seen to produce up to 36 mt of sugar and hardly 26 billion litres of ethanol this year.

Will this affect India?

- Before COVID-19 happened, the Indian industry was expecting to export 5.5-6 mt of raw sugar in 2019-20.
- Mills had already entered into contracts of some 3.8 mt, out of which 3.05 mt have been shipped out so far.
- The sugar industry's woes from excess stocks are thus slow to happen aided by both exports and lower production.
- However, dip in sugar consumption, together with higher Brazilian output, is unfavourable for both Indian sugar mills and cane farmers.
- Nevertheless, in Indonesia, there is an increased import requirement.
- Also, it decided recently to slash the duty on Indian raw sugar from 15% to 5%.
- Indonesian refiners are projected to import 3.3 mt of raw sugar this year, up from 2.6 mt in 2019.
- They buy mostly from Thailand but Thailand is experiencing a bad drought which could lead to its production falling.
- This offers an opportunity for India.

What is the situation with respect to cane farmers?

- Decreasing exports and falling domestic use of sugar by institutional consumers has significantly undermined the mills' ability to make cane payments.
- E.g. Uttar Pradesh's factories have till now crushed cane worth roughly Rs 32,000 crore in the 2019-20 season.
- But they have managed to pay only around Rs 16,400 crore.
- The state government recently announced a scheme of mills giving "willing farmers" one quintal each of sugar for the next 3 months, instead of payments due.
- Moreover, the industry's problem is not from sugar alone.
- The lockdown has reduced off-take of alcohol, be it potable liquor or ethanol for blending with petrol.
- With cars and two-wheelers not running, oil market companies are not very keen to procure ethanol.

PRELIM BITS

11. HISTORY

Tablighi Jamaat

- Tablighi Jamaat, which literally means a society for spreading the faith, is a Sunni Islamic missionary movement.
- The proselytizing movement aims to reach out to ordinary Muslims and revive their faith, particularly in matters of ritual, dress, and personal behavior
- Its roots lie in the Deobandi version of the Hanafi school of jurisprudence.
- It was launched by Deoband cleric and prominent Islamic scholar Maulana Muhammad Ilyas Khandhalaw in 1927 in Mewat.
- Its emergence also coincided with Hindu proselytizing movements.
- Organizational Structure
- There is no defined structure for Tablighi Jamaat, but there exists a hierarchic network of elders and mosques.



- Originally, it used to be headed by the Ameer, who would preside over the shura (council), the core of the organisation, and deal with important matters including international congregations known as Aalmi Ijtama.
- **Spread of the movement** - After Partition in 1947, a Pakistan chapter was started in the town of Raiwind, Lahore. Currently, Bangladesh has one of the largest chapters.
- The Tablighi Jamaat also has a significant base in the United States and Britain, which has a large Indian subcontinent diaspora.
- It also has a presence in Indonesia, Malaysia, and Singapore.

Maulana Ilyaz

- Muhammad Ilyas (1884 - 1944) was an Indian Islamic scholar who founded the Tablighi Jamaat Islamic revivalist movement, in 1925, in Mewat province.
- Maulana Ilyaz taught at the Mazaharul Uloom in Saharanpur in the mid-1920s, a few hundred kilometers away were the economically and educationally backward Meo peasants, mostly Muslims who were largely practicing Hindu traditions.
- Maulana Ilyaz began bringing Meo Muslims back into the fold of traditional Islam.
- He trained several young men from Deoband and Saharanpur and sent them to Mewat, where the Tablighi Jamaat established a network of madrasas and Mosque.
- After the death of Maulana Inamul Hasan Kandhlawi, the third Ameer (1965-95), the post of Ameer was abolished, and Aalmi Shura (international advisory council) was appointed.
- After the death of Maulana Kandhlawi's son Zubair ul Hasan Kandhlawi in 2015, the movement has been marked by factionalism (camps in India, Pakistan and Bangladesh).

Acharya Prafulla Chandra Ray

- Acharya Prafulla Chandra Ray is known as "Father of Indian Chemistry", Prafulla Chandra Ray (1861-1944) was a well-known Indian scientist and teacher and one of the first "modern" Indian chemical researchers.
- He discovered the stable compound mercurous nitrite in 1896.
- The British Government first honoured him with the imperial title of CIE (Companion of the Indian Empire) and then with the Knighthood in 1919.
- In 1920, he was elected General President of the Indian Science Congress.
- As a nationalist he also wanted that the Bengalis should come up in the world of enterprise.
- He himself set an example by establishing a chemical firm called the Bengal Chemical and Pharmaceutical Works (1901).
- He was completely against the caste system and other irrational social systems and carried on work of social reformation till his death

Maulana Abul Kalam Azad

- Maulana Abul Kalam Azad was born on 11th November 1888 in Mecca, Saudi-Arabia.
- He was a proponent of Hindu Muslim unity, opposed to Partition.
- In 1912, Maulana Abul Kalam Azad started a weekly journal in Urdu called Al-Hilal which played an important role in forging Hindu-Muslim unity after the bad blood created between the two communities in the aftermath of Morley-Minto reforms.
- The government regarded Al- Hilal as propagator of secessionist views and banned it in 1914.
- Maulana Abul Kalam Azad supported the Non-Cooperation Movement started by Gandhiji and entered Indian National Congress in 1920.
- In 1923, he was elected as the president of Indian National Congress.
- He again became the president of Congress in 1940 and remained in the post till 1946.

- Some of his works are Basic Concept of Quran, Ghubar-e-Khatir, Dars-e-Wafa, India Wins Freedom, etc.
- In 1947, he became the first education minister of free India and remained at this post till his death in 1958.
- In his tenure, he did tremendous work for the upliftment of the country.
- Maulana Abul Kalam Azad was posthumously awarded India's highest civilian honour, Bharat Ratna in 1992.

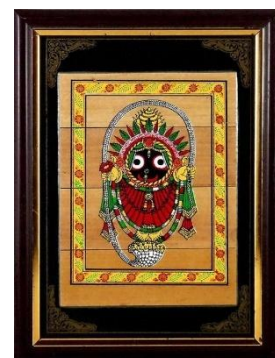
Dr. B R Ambedkar's Birth Anniversary

- Dr. B.R. Ambedkar was born on 14th April 1891 in Mhow, Central Province (now Madhya Pradesh).
- He was India's first Law Minister and was Chairman of the Drafting Committee for the new Constitution.
- He led the Mahad Satyagraha in March 1927 against Hindus who were opposing the decision of the Municipal Board to throw open the tank to all communities.
- He participated in all three Round Table Conferences.
- In 1932 Dr. Ambedkar signed the Poona pact with Mahatma Gandhi, which abandoned the idea of separate electorates for the depressed classes (Communal Award).
- His ideas before the Hilton Young Commission served as the foundation of the Reserve Bank of India (RBI).
- In 1936, he was elected to the Bombay Legislative Assembly as a legislator (MLA).
- He was appointed to the Executive Council of Viceroy as a Labour member in 1942.
- In 1947, Dr. Ambedkar accepted PM Nehru's invitation to become Minister of Law in the first Cabinet of independent India
- He resigned from the cabinet in 1951, over differences on the Hindu Code Bill.
- Contributions of Dr. Ambedkar are as follows
- **Organisations** - Bahishkrit Hitkarini Sabha (1923), Independent Labor Party (1936), Scheduled Castes Federation (1942).
- **Books** - Annihilation of Caste, Buddha or Karl Marx, The Untouchable: Who are They and Why They Have Become Untouchables, Buddha and His Dhamma, The Rise and Fall of Hindu Women
- **Journals** - Mooknayak (1920), Bahishkrit Bharat (1927), Samatha (1929), Janata (1930)
- **Panchteerath** - The Indian Government has set up Panchteerath in the memory of Dr BR Ambedkar.
 1. Amedbkar's birthplace in Mhow,
 2. The place in London where he stayed while studying in the UK
 3. Deeksha Bhoomi in Nagpur, where he took education
 4. Mahaparinirvan Sthal in Delhi, and
 5. Chaitya Bhoomi in Mumbai

12. ART & CULTURE

Pattachitra Painting

- Pattachitra style of painting is one of the oldest and most popular art forms of Odisha.
- The name Pattachitra has evolved from the Sanskrit words Patta, meaning canvas, and Chitra, meaning picture.
- Pattachitra is done on canvas and is manifested by rich colourful application, creative motifs and designs, and portrayal of simple themes, mostly mythological in depiction.





- The Pattachitra, when painted on cloth, follows a traditional process of preparation of the canvas.
- First, the base is prepared by coating the cloth with the soft, white, stone powder of chalk and glue made from tamarind seeds.
- It is a tradition to complete the borders of the painting first.
- The painter then starts making a rough sketch directly with the brush using light red and yellow.
- The colours used are normally white, red, yellow, and black.
- When the painting is completed it is held over a charcoal fire and lacquer is applied to the surface.
- This makes the painting water resistant and durable, besides giving it a shining finish.
- Some of the popular themes represented through this art form are
- Thia Badhia - depiction of the temple of Jagannath.
- Krishna Lila - enactment of Jagannath as Lord Krishna displaying his powers as a child.
- Dasabatara Patti - the ten incarnations of Lord Vishnu.
- Panchamukhi - depiction of Lord Ganesh as a five-headed deity.

New Additions to Intangible Cultural Heritage List

- Culture Ministry published a draft list of more than 100 items that are to be listed as intangible cultural heritage, which includes
- Traditional folk festival, Pachoti in Assam - where the birth of a baby, particularly a male infant as the tradition “relates to the birth of Krishna”, is celebrated with relatives and neighbours,
- Oral traditions of the transgender community called Kinnar Kanthgeet
- Compositions of Ameer Khusro are among the entries from Delhi.
- Gujarat’s Patola silk textiles from Patan with its geometric and figurative patterns also made it to the list.
- The practice of tying a turban or safa across Rajasthan was a part of the list.
- Kalam Bhat or Qalambaft gharana of Sufiana music in Budgam district, from Jammu and Kashmir.
- The making of khor, a rice beer, by the Tangkhul community in Manipur as well as other crafts associated with it, like making gourd vessels and wicker baskets, were also on the list.
- Kerala’s martial art form, Kalaripayattu.
- Practice of making Kolam, designs at the entrance of homes and temples in Kerala, Andhra Pradesh, Tamil Nadu and Andhra Pradesh.

Different forms of shadow puppet theatre

1. Chamadyacha Bahulya in Maharashtra,
2. Tolu Bommalatta in Andhra Pradesh,
3. Togalu Gombeyatta in Karnataka,
4. Tolu Bommalattam in Tamil Nadu,
5. Tolpava Kuthu in Kerala
6. Ravanchhaya in Orissa

World Heritage Day-2020

- In 1982, the International Council on Monuments and Sites (ICOMOS) announced, 18 April as the “World Heritage Day”, approved by the General Assembly of UNESCO in 1983.
- It aims to enhance awareness of the importance of the cultural heritage of humankind, and redouble efforts to protect and conserve the human heritage.



- A World Heritage site is classified as a natural or man-made area or a structure that is of international importance, and a space which requires special protection.
- These sites are officially recognized by the UN and the United Nations Educational Scientific and Cultural Organization, also known as UNESCO.
- To be selected, a World Heritage Site must be an already classified landmark, unique in some respect as a geographically and historically identifiable place having special cultural or physical significance.
- India ranks sixth in the largest number of heritage sites in the world, there are a total of 38 heritage sites in India, (Click here to read full list).
- Ministry of Tourism celebrated the World Heritage Day-2020 through a webinar series on Mamallapuram and Humayun's Tomb.
- **Mamallapuram** - Also called Mahabalipuram or Seven Pagodas, is a town that lies along the Coromandel Coast of the Bay of Bengal, 60 km south of Chennai.
- The town's religious centre was founded by a 7th-century Hindu Pallava King—Narasimhavarman, also known as Mamalla—for whom the town was named.
- It contains many surviving 7th- and 8th-century Pallava temples and monuments, chief of which are the sculptured rock relief popularly known as "Arjuna's Penance," or "Descent of the Ganges," a series of sculptured cave temples, and a Shiva temple on the seashore.
- The town's Five Rathas, or monolithic temples, are the remnants of seven temples, for which the town was known as Seven Pagodas. The entire assemblage collectively was designated a UNESCO World Heritage Site in 1984.
- **Humayun's Tomb** –It is the tomb of the Mughal Emperor Humayun in Delhi, India.
- The tomb was commissioned by Humayun's first wife and chief consort, Empress Bega Begum (also known as Haji Begum), in 1569-1570.
- It is the first garden-tomb on the Indian subcontinent.
- It represented a leap in Mughal architecture, and together with its accomplished Charbagh garden, typical of Persian gardens, but never seen before in India, it set a precedent for subsequent Mughal architecture.
- It was also the first structure to use red sandstone at such a scale.
- The tomb was declared a UNESCO World Heritage Site in 1993.

Edakkal Caves

- Edakkal Caves also Edakal, are two natural caves at Edakkal, around 120 km south-west of Mysuru, in Wayanad district of Kerala.
- The caves are situated 1,200 m (3,900 ft) above sea level on Ambukuthi Mala, on the Mysore Plateau, in the Western Ghats.
- It is believed to be camping shelters of the Neolithic community (the south Indian Neolithic culture zone).
- The cave walls contain a collection of Neolithic rock engravings and images.
- The major part of images on the cave walls may belong to late Neolithic period (i. e., first millennium BC).
- With the exception of Edakkal, no concrete evidence for the existence of a true Neolithic culture in Kerala has so far been discovered.
- The caverns at Edakkal are not technically caves, but rather a cleft, rift or rock shelter, fissure caused by a piece of rock splitting away from the main body.
- On one side of the cleft is a rock weighing several tons that covers the cleft to form the "roof" of the cave.
- Recently a huge crack has developed on the eastern part of Ambukuthi hills, on which the Edakkal caves are situated.



Bihu Festival

- Bihu is a set of three important Assamese festivals in the Indian state of Assam
- There are three types of Bihu namely
 1. Rongali or Bohag Bihu (Sowing festival) - It is the most important of the three, celebrating spring festival, observed in April.
 2. Kongali or Kati Bihu (Crop protection festival) - It is the somber, thrifty one reflecting a season of short supplies and is an animistic festival, observed in October.
 3. Bhogali or Magh Bihu - It is a harvest festival, with community feasts, observed in January.
- The Rongali Bihu coincides the Assamese New year and as well as with other regions of Indian subcontinent, East Asia and South-East Asia, which follow the Hindu calendar and Buddhist calendar.
- The other two Bihu festivals every year are unique to Assamese people.
- Like some other Indian festivals, Bihu is associated with agriculture, and rice in particular.
- The term Bihu is also used to imply Bihu dance otherwise called Bihu Naas and Bihu folk songs also called Bihu Geet.

Meru Jatra Festival

- Meru Jatra marks the end of the 21-day-long festival of penance named 'Danda Nata'.
- Danda Nata is celebrated in the month of 'Chaitra'.
- Danda as the name implies, is self-inflicted pain, which the danduas (people who participate in the festival) undergo to pay their obeisance to the lord Kali.
- It is also a form of worshipping the lord Shiva and his consort Parvati.
- The origin of the festival is generally traced to 8th and 9th AD after the decadence of Buddhism in Orissa.
- On the occasion of Mahavishub Sankranti thousands of devotees used to gather at the Tara Tarini hill shrine and other temples.
- Tara Tarini hill shrine, located at a hilltop on banks of the Rushikulya river, is a major centre of Shakti worship in Odisha.
- The twin goddesses Tara and Tarini represent one Shakti and are the main deity of Ganjam district (Odisha).
- Mahavishub Sankranti is the start of the Odia New Year.
- Odisha administrations has banned the famous Chaitra Jatra festival at Tara Tarini hill shrine as a precautionary measure against Covid-19 infection.

13. GEOGRAPHY

Indian Meteorological Department

Long Period Average

- Recently IMD has officially redefined the definition of what constitutes 'normal' rainfall and reduced it by 1 cm to 88 cm from 89 cm.
- Long Period Average (LPA) is the averages of rainfall received over a 50-year period between 1951 and 2001, this average comes to 88 cm of rainfall (according to recent change).
- This is the average rainfall recorded during the months from June to September, calculated during the 50-year period, and is kept as a benchmark while forecasting the quantitative rainfall for the monsoon season every year.
- IMD maintains five rainfall distribution categories on an all-India scale which are

1. **Normal or Near Normal:** When per cent departure of actual rainfall is $\pm 10\%$ of LPA, that is, between 96-104% of LPA
2. **Below normal:** When departure of actual rainfall is less than 10% of LPA, that is 90-96% of LPA
3. **Above normal:** When actual rainfall is 104-110% of LPA
4. **Deficient:** When departure of actual rainfall is less than 90% of LPA
5. **Excess:** When departure of actual rainfall is more than 110% of LPA

Rohtang Pass

- Rohtang Pass (elevation 3,978 m) is located in the state of Himachal Pradesh, It is present on the Pir Panjal Range of Himalayas.
- It connects the Kullu Valley with Lahaul and Spiti Valleys of Himachal Pradesh.
- The Ravi river rises west of the Rohtang pass in the Kullu hills of Himachal Pradesh.
- The world's longest tunnel (8.8km) above 10,000 feet -Rohtang Tunnel (Atal Tunnel) is under construction to connect villages in Lahaul-Spiti (Himachal Pradesh) to the rest of the country even during winters.
- The operation to clear snow is carried out every year as the pass remains snow-bound for almost six months, from mid-November to mid-May, isolating Lahaul and Spiti districts from the rest of the country.
- Recently Border Roads Organization (BRO) opened the Rohtang Pass, three weeks in advance, for transporting essential supplies and relief materials to Lahaul and Spiti districts of Himachal Pradesh amid the lockdown.

Mekong River

- The Mekong, or Mekong River, is a trans-boundary river in Southeast Asia.
- It is the world's twelfth longest river and the seventh longest in Asia.
- Its estimated length is 4,350 km (2,703 mi), and it drains an area of 795,000 km².
- From the Tibetan Plateau the river runs through China, Myanmar, Laos, Thailand, Cambodia, and Vietnam.
- The extreme seasonal variations in flow and the presence of rapids and waterfalls in the Mekong make navigation difficult.
- The river is a major trade route between western China and Southeast Asia.
- The Mekong River Commission (MRC) is an inter-governmental organization that works directly with the governments of Cambodia, Laos, Thailand, and Vietnam to jointly manage the shared water resources and the sustainable development of the Mekong River.
- China is building a dam in Lancang River, upper half of Mekong River.



Yarlung Tsangpo

- The Yarlung Tsangpo, is the longest river of Tibet Autonomous Region, China. It originates at Angsi Glacier in western Tibet, southeast of Mount Kailash and Lake Manasarovar.
- It is the upper stream of the Brahmaputra River. Downstream from Arunachal Pradesh the river becomes far wider and is called the Siang. After reaching Assam, the river is known as Brahmaputra.
- From Assam, the river enters Bangladesh, from there until about 200 years ago it used to flow eastward and joined the Meghna River, this old channel has been gradually dying.





- At present the main channel of the river is called Jamuna River, which flows southward to meet Ganges, which in Bangladesh is called the Padma.
- When leaving the Tibetan Plateau, the River forms the world's largest and deepest canyon, Yarlung Tsangpo Grand Canyon.
- India has long expressed concerns over dam-building on the Brahmaputra.
- In 2015, China operationalized its first hydropower project at Zangmu, while three other dams at Dagu, Jiexu and Jiacha are being developed.
- Indian officials have said the dams are not likely to impact the quantity of the Brahmaputra's flows because they are only storing water for power generation.
- Moreover, the Brahmaputra is not entirely dependent on upstream flows and an estimated 35% of its basin is in India.
- India does not have a water-sharing agreement with China, but both sides share hydrological data.

Kasowal Bridge

- BRO has constructed and opened a 484- metre long permanent bridge on the river Ravi to connect the Kasowal enclave of Punjab along the Pakistan border to the rest of the country.
- Kasowal enclave is around 35 square km, It was connected through a pontoon bridge of limited load capacity.
- The enclave was formed because it has the Ravi behind it and the International Border ahead of it.
- There are similar enclaves of Pakistani territory too, which lie ahead of Ravi and face Indian Territory.
- These Pakistani enclaves Dera Baba Nanak enclave and Jassar enclave were occupied by the Indian Army in the 1965 and 1971 wars.

Litchi Production

- The Litchi is an important sub-tropical evergreen fruit crop believed to have originated in China.
- It is highly specific to climatic requirements and probably due to this reason its cultivation is restricted to few countries in the world.
- In India, lychee was introduced in the 18th century through Burma, and from there, it spread to many countries.
- India and China account for 91 percent of the world lychee production but it is mainly marketed locally.
- Lychee being exacting in climatic requirement is confined to states of Bihar, Tripura, West Bengal, Uttar Pradesh, Punjab and Haryana.
- Of the total production of lychee in India, 74 percent is contributed by Bihar.
- The second largest lychee producing state is West Bengal followed by Tripura and Assam.
- Muzaffarpur district in Bihar accounts for almost 40% of the total litchi production in the country.
- The peak litchi season in India is between the third week of May and the second week of June.
- Due to Covid-19 pandemic litchi growers in India are facing huge losses.

Yanomami Tribes

- Brazil is home to an estimated 8,00,000 indigenous people from more than 300 ethnic groups.
- Guarani, Kaingang, Pataxó Hã Hã Hã Tupinambá, Yanomami, Tikuna and Akuntsu are popular tribe of Amazon.
- Yanomami, also called South American Indians, live in the remote forest of the Orinoco River basin in southern Venezuela and the northernmost reaches of the Amazon River basin in northern Brazil.
- They numbered around 27,000 individuals throughout their range.
- Yanomami live in small, scattered, semi-permanent villages and speak the Xirianá language.

- They practice hunting and slash-and-burn agriculture.
- Brazilian indigenous leader Davi Kopenawa who secured the land rights of the Yanomami people was awarded the Right Livelihood Award-2019, also known as Sweden's alternative Nobel Prize.
- Recently, a Yanomami indigenous boy died in Brazil after contracting Covid-19, raising fears for the Amazon tribes.

14. POLITY

Article 254

- Article 254 of the Indian Constitution deals with the doctrine of repugnancy.
- Repugnancy here is a legal term that means inconsistency between two or more parts of a legal instrument.
- Article 254(1) has been neatly summarized by the Supreme Court in *M. Karunanidhi versus Union of India* as, “where the provisions of a Central Act and a State Act in the Concurrent list are fully inconsistent and absolutely irreconcilable, the Central Act will prevail and the State Act will become void in view of the repugnancy.
- If the doctrine of repugnancy most often means that federal law trumps state law.
- However, the magic of Article 254(2) is that it allows state law to prevail under certain circumstances.
- In simple terms this means assent by the President after a state legislature passes a bill.
- If the central government agrees, then the process is quite seamless. If it doesn't, then states still have recourse to the Supreme Court.

Kerala Ordinance for Salary Deferment

- Kerala Government has approved the draft Ordinances for deferring six days' salary of government teachers and employees for six months and also on shelving the delimitation of local body wards in the wake of the crisis triggered by COVID-19.
- The Ordinance on salary deferment was necessitated following a stay order issued by the High Court on the government decision to defer the salary.
- The stay for two months was issued on the premise that it lacked legal sanction.
- The impediment for deducting the salary had been cleared with the Governor signing the ordinance and disbursement would commence on May 4.
- The deferred salary would be retained in a separate account and used for virus containment efforts.

Banking under Public Utility Service

- Union government has declared banking industry as a public utility service for six months till October 21 under the provisions of the Industrial Disputes Act.
- Bringing banking services under the provisions of this Act means that the banking sector would not see any strikes by employees or officers during the operation of the law starting from April 21.
- The notification was issued by the labour ministry on April 17 against the backdrop of the coronavirus pandemic which has significantly impacted economic activities.

SC verdict on NEET

- The National Eligibility cum Entrance Test-Under Graduate (NEET (UG)), succeeded from All India Pre-Medical Test (AIPMT) is an entrance examination in India for students who wish to study undergraduate medical courses (MBBS) and dental courses (BDS) in government or private medical colleges and dental colleges in India.

- NEET is conducted by the National Testing Agency (NTA), which provides the results to the Directorate General of Health Services at the Ministry of Health and Family Welfare.
- Prior to 2019, the test was administered by the Central Board of Secondary Education (CBSE) in partnership with Prometric Testing Pvt Ltd headquartered in the USA.
- NEET-UG replaced the All India Pre Medical Test (AIPMT) and all individual MBBS exams conducted by states or colleges themselves in 2013.
- However, many colleges and institutes had taken a stay order and conducted private examinations for admission to their MBBS and BDS courses.
- Undergraduate courses at the All India Institute of Medical Sciences in New Delhi and Jawaharlal Institute of Postgraduate Medical Education & Research (JIPMER) are outside the NEET's purview, as these institutes were set up by separate laws.
- SC recently held that the National Eligibility-cum-Entrance Test (NEET) is mandatory for admission to medical colleges run by religious and linguistic minority communities.
- NEET would apply for both aided and unaided medical colleges administered by minorities.
- Earlier Religious minority educational institutions reached SC, and argued that imposing NEET would violate their fundamental rights of religious freedom, to manage their religious affairs, to administer their institutions.
- They said the State was reneging its obligation to act in the best interest of minorities.
- Uniform entrance exams would ensure improvement in future public health by encouraging merit in furtherance of the Directive Principles enshrined in the Constitution.

15. GOVERNMENT INITIATIVES

Aarogya Setu

- The Government of India launched a mobile app developed in public-private partnership to bring the people of India together in a resolute fight against COVID-19.
- The App, called 'AarogyaSetu' joins Digital India for the health and well-being of every Indian.
- It will enable people to assess themselves the risk for their catching the Corona Virus infection.
- It will calculate this based on their interaction with others, using cutting edge Bluetooth technology, algorithms and artificial intelligence.
- Once installed in a smart phone through an easy and user-friendly process, the app detects other devices with AarogyaSetu installed that come in the proximity of that phone.
- The app can then calculate the risk of infection based on sophisticated parameters if any of these contacts is tested positive.
- The App will help the Government take necessary timely steps for assessing risk of spread of COVID-19 infection, and ensuring isolation where required.
- The App's design ensures privacy-first.
- The personal data collected by the App is encrypted using state-of-the-art technology and stays secure on the phone till it is needed for facilitating medical intervention.

New Features to e-NAM Platform

- e-NAM was launched in 2016 as a pan-India electronic trade portal linking Agricultural Produce Market Committee - APMCs across the States.
- As of now 585 mandis in 16 States and two Union Territories have been integrated on e-NAM portal.
- e-NAM provides for contactless remote bidding and mobile-based any time payment for which traders do not need to either visit mandis or banks for the same.

- Recently agriculture Ministry has launched new features of National Agriculture Market (e-NAM) Platform.
- It will help strengthen agriculture marketing by farmers which will reduce their need to come to wholesale mandis for selling their harvested produce, at a time when there is critical need to decongest mandis to effectively fight against COVID-19.
- These software modules are warehouse based trading module in e-NAM software and Farmer Producer Organization trading module in e-NAM.

Lifeline UDAN flights

- Under Lifeline UDAN, 97 flights have been operated by Air India, Alliance Air, IAF, Pawan Hans and private carriers.
- Aerial distance covered by Lifeline Udan flights till date is over 1 lakh km.
- The cargo includes COVID-19 related reagents, enzymes, medical equipment, testing kits, Personal protective equipment (PPE), masks, gloves, other materials of HLL and ICMR. Cargo requisitioned by State/UT Governments and also postal packets
- Lifeline Udan flights operate in a hub and spoke model.
- Cargo hubs have been established at Delhi, Mumbai, Chennai, Kolkata, Hyderabad and Bangalore.
- Lifeline Udan flights connect these hubs to locations like Guwahati, Dibrugarh, Agartala, Aizwal, Dimapur, Imphal, Coimbatore, Trivandrum, Bhubaneswar, Raipur, Ranchi, Port Blair and Goa. Special focus has been on the North East Region (NER), island territories and the hill states.
- Ministry of Civil Aviation, Air India and IAF have collaborated closely for last mile deliveries to Ladakh, Dimapur, Imphal, Guwahati and Port Blair.

VidyaDaan 2.0

- Ministry of HRD launched national program VidyaDaan 2.0 for inviting e-learning Content contributions.
- VidyaDaan is a common national programme to develop and contribute e-learning content and a chance to be recognized nationally.
- VidyaDaan is conceptualised as a common national program for individuals and organizations across the country to contribute e-learning resources for both school and higher education to ensure continuity of quality learning.
- The content will be used on the DIKSHA app to help millions of children across the country to continue their learning anytime and anywhere.
- The DIKSHA platform offers teachers, students and parents engaging learning material relevant to the prescribed school curriculum.

e-Raktkosh portal

- e-Raktkosh portal is a Centralized Blood Bank Management System.
- It is a comprehensive IT solution to standardize and streamline the standard operating procedures, guidelines and workflow of blood banks across the nation.
- It was inaugurated in 2016 by then Minister of Health and Family Welfare (MoHFW)
- It enforces Drug & Cosmetic Act, National blood policy standards and guidelines ensuring proper management of blood.
- e-Rakt Kosh has components for management of the blood donation life cycle which includes :
 1. The biometric Donor Management System
 2. Blood grouping,
 3. TTI screening,
 4. antibody screening,

5. A centralized Blood Inventory Management System
6. Bio-Medical Waste Management System for disposal of discarded blood

SAMADHAN Challenge

- Recently, a mega online challenge, SAMADHAN has been launched to test the ability of students to innovate.
- It is launched by the Innovation Cell of the Ministry of Human Resources Development and All India Council for Technical Education (AICTE).
- Under the challenge, the participating students will search and develop measures against Coronavirus.
- The challenge will inspire students and faculty for novel experiments and discoveries providing a strong baseline of experimentation.
- The newly developed measures can be made available to the government agencies, health services, hospitals and other services for the quick solution of such epidemics.
- The challenge will also create awareness among citizens and motivate them to face challenges, prevent crises and help them get livelihood.
- The success of this program depends on the effectiveness of the ideas of participating contestants with ability to find solutions, technically and commercially.

Operation SHIELD

- Recently Delhi administration has announced Operation SHIELD to fight COVID-19
- SHIELD stands for
- S - Sealing of the immediate area or surroundings after geographical marking.
- H - Home quarantine of all the people living in the area.
- I - Isolation and tracing of people who have been first and second contacts.
- E- Essential supply of commodities is ensured.
- L- Local sanitation of the area by authorities.
- D – Door to door health checks of everyone living in the area.
- It will be implemented in 21 localities identified as containment zones in Delhi

Initiatives for Improving Online Education Ecosystem

- **Bharat Padhe Online Campaign** - 'Bharat Padhe Online' is a week-long campaign up to 16th April, 2020 for crowdsourcing of ideas for improving the online education ecosystem of India.
- It aims to invite all the best brains in India to share suggestions/solutions directly with the HRD Ministry to overcome constraints of online education while promoting the available digital education platforms.
- Students and teachers are the main target audience in it.
- **YUKTI web-portal** - YUKTI (Young India Combating Covid with Knowledge, Technology and Innovation) is a unique portal and dashboard to monitor and record the efforts and initiatives of MHRD.
- It will also cover the various initiatives and efforts of the institutions in academics, research especially related to Covid-19, social initiatives by institutions and the measures taken for the betterment of the total wellbeing of the students.
- It aims to fulfil the goals of the Ministry in the wake of Covid-19 to keep the academic community healthy, both physically & mentally and to enable a continuous high-quality learning environment for learners.
- It will allow various institutions to share their strategies for various challenges which are there because of the unprecedented situation of Covid-19 and other future initiatives.
- The portal will also establish a two-way communication channel between the Ministry of HRD and the institutions so that the Ministry can provide the necessary support system to the institutions.



SATYAM Program

- Recently, the Department of Science and Technology (DST) has initiated the Science and Technology of Yoga and Meditation (SATYAM) programme.
- It was conceptualized in 2015 by the DST under its Cognitive Science Research Initiative (CSRI).
- To foster scientific research on the effects of yoga and meditation on physical & mental health and on cognitive functioning in healthy people as well as in patients with disorders.
- Investigations on the effect of Yoga and Meditation on physical and mental health and wellbeing.
- Scientists/academicians with research background in 'Yoga and Meditation' and having regular positions are invited to participate in this initiative.
- Practitioners actively involved in yoga and meditation practices are also encouraged to apply in collaboration with academic and research institutions of repute.
- The project is tenable for a maximum period of three years.
- Under SATYAM, DST has recently invited proposals to study appropriate intervention of yoga and meditation in fighting Covid-19 and similar kinds of viruses.

Green Zone State

- Union government announced the criteria for classifying districts into three zones depending on the level of outbreak in each district and relax restrictions post 20 April.
- According to this states will be demarcated into three zones
 1. **Red Zones** - The districts which will have to be classified as red zones include the "highest case load districts contributing to more than 80 per cent of cases in India" or the "highest case load districts contributing to more than 80 per cent of cases for each state in India" or "districts with doubling rate less than 4 days (calculated every Monday for last 7 days, to be determined by the state government)".
 2. **Orange Zone** - The areas with limited number of cases in the past and with no surge in positive cases recently would be included under the orange zone. Only restricted activities such as limited public transport and farm product harvesting is expected to be allowed in coronavirus
 3. **Green Zone** - Any district which has not reported a new case for 28 days will be classified as "Green Zones".
- Goa recently became the first zero COVID-19 State in the country with the last seven positive cases also turning negative.
- This makes Goa the first green State in the country with no case of coronavirus being reported from April 3.

e-Gram Swaraj Portal

- The e-GramSwaraj helps prepare and execute Gram Panchayat Development Plan (GPDP).
- The portal will ensure real time monitoring and accountability.
- The portal is a major step towards digitization down to the Gram Panchayat level.

World Wide Help

- IIT Bombay has developed a software that can greatly help with the demands of physical distancing necessitated by the coronavirus (COVID-19) pandemic.
- The software is named World Wide Help (WWH) which can be used to connect people seeking medical help with helpers, such as doctors.
- The other is a system to generate e-tokens that can be deployed by local markets and small vendors to ensure physical distancing.
- The WWH platform can be used with an app or a phone. The user simply calls a dedicated number and can input basic data such as the age of the person in need of help and whom they wish to solicit help from.

- This is registered as a task in the app and assigned to a primary helper who is a junior doctor or Medicare professional.
- Further, the task may be re-designated by the primary helper to a senior doctor, who is the second level of helper, or the primary helper may settle the issue through a phone call.
- Ma and Shishu Poshan, a helpline that provides nutrition and breast-feeding support for mothers and infants has been using this platform already.

16. GOVERNMENT SCHEMES

Pradhan Mantri Garib Kalyan Yojana

- The Union Finance & Corporate Affairs Ministry announced Rs 1.70 Lakh Crore relief package under Pradhan Mantri Garib Kalyan Yojana for the poor to help them fight the battle against Corona Virus.
- Following are the components of the Pradhan Mantri Garib Kalyan Package
- Insurance scheme for health workers fighting COVID-19 in Government Hospitals and Health Care Centres.
- Safai karamcharis, ward-boys, nurses, ASHA workers, paramedics, technicians, doctors and specialists and other health workers would be covered by a Special insurance Scheme.
- Any health professional, who while treating Covid-19 patients, meet with some accident, then he/she would be compensated with an amount of Rs 50 lakh under the scheme.
- All government health centres, wellness centres and hospitals of Centre as well as States would be covered under this scheme approximately 22 lakh health workers would be provided insurance cover to fight this pandemic.
- Click here to read more about PM- Garib Kalyan Yojana.

PM Garib Kalyan Ann Yojana

- Government of India would not allow anybody, especially any poor family, to suffer on account of non-availability of food grains due to disruption in the next three months.
- 80 crore individuals, i.e, roughly two-thirds of India's population would be covered under this scheme.
- Each one of them would be provided double of their current entitlement over next three months, this additionally would be free of cost.
- To ensure adequate availability of protein to all the above mentioned individuals, 1 kg per family, would be provided pulses according to regional preferences for next three months.
- These pulses would be provided free of cost by the Government of India.

Swamitva Scheme

- The Swamitva scheme which is launched in pilot mode in 6 states helps to map rural inhabited lands using drones and latest survey methods.
 - The scheme will ensure streamlined planning, revenue collection and provide clarity over property rights in rural areas.
 - This will open up avenues for applying for loans from financial institutions by the owners.
 - Disputes related to property would also be settled through the title deeds allotted through this scheme.
 - Objectives of the scheme are as follows
1. The scheme is piloted by the Panchayati Raj ministry.
 2. 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 recognized by the land revenue records department.



17. NATIONAL INSTITUTES

National Innovation Foundation

- National Innovation Foundation (NIF) is an autonomous body of the Department of Science and Technology (DST).
- It was set up in February 2000 at Ahmedabad, Gujarat to provide institutional support for scouting, spawning, sustaining and scaling up the grassroots innovations across the country.
- NIF conducts a biennial national competition for grassroots green technologies, developed by farmers, mechanics, artisans and others, through their own genius, without any recourse to professional help.
- To determine the feasibility of the commercializing of technology, NIF conducts market research and test marketing.
- NIF is mandated to build a national register of ideas, innovations and traditional knowledge (TK) practices related to agriculture, plants, animal health and human health.

Indian Council for Cultural Relations

- It is an autonomous organization under the administrative control of Ministry of External Affairs.
- It is involved in India's external cultural relations (cultural diplomacy), through cultural exchange with other countries and their peoples.
- It runs 36 cultural centers across the globe and its emphasis is on making India a hub of higher education.
- It was founded in 1950 by Maulana Abul Kalam Azad, independent India's first Education Minister.
- It has been assigned the responsibility of facilitating the celebration of the International Day of Yoga by Indian Missions/Posts abroad since 2015.
- It has instituted several awards, which are conferred upon the foreign nationals for their contributions in different fields, under its mandate of promoting India's cultural relations, Such awards include
- Distinguished Indologist Award - The annual "ICCR Distinguished Indologist Award" was instituted in 2015 during the First World Indology Conference hosted in India.
- Award is conferred upon a foreign scholar for his contribution in study, teaching and research in any of the fields of Indian Studies.
- World Sanskrit Award- The institution of annual "World Sanskrit Award" was announced during the 16th World Sanskrit Conference held in Bangkok in June 2015 recognizing the contribution of foreign scholars in promoting Sanskrit studies.
- Distinguished Alumni Award - Citation and Plaque: Recognizing the achievements of foreign students who studied in India. It was instituted in 2015.
- Gisela Bonn Award - Annual Gisela Bonn Award was instituted by ICCR in 1996 in the name of famous German journalist, writer, environmental activist and Indologist, Giesela Bonn, to honour her services to bolster Indo-German relations.

National Informatics Centre

- National Informatics Centre (NIC) was established in 1976, under the aegis of the Ministry of Electronics and Information Technology.
- NIC is credited with helping the Indian Government embrace IT in the 1990s, and has also helped disseminate E-Governance to the masses.
- NIC provides infrastructure to help support delivery of Government IT services and delivery of some of the initiatives of Digital India.
- From May 2019 the Government of India has set up the "Centre for Smart Governance" (CSG) and state governments have been suggested to go through CSG for IT projects they would previously have used NIC and private firms for.



Software Technology Parks of India

- Software Technology Parks of India, STPI is an autonomous society and it has 60 centers across the country.
- It is established in 1991 by the Indian Ministry of Electronics and Information Technology with the objective of encouraging, promoting and boosting the export of software from India.
- In view of COVID19 outbreak and consequent lockdown, union government decided to provide relief from payment of four month rental to the small IT units operating out of the Software Technology Parks of India.
- Most of these units are either Tech MSMEs or startups.
- Electronics and Information Technology Ministry will provide rental waiver to these units from 1st March till 30th June 2020.
- The total cost of the rental waiver provided to these units is estimated to be around five crore rupees.

Indian Strategic Petroleum Reserve

- Indian Strategic Petroleum Reserves Limited (ISPRL) is an Indian company responsible for maintaining the country's strategic petroleum reserves.
- ISPRL is a wholly owned subsidiary of the Oil Industry Development Board (OIDB), which functions under the administrative control of the Ministry of Petroleum and Natural Gas.
- ISPRL maintains an emergency fuel store of strategic crude oil enough to provide 10 days of consumption. Strategic crude oil storages are at three underground locations in Mangalore, Visakhapatnam and Padur (Udupi, Karnataka).
- All these are located on the east and west coasts of India which are readily accessible to the refineries.
- These strategic storages are in addition to the existing storages of crude oil and petroleum products with the oil companies and serve in response to external supply disruptions.
- Indian refiners maintain 65 days of crude storage, so India has overall reserve oil storage of 87 days.
- ISPRL have been filling ISPRL's caverns at Mangaluru and Udupi with crude oil to make the best use of the low international crude prices.

Indian Institute of Geomagnetism

- The Indian Institute of Geomagnetism is an autonomous research institution established by the Government of India's Department of Science and Technology.
- The facility is engaged in basic and applied research in geomagnetism, as well as allied areas of geophysics, atmospheric physics and space physics, as well as plasma physics.
- The Institute currently operates 12 magnetic observatories and actively participates in the Indian Antarctic Program.

18. BILATERAL ISSUES

WISTEMM

- The Indo-U.S. Fellowship for Women in Science, Technology, Engineering, Mathematics and Medicine (WISTEMM) program of Department of Science and Technology (DST) in association with Indo-U.S. Science & Technology Forum (IUSSTF) have provided international exposure to several women scientists.
- WISTEMM aims to provide opportunities to Indian Women Scientists, Engineers & Technologists to undertake international collaborative research in premier institutions in U.S.A, to enhance their research capacities and capabilities.
- The programme is run for two categories of women scientists---
- 1. Women Overseas Student Internship (Module I) for women students pursuing PhD,

2. Women Overseas Fellowship (Module II) for women with PhD degree and holding regular position at any recognized institution/laboratory in India.
- Around 20 women scientists have visited 20 leading institutions across the United States of America for furthering their research work and to get trained in the state of the art technologies related to their research.
 - The fellowship is for bright Indian women Citizen within the age bracket of 21 to 45 years.
 - The funding support extended under the program includes stipend, airfare, health insurance, contingency and conference allowances.

19. INTERNATIONAL ORGANISATIONS

Funding Pattern of WHO

- There are four kinds of contributions that make up funding for the WHO, these are
- **Assessed contributions** - Assessed contributions are the dues countries pay in order to be a member of the Organization.
- The amount each Member State must pay is calculated relative to the country's wealth and population.
- In recent years, assessed contributions to the WHO have declined, and now account for less than one-fourth of its funding.
- These funds are important for the WHO, because they provide a level of predictability and minimize dependence on a narrow donor base.
- **Specified voluntary contributions** - Voluntary contributions come from Member States (in addition to their assessed contribution) or from other partners.
- They can range from flexible to highly earmark.
- **Core voluntary contributions** - Core voluntary contributions allow less well-funded activities to benefit from a better flow of resources and ease implementation bottlenecks that arise when immediate financing is lacking.
- Voluntary contributions make up for most of the remaining funding.
- **PIP contributions** - Pandemic Influenza Preparedness (PIP) Contributions were started in 2011 to improve and strengthen the sharing of influenza viruses with human pandemic potential, and to increase the access of developing countries to vaccines and other pandemic related supplies.
- The United States is currently the WHO's biggest contributor, making up 14.67 per cent of total funding by providing USD 553.1 million.
- The US is followed by the Bill & Melinda Gates Foundation forming 9.76 per cent or USD 367.7 million.
- The biggest programme area where the money is allocated is polio eradication (26.51 per cent), followed by increasing access to essential health and nutrition services (12.04 per cent), and preventable diseases vaccines (8.89 per cent).
- Recently US administration threatened to freeze US funding to the World Health Organization (WHO), saying the international group had "missed the call" on the coronavirus pandemic.

Global Initiative on Sharing All Influenza Data

- GISAID is a public platform started by the World Health Organization (WHO) in 2008 for countries to share genome sequences.
- The GISAID Initiative promotes the international sharing of all influenza virus sequences, related clinical and epidemiological data associated with human viruses, and geographical as well as species-specific data associated with avian and other animal viruses
- This helps researchers understand how the viruses evolve, spread and potentially become pandemics.



- It actively promotes the development of novel research tools for the analysis of influenza data by helping developers to facilitate the integration or connection of their tools to analyze GISAID data.

The International Council on Monuments and Sites

- ICOMOS is a professional association that works for the conservation and protection of cultural heritage places around the world.
- Now headquartered in Paris, ICOMOS was founded in 1965 in Warsaw as a result of the Venice Charter of 1964, and offers advice to UNESCO on World Heritage Sites.
- The idea behind ICOMOS dates to the Athens Conference on the restoration of historic buildings in 1931, organized by the International Museums Office.
- The Athens Charter of 1931 introduced the concept of international heritage.
- In 1964, the Second Congress of Architects and Specialists of Historic Buildings, meeting in Venice, adopted 13 resolutions.
- The first created the International Charter on the Conservation and Restoration of Monuments and Sites, better known as Venice Charter; the second, put forward by UNESCO, created ICOMOS to carry out this charter.
- ICOMOS currently has over 10,100 individual members in 153 countries, 110 national committees and 28 international scientific committees.
- ICOMOS is a partner and founding member of the Blue Shield, which works to protect the world's cultural heritage threatened by wars and natural disasters.
- India is a member of ICOMOS.

Migration Policy Institute

- The Migration Policy Institute (MPI) is a non-partisan think tank established in 2001.
- MPI has been described as supportive of liberal immigration policies.
- MPI publishes an online journal, the Migration Information Source, which provides information, thoughts, and analyses of international migration and refugee trends.
- MPI organizes an annual Immigration Law and Policy Conference in New York.
- Migration Policy Institute has found that remittance flows between 2008 and 2009 declined by 5.5 per cent globally.

Singapore Convention on Mediation

- The Singapore Convention on Mediation is a United Nations (UN) treaty named after the country, will come into force on Sept 12 this year.
- It is also known as the United Nations Convention on International Settlement Agreements Resulting from Mediation.
- Qatar has ratified the international treaty, it is the third country to do so, following Singapore and Fiji.
- According to the convention's provisions, the treaty comes into force when at least three countries have ratified it.
- The convention makes it easier for commercial parties in a dispute to seek enforcement of international mediated settlement agreements by applying directly to the courts of countries that have ratified the treaty.
- Through mediation, parties in a cross-border dispute can attempt to negotiate a new deal, facilitated by a neutral third-party mediator, to salvage a commercial relationship which would otherwise disintegrate if the litigation or arbitration routes are taken.
- Presently, because a settlement agreement made in one country has no legal force in another, a party seeking to enforce a mediated settlement agreement in another country or multiple countries will have to commence legal proceedings in each country.



- This can potentially be costly and time-consuming, especially for international settlement agreements.
- Under the convention, a party seeking enforcement of a mediated settlement agreement can apply directly to the courts of countries that have signed and ratified the treaty.
- This allows businesses to easily enforce such settlement agreements across borders.
- As of now 52 countries has signed the convention, including economic heavyweights the United States and China.
- In recent years, Singapore plans to establish as an international dispute resolution center, including setting up the Singapore International Arbitration Centre and the Singapore International Commercial Court.

20. INTERNATIONAL ISSUES AND EVENTS

Haftar forces

- Khalifa Belqasim Haftar is is the Commander of the Libyan National Army (LNA).
- In 2015, he was appointed commander of the armed forces loyal to the elected legislative body, the Libyan House of Representatives.
- Under Haftar's leadership, LNA replaced nine elected municipal councils by military administrators, and as of May 2019, was engaged in the Second Libyan Civil War.
- Recently LNA rained rockets on the Libyan capital city Tripoli, several homes were hit around Mitiga airbase, the capital's functioning airport.
- The UN-recognised Government of National Unity, which has been battling an offensive against the capital for just over a year, accused Haftar's forces of taking revenge against Tripoli's civilian population following their losses on Monday.
- The unity government recaptured the coastal cities of Sorman and Sabratha and several inland towns.

Zero yield

- U.S. state department suspects that China may have secretly set off low-level underground nuclear test explosions despite claiming to observe an international pact banning such blasts.
- Zero yield refers to a nuclear test in which there is no explosive chain reaction of the type ignited by the detonation of a nuclear warhead.
- U.S. concerns about Beijing's possible breaches of a "zero yield" standard for test blasts have been prompted by activities at China's Lop Nur nuclear test site throughout 2019.
- China's possible preparation to operate its Lop Nur test site year-round, its use of explosive containment chambers, extensive excavation activities at Lop Nur and a lack of transparency on its nuclear testing activities raise concerns regarding its adherence to the zero yield standard.
- Beijing's lack of transparency included blocking data transmissions from sensors linked to a monitoring centre operated by the international agency that verifies compliance with a treaty banning nuclear test explosions.

21. ECONOMY

Fully Accessible Route

- RBI has introduced a separate channel namely Fully Accessible Route (FAR), to enable non - resident to invest in specified government bonds with effect from April 1
- The move follows the union budget announcement that certain specifies categories of government bonds would be opened fully for nonresident investors without any restrictions
- Eligible investors can invest in specifies categories of government securities without being subject to any investment ceilings this scheme shall operate along with the two existing routes



- Medium Term Framework (MTF) - The scheme was aimed at drawing in foreign investors who are willing to commit to keeping money in India for a minimum period of time.
- In return, they will get more operational freedom than regular foreign debt investors.
- This will substantially ease access of nonresidents to Indian government securities market and facilitate inclusion in global bond indices this would facilitate inflow of stable foreign investment in government bonds
- Voluntary retention route (VRR) - which allows investors easier rules in return for a commitment to remain invested for a longer period.
- This was first suggested in October 2018 against the backdrop of a weakening Indian rupee.
- The route has seen considerable success, particularly in the corporate debt segment.
- Data of Clearing Corporation of India Ltd. showed that Rs 41,583 crore have come in via this route.
- Of this, Rs 2,890 crore has come into government bonds.

Price Monitoring & Resource Unit

- Price Monitoring & Resource Unit (PMRU) has been set up by National Pharmaceutical Pricing Authority (NPPA) in J&K recently.
- It will be funded by NPPA for its recurring and non-recurring expenses.
- PMRU will help NPPA and State Drug Controller in ensuring availability and accessibility of medicines at affordable prices.
- PMRUs have already been set up by NPPA in 11 States, including, Kerala, Odisha, Gujarat, Rajasthan, Punjab, Haryana, Nagaland, Tripura, Uttar Pradesh, Andhra Pradesh and Mizoram.
- The PMRU, a registered society, shall function under the direct control and supervision of State Drug Controller of Jammu & Kashmir.
- It is also expected to organize seminars, training programs and other information, education and communication (IEC) activities in the areas of availability and affordability of medicines for all.
- PMRU will also collect samples of medicines, collect and analyse data and make reports with respect to availability and over-pricing of medicines for taking action under the provisions of Drug Price Control Order (DPCO).
- This assumes added significance as PMRU, J&K will assist NPPA and Governments in checking overpricing and identifying causes & addressing local issues of shortages/hoarding in the current situation when country is fighting the COVID-19 pandemic.

Targeted Long Term Repo Operation

- LTRO is a tool that lets banks borrow one to three-year funds from the central bank at the repo rate, by providing government securities with similar or higher tenure as collateral.
- This helps banks get funds for a longer duration as compared to the short-term (up to 28 days) liquidity provided by the RBI through other tools such as liquidity adjustment facility (LAF) and marginal standing facility (MSF).
- It is called 'Targeted' LTRO as in this case, the central bank wants banks opting for funds under this option to be specifically invested in investment-grade corporate debt
- LTROs provide banks with access to cheaper capital from the RBI.
- This, in turn, encourages them to lend more and spur economic activity.
- They can also invest these long-term funds in assets that yield better returns to improve profitability.
- Also, as banks provide government securities as collateral, the demand for such government bonds increases and helps in lowering yield.
- RBI stipulated that small and mid-sized NBFCs and micro-finance institutions (MFIs) should receive at least 50% of these funds.



- Banks can avail Rs.50,000 crore through the targeted long-term repo operation.
- Under which, banks have to invest the funds availed under targeted long-term repo operation (TLTRO), in investment grade bonds, commercial paper, and non-convertible debentures of NBFCs.
- These investments have to be made within one month of availing liquidity from the RBI.
- Investments made by banks under this facility would be classified as 'held-to-maturity' (HTM), even in excess of 25% of the total investment permitted to be included in the HTM portfolio.
- The regulator has also allowed non-banking institutions to extend the date for commencement for commercial operations (DCCO) by an additional one year, without treating the same as restructuring, if the project is delayed due to reasons beyond the control of the promoter.

CARES Programme

- The Government of India and the Asian Development Bank (ADB) today signed a \$1.5 billion loan that will support the government's response to the novel coronavirus disease (COVID-19) pandemic.
- The loan agreement for the ADB's COVID-19 Active Response and Expenditure Support Programme (CARES Programme) will provide budget support to the government to counter and mitigate the adverse health and socio-economic impact of the pandemic.
- The CARES Programme is provided as the first support to meet the immediate requirements of the government.
- Building on the CARES Programme, ADB is also in dialogue with the government for further possible support for stimulating the economy, support strong growth recovery, and to build resilience to future shocks.
- This includes the support for the affected industries and entrepreneurs particularly micro, small, and medium-sized enterprises (MSMEs) by facilitating their access to finance through credit guarantee schemes, MSME integration into global and national value chains through enterprise development centers, and a credit enhancement facility for infrastructure projects.

Exchange Traded Fund

- An Exchange-Traded Fund (ETF) is a basket of securities that trade on an exchange, just like a stock.
- ETF reflects the composition of an Index, like BSE Sensex. Its trading value is based on the Net Asset Value (NAV) of the underlying stocks (such as shares) that it represents.
- ETF share prices fluctuate all day as it is bought and sold.
- This is different from mutual funds that only trade once a day after the market closes.
- An ETF can own hundreds or thousands of stocks across various industries, or it could be isolated to one particular industry or sector.
- In FY21, the Centre also plans to issue the Debt Exchange Traded Fund comprising government securities to widen the base of investors.
- This will enable retail investors, who otherwise find it difficult to buy government bonds directly, take an exposure in this risk free instrument.

Deferred Counter Cyclical Capital Buffer (CCyB)

- CCyB is the capital to be kept by a bank to meet business cycle related risks.
- It is aimed to protect the banking sector against losses from changes in economic conditions like recession.
- This is an important theme of the Basel III norms.
- Recently RBI has deferred the implementation of Counter Cyclical Capital Buffer (CCyB) for banks.
- It has decided that it is not necessary to activate CCyB for a period of one year or earlier, as may be necessary.



22. ENVIRONMENT

Community Forest resources Guidelines

- Community forestry is an evolving branch of forestry whereby the local community plays a significant role in forest management and land use decision making by themselves in the facilitating support of government as well as change agents.
- It involves the participation and collaboration of various stakeholders including community, government and non-governmental organisations (NGOs).
- The level of involvement of each of these groups is dependent on the specific community forest project, the management system in use and the region.
- It gained prominence in the mid-1970s and examples of community forestry can now be seen in many countries including Nepal, Indonesia, Korea, Brazil, India and North America.
- A study was commissioned by the Ministry of Tribal Affairs (MoTA) in 2019 to create state level guidance for sustainable resource usage in Community Forest Resource (CFR) submitted its report.
- The report of the study highlighted Community forest resource (CFR) rights are given under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA), the Energy and Resource Institute (TERI).
- According to the report
 1. MoTA must issue broad guidelines and principles for implementation of CFRs, mentioning specific role of the state forest department, state tribal/social welfare department, revenue department and gram sabhas
 2. State governments should prepare state-specific guidelines on the basis of MoTA's guidelines
 3. MoTa should focus on capacity-building of gram sabha members, assessment of the biomass stock and biodiversity conservation
 4. Focus on capacity building programmes to educate various stakeholder government departments about the acts/schemes/policies
 5. The micro-plans prepared by gram sabha for their respective CFR should be a part of the working plans of forest division concerned, so that forest staff could facilitate the implementation of sustainable forest management.

Forest Rights Act

- The 73rd Amendment to the Constitution of India empowered the third tier of democratic government (gram panchayats/ gram sabhas) for local self-governance.
- FRA and the Provisions of Panchayats (Extension to Scheduled Areas) Act, 1996 further empowered gram sabhas.
- Now the gram sabhas are supreme instead of the forest department.
- But this doesn't mean that the provisions of the national forest policy or the various court orders regarding resource usage from forest will not apply to them.
- It means that now they'll have to manage these areas themselves.
- Under FRA, a village can get its traditionally held forest land, legally recognized as CFR.
- The FRA gives gram sabhas "right to protect, regenerate or conserve or manage any community forest resource which they have been traditionally protecting and conserving for sustainable use."

Common Bio-Medical Waste Treatment Facilities

- Central Pollution Control Board (CPCB) has marked Common Bio-Medical Waste Treatment Facilities (CBWTFs) as a key factor in the race to contain the coronavirus outbreak.
- But the last available countrywide update on these facilities from 10 months ago presents a grim picture.



- Currently, in India, there are around 200 Common Bio-Medical Waste Treatment Facilities (CBMWTFs) in operation which is inadequate for health facilities in 750 districts of the country.
- There is a great need for rapid development of more CBMWTFs to fulfill the need of treatment and disposal of all BMW generated in India.
- CPCB's order mandates that Isolation wards, sample collection centers, and laboratories are all mandated to keep a separate 'COVID-19' waste collection bin in a temporary storage room.
- CBWTFs are to identify this separately-labeled waste for priority treatment and disposal.
- According to NGT even though 20 years had passed since the Supreme Court issued directions on dealing with solid waste management, no progress was made by states and that timelines set under the Municipal Solid Waste Rules, 2016, had expired.

SPECIES IN NEWS

COVID-19 on Tigers

- A tiger named Nadia, at the Bronx Zoo, in New York, US died, had tested COVID-19 positive.
- It is believed to have been infected by an asymptomatic zookeeper.
- In India NTCA is puzzled on whether the tiger should be tested for the novel coronavirus disease.
- However, it was unlikely to be enough to test for COVID and given the remoteness of the forests and lockdown in effect, would likely degrade and be unsuitable for testing
- The Bronx Zoo case led to India's Central Zoo Authority alerting all zoos to monitor animals 24x7 for signs of abnormal behavior. It mentioned cats, ferrets and primates.
- The designated testing centers are the
 1. National Institute of High Security Animal Disease, Bhopal;
 2. National Research Centers on Equines, Haryana;
 3. Centre for Animal Disease Research and Diagnostics,
 4. Indian Veterinary Research Institute, Uttar Pradesh.
- The directive to Wildlife Wardens in States and reserves adds that tigers ought to be observed for symptoms consistent with COVID-19 such as respiratory signs of nasal discharge, coughing and labored breathing and that personnel handling tigers have to be ascertained negative.

Trimeresurus salazar

- Trimeresurus salazar is a new species, the fifth variety of reptile to have been discovered in Arunachal Pradesh in a little more than a year.
- Salazar's pit viper belongs to the genus Trimeresurus Lacépède comprising charismatic venomous serpents with morphologically as well as ecologically diverse species.
- Pit vipers are venomous snakes distinguished by their heat-sensing pit organs between the eye and the nostril.
- The other two species are the Arunachal pit viper, India's fifth brown pit viper but with a reddish tinge, and a natricid burrowing snake similar to the shieldtail snake found in the Western Ghats.
- At least 48 species are known to be distributed across east and southeast Asia, of which at least 15 occur in India.
- Of the species recorded from India, seven had been found in the northeast before the Salazar's pit viper, collected from the Pakke Tiger Reserve in Pakke-Kessang district, and was identified as a separate species.
- The green pit viper found in Arunachal Pradesh has a link with fictional work Harry Potter.
- A group of researchers who recorded this serpent has named it Salazar's pit viper.





- The name was inspired by Salazar Slytherin, the co-founder of J.K. Rowlings' fictional Hogwarts School of Witchcraft and Wizardry.

Devanahalli Pomelo

- The Devanahalli pomelo (also called Devanahalli Pomello in official documents) is a variety of the citrus fruit pomelo (*Citrus maxima*) of the family Rutaceae.
- It is exclusively grown in the region around Devanahalli taluk, Bangalore Rural District, India, as an exotic crop variety.
- It is protected under the Geographical Indications of Goods (Registration & Protection) Act (GI Act) 1999 of the Government of India.
- Its sweet taste and flavour are considered to be better than those of other varieties in the market.
- Armed with its unique taste and flavour and a Geographical Indication tag, the Devanahalli Pomelo, the fruit popularly known as chakota, is set to get a push from various quarters.
- Number of farmers growing the fruit had come down owing to urbanization and change in landscape
- The Horticulture Department plans to provide the plant to interested farmers in Devanahalli and Doddaballapur regions.



Madhuban Gajar

- Madhuban Gajar, is a biofortified carrot variety with high β -carotene and iron content.
- It is developed by Shri Vallabhhai Vasrambhai Marvaniya, a farmer scientist from Gujarat, it is benefitting more than 150 local farmers in the area.
- It is being planted in an area of over 200 hectares in Junagadh, and the average yield, which is 40-50 t/ha, has become the main source of income to the local farmers.
- The variety is being cultivated in more than 1000 hectares of land in Gujarat, Maharashtra, Rajasthan, West Bengal, Uttar Pradesh during the last three years.
- The Madhuban Gajar is a highly nutritious carrot variety developed through the selection method with higher β -carotene content (277.75 mg/kg) and iron content (276.7 mg/kg) dry basis and is used for various value-added products like carrot chips, juices, and pickles.
- Among all the varieties tested, beta-carotene and iron content were found to be superior.
- For his innovation Shri Vallabhhai Vasrambhai Marvaniya was conferred with a National Award by the President of India, during Festival of Innovation (FOIN) 2017 and conferred with Padma Shri in the year 2019 for his extraordinary work.

PROTECTED AREAS

Dehing Patkai Elephant Reserve

- Saleki is a part of the Dehing Patkai Elephant Reserve that includes the Dehing Patkai Wildlife Sanctuary covering 111.19 sq km of rainforest and several reserve forests in Sivasagar, Dibrugarh and Tinsukia districts.
- It is a part of the elephant reserve in Assam adjoining Arunachal Pradesh's Deomali Elephant Reserve with "a sizeable population of elephants."
- Recently National Board for Wild Life (NBWL) has recommended coal mining in a part of Dehing Patkai elephant reserve in Assam.

Agasthyavanam

- Established in 1997, Agasthyavanam Biological Park is a wildlife sanctuary in Kerala.
- The park is located near Thiruvananthapuram, the capital city of Kerala.



- Agasthyavanam Biological Park is spread over an area of 23 sq. km., of which 17.5 sq. km. of the park has been dedicated for natural regeneration to develop into a dense forest.
- It is contiguous to Neyyar Wildlife Sanctuary and Peppara Wildlife Sanctuary.
- The rest area of the park is left for systematic conservation programs.
- The park has been named after the Agasthyamalai Agasthyakoodam Peak, which can be seen at a distance from the park.
- Forest Department is procuring forest produce collected by the tribespeople of the Agasthyavanam Biological Park (ABP) and surrounding forest ranges to be sold to commercial establishments and various collectives to deal with the lockdown necessitated by the COVID-19 pandemic

23. AGRICULTURE

Nutrient Based Subsidy Scheme

- Government provides fertilizers, Urea and 21 grades of P&K fertilizers to farmers at subsidized prices through fertilizer manufacturers/importers.
- In accordance to its farmer friendly approach, the Govt is committed to ensure the availability of P&K fertilizers to farmers on affordable price.
- The subsidy on P&K fertilizers is being governed by NBS Scheme from 2010.
- Nutrient Based Subsidy (NBS) Scheme is being implemented , since 2010 by the Department of Fertilizers, Ministry of Chemicals & Fertilizers.
- Under NBS, a fixed amount of subsidy decided on an annual basis, is provided on each grade of subsidized Phosphatic & Potassic (P&K) fertilizers depending on its nutrient content.
- The NBS scheme, was sought to deregulate subsidy on non-urea fertilizers and expected to reduce the subsidy burden substantially.
- While the NBS certainly did not lead to any decline in subsidy on fertilizer, it did lead to worsening of soil nutrient quality, along with shortages and price increases in all three types of major nutrients, namely Nitrogenous, Phosphoric and Potassic.
- An undesirable outcome has been the change in fertilizer mix.
- As against the recommended Nitrogen (N): Phosphorous (P): Potassium (K) ratio of 4:2:1, the NPK ratio in 2013-14 was 8.2:3.2:1.
- The environmental damage caused by the inappropriate use of fertilizers is certainly a matter of serious concern in many states.
- Recently Union government has cut the subsidy for non-urea fertilizers this year to ₹ 22,186 crore.
- That is about 3% lower than the ₹ 22,875 crore which was the estimated expenditure on the nutrient based subsidies in 2019-20.
- The Cabinet Committee on Economic Affairs decided to reduce the subsidy for nitrogen-based fertilizers to ₹ 18.78 per kg, for phosphorous-based fertilizers to ₹ 14.88 per kg, and set the subsidy for potash-based fertilizers at ₹ 10.11 per kg.
- And while the subsidy for sulphur-based fertilizers had been raised last year to ₹ 3.56 per kg, from ₹ 2.72 per kg, this year it has been slashed to just ₹ 2.37 per kg.
- The CCEA also approved the inclusion of a complex fertilizer, ammonium phosphate, under the nutrient-based subsidy scheme.
- The subsidy component on retail price of fertilizers is announced at the beginning of the fiscal and subsequent changes in raw material cost, import price and currency fluctuations get reflected in the retail price.



National Commission on Farmers

- In 2004, the Union government formed the National Commission on Farmers (NCF) with MS Swaminathan as its chairman.
- The main aim of the committee was to come up with a sustainable farming system, make farm commodities cost-competitive and more profitable.
- It, in 2006, recommended that MSPs must be at least 50% more than the cost of production.
- It talked about the cost of farming at three levels:
- A2: All the types of cash expenditure to generate the crop like seeds, manure, chemicals, labour costs, fuel costs and irrigation costs.
- A2+FL: It includes A2 plus an imputed value of unpaid family labour.
- C2: Under C2, the estimated land rent and the cost of interest on the money taken for farming are added to A2 and FL.

Pricing Policy for Sugarcane

- The pricing of sugarcane is governed by the statutory provisions of the Sugarcane (Control) Order, 1966 issued under the Essential Commodities Act (ECA), 1955.
- Prior to 2009-10 sugar season, the Central Government was fixing the Statutory Minimum Price (SMP) of sugarcane and farmers were entitled to share profits of a sugar mill on 50:50 basis.
- As this sharing of profits remained virtually unimplemented, the Sugarcane (Control) Order, 1966 was amended in October, 2009 and the concept of SMP was replaced by the Fair and Remunerative Price (FRP) of sugarcane.
- States also announce a price called the State Advisory Price (SAP), which is usually higher than the SMP.
- The advised or remunerative price shall always be higher than the minimum price in accordance with the provisions of the Sugarcane (Control) Order, 1966, issued under Section 16 of the Uttar Pradesh Sugarcane (Regulation of Supply and Purchase) Act, 1953.
- A Constitution Bench of the Supreme Court recently held that both the Central and State governments have the power to fix the price of sugarcane under the Concurrent List of the Constitution.
- According to the judgment it is only when the advised price fixed by the State government is lower than the minimum price fixed by the Central government, the provisions of the Central enactments will prevail and the minimum price fixed by the Central government will prevail.
- So long as the advised price fixed by the State government is higher than the minimum price fixed by the Central government, the same cannot be said to be void under Article 254 of the Constitution.

Army Worm Attack

- Fall Armyworm (FAW) is a dangerous transboundary insect with a high potential to spread rapidly due to its natural distribution capacity and opportunities presented by international trade.
- The Food and Agriculture Organization (FAO) has launched a Global Action for FAW Control as a response to the international threat posed by the armyworms.
- Recently Directorate of Agriculture has reported an armyworm attack on the standing crops in the northeastern Dhemaji district of Assam.
- The pest attack has added to sorrows of the already worried farmers, due to the Covid-19 pandemic.
- The weather is a factor because there are no pre-monsoon rains in Assam yet and the temperature is very high now.
- The armyworm can cause more damage in the absence of rain.
- Another major issue is reaching out to farmers, all the roads and gaps have been blocked due to the fear of contracting coronavirus.



24. SCIENCE AND TECHNOLOGY

SPACE

Primordial Black Holes

- Primordial Black Holes (PBH) were formed during the Hot Big Bang phase.
- PBH can be massively large as 3000kms or be extremely tiny like nucleus of an atom.
- It is believed that they are formed as a result of collapsing radiations as opposed to the collapse of massive stars, which is the case of any other black holes.
- A recent study on Primordial black holes has confirmed that this marginal rise in potential energy resulted in birth of several PBHs and also emitted very powerful gravitational waves.
- Inter University Centre for Astronomy and Astrophysics (IUCAA), has studied primordial black holes that were born as a result of a tiny bump in the potential energy levels of the universe, at a time when it was expanding rapidly.
- After big bang the universe had expanded to nearly 10^{27} times its original size, that too, within just fraction of a second by the time Cosmic Inflation phase concluded.
- Thereafter, the remnant energy possessed by gravitational force got converted mainly into photons (light) in addition to protons, electrons, neutrons and other particles.
- As the universe continued to grow exponentially during the Cosmic Inflation phase, it sent across tiny quantum jitters.
- These fluctuations, released in a specific fashion, when sufficiently large, slowly give birth to galaxies and stars and there is a bump in energy.
- Among those that were significantly large, helped form PBHs.
- The bump in energy then produces PBHs besides triggering very strong gravitational waves.
- While not all declining energy showcased similar energy bumps, and hence, PBHs were not born in all instances.

Merger of two Black holes

- For the first time since it started functioning, the gravitational wave observatories at LIGO scientific collaboration have detected a merger of two unequal-mass black holes.
- The event, dubbed GW190412, was detected nearly a year ago, and this is almost five years after the first ever detection of gravitational wave signals by these powerful detectors.
- Subsequent analysis of the signal coming from the violent merger showed that it involved two black holes of unequal masses coalescing, one of which was some 30 times the mass of the Sun and the other which had a mass nearly 8 times the solar mass.
- The actual merger took place at a distance of 2.5 billion light years away.
- The detected signal's waveform has special extra features in it when it corresponds to the merger of two unequal-sized black holes as compared with a merger of equal-sized black holes.
- Pointing out the difference between binary black holes with equal masses and those with different masses, Dominant emission of gravitational waves happens at twice the orbital frequency of the binary.

Apollo Mission to Moon

- After Apollo 11, the successful crewed mission that made Neil Armstrong the first human to set foot on the Moon, NASA sent six more missions between 1969 and 1972.
- Of these, five succeeded (Apollos 12, 14, 15, 16, and 17) at landing humans on the lunar surface.
- By 2024, the space agency plans to send the first woman and the next man aboard the Artemis mission.



- The Apollo 13 mission was launched from the Kennedy Space Centre in Florida on April 11, 1970, aboard the Saturn V SA-508 rocket.
- Apollo 13 was NASA's seventh crewed mission in the Apollo space program and the third that was to land on the Moon.
- Apollo 11 and 12 – the previous two missions had landed on lunar maria, the dark patches on the near side of the Moon which provide comparatively easier landing abilities.
- Apollo 13 was supposed to make a more challenging landing near the Fra Mauro Crater. Two days into the mission, an explosion caused the oxygen tank in the service module to fail.
- While Apollo 13 did not land on the lunar surface, it was able to return photographs that it took when it looped around the Moon.
- **Fra Mauro formation** - The Fra Mauro formation (or Fra Mauro Highlands) is a formation on the near side of Earth's Moon that served as the landing site for the American Apollo 14 mission in 1971.
- It is named after the 80-kilometer-diameter crater Fra Mauro, located within it. The formation, as well as Fra Mauro crater, take their names from a 15th-century Italian monk and mapmaker of the same name.
- Apollo 13 was originally scheduled to land in the Fra Mauro highlands, but was unable due to an in-flight technical failure.

Research on Blazars

- Gamma-ray flux variability of luminous and high energy blazars: clues to blazar emission mechanisms
- At the center of most galaxies, there's a massive black hole that can have mass of millions or even billions of Suns that accrete gas, dust, and stellar debris around it.
- As these material falls towards the black hole, their gravitational energy gets converted to light forming active galactic nuclei (AGN).
- A minority of AGN (~15%) emit collimated charged particles called jets, travelling at speeds close to the speed of light.
- Blazars are AGN whose jets are aligned with the observer's line of sight.
- Some blazars are thought to host binary black holes in them and could be potential targets for future gravitational-wave searches.
- Blazars are the most luminous and energetic objects in the known universe were found to be emitters of gamma-rays in the 1990s.
- Researchers from the Indian Institute of Astrophysics (IIA), have conducted the first systematic study on the gamma-ray flux variability nature on different types of blazars.
- Their study could provide clues to the processes happening close to the black hole, not visible through direct imaging.
- One of the open problems in high energy astrophysics is to localize the site for the production of gamma-rays.
- Variability studies in the high energy gamma-ray band can help one to locate the high energy emission site and the high energy emission process.
- Therefore, the variability analysis in the gamma-ray band carried out in this work is significant.

Major Atmospheric Cerenkov Experiment Telescope

- Major Atmospheric Cerenkov Experiment Telescope (MACE) is an Imaging Atmospheric Cerenkov telescope (IACT) located at Hanle, Ladakh, India.
- It is the highest (in altitude) Cerenkov telescope in the World and was built by Electronics Corporation of India, Hyderabad, for the Bhabha Atomic Research Centre.
- It was assembled at the campus of Indian Astronomical Observatory at Hanle.
- Operational since 2016, it is remotely operated and runs on solar power.

- The telescope is the second-largest gamma ray telescope in the world and will help the scientific community enhance its understanding in the fields of astrophysics, fundamental physics, and particle acceleration mechanisms.
- The largest telescope of the same class is the 28-metre-diameter High Energy Stereoscopic System (HESS) telescope being operated in Namibia.

Gamma Ray Band

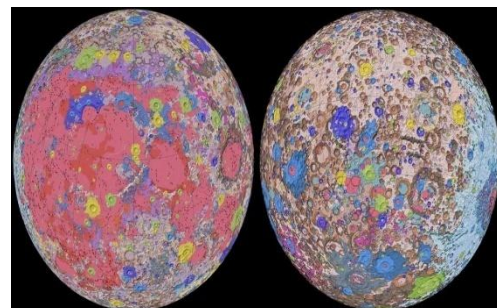
- Gamma-ray band is one of the bands of the electromagnetic spectrum on which there is limited knowledge on the flux variability of blazars.
- But this band needs to be explored as this is the energy range where the high energy emission from blazars peaks.
- Exploring this band of the electromagnetic spectrum will provide key inputs to constrain the high energy production site as well as the high energy emission processes.
- The results obtained from IIA's piece of work will provide key inputs to the problem of finding the high energy gamma-ray production site in blazars.
- Thus, it will have direct relevance to the enhancement of the knowledge on blazars.
- The expertise of handling high energy data from celestial sources gained in this work will build capacity to interpret the gamma-ray data that will emerge from India's upcoming facility, the Major Atmospheric Cerenkov Experiment Telescope as well as from any X-ray missions by India in the future.

X-Ray Polarimeter Satellite

- The X-ray Polarimeter Satellite (XPoSat) is a planned space observatory to study polarization of cosmic X-rays.
- It is planned to be launched in 2021, and to provide a service time of at least five years.
- The telescope is being developed by the Indian Space Research Organization (ISRO) and the Raman Research Institute.
- Studying how radiation is polarized gives away the nature of its source, including the strength and distribution of its magnetic fields and the nature of other radiation around it.
- XPoSat will study the 50 brightest known sources in the universe, including pulsars, black hole X-ray binaries, active galactic nuclei, and non-thermal supernova remnants.

Digital Map of Moon

- The first ever digital, unified, global, geological map of the moon was released virtually by the United States Geological Survey (USGS), NASA and the Lunar Planetary Institute.
- The map is a 'seamless, globally consistent, 1:5,000,000-scale geologic map'.
- Unified Geologic Map of the Moon' will serve as a blueprint for future human missions and a source of research and analysis for the educators and the general public interested in lunar geology.
- Surface features of the moon which included crater rim crests, buried crater rim crests, fissures, grabens, scarps, mare wrinkle ridges, faults, troughs, rilles, and lineaments can be found in the map.
- The final map consists of 43 geologic units across the entire lunar surface, broken down into groups based on characteristics like materials of craters, basins, terra, plains and volcanic units.
- The present and future moon mission's success can be further helped by the digital map of the moon.





Lunar South Pole

- The moon's South Pole is especially interesting because the area is much larger than the North Pole and there could be possibility of presence of water in these permanently shadowed areas.
- Further, the South Pole region also contains the fossil record of the early Solar System.
- ISRO's Chandrayaan 2, is an active mission that targets the Lunar South Pole for exploration.
- Like Chandrayaan, other moon missions like the Artemis (human spaceflight programme), that is a crewed exploration programme of NASA, plan to send humans to the Lunar South Pole by 2024 and in due course of time, establish a permanent presence on the moon.

Big Bang Nucleosynthesis

- It is the leading explanation about how the universe began.
- At its simplest, it says that the universe started with a small singularity and then inflated over the next 13.8 billion years to the cosmos currently observed.
- It is the production of nuclei other than those of the lightest isotope of hydrogen during the early phases of the Universe.
- Primordial nucleosynthesis is believed by most cosmologists to have taken place in the interval from roughly 10 seconds to 20 minutes after the Big Bang.
- The Universe's light-element abundance is another important criterion by which this theory is verified.
- It is now known that the elements observed in the Universe were created in either of two ways.
- Light elements (namely deuterium, helium, and lithium) were produced in the first few minutes of the Big Bang.
- Elements heavier than helium are thought to have their origins in the interiors of stars which formed much later in the history of the Universe.
- The theory predicts that roughly 25% the mass of the Universe consists of Helium.
- It also predicts about 0.01% deuterium, and even smaller quantities of lithium.

Planetary Engulfment

- In the universe, planets accompany host stars (like the Sun is the host star for the planets of the Solar system).
- As the host star evolves off the main sequence to become a white dwarf, the planets with sufficiently close orbits can be engulfed during the giant phase.
- Planetary engulfment events involve the chemical assimilation of a planet into a star's external layer.
- This can cause a change in the chemical pattern of the stellar atmosphere in a way that mirrors the composition of the rocky object engulfed.

DEFENCE

Red Flag Exercise

- Red Flag is USA's flagship multilateral air exercise.
- It is a Pacific Air Forces-sponsored exercise meant to provide realistic training in a simulated combat environment over the Joint Pacific Alaska range complex.
- The Red Flag Alaska 20-1 was scheduled to be held in Alaska from 30th April to 15th May, 2020.
- Recently, the U.S. Air Force has cancelled the Phase-I of Red Flag due to the COVID-19 outbreak.
- The Indian Air Force (IAF) was also to take part in the exercise with its Sukhoi Su-30 fighter jets.
- The IAF joined Red Flag for the first time in 2008 in Nevada.



- It has deployed Su-30MKI, Jaguar strike aircraft, the Il-78 tankers and the C-17 strategic airlift aircraft in the exercise.
- However, it had said it would not take part in every edition of the biennial exercise because of the high cost involved.

Operation Sanjeevani

- Under Operation Sanjeevani an Indian Air Force (IAF) C-130J transport aircraft delivered 6.2 tons of essential medicines and hospital consumables to Maldives.
- These medicines and consumables were procured from eight suppliers in India but couldn't be transported through any other means due to the 21-day lockdown imposed to contain the spread of COVID-19.
- At the request of the government of Maldives, the IAF aircraft activated Operation Sanjeevani and lifted these medicines from airports in New Delhi, Mumbai, Chennai and Madurai before flying to the Maldives.
- Among other things, these medicines include influenza vaccines, anti-viral drugs such as lopinavir and ritonavir which have been used to treat patients with COVID-19 in other countries.

US-India Missile Deal

- The U.S. State Department has approved two potential missile deals with India, for an estimated \$92 million and \$63 million.
- AGM-84L Harpoon Block II air launched missiles and related equipment - These missiles can be fitted onto Boeing's 8-PI (Poseidon Eight India) maritime patrol aircraft and are intended to enhance India's capability in anti-surface warfare while defending its sea lanes.
- The other deal contracted with Raytheon Integrated Defense System, is for
 1. MK 54 All Up Round Lightweight Torpedoes (LWT).
 2. MK 54 Exercise Torpedoes.
 3. Recoverable Exercise Torpedoes (REXTORP).
- These torpedoes are expected to enhance India's anti-submarine warfare capability and can be used with the P-8I.
- There are no known offset agreements for both deals, and any offset agreements will be defined in negotiations between India and the contractors.
- The Defense Security Cooperation Agency delivered the required certification to the U.S. Congress, notifying it of the possible sale.
- As per the U.S.'s Arms Export Control Act, U.S Congress has 30 days to raise objections to the sale in the case of India.

Pitch Black 2020

- Pitch Black is a multilateral air combat training exercise of Australia.
- Pitch Black 2020 scheduled from July 27 to August 14 has been cancelled due to the COVID-19 situation.
- The exercise is also an opportunity to interact with forces from across the globe, a second defence.
- The next edition of Pitch Black is scheduled in 2022.
- In the last edition of Pitch Black in 2018, the Indian Air Force for the first time deployed fighter aircraft which it had said would "provide a unique opportunity for exchange of knowledge and experience with these nations in a dynamic warfare environment".
- The bilateral naval exercise between Australia and India is known as AUSINDEX.
- The defence cooperation between India and Australia is underpinned on the
 1. Memorandum on Defence Cooperation 2006,
 2. Joint Declaration on Security Cooperation 2009



3. Bilateral Framework for Security Cooperation 2014.

- India - Australia Mutual Logistics Support Agreement (MLSA) has been long pending and is expected to be concluded soon as well as a broader maritime cooperation agreement including the Maritime Domain Awareness (MDA) to elevate the existing strategic partnership.

HEALTH

Hydroxychloroquine

- Hydroxy-chloroquine is an oral drug used in the treatment of malaria and some autoimmune diseases such as rheumatoid arthritis.
- Malaria is a disease caused by mosquito bite of female Anopheles and spreads through parasites.
- Autoimmune diseases are in which the body's immune system attacks healthy cells.
- Rheumatoid arthritis is a chronic inflammatory disorder affecting many joints, including those in the hands and feet.
- Recent studies show that the HCQ drug alone or in combination with azithromycin appears to reduce the virus quickly.
- Further, the study suggests that prophylaxis (treatment given to prevent disease) with hydroxy-chloroquine at approved doses could prevent SARS-CoV-2 infection.
- Although the drug has some side effects, it is linked to instances of cardiac arrhythmia and liver damage.
- Wide use may handicap the people's ability to fight the disease.
- Recently, India revoked its earlier ban on the export of malaria drug hydroxychloroquine (HCQ), which is being used to treat Covid-19.
- Earlier, the government of India placed HCQ on a restricted items list, and later put a blanket ban on any export of the drug.

Cytokine Storm Syndrome

- Cytokines are inflammatory immunological proteins that are there to fight off infections and ward off cancers.
- CSS is characterized by the overproduction of immune cells and the cytokines themselves because of a dysregulation in the process.
- A cytokine storm can occur due to an infection, auto-immune condition (when the body's immune system attacks healthy cells as in case of coeliac disease- an immune disorder that primarily affects the small intestine), or other diseases.
- Signs and symptoms include high fever, inflammation (redness and swelling), severe fatigue, and nausea.
- In the case of any flu infection, a cytokine storm is associated with a surge of activated immune cells into the lungs, which, instead of fighting off the antigen, leads to lung inflammation and fluid build-up, and respiratory distress.
- A severe immune reaction, leading to the secretion of too many cytokines in the bloodstream, can be harmful since an excess of immune cells can attack healthy tissue as well.
- The damage to the surrounding cells can be catastrophic, leading to sepsis and potentially, death.
- Sepsis occurs when the body's response to infection is out of balance, triggering changes that can damage multiple organ systems.
- Accumulating evidence suggests that a subset of patients with severe Covid-19 might have a "Cytokine Storm Syndrome" (CSS).
- Cytokine storms are not exclusive to coronavirus patients.
- It is an immune reaction that can occur during other infectious and non-infectious diseases as well.

Project Praana

- IISc Bengaluru has developed an indigenous ventilator prototype under project Praana in view of COVID-19 crisis.
- The project is a voluntary effort to help the nation at the time of crisis.
- The ventilator has been developed using materials readily available in India.
- The prototype has mass flow sensors and controllers which accurately tell how much oxygen is flowing and what volume the patient is inhaling in one breath.
- Pneumatics is built around mass produced water filter hardware.
- The control system is built around open source industrial controller.
- In a large country like India, the biggest challenge is the manufacturing of such ventilators on a mass-scale due to limited access to pneumatic and electronic hardware, sensors and actuators in the global marketplace.
- The indigenous ventilator prototype build under Project Praana will address the issue.

Ventilator

- A ventilator, also known as a respirator or breathing machine, is a medical device that provides a patient with oxygen when they are unable to breathe on their own.
- The ventilator gently pushes air into the lungs and allows it to come back out like the lungs would typically do when they are able.
- During any surgery that requires general anesthesia, a ventilator is necessary.
- There are also times when a ventilator is required after surgery, as the patient may not be able to breathe on their own immediately after the procedure.

Jeevan Ventilators

- Railways' Rail Coach Factory (RCF) has invented a ventilator prototype that has an original design and will cost a fraction of what regular ventilators cost.
- The prototype named Jeevan will now go for final testing at the Indian Council of Medical Research (ICMR) before being put to production to aid the country's fight against COVID-19.
- The cost will be under Rs.10,000 without the compressor.
- It can be used as an emergency ventilator, its production is easy and can be done with locally sourced components.
- The heart of the device is the Compressed Air Container to work the ambu bag with air without any moving parts like servo motor or piston or link mechanism.
- It is very silent and it is not reverse engineering, this is an original design from scratch.
- The intellectual property rights relating to the ventilator belong to the RCF.
- The machine provides control on breathing rate, the Inspiratory: Expiratory ratio, and tidal volume — critical parameters in any ventilator.

B814 Virus

- The first human coronavirus was discovered in 1965 by scientists DJ Tyrell and ML Bynoe, years after the disease was found in animals.
- They isolated a virus from the nasal washings of a male child who had symptoms and signs of a common cold.
- It was found that the washings were able to induce common colds in volunteers intranasally.
- The duo called the virus B814, and found that while they were able to cultivate the virus in human embryo tracheal organ tissue, they were unable to do so in routine cell lines.



- At the time of delivery, B814 strain was a virus virtually unrelated to any other known virus of the human respiratory tract.

OTHERS

CollabCAD

- CollabCAD is an indigenous three dimensional computer aided design system which helps the used to build models in virtual 3d space and create and engineering drawings for shop floor which makes it a complete package for smart manufacturing.
- It is jointly launched by Atal Innovation Mission, NITI Aayog and National Informatics Centre (NIC).
- CollabCAD initiative aims to provide a great platform to students of Atal Tinkering Labs (ATLs) across country to create and modify 3d designs with free flow of creativity and imagination.
- This software would also enable students to create data across the network and concurrently access the same design data for storage and visualization.
- NIC is playing a crucial role in pushing the online module to reach to the students all across the country by providing a huge source of data through this software CAD system.
- CollabCAD will be used by around 5000 schools where Atal Tinkering Labs are established.

Geo-Fencing

- Geo-fencing is a location-based service in which an app or other software uses GPS, RFID, Wi-Fi or cellular data to trigger a pre-programmed action when a mobile device or RFID tag enters or exits a virtual boundary set up around a geographical location, known as a geo-fence.
- The “geo-fencing” is accurate by up to 300 m.
- Depending on how a geo-fence is configured it can prompt mobile push notifications, trigger text messages or alerts, send targeted advertisements on social media, allow tracking on vehicle fleets, disable certain technology or deliver location-based marketing data.
- To make use of geo-fencing, an administrator or developer must first establish a virtual boundary around a specified location in GPS- or RFID-enabled software.
- This virtual defense will then trigger a response when an authorized device enters or exits that area, as specified by the administrator or developer.
- **Other applications of geo-fence** - Social networking, Marketing, Audience engagement, Smart appliances, Human Resource management, Telematics, Security
- Based on Geo-Fencing, union government has tested an application that triggers e-mails and SMS alerts to an authorized government agency if a person has jumped quarantine or escaped from isolation, based on the person’s mobile phone’s cell tower location.
- The States have been asked to seek the approval of their Home Secretaries under the provisions of Section 5(2) of the Indian Telegraph Act, 1885, for the specified mobile phone numbers to request the DoT to provide information by email or SMS in case of violation of “geo-fencing”.

25. DISASTER MANAGEMENT

PM-CARES Fund

- PM-CARES was set up as a public charitable trust with the trust deed registered on March 27, 2020.
- It is meant for supporting relief or assistance of any kind relating to a public health emergency or any other kind of emergency, calamity or distress, either man-made or natural.
- It includes the creation or upgradation of healthcare or pharmaceutical facilities, funding relevant research or any other type of support.
- Composition of PM-CARES:

1. Prime Minister as chairperson
 2. Defence Minister, Home Minister, Finance Minister
 3. Three trustees nominated by the Prime Minister “who shall be eminent persons in the field of research, health, science, social work, law, public administration and philanthropy”.
- Donations to fund can avail 100% tax exemption.
 - PM-CARES is different from the Prime Minister’s National Relief Fund (PMNRF).

Foreign contribution to PM-CARES Fund

- Recently, the Central Government has decided to accept contributions from abroad, irrespective of the nationalities, to the Prime Minister’s Citizen Assistance and Relief in Emergency Situations (PM-CARES) Fund.
- Now the foreign governments, NGOs, and nationals can contribute to the Fund.
- The move is a major policy change as in the past 16 years India has not accepted any foreign aid.
- In 2018, the government refused to accept foreign aid to flood-ravaged Kerala since it was following the disaster aid policy set in December 2004.
- After a tsunami hit India in December 2004, the government felt that it could cope up on its own. Since then, India has followed the policy of not accepting aid from foreign governments.
- It has been said that the contribution to PM-CARES is not “aid” and the foreign contribution is “only” applicable to the PM-CARES fund and not any other fund like the Prime Minister’s National Relief Fund.

Prime Minister’s National Relief Fund

- PMNRF was instituted in 1948 by then Prime Minister Jawaharlal Nehru, to assist displaced persons from Pakistan.
- The fund is currently used primarily to tackle natural calamities like floods, cyclones and earthquakes.
- The fund is also used to help with medical treatment like kidney transplantation, cancer treatment and acid attack.
- The fund consists entirely of public contributions and does not get any budgetary support.
- It accepts voluntary contributions from Individuals, Organizations, Trusts, Companies and Institutions etc.
- The corpus of the fund is also invested in various forms with scheduled commercial banks and other agencies.
- Disbursements are made with the approval of the Prime Minister.
- The fund is recognized as a Trust under the Income Tax Act and the same is managed by the Prime Minister or multiple delegates for national causes.
- Contributions towards PMNRF are notified for 100% deduction from taxable income under section 80(G) of the Income Tax Act, 1961.

Chief Minister Relief Fund

- The Ministry of Commerce and Industry has clarified that the contributions to the Chief Minister’s Relief Fund or the State relief fund will not qualify as Corporate Social Responsibility (CSR) expenditure, while any donation to the PM CARES Fund will.
- The Chief Minister’s Relief Fund or State Relief Fund for Covid-19 is not included in Schedule VII of the Companies Act, 2013, and therefore any contribution to such funds shall not qualify as admissible CSR expenditure.
- Schedule VII of the Companies Act, 2013 provides the list of activities that can be included in CSR.
- Some political parties criticized this saying it is discriminatory and goes against the constitutional principle of federalism.



- However, donations to the State Disaster Management Authority to combat Covid-19 can be counted as admissible CSR expenditure.

26. INDEX AND REPORT

Remittance Prices Worldwide

- Remittance Prices Worldwide is a resource report sponsored by the World Bank Group.
- It provides data on the cost of sending remittances from 48 remittance sending countries and 105 receiving countries.
- Information provided includes exchange rate and transfer fees, as well as the speed of transfer.
- Globally, sending remittances costs an average of 6.79 percent of the amount sent.
- This figure is used to monitor the progress of the global effort for reduction of remittance prices.
- According to recent report global remittances are projected to decline sharply by about 20 percent in 2020 due to the economic crisis induced by the COVID-19 pandemic and shutdown.
- The projected fall, which would be the sharpest decline in recent history, is largely due to a fall in the wages and employment of migrant workers, who tend to be more vulnerable to loss of employment and wages during an economic crisis in a host country.

SIPRI Report

- Stockholm International Peace Research Institute (SIPRI) is an international institute based in Sweden, dedicated to research into conflict, armaments, arms control and disarmament.
- Established in 1966, SIPRI provides data, analysis and recommendations, based on open sources, to policymakers, researchers, media and the interested public.
- SIPRI has released its annual report 'Trends in World Military Expenditure, 2019'.
- Recent report of SIPRI showcases an increase of 5.5 per cent in the volume of international arms transfers during 2015–19, compared with the previous five-year period.
- The global military expenditure rose to \$1917 billion in 2019 with India and China emerging among the top three spenders.
- The report highlights the strength of key strategic partnerships such as Russia-India, US-Japan and China-Pakistan, reinforced by arms trade.
- While Russia accounted for 56 per cent of India's arms imports, 96 per cent of Japan's arms imports came from the US and Chinese equipment made up 73 per cent of Pakistan's arms imports.
- The United States, Russia, France, Germany and China continue to be the world's largest arms exporters.
- Stating that India's expenditure in 2019 was 6.8% more than that in 2018, the report says the country's military expenditure has risen significantly over the past few decades.
- It grew by 259% over the 30-year period of 1990–2019, and by 37% over the decade of 2010–19.
- India's tensions and rivalry with both Pakistan and China are among the major drivers for its increased military spending.

USCIRF Annual Report

- The U.S. Commission on International Religious Freedom (USCIRF) has released its annual report recently.
- The report, released by the federal government commission that functions as an advisory body, placed India alongside countries, including China, North Korea, Saudi Arabia and Pakistan.
- It has downgraded India to the lowest ranking, "countries of particular concern" (CPC) in its 2020 report.

- India was categorized as a “Tier 2 country” in last year’s listing, this is the first time since 2004 that India has been placed in this category.
- “India took a sharp downward turn in 2019,” the commission noted in its report, which included specific concerns about the Citizenship Amendment Act, the proposed National Register for Citizens, anti-conversion laws and the situation in Jammu and Kashmir.
- The commission also recommended that the U.S. government take stringent action against India under the “International Religious Freedom Act” (IRFA).
- It called on the administration to “impose targeted sanctions on Indian government agencies and officials responsible for severe violations of religious freedom by freezing those individuals’ assets and/or barring their entry into the United States under human rights-related financial and visa authorities, citing specific religious freedom violations”.

Migration and Development Brief

- Migration and Development Briefs are prepared by the Migration and Remittances Unit, Development Economics (DEC), World Bank.
- The brief aims to provide an update on key developments in the area of migration and remittance flows and related policies over the past six months.
- India, the country that received the most remittances in the world, \$79 billion in 2018, according to the World Bank’s Migration and Development Brief.

Global Terrorism Index

- It is released by Australian Think Tank Institute for Economics and peace.
- The GTI report issued by the IEP is based primarily on the Global Terrorism Database (GTD) collated by the National Consortium for the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland, besides other sources.
- India has moved to the seventh position from the previous year’s eighth in the annual Global Terrorism Index (GTI) 2019.
- The countries ahead of it are Afghanistan, Iraq, Nigeria, Syria, Pakistan and Somalia.
- GTI scores are directly used in the Global Peace Index, the Global Slavery Report published by the Walk Free Foundation, and indirectly used in computing country scores in the World Economic Forum’s Travel and Tourism Competitiveness and Global Competitiveness Indices and compilation of Safe Cities Index by the Economist Intelligence Unit.

Findings of Annual Special 301 Report

- The Special 301 Report is prepared annually by the Office of the United States Trade Representative (USTR) that identifies trade barriers to United States companies and products due to the intellectual property laws, such as copyright, patents and trademarks, in other countries.
- By April 30 of each year, the USTR must identify countries which do not provide “adequate and effective” protection of intellectual property rights or “fair and equitable market access to United States persons that rely upon intellectual property rights”.
- The annual Special 301 Report includes a list of “Priority Foreign Countries”, that are judged to have inadequate intellectual property laws; these countries may be subject to sanctions.
- In addition, the report contains a “Priority Watch List” and a “Watch List”, containing countries whose intellectual property regimes are deemed of concern.
- India continues to be on the ‘Priority Watch List’ of the United States Trade Representative (USTR) for lack of adequate intellectual property (IP) rights protection and enforcement.
- India remained one of the most challenging economies for IP enforcement and protection, the report said, using language it has used previously.



- Algeria, Argentina, Chile, China, Indonesia, Russia, Saudi Arabia, Ukraine and Venezuela are also on the Priority Watch List.
- While India made “meaningful progress” to enhance IP protection and enforcement in some areas over the past year, it did not resolve recent and long-standing challenges, and created new ones.
- The report also mentioned India’s high customs duties on medical devices and Information and Communications Technology.
- The USTR also noted that India was ranked among the top five source economies for fake goods by the Organization of Economic Development and Cooperation (OECD) in 2019.
