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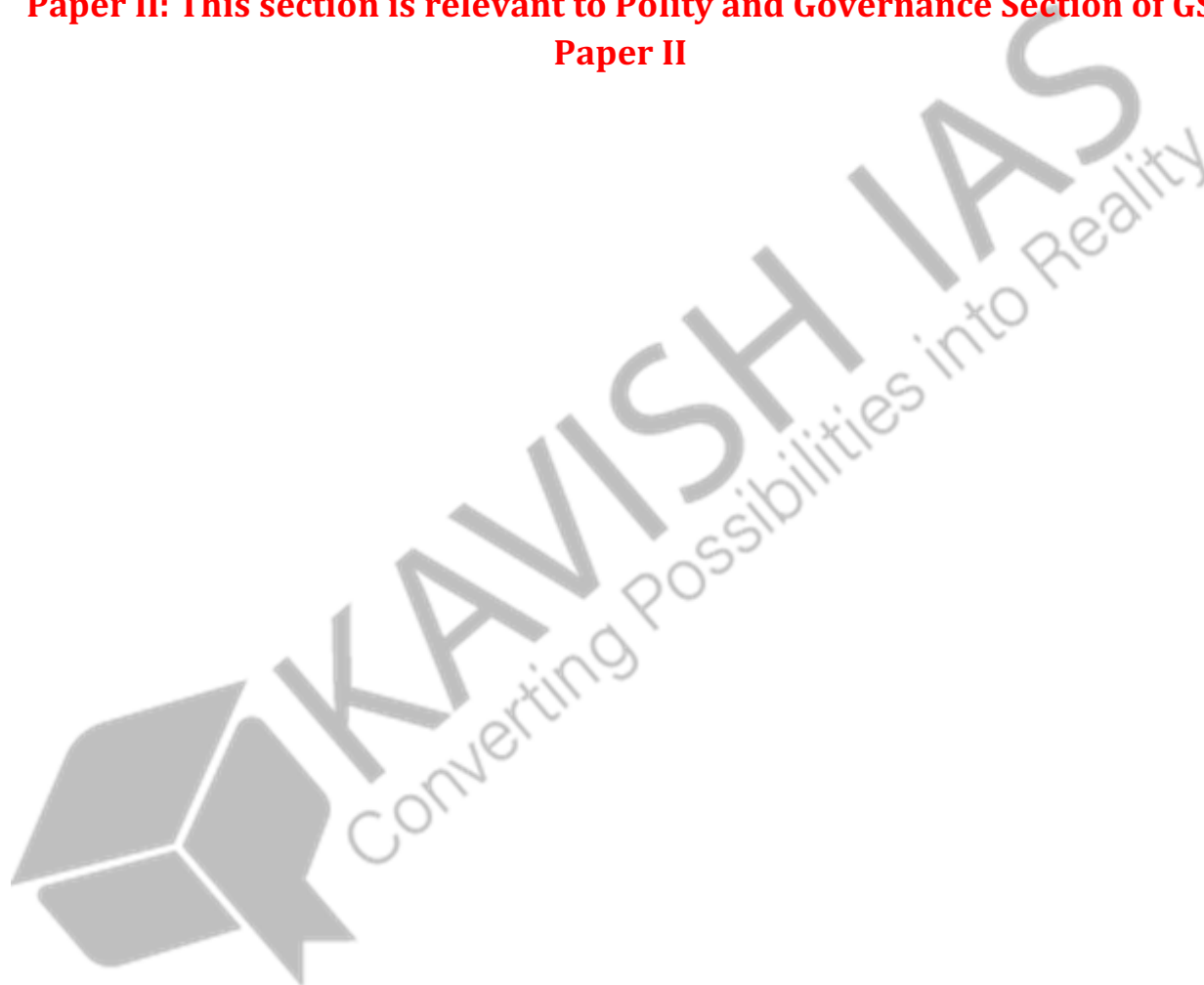
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POLITY AND GOVERNANCE

**Paper II: This section is relevant to Polity and Governance Section of GS
Paper II**



1.1 COMPANIES ACT

Topic: Governance (Accountability and Transparency)

Why in News: The Centre proposes to amend the Companies Act 2019, in a bid to decriminalise a number of offences and ease corporate social responsibility (CSR) requirements, especially for smaller companies

Background History

- In September 2019, the government constituted a 11-member company law committee, headed by corporate affairs secretary Injeti Srinivas.
- Objective of the Committee was to analyse and examine :
 - Decriminalisation of certain offences under the Companies Act, 2013,
 - Improving corporate compliance and
 - Other steps to improve the ease of doing business for law-abiding citizens.
- In November, 2019, the government-appointed high-level panel proposed decriminalising more than half of the existing compoundable offences under the companies law and lower monetary penalties for violations by startups, amid efforts to further improve the ease of doing business in the country.
- The government has now cleared 72 amendments to the Companies Act 2013, including decriminalising various offences.
- If passed by Parliament, these would be the second set of amendments to the Act over the last year.

Latest Developments

- The changes are aimed at de-criminalisation of provisions of the Companies Act, 2013 and was in line with the intent to make doing business in the country easier.
- The amendments to the Act pertain to removal of sections that result in criminalisation.
- The amendment proposes changes to compoundable offences under the Act (52 out of 66) either removing them entirely, downgrading penalties from jail sentences to fines or alternative adjudication mechanisms.
- The Cabinet had suggested 72 changes to 65 sections of the Act with focus on decriminalising the law. Of the 66 compoundable offences, 23 have been decriminalised and the rest will be dealt with under an in-house adjudicating framework.
- The adjudicating framework has faceless and non-discriminatory approach, ruling out any bias.

- The cabinet has also exempted some companies from having the company social responsibility (CSR) panels.
- The proposed amendments will also ensure that companies which have an obligation to spend ₹50 lakh per annum or less on Corporate Social Responsibility (CSR) are no longer required to have a CSR committee.
- Companies that spend more than the mandatory 2% on CSR in a particular year can carry it forward as credit for fulfillment of CSR obligations for the next few years as well.

Features of the Companies (Amendment) Act, 2019

Re-categorisation of certain Offences:

- The Act has brought about 16 corporate offences under the ambit of civil liability, including failure to file annual returns and financial statements within a specified time frame, and issuance of shares at a discount.
- These offences, which earlier attracted criminal proceedings against the offender, are now liable for a penalty.

Corporate Social Responsibility (CSR):

- The amended act mandates that, any unspent annual CSR funds must be transferred to one of the funds under Schedule 7 of the Act (e.g., PM Relief Fund) within six months of the financial year.
- Further, companies are now obliged to transfer their unspent CSR funds to one of the funds prescribed under Schedule VII of the Act (such as the Prime Minister Relief Fund) within six months of the end of the financial year and disclose the reasons for non-spending in their annual report
- If the CSR funds are committed to certain ongoing projects, the company must transfer the amount to an unspent account with a scheduled bank within 30 days from the end of the financial year.
- If the company fails to spend this amount, it must transfer it to one of the funds mentioned in Schedule VII of the Act.
- In case of any violation of the CSR provisions, the company is liable to a minimum penalty fee of INR 50,000 (US\$700), which may extend to INR 25 lakh (US\$35,034). Further, every defaulting officer of the company may be liable to imprisonment for up to three years, or a fine up to INR 5 lakh (US \$7,023), or both.
- These changes effectively make CSR contribution mandatory for companies operating in India.

Commencement of business

- The Act requires companies to file a declaration within 180 days of incorporation, confirming that every subscriber to the Memorandum of Association (MoA) of the company has paid for the shares agreed to be taken by them.
- The companies must also file documents stipulating the verification of their registered address with the Registrar of Companies (ROC) within 30 days of incorporation.
- The Act empowers the RoC to take strict action against companies that fail to comply with these provisions and remove their name from the register of companies.

Unfit persons not to manage companies

- If the government is of opinion that the affairs of the company are being conducted in a manner that is detrimental to public interest, it may itself apply to the National Company Law Tribunal (NCLT) for an order to prevent mismanagement and oppression in the company.
- Under certain circumstances, the government may also initiate a case against an individual in the company and refer it to the NCLT for inquiries.
- These circumstances may include among others fraud, misfeasance, and persistent negligence, business not conducted with sound business principles or breach of trust.

Associates of foreign companies may follow different financial year for accounting

- Previously, the Companies Act required all companies to follow financial year ending on March 31 of every year. It only exempted companies or body corporate holding a company or a subsidiary of a company incorporated outside India to follow a different financial year for consolidation of its accounts outside India. Such companies could apply to the NCLT to allow them a non-March financial year end.
- The amendments now extend this exception to associates of a foreign company as well as to a subsidiary of a foreign company that follows a different financial year.
- Also, the companies can now make the application to the federal government rather than the NCLT – speeding up the time period for processing applications.

Disgorgement of properties in case of corporate fraud

- In case of corporate fraud revealed by an investigation by the Serious Fraud Investigation Office (SFIO), the government may make an application to the NCLT to pass appropriate orders for the disgorgement or giving up of profits or assets of an officer or person or entity, which was obtained an undue benefit.

Significance of the move

- The changes are expected to significantly enhance the confidence of Indian corporate in the government's resolve to provide greater ease (of doing business) and accord highest respect to honest wealth creators in the country and reduce the burden on the justice system.
- The amendment bill will also enable the listing of Indian companies on stock exchanges in foreign jurisdictions which is expected to give Indian firms greater access to capital, a broader investor base and better valuations.

1.2 INTERLINKING OF RIVERS

Why in News: The Central government is working on the establishment of an exclusive body to implement projects for linking rivers. The proposal for an apex body on river linking has been under discussion for the past 18 months. However, as of now, no specific timeline has been determined for the constitution of the Authority. Also, the earlier idea of framing a Bill, envisaging the creation of the NIRA, is not being pursued now.

Special Committee on Inter-Linking of Rivers

- The subject of establishment of the Authority was also discussed at the last meeting of the Special Committee on Inter-Linking of Rivers (ILR) in New Delhi.
- Headed by Union Minister of Jal Shakti, the panel includes Irrigation or Water Resources Ministers and Secretaries of States.
- It is being assisted by a Task Force for ILR, which is a committee of experts essentially drawn from the Jal Shakti Ministry, Central Water Commission and the NWDA.

ILR projects under examination

- **As of now, six ILR projects — the Ken-Betwa, Damanganga- Pinjal, Par-Tapi-Narmada, Manas-Sankosh-Teesta-Ganga, Mahanadi-Godavari and Godavari-Cauvery (Grand Anicut) — have been under examination of the authorities.**
- With regard to the peninsular rivers, the Centre has chosen to focus on the Godavari-Cauvery link than the earlier proposal to link the Mahanadi-Godavari-Krishna-Pennar-Cauvery rivers.

- The proposal to link the Mahanadi-Godavari-Krishna-Pennar-Cauvery rivers lost focus as it had been difficult to develop a consensus on the latter due to the reservations from Odisha.

Details of the proposed body

- To be called the National Interlinking of Rivers Authority (NIRA), the proposed body is expected to take up both inter-State and intra-State projects. It will also make arrangements for generating up funds, internally and externally.
- Once approved, the projects will be pursued as national projects, wherein the Centre will absorb 90% of the cost and the States concerned the rest.
- According to the National Water Development Agency (NWDA), which is responsible for the formulation of proposals of the linking of rivers, an updated draft Cabinet note has been circulated to other Ministries in the Central government.
- On receipt of comments, the note will be finalised by the Ministry of Jal Shakti and sent to the Union Cabinet for approval.

National Water Development Agency (NWDA)

- The National Water Development Agency (NWDA), was setup in 1982 as an Autonomous Society under the societies registration act 1860.
- It was established to carry out the water balance and other studies on a scientific and realistic basis for optimum utilization of water resources of the Peninsular river system.
- In the year 1990, NWDA was also entrusted with the task of Himalayan Component of National Perspective Plan (NPP), prepared by Central Water Commission and the then Ministry of Irrigation, now Ministry of Jal Shakti.
- In 2006, it was decided that NWDA will explore the feasibility of Intra-States links and to take up the work for preparation of Detailed Project Report (DPR) of river link proposals under the NPP.
- In 2016, NWDA was given the responsibility to undertake implementation of ILR projects and completion of water resources projects under Pradhan Mantri Krishi Sinchai Yojana (PMKSY).

Central Water Commission

- Central Water Commission is a premier technical organization in the field of water resources and is presently functioning as an attached office of the Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation.

- Its mission is to promote integrated and sustainable development and management of India's water resources by using state of the art technology and competency and by coordinating all stakeholders.
- The Commission is entrusted with the responsibilities of control, conservation and utilization of water resources throughout the country, for purpose of Flood Control, Irrigation, Navigation, Drinking Water Supply and Water Power Development.

1.3 Land Acquisition, Rehabilitation and Resettlement Act of 2013

Topic: Significant Provisions

Why in News: The Supreme Court has reaffirmed its February 2018 ruling on Section 24 on land acquisition compensation awards in the Indore Development Authority case. The recent judgment has overruled an earlier co-ordinate Bench ruling in the Pune Municipal Corporation case of 2014 under the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act of 2013.

Background

The provision under question

- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 (2013 Act), replaced the Land Acquisition Act, 1894 (1894 Act).
- The new Act provides for higher compensation to those deprived of land by the government for both public and private sector projects.
- It also mandates consent of a majority of land-owners, and contains provisions for rehabilitation and resettlement.
- Section 24(2) of the Acts says that in cases where acquisition proceedings were initiated under the 1894 law and compensation had been determined, the proceedings would lapse:
 - If the state did not take possession of the land for five years
 - And had also not paid the compensation to the landowner.
- Once the proceedings lapse under the old law, the acquisition process would be initiated again under the new law, allowing the owner to get a higher compensation.

Why it needed Interpretation

There are cases in which farmers and other land-owners have refused the compensation, leading to delay in the government taking possession. In this situation, the compensation amount is deposited in the government treasury.

According to one interpretation, if this is done, the acquisition process is saved.

However, others contend that such cases will fall under the new Act because compensation has not been paid to the land-owners, and the lapsing clause in Section 24 should be applied.

If, through interpretation, a long-pending land acquisition process is closed under the old law and fresh acquisition proceedings started under the new one, the land-owners stand to benefit, but project proponents will have to pay higher compensation. Therefore, the provision concerned is often a subject of litigation.

The earlier SC Judgements:

2014 judgment:

- The first such case, in 2014 involving the interpretation of the new law, was *Pune Municipal Authority v Harakchand Misirimal Solanki*.
- It was put forth a three-judge Bench.
- The judgement said that the state depositing the compensation in its own treasury cannot be equated with the landowners being “paid”.
- In exceptional circumstances, where the landowner refuses the compensation, the sum can be deposited with the court, but a deposit in its own treasury would not suffice.
- This ruling was followed as precedent by High Courts in several cases, and was affirmed by the apex court itself in 2016.

Subsequent judgement in 2018:

- However, in February 2018, in a similar case, a different three-judge Bench gave a different ruling in *Indore Developmental Authority v Shailendra*.
- The bench ruled that in cases where the landowner had refused compensation, **depositing it with the treasury was sufficient**, and the state was not obligated to deposit it with the court.
- Further, the **only consequence** of not depositing the compensation with the court “at the most in appropriate cases may be of a **higher rate of interest on compensation**”, and **not lapse of acquisition**.
- In doing so, the court also **invalidated the earlier 2014 judgment**.

Referral to a larger Bench:

- After the 2018 verdict, another three-judge Bench noticed the inconsistency.

- This bench, stayed all cases relating to this provision of the land acquisition Act in High Courts across the country until the question of law was settled.
- It also asked other Benches of the Supreme Court to not take up the issue until it was **decided by a larger Bench.**
- A judge strongly criticised the 2018 ruling, stating that the verdict had deviated from “virgin principles” of the institution in declaring a verdict of equal Bench strength.
- Subsequently, the case was referred to then Chief Justice of India requesting him to set up a larger Bench.
- Now a five-judge Constitution Bench of the Supreme Court has decided the case.

Latest Developments

The five-judge Bench was interpreting Section 24 (2) which concerns land acquisition compensation awards made five years “prior or more” to the coming of existence of the 2013 Act, which replaced the 1894 law.

Judgment:

- The compensation would be considered paid if the amount is put in the Treasury.
- There was no obligation that the amount should be deposited in the court in order to sustain the land acquisition proceedings under the 2013 Act.
- **A land acquisition proceeding under Section 24(2) would only lapse:**
 - If the authorities have neither taken physical possession nor
 - Paid the compensation due to the landowner for five or more years prior to January 1, 2014
- **Note:** In such cases the government would have to initiate fresh acquisition proceedings under the new Act of 2013, which provides for fair compensation.
- **There will be no lapse if**
 - Possession has been taken and compensation has not been paid.
 - If compensation has been paid and possession not taken of the land.

1.4 INDISCIPLINE IN LOKSABHA

Why in News: Committee chaired by Speaker to look into instances of indiscipline in Lok Sabha

Seven MPs have been suspended from Lok Sabha for unruly behaviour in the House. These MPs will remain suspended for the remainder of the Budget Session, which ends on April 3. After opposition's objection to suspension, the Speaker has agreed to set up a committee to investigate the government's demand for termination of membership of MPs.

About the Committee:

- The committee will be chaired by Speaker of the Lok Sabha
- It will look into all instances of indiscipline that prevent routine business in the House from March 2 to 5.
- The committee, which will have representatives from all parties, will submit its report to the House.

Grounds on which a Lok Sabha MP can be suspended:

- It is the role and duty of the Speaker of Lok Sabha to maintain order so that the House can function smoothly.
- In order to ensure that proceedings are conducted in the proper manner, the Speaker is empowered to force a Member to withdraw from the House (for the remaining part of the day), or to place him/her under suspension.

Provisions of Procedure and Conduct of Business which gives power to Speaker to deal with unruly behaviour:

- **Rule 373:**
 - If the Speaker is of opinion that the conduct of any member is grossly disorderly, he/she may direct such Member to withdraw immediately from the House.
 - Such member shall withdraw forthwith and shall remain absent during the remainder of the day's sitting.
- **Rule 374:**
 - The Speaker may name a Member who disregards the authority of the Chair or abuses the rules of the House by persistently and willfully obstructing the business thereof.

- If a Member is so named by the Speaker, the Speaker shall, on a motion being made forthwith put the question that the Member be suspended from the service of the House for a period not exceeding the remainder of the session.
- Provided that the House may, at any time, on a motion being made, resolve that such suspension be terminated.
- **Rule 374A:**
 - It is invoked by Speaker for automatic suspension of member of the House for five consecutive sittings or the remainder of the session, whichever is less in the event of grave disorder occasioned by a Member (coming into the well of the House or abusing the Rules of the House persistently and wilfully obstructing its business by shouting slogans or otherwise).

Revoking the suspension:

- While the Speaker is empowered to place a Member under suspension, the authority for revocation of this order is not vested in him.
- It is for the House, if it so desires, to resolve on a motion to revoke the suspension.

What happens in Rajya Sabha?

- Like the Speaker in Lok Sabha, the Chairman of the Rajya Sabha is empowered **under Rule Number 255 of its Rule Book** to “direct any Member whose conduct is in his opinion grossly disorderly to withdraw immediately” from the House for remainder of the day.
- The Chairman may name a Member who disregards the authority of the Chair or abuses the rules of the Council by persistently and wilfully obstructing business, while the power to suspend the member lies with the House.
- The House may adopt a motion suspending the Member from the service of the House for a period not exceeding the remainder of the session.
- However, by another motion, the house may terminate the suspension.
- **Note: Unlike the Speaker, the Rajya Sabha Chairman does not have the power to suspend a Member.**

Way ahead:

- Enforcement of the supreme authority of the Speaker is essential for smooth conduct of proceedings. However, it must be remembered that her job is to run the House, not to lord over it. The solution to unruly behaviour has to be long-term and consistent with democratic values.
- A step in that same direction could be to discontinue the practice of herding people out of the visitors' gallery when the House witnesses chaos.
- So, the ruling party of the day invariably insists on the maintenance of discipline, just as the Opposition insists on its right to protest. And their positions change when their roles flip.

1.5 FREEDOM IN THE WORLD REPORT

Why in News: According to the recent report of Freedom in the World 2020, India has become one of the world's least free democracies. The report has been released by a US democracy watchdog, Freedom House, which has been tracking global political and civil liberties for almost half a century.

About Freedom in the World 2020


- It evaluates the state of freedom in 195 countries and 15 territories during calendar year 2019.
- Each country and territory is assigned between 0 and 4 points on a series of 25 indicators, for an aggregate score of up to 100.
- The indicators are grouped into the categories of political rights (0–40) and civil liberties (0–60), whose totals are weighted equally to determine whether the country or territory has an overall status of Free, Partly Free, or Not Free.
- Political rights and civil liberties can be affected by both state and non state actors, including insurgents and other armed groups.

Report Summary

- According to the report, more than half of the world's established democracies deteriorated over the past 14 years.
- Functioning of government, freedom of expression and belief, and rule of law are the most common areas of decline.
- The report ranks India at the 83rd position, along with Timor-Leste and Senegal.

- India is near the bottom of the pile among the countries categorised as “Free”, with only Tunisia receiving a lower score.
- India scored 34 out of 40 points in the political rights category, but only 37 out of 60 in the civil liberties category, for a total score of 71, a drop from last year’s score of 75.

Deterring democracy



The Freedom House report said that India showed a deteriorating trend when it came to personal autonomy

Year	Political rights	Civil Liberties	Total Score
2017	35/40	42/60	77/100
2018	35/40	42/60	77/100
2019	35/40	40/60	75/100
2020	34/40	37/60	71/100

Top five countries in the free category:
Finland, Norway, Sweden, Netherlands, Luxembourg

Bottom five countries in the free category:
Botswana, Peru, India, Timor-Leste, Tunisia

Leaders – including the chief executives of the United States and India, the world’s two largest democracies – are increasingly willing to break down institutional safeguards – SARAH REPUCCI, SENIOR DIRECTOR OF GLOBAL PUBLICATIONS, FREEDOM HOUSE

Reasons cited for low score

- The annulment of autonomy and the subsequent shutdown of Kashmir
- The National Register of Citizens
- The Citizenship (Amendment) Act
- Internet Shutdown in Kashmir and other regions during protests.
- Freedom of Press
- The crackdown on mass protests
- These have been listed as the main signs of declining freedom in the report
- The report also treats “Indian Kashmir” as a separate territory, moving it from a status of “Partly Free” to “Not Free”.

1.6 RAJYA SABHA MEMBER

Why in News: Former Chief Justice of India Ranjan Gogoi has recently took oath as a nominated member of the Rajya Sabha. He is the first chief justice to become a nominated member of the House. Earlier Justice (retd) Ranganath Mishra was elected to the Upper House as a Congress member. He has been nominated from the eminent person's category.

Nominated Members of Rajya Sabha

Composition of Rajya Sabha:

- Constitutional provision: The Fourth Schedule of the Constitution deals with the allocation of seats in the Rajya Sabha to the states and union territories
- **Maximum strength of Rajya Sabha** 250
- **Representatives of the states and union territories (elected indirectly)** 238
- **Nominated by the President** 12
- **Present Strength of Rajya Sabha** 245
- **Members representing the States** 229
- **Members representing the UTs** 4
- **Nominated by the President** 12

Nominated Members

- **80(1)(a)** of Constitution of India makes provision for the nomination of 12 members to the Rajya Sabha by the President of India in accordance with provisions of Arts.80(3).
- **80(3) says** that the persons to be nominated as members must be possessing special knowledge or practical experience in respect of such matters as the following namely : Literature, science, art and social service.
- Thus, the president nominates members to the Rajya Sabha from people who have special knowledge or practical experience in art, literature, science and social service.
- The rationale behind this principle of nomination is to provide eminent persons a place in the Rajya Sabha without going through the process of election.
- Since Rajya Sabha was constituted in 1952, 137 people have been nominated as its members.
- These include scholars, jurists, educationists, historians, scientists, litterateurs, journalists, engineers, economists, administrators, artistes, social workers and politicians usually with loyalty to the government of the day.

- Note: The American Senate has no nominated members.

Significance of a Nominated member in Rajya Sabha

By nominating eminent members to Rajya Sabha, the State not only recognises their merit and confers honour on them, but also enables them to enrich the debates by their expertise and knowledge that they possess in different areas.

Powers of Nominated Members:

- Nominated members enjoy all powers and privileges which elected MPs are entitled to.
- They take part in proceedings of the House but are not allowed to vote in the election of the President.
- They have a voting right in the election of the Vice President.
- So far, no nominated member has been inducted into the Council of Ministers.
- A nominated member can join a party within six months of taking his seat in the House.

INTERNATIONAL RELATIONS

- ❖ **Paper II (GS): All the Articles of this section are relevant to the following topics:**
 - **India and its Neighbourhood – Relations**
 - **Bilateral, Regional and Global Groupings and Agreements involving India and / or affecting India's Interests**
- ❖ **Prelims Oriented Questions and Places in News for Maps/ Matching**

2.1 PEACE DEAL

Why in News: An agreement - “peace deal” - was signed between the United States (US) and the Taliban in Doha.

Background

- US have been on the offensive against Taliban and other groups in Afghanistan since 2001.
- The war in Afghanistan reached a stalemate with neither of them able to claim full victory.
- In 2017, to break the military stalemate in Afghanistan, Trump authorized an additional 5,000 soldiers, giving US forces a freer hand to go after the Taliban, putting Pakistan on notice, and strengthening Afghan capabilities.
- However, it was soon clear that the policy was not working, and the Taliban insurgency could not be defeated as long as it enjoyed safe havens and secure sanctuaries (including in Pakistan).
- The US then changed policy in 2017 and sought Pakistan’s help to get the Taliban to the negotiating table.
- The US and the Taliban have recently signed a peace deal in the Qatar capital of Doha, bringing the curtains down on a more than 18-year-old conflict that began in response to the 9/11 twin-tower attacks in 2001.

Background of the deal:

- Ending the 18-year long conflict has been considered too costly. Thus, the decision to talk to the Taliban was taken during the Obama presidency.
- The Doha office (in Qatar) of the Taliban was established for negotiations.
- The Taliban have long maintained that they would negotiate only with the US not with the Afghan government. However, the US has insisted that the Afghan government should be involved in the process.
- Thus, several attempts at holding discussions to end the war did not progress.
- By the middle of 2018, the US started pushing for direct talks with the Taliban urgently (in line with President Trump's agenda to withdraw troops from Afghanistan).
- Note: President Ashraf Ghani’s government was not included in the US-Taliban talks as this was the Taliban precondition for the talks.
- S. and Taliban negotiators have been meeting in Doha since 2018 even though fighting has raged in Afghanistan and thousands of civilians and combatants have been killed as the insurgents have expanded their territorial control.
- Progress had stalled several times, most notably in September when Trump cancelled talks after an attack in Kabul that killed 12, including an American soldier.

- Talks began again in late 2019, culminating in a seven-day “reduction in violence” agreement that ended on 29th February 2020 with the Doha signing.

About the Peace deal:

The deal was signed by US special envoy Zalmay Khalilzad and Taliban political chief Mullah Abdul Ghani Baradar with US Secretary of State Mike Pompeo as a witness.

Key Points of the agreement:

- A timeline of 14 months for all US and NATO troops to withdraw from Afghanistan.
- The militants agreed not to allow al-Qaeda or any other extremist group to operate in the areas they control.
- The launch of intra-Afghan negotiations by March 10
- The deal also provides for a prisoner swap.
- Up to 5,000 Taliban prisoners will be released and the Taliban will release up to 1,000 prisoners by March 10, when talks between the Taliban and the Afghan government are due to start
- The US will also lift sanctions against the Taliban and work with the UN to lift its separate sanctions against the group.
- A permanent and comprehensive ceasefire.

India’s interest in US-Taliban Peace talks

- India’s interest is to secure the investments India have made in Afghanistan (which have crossed \$2 billion in the past two decades) and the security of Indian diplomats, personnel and missions.
- India is also worried of ungoverned spaces in Afghanistan which could become grounds for terror groups to flourish like Pakistan could use any such spaces to move its anti-India terror infrastructure, groups like LeT and JeM from Pakistan.

India on Peace deal:

- India will continue to extend all support to Afghanistan as a contiguous neighbour, providing a clear reference that the Pakistan-occupied-Kashmir belongs to India.
- India's consistent policy is to support all opportunities that can bring peace, security and stability in Afghanistan; end violence; cut ties with international terrorism; and lead to a lasting political settlement through an Afghan-led, Afghan-owned and Afghan controlled process.

- India will continue to extend all support to the Government and people of Afghanistan in realising their aspirations for a peaceful, democratic and prosperous future where the interest of all sections of Afghan society are protected,

Way ahead

The deal is expected to pave the way towards direct talks between Taliban officials and Afghan leaders in Oslo on 10th March 2020.

It is being hoped that the deal signed between the U.S. and the Taliban in Doha would pave the way towards lasting peace in Afghanistan.

The deal would allow US President Donald Trump to show that he has brought troops home ahead of the US presidential election in November.

2.1 INDIAN OCEAN COMMISSION

Why in News: India has been accepted as an observer in the Indian Ocean Commission after it applied in February 2020 to be considered for observer status.

Indian Ocean Commission

- Indian Ocean Commission is an inter-governmental organization that coordinates maritime governance in the south-western Indian Ocean.
- The IOC was created in 1982 at Port Louis, Mauritius, and later institutionalized in 1984 by the Victoria Agreement in Seychelles.
- Member States: Comoros, Madagascar, Mauritius, Reunion (French overseas territory) and Seychelles.



Note: Due to their common history, the group has largely been dominated by France, as all the island states are predominately Francophone with a common colonial history.

- The Commission has a Secretariat located in Mauritius and headed by a Secretary General.
- COI's principal mission is to strengthen the ties of friendship between the countries and to be a platform of solidarity for the entire population of the African Indian Ocean region.
- **Objectives:**
 - Political and diplomatic cooperation,
 - Economic and commercial cooperation
 - Sustainable development in a globalisation context, cooperation in the field of agriculture, maritime fishing, and the conservation of resources and ecosystems
 - Strengthening of the regional cultural identity, cooperation in cultural, scientific, technical, educational and judicial fields.
- **Present Observers: China, EU, Malta and International Organisation of La Francophonie (OIF).**
- **Latest Developments**
- India made the application to join as observer of the organisation in February 2020.
- The decision to include India as an observer was made at the recent meeting of the IOC council of ministers in Seychelles.

- With France a member of IOC because of Reunion Islands, played a key role in ensuring India's admission.
- India would now showcase its growing capability and intent as a first responder for crises in this region and promote development cooperation in this region.

Significance of India's Observer status

- India's observer status in IOC institutionalizes a larger engagement in the south-western Indian ocean which has increased in the last couple of years.
- These island nations are increasingly important for India's strategic outreach as part of its Indo-Pacific policy.
- This move would enhance ties with France which is the strong global power in the western Indian Ocean.
- The move will also lend greater significance to India's SAGAR (Security and Growth for all in the Region) policy unveiled by PM Modi in 2015.
- The move would lead to greater security cooperation with countries in East Africa.

Why Western Indian Ocean is significant?

- The Western Indian Ocean (WIO) is a region consisting of ten countries - Somalia, Kenya, Tanzania, Mozambique, South Africa, Comoros, Madagascar, Seychelles, Mauritius, and Reunion.
- The Western Indian Ocean (WIO) is a strategic sub-theatre of the Indian Ocean linking the South-eastern coast of Africa to the wider Indian Ocean and beyond.
- Significant proportions of global maritime trade navigate through the area, including a large share of the world's crude oil supplies.
- It is home to one of the key chokepoints in the Indian Ocean- the Mozambique Channel.
- While the U.S- Iran Tensions threaten the Strait of Hormuz, this channel provides another good option as a route for bigger commercial vessels (especially for oil tankers).
- The region is also characterised by high biodiversity both in terms of species and ecosystems.
- The growing importance of Africa in Indo-Pacific engagements and potential natural gas reserves in the Mozambique Channel will continue to raise the significance of this region in wider maritime security.

India's engagement with Western Indian Ocean

- India's engagements with this region will become critical as the Navy begins to strengthen its presence under its mission-based deployments.

- Engagements with the region could become key in supporting Indian naval presence as well as furthering India's Indian Ocean engagement.
- The Western Indian Ocean region's geographical proximity and its rich natural resources, provides India with a great opportunity to increase its maritime security cooperation with African countries.

G-20

Why in News: A video conference of leaders of the world's top twenty economies, the G-20, hosted by the Saudi King Salman to discuss the coronavirus pandemic was recently held.

Highlights of the Summit

- There was no effort to blame anyone for the pandemic, and the focus for the G-20 leadership was on how to handle the global challenge and help the rest of the world deal with it.
- In the effort to control the pandemic, most countries have acted individually, however, the pandemic is a powerful reminder of the world's interconnectedness and vulnerabilities and that the virus respects no borders.
- Hence, fighting this pandemic calls for a transparent, robust, coordinated, large-scale and science-based global response in the spirit of solidarity.
- The member countries agreed that they will share timely and transparent information, exchange epidemiological and clinical data and share materials necessary for research and development.
- The countries also agreed to strengthen health systems globally, including through supporting the full implementation of the WHO International Health Regulations.
- It was discussed that the G-20 must send a strong signal to restore confidence in the global economy by resuming, as soon as possible, the normal flow of goods and services, especially vital medical supplies.
- In order to do so, the G20 countries committed to inject more than \$5 trillion into the global economy, and contribute to the World Health Organisation (WHO) led COVID-19 solidarity response fund.

Highlights of India's views at the summit

- As the world battles the Covid-19 threat, the Indian PM called upon the international community to put human beings, rather than economic targets, at the centre of the coordinated response to the global health emergency.

- He highlighted that the world needs to redefine its conversations on globalisation to include social and humanitarian issues like terrorism, climate change and pandemics along with financial and economic discussions.
- India called for a bigger mandate and more funding for the World Health Organisation, which as per India has failed to adapt itself to deal with the new challenges the international community has faced.
- India also expressed hope that the decisions taken by the member countries would shape the world's response not just to the present crisis but also future pandemics and calamities.

G20

- The G20 (or Group of Twenty) is an international forum for the governments and central bank governors from 19 countries and the European Union (EU).
- The 19 member countries are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, United Kingdom and the United States.
- Founded in 1999 with the aim to discuss policy related to the promotion of international financial stability, the G20 has expanded its agenda since 2008 and seeks to address issues that go beyond the responsibilities of any one organization.
- Collectively, the G20 economies account for around 90% of the gross world product (GWP), 80% of world trade, two-thirds of the world population.

SECURITY AND DEFENCE

❖ **Paper III: This section is relevant to the following topics:**

- **Linkages between development and spread of extremism.**
- **Role of external state and non-state actors in creating challenges to internal security.**
- **Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention**
- **Security challenges and their management in border areas; linkages of organized crime with terrorism**
- **Various Security forces and agencies and their mandate**

❖ **Prelims Oriented Questions**

3.1 SWATI

Why in News: In a major success, India has bagged a deal worth \$40 million to supply 4 indigenously-built 'Swathi' weapon locating radars (WLR) to Armenia by beating Russian and Polish firms.

Swathi

- **Swathi weapon locating radars provide fast, automatic and accurate location of enemy weapons like mortars, shells and rockets in its 50-km range.**
- **The radar can simultaneously handle multiple projectiles fired from different weapons at different locations.**
- The Indian Army is also using the same radars for its operations along the LoC in J&K.
- The radar were developed by the Defence Research and Development Organisation (DRDO) and manufactured by the Bharat Electronics Limited (BEL).
- The WLR is designed to operate in a high-density fire environment and has all weather capability, high mobility and quick reaction time.

Latest Developments

- In a major success, India has bagged a deal worth \$40 million to supply 4 indigenously-built '**Swathi**' weapon locating radars to Armenia.
- Armenians had conducted trials of systems offered by Russia and Poland, but they decided to go for the reliable Indian system.
- The deal is being seen as a big achievement for 'Make in India' program in the defence sector.

Way ahead:

- Indian officials are expecting that this deal will open a new market for the sale of India's indigenous systems, which are much cheaper than its European and other rivals.
- The Defence Ministry is also looking at other orders from South-East Asia, Latin America and Middle-East countries for boosting defence exports.

Defence exports targets:

- With the growing trend of shipments in recent years, the Indian government has set a defence export target of Rs 35,000 crore by 2024-25.
- The defence exports rose from Rs 1,500 crore in 2016-17 to Rs 10,700 crore in 2018-19.

3.2 TEJAS MK-1A

Why in News: The Defence Acquisition Council (DAC) chaired by Defence Minister accorded approval for the procurement of 83 indigenous Light Combat Aircraft (LCA) Tejas Mk-1A from the Hindustan Aeronautics Ltd. (HAL). The deal is expected to cost around Rs 39,000 crore.

Light Combat Aircraft

- A Light combat aircraft is a light multirole jet military aircraft, most coming from advanced trainers that have been modified or designed for engaging in light combat missions, either in light strike or attack missions, reconnaissance or interdiction roles.
- They are also slower than their bigger counterparts and most are only capable of subsonic speeds though some are capable of reaching mach 1+.
- Although equipped with either guns or short range air-to-air missiles it is usually for self-defense purpose or anti-hostile aircraft/helicopter missions not for air defense as lightweight fighters do.
- However, they can still be used to patrol the skies and implement border patrol or air policing.

LCA Tejas

- HAL Tejas is an Indian single-engine, multirole light fighter designed by the Aeronautical Development Agency (ADA) and Hindustan Aeronautics Limited (HAL) for the Indian Air Force and Indian Navy.
- It came from the Light Combat Aircraft (LCA) program, which began in the 1980s to replace India's ageing MiG-21 fighters and was officially named Tejas in 2003.
- It is the smallest and lightest in its class of contemporary supersonic combat aircraft, and is developed in both fighter and trainer versions.
- It integrates technologies such as relaxed static stability, fly-by-wire flight control system, multi-mode radar, integrated digital avionics system and composite material structures.

Progressive models

- 40 LCA Mark-1 jets were ordered for the IAF and are in various stages of induction.
- HAL has worked towards developing an improved LCA Mk-1A jet with improvement over Mark-1 jets including:
 - Improved maintainability

- AESA (active electronically scanned array) radar to replace existing mechanically-steered radar
- Air-to-air Refueling
- Long-range BVR (beyond visual range) missiles
- Advanced electronic warfare to jam enemy radars and missiles

Tejas Mark-2 or the MWF (medium weight fighter) jets, with more powerful engines and advanced avionics, are also expected to be developed by the HAL in the coming years.

Background

- The Defence Acquisition Council (DAC) had given initial clearance for the 83 aircraft in November 2016 and the IAF issued the Request for Proposal in December, 2017. However, negotiations got stuck due to the steep price quoted by HAL, which the IAF said was more than the price of a Su-30MKI.
- The Defence Acquisition Council (DAC) chaired by Defence Minister accorded approval for the procurement of 83 indigenous Light Combat Aircraft (LCA) Tejas Mk-1A. The proposal will now be placed for consideration of the Cabinet Committee on Security [CCS].
- The 83 jets are in addition to the 40 LCA already ordered by the IAF in two batches of 20 each in the Initial Operational Clearance and the Final Operational Clearance (FOC) configurations. The deliveries are expected to begin three years after the contract is signed.

Concerns remain over pace of delivery

- The slow production rate of the home-grown Tejas fighters by HAL, much like its lengthy development process, remains a major concern for IAF.
- The IAF's "Flying Daggers" squadron at Sulur has inducted only 16 of the original 40 Tejas Mark-1 fighters, which were slated for delivery by December 2016.

3.3 DEFENCE PROCUREMENT DRAFT

Why in News: The Defence Ministry has released a draft Defence Procurement Procedure-2020 (DPP-2020) — the procurement manual that has, for the last 18 years, governed the purchase of weapons and equipment.

- The first DPP was promulgated in 2002 and has since been revised a number of times to give boost to the growing domestic industry and achieve enhanced self-reliance in defence manufacturing.

- The draft has been prepared by a Review Committee headed by Director General (Acquisition) based on the recommendations of various stakeholders, including private industry.
- In order to take advantage of domain specialisation of various subject matter experts, eight sub-committees headed by Lt Gen/equivalent officers were constituted to assist the review committee.
- The draft has been released for further suggestions from industry before being finalised for promulgation. It will come into effect from April 01, 2020 and would remain in force till 31 March 2025.

Highlights of the draft

Acquisition on Lease:

- In an innovative addition, leasing has been introduced as a new category for acquisition in addition to the existing 'Buy' and 'Make' categories.
- Leasing involves periodical rental payments to the Lessor country/company, which works out cheaper than buying the equipment outright, which requires huge capital expenses.
- Leasing is permitted under two categories, Lease [Indian] where Lessor is an Indian entity and is the owner of the assets; and Lease [Global] where Lessor is a Global entity.
- Leasing will be useful for military equipment not used in actual warfare like transport fleets, trainers, simulators, among others.
- In fact, India already leases one of its most potent naval combat platforms from Russia — the nuclear propelled attack submarine, INS Chakra. The new DPP will provide a policy framework for more such leases.

Boost for Make in India

- In a measure designed to promote Make in India, the draft introduced a new procurement category, entitled Buy (Global-Manufacture in India). This category would be given a higher preference than the current "Buy Global" category, which involves buying equipment built abroad.
- For equipment bought from the international market, with the intention to subsequently build it in India with technology transfer, this category stipulates a minimum indigenous content of 50 per cent of the value of the contract.
- To meet this difficult indigenisation requirement, only the minimum necessary numbers would be bought from abroad in ready-built condition, while a larger number would have to be manufactured in India.

Increased indigenous content

- The draft aims to promote higher indigenous content in defence equipment manufactured in India, including under license from foreign vendors.
- In doing so it proposes to raise by 10 per cent the indigenous content stipulated in the current procedure, for various categories of procurement.
- Further, a simple and realistic methodology has been incorporated for verification of indigenous content for the first time.

Field Evaluation Trials

- In a measure that will be welcomed by both Indian and foreign defence firms, DPP-2020 proposes that field evaluation trials, in which the military evaluates the equipment before approving it, will be conducted by specialised trial wings.
- The objective of trials will be to nurture competition rather than elimination of a product for minor deficiencies.

Product Support

- The draft also proposed to widen the scope of product support, to include contemporary concepts popular in modern western militaries.
- These concepts include Performance Based Logistics, Life Cycle Support Contract and Comprehensive Maintenance Contract to optimise life cycle support for equipment.

New Chapters introduced

- The draft has proposed to introduce a new chapter for procuring software and systems related projects.
- In such projects, obsolescence (process of getting outdated) is very fast due to rapid changes in technology and flexibility in the procurement process is required to keep up with the technology.
- Another new DPP chapter is proposed to deal with post contract management, which lays down clear guidelines for issues that arise during the contract period, which typically lasts for several decades in defence contracts.
- DPP also proposed to introduce a comprehensive new chapter for the “Make” category of procurement.
- This deals with equipment designed and built by Indian defence companies, especially start-ups and innovators, and weapons realised through research projects of the Defence R&D Organisation (DRDO).

ECONOMY

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.**
- **Inclusive growth and issues arising from it.**
- **Government Budgeting.**
- **Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.**
- **Infrastructure: Energy, Ports, Roads, Airports, Railways etc.**
- **Investment models.**

4.1 PURCHASING MANAGER INDEX

Why in News: The strong manufacturing sector expansion seen in India in January was maintained in February. However, in comparison to January, India's manufacturing sector growth slowed in February.

Purchasing Manager Index (PMI)

- The Nikkei India Manufacturing PMI, compiled by IHS Markit, is based on data compiled from monthly survey responses by purchasing managers in more than 400 manufacturing companies, on various factors that represent demand conditions.
- Note: It is also sometime referred to as IHS Markit India Manufacturing PMI.
- PMI measures activity at the purchasing or input stage. It is very different from industrial production which is indicative of actual production. For example, the Index of Industrial Production (IIP) measures output. The PMI is constructed separately for manufacturing and services sector, but the manufacturing sector holds more importance.
- PMI does not capture informal sector activity.

Significance

- The Index is considered as an indicator of the economic health and investor sentiment about the manufacturing sector.
- PMI is also the earliest indicator of manufacturing activity and economic health, as the manufacturing PMI report for any given month comes out without any delay - either on the last day of that month or on the first day of the next month.

How it is captured

- The PMI is derived from survey responses from purchasing managers to a series of qualitative questions.
 - PMI is composite index based on five individual sub-indices:
 - New orders
 - Output
 - Employment
 - Suppliers' delivery times
 - Stock of items purchased

Reading the PMI:

- A figure above 50 denotes expansion in business activity and anything below 50 denotes contraction.
- Higher is the difference from this mid-point, greater is the expansion or contraction.
- The rate of expansion can also be judged by comparing the PMI with that of the previous month data. If the figure is higher than the previous month's then the economy is expanding at a faster rate. If it is lower than the previous month then it is growing at a lower rate.
- The strong manufacturing sector expansion seen in India in January was maintained in February, with the Nikkei Manufacturing Purchasing Managers' Index (PMI) at 54.5 in February.
- However, it is slightly lower than near eight-year high in January 2020 (from January's 55.3).
- The latest numbers also mean that the PMI has now stayed above the 50-point threshold mark for over two years.
- In PMI parlance, a print above 50 means expansion, while a score below that denotes contraction.
- This is the 31st consecutive month that the manufacturing PMI has remained above the 50-point mark.

The Good:

- Factories in India continued to benefit from strong order flows in February, from both domestic and international markets.
- The pick-up in demand meant that companies were able to further lift production and input buying at historically-elevated rates.

The Bad:

- Goods producers are worried as the corona virus (COVID-19) outbreak poses threats to exports and supply chains.
- As a result, businesses became less confident about the year-ahead outlook for output, and thus restricting hiring activity.

4.2 SEAPORTS IN INDIA'S GROWTH STORY

Why in News: Seaports are gateways of international trade, and play a crucial role in a nation's economy. The Indian PM also announced the mantra of 'ports for prosperity', which can help in sustained growth in India's trade and commerce.

Initiatives being taken in this regard

- Major initiatives are being taken by the ministry of shipping to promote ports sector in India.
- With Rs 100 lakh crore investments being envisaged for infrastructure development over the next five years, the port sector is optimistic to witness a rapid growth, which will increase capacity substantially.
- The ministry of shipping is following an approach focused on development of port infrastructure and capacity enhancement, and development of multi-modal hubs to promote EXIM trade by reducing logistics costs and time for cargo transportation.

India's ports are few with limited capability

- Only two major ports, namely Jawahar Lal Nehru Port Trust (1989) and Ennore (Kamarajar) Port (1999), and nine minor ports by state governments have been developed in the last 30 years.
- While the ports in the country are able to handle the largest sea-going vessels/ships in the world for liquid cargo, including POL and bulk cargo, there is an inadequacy in India's ability to handle and receive ever-increasing large containerised ships.
- This can be attributed to non-availability of deep draft ports.
- The two largest container ports of the country, JNPT and Mundra, have drafts of 15m and 16m, respectively, whereas the world's largest container-handling modern deep draft ports required a draft of at least 18-20m.

Deep draft Vadhavan Port being built

- The long felt need for a modern deep draft port on the western coast will be fulfilled with the development of a new major port at Vadhavan, Maharashtra.
- Vadhavan has a deep draft of about 20m close to shore, which makes it appropriate for handling bigger vessels. Vadhavan has an 18m draft naturally available, and a 20m navigational channel also naturally available.
- Importantly, it will lead to vast development and total face-lift of the tribal belt area in the vicinity of the port.
- Vadhavan Port has a significant potential to serve the vast hinterland with its huge cargo generating potential.
- The excellent road and rail connectivity, with linkage to a dedicated freight corridor, NH-8, Delhi-Mumbai Expressway & Railway, and their proximity to the port site will give a big boost to industrialisation and development.

Its impact will be transformational

- The development of VadHAVAN Port is going to be a game changer in times to come.
- The development is opening up plenty of opportunities for India to become among the world's top 10 countries where container ports are concerned.
- It is not only going to boost the industry but also going to create a lot of job opportunities in nearby areas, enhancing international trade substantially, and yielding enormous benefits of economy of scale.

Conclusion

- The port is a giant step towards the Indian government's vision of "port-led industrialization", which could help India become a \$5-trillion economy by 2025.
- Towards this, the demand-supply mismatch, i.e., the shortage of container handling capacity in the west coast ports also needs to be satisfactorily address

4.3 PANEL FOR PHARMA SECTOR

Why in News: The government has decided to set up a 10-member technical committee to revive India's lost capacity to make certain crucial drug ingredients. This is significant as there is difficulty in sourcing these key ingredients from China in light of coronavirus crisis in that country.

Background

India's pharmaceutical sector's dependence on China:

- India procures 70 per cent of its bulk drugs related intermediary needs from China.
- In certain segments, such as penicillins and their derivatives, China accounts for over 90% of India's import of the ingredient.
- Several commonly used medicines like paracetamol and ibuprofen could be found in short supplies after the month of February if the disruptions due to coronavirus don't end soon.
- There is also possibility of rise in the pharmaceutical products if the shutdown prolongs.

Indian pharma dependent on China for key ingredients:

- Between the 1960s to 1980s, India had set up 7-8 manufacturing plants to make as many as 20 crucial fermentation-based ingredients, including penicillin G, erythromycin, citric acid and vitamin B12.
- However, in the last three decades, these manufacturing plans were shut down due to cheaper alternatives from China.

When supply from China is stalled, Indian pharma sector will struggle to produce crucial medicines:

According to the Federation of Indian Chambers of Commerce & Industry (FICCI), several commonly used medicines like paracetamol and ibuprofen could be found in short supplies after the month of February if the disruptions due to coronavirus don't end soon.

Committee to understand impact:

In February, the Department of Pharmaceuticals (DoP) formed an expert committee to monitor the potential impact of the novel coronavirus outbreak in China on its supply of active pharmaceutical ingredients (APIs) to India.

Note: APIs are the key ingredients that give a drug its therapeutic effect.

- The committee was chaired by CDSCO Joint Drug Controller Eswara Reddy.
- Around 58 APIs had been identified by the committee, including amoxicillin, vitamin C, neomycin, acyclovir and tetracycline.
- The committee also recommended the formation of a technical committee, which is expected to suggest ways to revive India's API segment, especially its fermentation-based APIs.
- The committee had also recommended that the government establish a "Drug Security Authority" to make India self-sufficient and a global leader in APIs and other key intermediates domestically as well as an exporter.

Latest Development

- The Covid-19 crisis in China resulted in shutdown of operations in the major Chinese province of Hubei that exports these key pharmaceutical ingredients to India.
- In this context, the India government has decided to set up a 10-member technical committee to revive India's lost capacity to make certain crucial drug ingredients.

What the technical committee will deal with:

- The new technical committee is to look into the cost of setting up fresh API manufacturing capacities — Greenfield projects — to wean India off its dependency on imports for these products.
- The new committee will also examine the latest “viable” technologies to make these products, including backward integration.
- It will also examine a proposal to restart manufacturing of some of these APIs by government undertaking Hindustan Antibiotics Limited (HAL).
- HAL previously operated a capacity to manufacture a fermentation-based antibiotic called gentamicin in the 1980s, which later closed.
- Apart from this, it will also look into other existing facilities along with their capacities to make these ingredients.

4.4 SC ON CRYPTOCURRENCY

Why in News: The Supreme Court has set aside a ban by the Reserve Bank of India (RBI) on banks and financial institutions from dealing with virtual currency holders and exchanges.

- In a circular in 2018, the RBI had banned banks from dealing with virtual currency exchanges and individual holders on the grounds that these currencies had no underlying fiat (a formal authorization).
- RBI had also directed that other services such as maintaining their accounts, registering them or clearing loans against such currencies, accepting them as collateral was also barred with immediate effect.
- After the circular, VC exchanges and holders, as well as the Internet and Mobile Association of India (IAMAI), had challenged the RBI’s powers to bar banks and financial institutions from dealing in such digital currencies.

Background

- In June 2013, the RBI had for the first time warned users, holders and traders of virtual currencies about the potential financial, operational, legal and customer protection and security-related risks that they were exposing themselves to.
- In November, 2017, the Centre constituted an Inter-Ministerial Committee, which initially recommended the Crypto-token Regulation Bill of 2018.
- This Bill found a complete ban on VCs an “extreme tool” and suggested regulatory measures. At that point, the committee was even fine with the idea of allowing the sale and purchase of digital crypto assets at recognized exchanges.

- However, in February 2019, the Inter-Ministerial Committee went on to recommend a total ban on private crypto currencies through a proposed legislation called 'Banning of Crypto currency and Regulation of Official Digital Currency Act'.
- This law also proposes the creation of a digital rupee as official currency and a legal tender by the Central government in consultation with the RBI.

Virtual and Crypto currencies

- There is no globally accepted definition of what exactly is virtual currency. Some agencies have called it a method of exchange of value, while others have labelled it a goods item, product or commodity.
- Satoshi Nakamoto, widely regarded as the founder of the modern virtual currency bitcoin and the underlying technology called blockchain, defined bitcoins as a new electronic cash system that's entirely peer-to-peer, with no trusted third party.
- This essentially meant there would be no central regulator for virtual currencies as they would be placed in a globally visible ledger and all users of such virtual currencies would be able to see and keep track of the transactions taking place.
- **Virtual currency is the larger umbrella term for all forms of non-fiat currency being traded online and are mostly created, distributed and accepted in local virtual networks.**
- **Crypto currencies, on the other hand, have an extra layer of security, in the form of encryption algorithms. Cryptographic methods are used to make the currency as well as the network on which they are being traded, secure.**
- Most crypto currencies now operate on the block chain or distributed ledger technology, which allows everyone on the network to keep track of the transactions occurring globally.

Status of Virtual Currencies in other parts of the world

- Organisations across the globe have called for caution while dealing with virtual currencies, while also warning that a blanket ban of any sort could push the entire system underground, which in turn would mean no regulation.
- Though the RBI had not placed a blanket ban on VC, other countries such as China, Russia, and Vietnam have placed a complete prohibition in any transactions using crypto currency.
- On the other hand, countries such as the US, UK, Canada, Singapore, and Australia have accepted the use of VC in some form or the other.

RBI's reasons for the ban

- The RBI had initially expressed its concerns on the lack of any underlying fiat, episodes of excessive volatility in their value, and their anonymous nature which goes against global money-laundering rules.
- Further, risks and concerns about data security and consumer protection on the one hand, and the potential impact on the effectiveness of monetary policy itself on the other hand, also had the RBI worried about virtual currencies.
- It further argued that, due to the significant spikes in the valuation of many virtual currencies and rapid growth in initial coin offerings, virtual currencies were not safe for use.

Petitioner's arguments

- The petitioners, who included virtual currency exchanges operational in the country, told the Supreme Court that the RBI action was outside its purview as the non-fiat currency was not a currency as such.
- They also argued that the action was too harsh and there had been no studies conducted either by the RBI or by the central government.
- Arguing that the ban was solely on moral grounds, the petitioners said the RBI should have adopted a wait-and-watch approach, as taken by other regulators such as the Directorate of Enforcement or the Securities and Exchange Board of India.

Supreme Court's Judgement

- The Court said that till date RBI has not come out with a stand that any of the entities regulated by it, have suffered any loss or adverse effect directly or indirectly, on account of VC exchanges.
- The Court held that the RBI directive came up short on the following five-prong test to check proportionality
 - Direct and immediate impact upon fundamental rights.
 - The larger public interest sought to be ensured.
 - Necessity to restrict citizens' freedom.
 - Inherent harmful nature of the act prohibited or its capacity or tendency to be harmful to the general public.
 - The possibility of achieving the same object by imposing a less drastic restraint.
- The apex court disagreed with the submission of the petitioners that the acceptance of Distributed Ledger Technology, or blockchain, and the rejection of VCs by the RBI as well as the government is a contradiction in terms.
- As per the bench, there is nothing irrational about the acceptance of a technological advancement or innovation but the rejection of a by-product of such innovation.

- It further stated that the RBI could not be blamed for not adopting a “light-touch” approach as adopted by other countries, as there could be no comparison with other countries such as the US, the UK, Japan, or Singapore as they were developed economies.
- Further, the court also pointed out the Centre’s failure to introduce an official digital rupee despite two draft Bills and several committees.

Future Outlook

- Even as virtual currency investors and businesses welcomed the Court’s order on crypto currency, the relief for such players may be only temporary given that the Centre, in a draft law, has proposed to ban all crypto currencies except a state-issued one.
- The Centre may introduce the bill in the Parliament to permanently ban the crypto currencies and to set up the basic infrastructure required to issue state-owned crypto currency and the digital rupee.
- However, it is expected, that the RBI might reconsider its approach to crypto currency and come up with a new, calibrated framework or regulation that deals with the reality of these technological advancements.

4.5 OPEC + DEAL COLLAPSE

Why in News: A three-year pact of OPEC+ collapsed recently after Russia refused to support OPEC's call for deeper production cuts to support prices hit by the coronavirus outbreak.

OPEC

- The Organization of the Petroleum Exporting Countries is an intergovernmental organization of 14 nations, founded in 1960 in Baghdad by the first five members (Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela), and headquartered since 1965 in Vienna, Austria.
- The current OPEC members are Algeria, Angola, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, the Republic of the Congo, Saudi Arabia (the de facto leader), the United Arab Emirates and Venezuela. Ecuador, Indonesia and Qatar are former members.
- Its mission is to ensure the stabilization of oil markets, in order to secure an efficient, economic and regular supply of petroleum to consumers, a steady income to producers, and a fair return on capital for those investing in the petroleum industry.
- The organization is also a significant provider of information about the international oil market.
- The formation of OPEC marked a turning point toward national sovereignty over natural resources, and OPEC decisions have come to play a prominent role in the global oil market and international relations.

OPEC+

- OPEC+ is an agreement between OPEC and 10 Non-OPEC nations (notable among them Russia, Mexico and Kazakhstan) in order to protect oil prices from a global slowdown.
- OPEC's 14 members control 35 percent of global oil supplies and 82 percent of proven reserves. With the addition of the 10 Non-OPEC nations, those shares had increased to 55 percent and 90 percent respectively.

OPEC+ Pact:

- An agreement signed in January 2017 in Vienna, called for the OPEC+ members of the deal to cut production by 1.8 million barrels/day of crude oil from global supplies from the beginning of 2017.
- The principle aim was to help ease the oversupply situation back then and importantly reduce the huge stocks that had been delaying the much-needed rebalancing of the oil market.
- Due to slowdown in demand for oil resulting from coronavirus outbreak, oil prices have fallen.
- With the previously agreed OPEC+ production cuts expiring at the end of March, to raise the oil prices again, the oil producing countries were looking to reduce production.
- To this end, OPEC+ held discussions but the talks failed as Russia refused to support deeper production cuts.
- In response, Saudi Arabia, the world's top oil exporter, announced plans to raise its crude oil production after the current deal to curb production between OPEC and Russia expires at the end of March.
- Other OPEC producers, such as Iraq, Kuwait and the United Arab Emirates, will likely follow Saudi Arabia's move with steep cuts to their own oil prices for April.

Impact on India

- With the global crude oil prices on a downward spiral in the backdrop of coronavirus outbreak, analysts are expecting a steep reduction in the energy markets that will help major consumers such as India manage inflationary and fiscal pressures.
- India is the world's third-largest oil importer and the fourth-largest buyer of liquefied natural gas (LNG) and imports 83% of its oil. Every dollar drop in the price of oil decreases the import bill by Rs 10,700 crore on an annualized basis.
- Lower crude prices will help the government's exchequer, when it is facing a revenue shortfall and an increasing fiscal deficit.

- It will reduce the pressure on government finances by reducing subsidy outgo and import bill — the latter also leads to an improvement in balance of payments position.
- Industries that are heavily dependent on crude oil such as aviation, shipping, road and rail transportation are also likely to gain from a sudden drop in crude oil prices.
- It also helps in bringing down cost of living and services, creating ground for putting money into people's pocket by reducing interest rates and an opportunity to revive growth.

4.6 THE MINERAL LAWS (AMENDMENT) BILL 2020

Why in News: Parliament has passed The Mineral Laws (Amendment) Bill, 2020 for amendments in Mines & Mineral (Development and Regulation) Act 1957 and The Coal Mines (Special Provisions) Act, 2015. The bill which will come into force after the President's assent, will open a new era in the coal and mining sector specially, to promote ease of doing business.

Mines & Mineral (Development and Regulation) Act 1957

The Mines and Minerals (Development and Regulation) Act, 1957 regulates the mining sector in India and specifies the requirement for obtaining and granting mining leases for mining operations.

Coal Mines (Special Provisions) Act, 2015

- The act provides for allocation of coal mines and vesting of the right, title and interest in and over the land and mine infrastructure to successful bidders and allottees with a view to ensure continuity in coal mining operations and production of coal.
- It provides to take immediate action to auction or allot coal mines to minimize impact on core sectors such as steel, cement and power, which are vital for the development of the nation.
- The act removes the restriction of end use from the eligibility to undertake coal mining except in the case of certain specified coal blocks.

Need of the amendment

- Parliament has passed The Mineral Laws (Amendment) Bill, 2020 for amendments in Mines & Mineral (Development and Regulation) Act 1957 and The Coal Mines (Special Provisions) Act, 2015.
- The bill envisages curtailing time lag in operationalization of the coal blocks even after their allocation.

- The amendment was needed to ensure uninterrupted coal supplies and other raw material to thermal plants and other industries.

Objective of the Bill

The Bill removes end-user restriction on use of coal to allow personal consumption of coal and opens the sector for commercial mining by paving way for private and global players.

Key Features of the Bill:

Removal of restriction on end-use of coal:

- Presently, Currently, mining companies can use coal only for specified end-uses such as power generation and steel production.
- The Bill removes this restriction, allowing companies to carry on coal mining operation for personal consumption, sale or for any other purposes, as may be specified by the central government.

Eligibility for auction of coal and lignite blocks

- The Bill clarifies that the companies need not possess any prior coal mining experience in India in order to participate in the auction of coal and lignite blocks.
- This enables 100% foreign direct investment in the sector through automatic route.

Composite license for prospecting and mining:

- Currently, separate licenses are provided for prospecting and mining, respectively. The Bill adds a composite license, called prospecting license-cum-mining lease to provide for both under one umbrella.
- This increases the availability of coal & lignite blocks, and coal blocks of varying grades in a wide geographical distribution will be available for allocation.

Advance action for auction:

- Under the MMDR Act, mining leases are auctioned on the expiry of the lease period. The Bill provides that state governments can take advance action for auction of a mining lease before its expiry which means the auction of lease of mines can now be started before expiry of lease period.
- This will help in seamless production of minerals in the country.
- Amendments also provide for allocation of the coal mine to the next successful bidder or allottee, subsequent to termination of its allocation along with the matters incidental to it.

Custodian for management of the mines:

A provision has also been made for appointment of designated custodian for management of the mines, apart from Schedule II mines, which have come under production and whose vesting/ allotment order has been cancelled.

Approvals and clearances transferred to the new owners:

With the amendments, environment and forest clearances along with other approvals and clearances shall automatically get transferred to the new owners of mineral blocks for a period of two years from the date of grant of new lease. This will allow new owners to continue with hassle free mining operations. During the period, they may apply for the fresh license beyond the period of two years.

Clearance & Licenses:

The statement of objects and reasons annexed to the Bill further states that the Bill is aimed to expedite the allotment of mines, by easing the clearance process.

Significance of the Amendment:

- Creating an efficient energy market
- The removal of the end use restriction would allow wider participation in auction of coal mines for a variety of purposes such as own consumption, sale or for any other purpose, as may be specified by the Central Government.
- Usher in competition by increasing private sector participation in auction of coal blocks for commercial mining.
- It will boost both production and mining efficiency besides substituting import of coal worth Rs 30,000 crore
- The amendment would facilitate in making the country self-reliant.
- Ending the monopoly of state-owned Coal India Ltd.
- This will speed up the process of implementation of projects and boost the ease of doing business.
- It will promote foreign direct investment in the coal mining sector.
- It will help India gain access to high-end technology for underground mining used by global miners.
- It will also lead to easier rules for auctioning blocks for commercial mining.
- Allowing commercial mining of coal will ensure assured coal supply, accountable allocation of coal and affordable fuel leading to affordable electricity prices for consumers.

- The reform will make the domestic steel industry globally more competitive (as inputs will be cheaper)

4.7 SCHEME FOR REMISSION OF DUTIES ON EXPORT

Why in News: The Union Cabinet has approved the Remission of Duties or Taxes on Export Products (RoDTEP) - a scheme for exporters to reimburse taxes and duties paid by them - at an estimated cost of Rs 50,000 crore to the exchequer.

The scheme comes at a time when India's exports declined for the sixth month in a row in January and face uncertainty due to the spread of the novel Coronavirus. **With the rolling out of this new scheme, the Merchandise Export Incentive Scheme (MEIS) will be phased out.**

Background

- The move assumes significance as a WTO dispute resolution panel had recently ruled against India in a trade dispute over its subsidies to exporters under various schemes including MEIS.
- The subsidies under MEIS consist of government-issued notes ("scrips") that can be used to pay for certain liabilities and are freely transferable.
- According to the panel, the US was able to show that India had foregone revenue through exemptions and deductions from duties and other taxes to the benefit of exporters in most schemes.
- In the case of MEIS, it was able to establish that exporters benefited from a direct transfer of funds through the provision of scrips.

RoDTEP scheme

- Under the World Trade Organisation (WTO) rules, certain duties like state taxes on power, oil, water, and education cess are allowed to be refunded.
- At present, GST taxes and import/customs duties for inputs required to manufacture exported products are either exempted or refunded.
- However, certain taxes/duties/levies such as VAT on fuel used in transportation, mandi tax, duty on electricity used during manufacturing, are outside GST, and are not refunded for exports. These would be covered for reimbursement under the RoDTEP Scheme.

- The sequence of introduction of the Scheme across sectors, prioritization of the sectors to be covered, degree of benefit to be given on various items within the rates set by the Committee will be decided and notified by the Department of Commerce (DoC).
- The Scheme will be implemented with end to end digitization and in line with Digital India, the refund under the scheme, will be issued to the exporters, in the form of transferable duty credit/electronic scrip, which will be maintained in an electronic ledger.
- A monitoring and audit mechanism, with an Information Technology based Risk Management System (RMS), would be put in to physically verify the records of the exporters.

Benefits of the scheme:

- The scheme will give a boost to the domestic industry and Indian exports, providing a level playing field for Indian producers in the international market so that domestic taxes/duties are not exported.
- The refunds under the RoDTEP scheme would be a step towards “zero-rating” of exports, along with refunds such as Drawback and IGST. This would lead to cost competitiveness of exported products in international markets and better employment opportunities.
- It will also lead to a reform in export oriented industries along with introduction of better mechanisms so as to increase their productivity and contribute to the overall economy.

SCIENCE AND TECHNOLOGY

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Science and Technology- developments and their applications and effects in everyday life**
- **Achievements of Indians in science & technology; indigenization of technology and developing new technology.**
- **Awareness in the fields of IT, Space, Computers, robotics, Nano-technology, bio-technology and issues relating to intellectual property rights.**

5.1 CORONA VIROS – A NOTIFIED DISASTER

Why in News: The Ministry of Home Affairs has decided to treat COVID-19 as a notified disaster for the purpose of providing assistance under the State Disaster Response Fund (SDRF).

- Natural disasters like floods are also similarly notified, but this is the first time for a pandemic, and officials could not recall when the provision was last invoked at a national level for all states.
- The central assistance to states will include setting up of quarantine facilities with temporary provisions for accommodation, food, clothing and medical care, sample collection and screening.
- It will also cover costs of additional government testing labs, consumables for testing and procurement of essential equipments like protection of healthcare, police, fire and municipal personnel.
- In a similar move, the US President has declared a national emergency in the country by invoking the Stafford Act, as per which, the federal government contributes about 75 percent to the cost of relief for states.

State Disaster Response Fund

- The SDRF is constituted under the Disaster Management Act, 2005 and is the primary fund available with state governments for responses to notified disasters.
- The disasters covered under the SDRF include cyclones, droughts, tsunamis, hailstorms, landslides, avalanches and pest attacks among others.
- A state government may use up to 10% of funds available under SDRF for providing immediate relief to victims of an event considered to be a 'disaster' within local context in the state.
- The Central government contributes 75 per cent towards the SDRF allocation for general category states and UTs, and over 90 per cent for special category states/UTs, which includes north-eastern states, Sikkim, Himachal Pradesh and Uttarakhand).
- For SDRF, the Centre releases funds in two equal installments as per the recommendation of the Finance Commission.
- On the other hand, the National Disaster Response Fund, which is also constituted under the Disaster Management Act, 2005 supplements the SDRF of a state, in case of a disaster of severe nature, provided adequate funds are not available in the SDRF.

Disaster

- According to the Disaster Management Act, a disaster is defined as a calamity, arising from natural or man-made causes, or by accident which results in substantial loss of life, human suffering, damage to property or degradation of environment.
- Also, the nature and magnitude of the event is such that it is beyond the coping capacity of the community of the affected area.
- In its document titled, Disaster Management in India, the Ministry of Home Affairs has defined a disaster as an extreme disruption of the functioning of a society that causes widespread human, material, or environmental losses that exceed the ability of the affected society to cope with its own resources.
- Further, citing the High Power Committee on Disaster Management, which was constituted in 1999, it identified 31 disaster categories organised into five major sub-groups.
- The sub-groups are water and climate related disasters, geological related disasters, chemical, industrial and nuclear related disasters and biological related disasters, which includes biological disasters and epidemics.

Way Ahead

With Covid-19 notified as 'disaster', states and UTs can now draw funds from SDRF, in addition to the money made available by state governments and the National Health Mission.

The Ministry has also emphasised on strengthening preventive and control measures with adequate number of isolation wards, enhanced quarantine facilities and to ensure arrivals from identified countries are quarantined and took up steps taken for mass awareness about Covid-19.

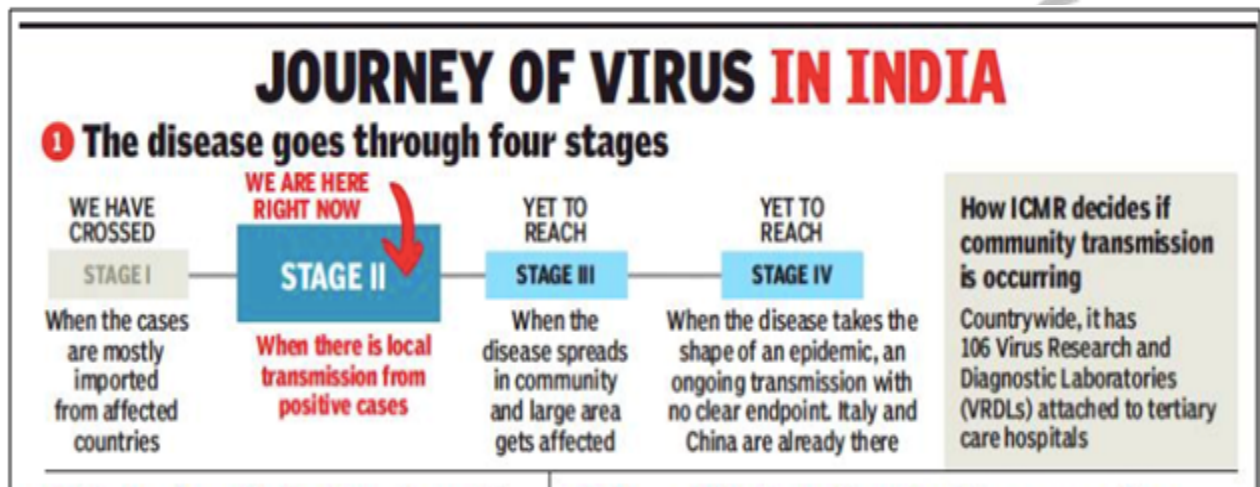
5.2 COVID-19 TEST

Why in News: India's top health research body, ICMR, has claimed that there is no community transmission of Covid-19 occurring in India as yet and there is no need to panic.

- The claim is based on preliminary results of 500 samples of a random sampling exercise conducted by ICMR in 51 virus research and diagnostic laboratories between March 1 and 15.
- The study involved testing 20 samples each of throat and nose swabs taken from patients admitted to government hospitals with influenza like illness and severe acute

respiratory infection (SARI), but having no travel history to countries affected by Covid-19 or direct contact with an infected individual.

- As per the current strategy, those with no travel history or direct contact with a Covid-19 patient, except healthcare workers, need not get tested, even if they exhibit symptoms such as fever, cough and shortness of breath.
- With 137 positive cases so far, over 5,700 people who have come in contact are under surveillance and 69,436 people are under community surveillance.



News steps taken by India to contain Covid-19

- Continuing to tighten travel restrictions as part of its efforts to contain the spread of Covid-19 cases, the government has banned flights from Afghanistan, Philippines and Malaysia with immediate effect.
- With coronavirus cases rising and concerns over travelers hiding their itineraries, the government had already banned the entry of passengers from European Union countries, Turkey and the UK till April 14.
- The government also issued guidelines for tests to be conducted by private laboratories. A laboratory test should be only offered such tests when prescribed by a qualified physician as per ICMR guidance.
- ICMR will also share SOPs for laboratory testing and provide positive controls for establishing the test as soon as the private laboratory concerned has procured the primers, probes and reagents.
- Currently, India has 72 labs that are testing for Covid-19, in addition to that 49 more labs of DRDO, CSIR and government medical colleges will also soon start testing.

- Also, two rapid testing machines have been purchased, which can process 1,400 samples daily. There are plans to buy three more of these machines to scale up testing.

Diagnostic test for Covid-19

- As per ICMR, designated labs are using the conventional real-time polymerase chain reaction (PCR) test, which is conducted on swab collected from the back of the throat, a liquid sample from the lower respiratory tract, or a simple saliva sample.
- Kary Mullis, the American biochemist who invented the PCR technique, was awarded the Nobel Prize for Chemistry in 1993. Such tests are commonly used in Influenza A, Influenza B and H1N1 virus detection.
- The PCR test uses a technique that creates copies of a segment of DNA. 'Polymerase' refers to the enzymes that make the copies of DNA. The 'chain reaction' is how the DNA fragments are copied, exponentially — one is copied into two, the two are copied into four, and so on.
- However, SARS-COV-2 is a virus made of RNA, which needs to be converted into DNA. For this, the technique includes a process called reverse transcription. A 'reverse transcriptase' enzyme converts the RNA into DNA and copies of the DNA are then made and amplified.
- The PCR mix contains 'reagents' such as 'primers' and 'probes'. Primers are particular strands of DNA that are designed to bind with the DNA that is to be copied.
- While probes are used to detect the specific sequence in the DNA sample. The fluorescent DNA binding dye called the probe shows the presence of the virus and the test also distinguishes SARS-COV-2 from other viruses.

Time taken for the test

- Real-time PCRs have brought down the time taken to test samples to 4.5 hours from around 6 hours earlier.
- However, the overall turnaround time —from the time the samples are collected to when the report is delivered — is around 24 hours, and should be less.

How is the test being done in India

- India currently conducts a two-stage real-time PCR to test for SARS-COV-2. The first stage is designed to detect genetic elements common to human coronaviruses that may exist in the sample.
- The second stage is designed to test for specific genes present only in the SARS-COV-2 virus.

- Until the beginning of March, the initial screening test to check for any type of coronavirus was done by all labs, but the confirmatory PCR was only done by the National Institute of Virology in Pune.
- Then, NIV Pune transferred the technology (reagents required for the confirmation) to all labs so that there would be no need for a sample to go all the way to Pune. This has cut down on the time taken to test the samples.

Is India testing enough numbers?

- India has the capacity to test 10,000 samples daily, and is currently testing around 600-700. By comparison, South Korea, which has a similar turnaround time, is reportedly testing up to 20,000 samples a day, especially using models like its drive-through testing facilities.
- The government argues it is not necessary at this stage to test every person and the country is testing the cohort (group) that it needs to test for now.
- As per the ICMR, in a huge country like India, if the tests are conducted at a mass level right now, it may lead to wastage of test kits and create a scenario wherein later there might be a rise in cases along with inadequate testing capacity.
- It has also been pointed that with the incubation period between the infection and appearance of symptoms roughly two to 14 days, a negative test could end up giving a false sense of security and, if that person would want to be tested again, it would be a waste.
- The idea is to stay away from indiscriminate testing of every person who asks for the test, while at the same time keeping an eye on other cases so that the country does not miss tracing a community transmission.

5.3 COVID 19- WHO: PANDEMIC

Why in News: As fresh coronavirus cases continue to be reported from different countries, the World Health Organization has finally declared the novel coronavirus a 'pandemic'. WHO noted with concern that 1,18,000 positive cases have been reported globally along with nearly 4,300 deaths in 114 countries, with more than 90% of cases in just four countries. The alarming levels of spread and severity and the alarming levels of inaction across the world, led the WHO to declare coronavirus as a pandemic. Till very recently, the WHO had maintained that, the scale of coronavirus infection though alarming, was not enough to qualify it as a pandemic.

Coronaviruses

- Coronaviruses are a specific family of viruses, with some of them causing less-severe damage, such as the common cold, and others causing respiratory and intestinal diseases.
- Apart from human beings, coronaviruses can affect mammals including pigs, cattle, cats, dogs, martens, camels, hedgehogs and some birds.
- So far, there are four known disease-causing coronaviruses, among which the best known are the SARS corona virus and the Middle East Respiratory Syndrome (MERS) coronavirus, both of which can cause severe respiratory diseases.
- It primarily spreads through the respiratory droplets of infected people. If a person touches a surface or object that has been infected by the virus and then touches his own mouth, nose, or eyes, he may get infected.
- Symptoms of COVID-19 appear within two to 14 days after exposure and include fever, cough, a runny nose and difficulty in breathing.


Pandemic

- According to the WHO, a pandemic is the worldwide spread of a new disease. The US Centers for Disease Control and Prevention defines a pandemic as an epidemic that has spread over several countries or continents, usually affecting a large number of people.
- The same body defines an epidemic as an increase, often sudden, in the number of cases of a disease above what is normally expected in that population in that area. Thus, the 'pandemic' status has to do more with the spread of the disease, than its severity.
- The word pandemic comes from the Greek 'pandemos', demos stands for population and pan stands for everyone. So 'pandemos' is a concept where there's a belief that the whole world's population will likely be exposed to an infection and potentially a proportion of them will fall sick.
- While the WHO looks for sustained outbreaks causing a larger-than-expected number of cases on multiple continents, there is no specific number of countries that a disease must touch for WHO to classify it as a pandemic.

Impact of declaring a pandemic

- Declaring the disease a pandemic won't mean the WHO gets more funds or more powers to fight it.
- Moreover, describing the situation as a pandemic does not change WHO's assessment of the threat posed by this coronavirus.

- However, the declaration is a formal announcement that the WHO assesses the impact of COVID 19 to have reached a new level.

WHO DECLARES GLOBAL PANDEMIC		
<ul style="list-style-type: none"> ➤ India suspends all existing visas, except diplomatic, official, UN/international organisations, employment and project visas, till April 15, with effect from March 13 ➤ Visa-free travel for OCI card holders in abeyance till April 15 ➤ Any foreign national who intends to travel to India for compelling reason advised to contact nearest Indian mission ➤ All incoming travellers, including Indian nationals, arriving from or having visited China, Italy, Iran, South Korea, France, Spain and Germany after Feb 15 will be quarantined 	<p>for minimum period of 14 days</p> <ul style="list-style-type: none"> ➤ International traffic through land borders to be restricted to designated checkpoints with robust screening facilities. These will be notified later by Union home ministry ➤ WHO officially declares coronavirus outbreak a pandemic, or an epidemic on a far greater geographic scale that affects a much large number of people ➤ Thailand suspends visa on arrival for nationals of 19 countries, including India ➤ Air India Milan-Delhi flight arrives without screening 	 <p>of passengers. 83 on board, including nine foreigners, quarantined for 14 days. Italy reports 196 deaths in 24 hours</p>
		<p>SHADOW OVER IPL</p> <ul style="list-style-type: none"> ➤ Maharashtra govt considering postponing IPL matches or hosting them without spectators. BCCI learnt to be working on Plan B to push back IPL start from March 29 to April 5

Epidemic Disease Act, 1897

- Apart from the travel advisory, the GoM also decided that all states and UTs be advised to invoke provisions of Section 2 of Epidemic Disease Act, 1897, so that all advisories being issued by health ministry are enforceable.
- The Epidemic Diseases Act is routinely enforced across the country for dealing with outbreaks of diseases such as swine flu, dengue, and cholera.

History of the 1897 Epidemic Diseases Act

- The colonial government introduced the Act to tackle the epidemic of bubonic plague that had spread in the former Bombay Presidency in the 1890s.
- Using powers of Act, colonial authorities would search suspected plague cases in homes and among passengers, with forcible separation, clearance and demolitions of infected places.

- In 1897, the year the law was enforced, freedom fighter Bal Gangadhar Tilak was punished with 18 months' rigorous imprisonment after his newspapers Kesari and Mahratta admonished imperial authorities for their handling of the plague epidemic.

Provisions of the Epidemic Diseases Act:

- As per Section 2 of the Act, if a State Government is satisfied that any part of the State is threatened with an outbreak of any dangerous epidemic disease and if it feels that the ordinary provisions of law are inadequate to deal with it, the government may choose to invoke the said act.
- The government may prescribe regulations for the inspection of persons travelling by railway, separation in hospitals and temporary accommodations of persons, suspected by the inspecting officer of being infected with any such disease.
- Section 3 of the Act, provides for penalties under the Act. Any person disobeying any regulation or order shall be deemed to have committed an offence punishable under Section 188 of the Indian Penal Code.
- Further, Section 4 of the Act gives legal protection to the implementing officers acting under the Act.

Examples of implementation of the Act

- In 2018, the district collector of Gujarat's Vadodara issued a notification under the Act declaring a village as cholera-affected after 31 persons complained of symptoms of the disease.
- In 2015, to deal with malaria and dengue in Chandigarh, the Act was implemented and controlling officers were instructed to ensure the issuance of notices and challans of Rs 500 to offenders.
- In 2009, to tackle the swine flu outbreak in Pune, Section 2 powers were used to open screening centres in civic hospitals across the city, and swine flu was declared a notifiable disease.

5.4 COVID -19 IMPORTANT TERMS

Social distancing

- The virus can easily spread in dense places.
- Social distancing refers to measures that are taken to increase the physical space between people to slow the spread of the virus.
- Examples include working from home, school closures and the postponement or cancellation of mass gatherings, such as the South by Southwest music, technology and film conference.
- By maintaining a distance of 6 feet from others when possible, people may limit the spread of the virus..

Objective of such restrictions:

- According to World Health Organization (WHO), action must be taken to prevent transmission at the community level to reduce the epidemic to manageable clusters.
- Corona Virus has mild symptoms, the infected are more likely to be active and still spreading the virus.

Pandemic

- A pandemic is the worldwide spread of a new disease that affects large numbers of people.
- The World Health Organization declared the coronavirus outbreak a pandemic after it spread across six continents and more than 100 countries

Epidemic

- According to the WHO, an epidemic is a regional outbreak of an illness that spreads unexpectedly.
- According to the Centers for Disease Control and Prevention, it is an increase, often sudden, in the number of cases of a disease above normal expectations in a set population

COVID-19

- The technical name for the coronavirus is SARS-CoV-2.
- The respiratory disease it causes has been named the “coronavirus disease 2019,” or COVID-19.
- The new virus, first detected in China, is believed to have originated in bats.
- While antibiotics don’t work against viruses, researchers are testing drugs that could disrupt viral proteins and stop the infection.
- Coronaviruses are named for the crown-like spikes that protrude from their surfaces, resembling the sun’s corona.

- Coronaviruses are among a large number of viruses that are common in people and many animals.

Incubation

- The incubation period is the time it takes for symptoms to appear after a person is infected.
- The new coronavirus has an incubation period of two to 14 days, according to the CDC, with symptoms appearing about five days after infection in most cases.
- This time can be critical for prevention and control, and it allows health officials to quarantine or observe people who may have been exposed to the virus.
- During the incubation period, people may shed infectious virus particles before they exhibit symptoms, making it almost impossible to identify and isolate people who have the virus.

Isolation

Isolation refers to separating sick people from people who aren't sick.

Self-quarantine

- Quarantine refers to the separation and restriction of movement of people who were exposed to the virus to see if they become sick.
- Self-Quarantine is key to keeping the virus from spreading, along with measures like social distancing, frequent hand-washing and wearing masks.
- If someone left an area with widespread or continuing transmission, including China, Iran, Italy and South Korea, that person should self-quarantine at home for a period of 14 days from the time you left, according to the CDC.
- While in quarantine, you shouldn't receive any visitors and must stay 3 to 6 feet from others at all times. According to the CDC, once someone has been in isolation for 14 days and hasn't become ill, he or she is not considered to be a risk to other people.

Fatality rate

- The case fatality rate is the number of deaths divided by the total number of confirmed cases.
- The infection fatality rate is the number of deaths divided by the total number of infected persons.
- The WHO estimates the fatality rate of the new coronavirus to be about 3%, based on current data, but experts suggest 1% is more realistic.

R-naught

- The R-naught, or R_0 , is a virus's basic reproductive number, which is an epidemiologic metric used to describe the contagiousness of infectious agents.
- If the R_0 is above one, each case is expected to infect at least one other person on average, and the virus is likely to keep spreading. If it's less than one, a group of infected people are less likely to spread the infection.
- According to some estimates each person with the new coronavirus could infect between two and four people.

Containment

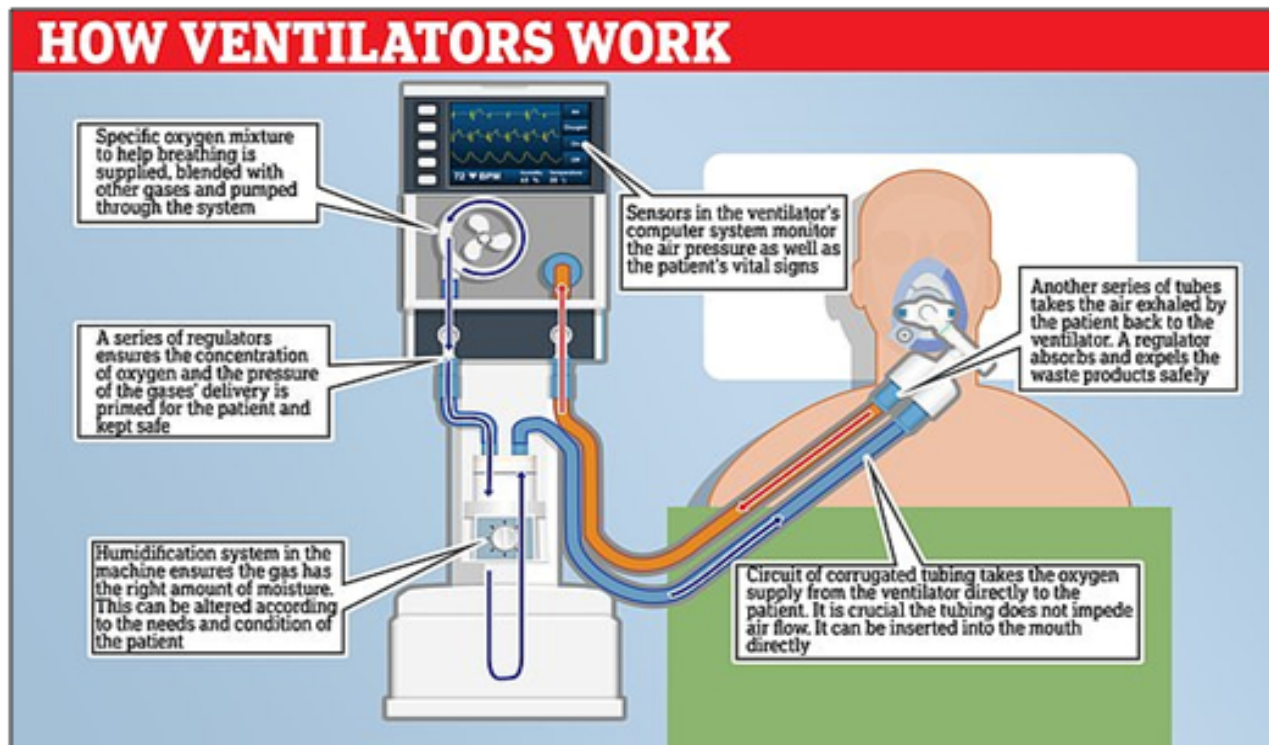
- Containment refers to the use of any available tools to mitigate the spread of a disease.
- The coronavirus is particularly hard to contain because it is "reasonably transmissible" and some people who don't have a lot of symptoms can still pass the virus to others.
- The virus's high transmission rate has made it difficult to effectively contain the outbreak.

5.5 VENTILATORS

Why in News: As India prepares for community spread of the novel coronavirus and a rise in hospital admissions, the government is seeking to increase its capacity of ventilators.

Ventilators

- Ventilators (or respirators) are mechanical devices that help a patient breathe when they are unable to do so on their own. Hospitals have a supply system for gases like oxygen, which are used in ventilators. The ventilator takes the compressed gas (oxygen) and mixes it with other gases, because typically what humans breathe is 21% oxygen from the atmosphere.
- It allows to artificially push in a certain required amount of oxygen into the patient's lungs and allows them to deflate.



- The coronavirus causes inflammation in the air passages inside the lungs called bronchioles and in the alveoli, the tiny sacs that the air is delivered to, due to which air can't get in or get out.
- As the space for the exchange of air in the lungs decreases, the patient has to work harder to breathe, which may not be possible indefinitely.
- A patient can't be breathing at rates of 40-45 (breaths) a minute and expect to sustain life. At this point, a ventilator allows to rest the patient's lungs by giving them oxygen at higher rates.
- The idea is to ensure timely treatment to ensure the lung cells are not permanently damaged. It allows the patient time to heal on their own by supporting a system that would have otherwise failed.

IN A RESPIRATOR

SENSORS — pressure sensors, flow sensors, oxygen sensors — to monitor and control the pressure, volume of air; deliver right concentration of oxygen

DISPLAY SYSTEM, like an LCD monitor, which helps adjust multiple parameters

SOLENOID VALVES, which control the flow and direction of the air

TUBINGS and pressure regulators for

high-pressure oxygen, which can handle the gas without deteriorating

PATIENT ACCESSORIES like inspiratory and expiratory valves, which allow the gas into and out of the lungs

SOFTWARE and printed circuit boards

TURBINE or blower, turbine-driving circuit, software and PCBs in the case of a turbine-driven ventilator

Status of ventilators in India

- India's state hospitals together have 14,220 ICU ventilators as of now. Additionally, government and some private hospitals dedicated for the management of COVID-19 patients have about 6,000 ventilators.
- As of 30th March, India had 1,251 confirmed cases of the disease, only a small fraction of the global total of 7.22 lakh, but the number of infections will almost inevitably rise faster than at present.
- According to recent mathematical modelling by scientists of ICMR, around half of those infected and in intensive care would require mechanical ventilation. Using this model and other data, think tank Brookings India has estimated that India could, in the worst case, need between 1 lakh and 2.2 lakh ventilators by May 15.
- At the same time various senior doctors have expressed optimism about ventilator availability, as at present there is no shortage of ventilators because very few patients need them and most of them are just on oxygen.
- This is probably also because other (non-COVID-19) patients have decreased tremendously.
- In a situation like Italy's (which had nearly 98,000 infections and 11,000 deaths until 30th March), any country would have a problem, but as of now, the situation in India is not beyond control.

Types of ventilators

- Based on the mechanism used to deliver the air (flow-delivery mechanism), there are three major classifications for ventilators viz. bellow-driven or piston ventilators, turbine ventilators and external compressed air driven ventilators.
- A pneumatic external compressed air-driven ventilator in an ICU setting would be ideal for COVID-19 patients.
- Turbine ventilators, although less effective, are the next best option, as they have fewer components, and it would probably be easier to scale them up.

Difficulties in scaling up production

- According to industry sources, only about 10% of ventilators in use in India are manufactured in the country. The pandemic has affected global supply chains, even as demand has increased suddenly everywhere.
- With imports slowing, an increased burden now lies on Indian manufacturers, who have limited capacity to scale up production.
- There is also the question of raw material as at least 40% of a ventilator's physical components are imported from countries like the US, China, France, and Germany, which include several crucial components like sensors and displays.

ECOLOGY and ENVIRONMENT

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Conservation, environmental pollution and degradation, environmental impact assessment**
- **Disaster and disaster management.**

❖ **Prelims Oriented Questions**

6.1 CHEETAH INTRODUCTION TO INDIA

Why in News: Days after the Supreme Court had given a go ahead to introduction of cheetahs into India, top scientists at Laboratory for Conservation of Endangered Species (Lacones) have said that it will be challenging to do so.

Background

- The cheetah was officially declared extinct from India in 1952.
- The National Tiger Conservation Authority has been, for some years, trying introduce cheetah into the PalpurKuno sanctuary in Madhya Pradesh, saying this was an ideal habitat for the animals to be brought from Namibia.
- After originally stalling the plan, the Supreme Court had in January 2020 lifted its seven-year stay on a proposal to introduce African cheetahs from Namibia into the Indian habitat on an experimental basis.

Need for reintroduction of cheetahs

- In 2010, the environment ministry noted that reintroductions of large carnivores have increasingly been recognised as a strategy to conserve threatened species and restore ecosystem functions.
- The cheetah is the only large carnivore that has been eliminated from India, mainly by over-hunting in historical times but India now has the economic ability to consider restoring its lost natural heritage for ethical as well as ecological reasons.
- The introduction of cheetah would also lead to gains in tourism, improvement of grasslands and global recognition for successfully reviving the animal in India.

How should India go about the reintroduction?

- Although the International Union for Conservation of Nature (IUCN) does have a protocol and template guidelines in place for introduction of wild animals, India will have to adapt them to its needs and develop one for the species that inhabit the country.
- Further, there is also a need to create provisions under the Wildlife Act for a policy on introduction of wild animals, which also includes safeguards to protect the interests of other species as well.
- Along with putting cheetahs in a proper habitat, awareness generation and supporting research projects will go a long way in re-establishing its population.
- If India can maintain its livestock well, there is wildlife and arid landscapes in the country that are perfect for cheetah.

- Extinction takes time and bringing the species back takes more time and more money. Hence, it needs to be remembered that the reestablishment is a long term project and the agencies involved in the project need to be patient with the process and allocate the required time and resources to it.

6.2 MIGRATORY SPECIES

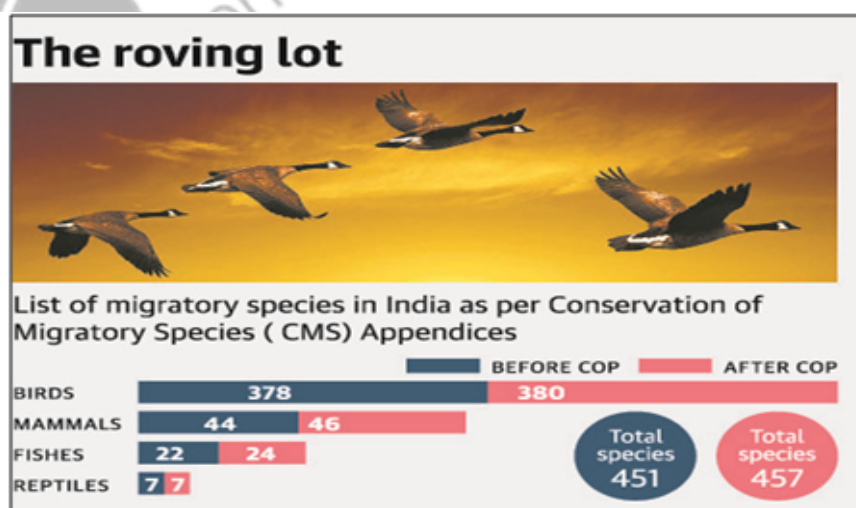
Why in News: Zoological Survey had compiled a list of the 451 species of migratory animals found in India. With the addition of new species to the CMS Appendices, the number is now 457.

Migratory Fauna coming to India

- The Thirteenth Meeting of the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS COP13) recently concluded in Gandhinagar, India.
- Ten new species were added to CMS Appendices at COP13, out of which 6 are migratory species in India.

Six newly added species to the Indian list:

- Asian elephant
- Great Indian bustard
- Bengal florican
- Oceanic white-tip shark
- Urial
- Smooth hammerhead shark



Migratory species and India:

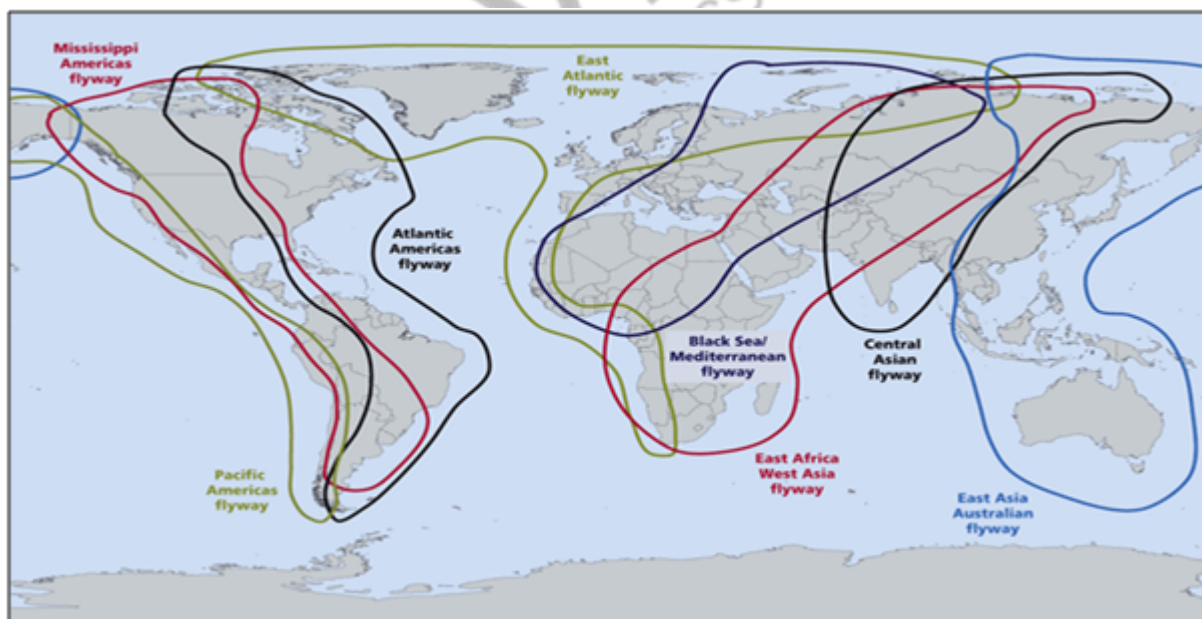
- Globally, more than 650 species are listed under the CMS appendices.
- India, with over 450 species, plays a very important role in their conservation.
- Out of 457 migratory species, birds make up the bulk of such species with 83% (380 species) of this figure.

Migratory Bird species coming to India: 380 Species (after COP13)

- Muscicapidae bird family (Highest): such as blue robin
- Accipitridae bird family/raptors or birds of prey (Second highest): Such as eagles, owls, vultures and kites
- Waders/ Shore birds
- Anatidae bird family: such as ducks

Three flyways (flight paths used by birds):

- The Central Asian flyway
- East Asian flyway
- East Asian–Australasian flyway



6.3

Why in News: The government has notified area to an extent of zero to two kilometer around the Chambal sanctuary as the national Chambal sanctuary eco-sensitive zone.

What are eco-sensitive Zones

- Eco-Sensitive Zones or Ecologically Fragile Areas are areas within 10 kms around Protected Areas, National Parks and Wildlife Sanctuaries.
- These are notified and controlled by the Ministry of Environment, Forest and Climate Change under Environment Protection Act 1986.

Aim of ESZ: To regulate certain activities around national parks and wildlife sanctuaries to minimize negative impact on the fragile eco system around.

- The purpose of declaring eco-sensitive zones around protected areas is for creating some kind of 'Shock Absorber' to the protected area.
- They would also act as a transition zone from areas of high protection to areas involving lesser protection.
- The width of eco-sensitive zone and type of regulation vary from one area to another. However, as a general principle width of eco-sensitive zone could go up to 10 kms around a protected area.
- In case of places with sensitive corridors, connectivity and ecologically important patches, crucial for landscape linkage, even area beyond 10 kms width can also be included in the eco-sensitive zone.
- No construction activity can take place in Eco Sensitive Zone area.
- ESZ Guidelines classify activities under three categories:
- Prohibited: Commercial Mining, Setting of Saw Mill, Setting of industries causing pollution, establishment of major hydroelectric projects etc.
- Regulated: Felling of Trees, Establishment of hotels and resorts, erection of electrical cables, drastic change of agricultural systems etc.
- Permitted: Ongoing agriculture and horticulture practices by local communities, rain water harvesting, organic farming etc.

News Summary:

- The central government has notified an area to an extent of zero to two kilometers around the boundary of National Chambal Sanctuary as the National Chambal Sanctuary Eco-sensitive Zone.

- The government prohibited any new construction of hotels and resorts within one kilometer from the boundary of the wildlife sanctuary or up to the extent of the ESZ, whichever is nearer.

The ministry has also directed the Madhya Pradesh government to prepare a Zonal Master Plan.

- The Zonal Master Plan shall provide for:
- restoration of denuded areas
- conservation of existing water bodies
- management of catchment areas
- watershed management
- groundwater management
- soil and moisture conservation
- needs of local community and
- Such other aspects of the ecology and environment that need attention.

National Chambal Sanctuary

- The National Chambal Sanctuary is first and only tri-State riverine protected area in India for breeding population of critically endangered Gharial.
- It is located at the tri-junction of Rajasthan, Madhya Pradesh and Uttar Pradesh.
- The Chambal River, one of the longest rivers, with nearly 1800 km length, out of which 177 km long river falls under the National Chambal Sanctuary.
- The sanctuary is important habitat of the Critically Endangered gharial, the red-crowned roof turtle and the Endangered Ganges river dolphin.
- More than 75 per cent of the critically endangered Gharial population is based in the sanctuary.
- The sanctuary also harbours more than 180 species of migratory birds.

SOCIAL ISSUES

❖ **Paper I: The articles in this section are relevant to the following topics:**

- **Salient features of Indian Society, Diversity of India.**
- **Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.**
- **Effects of globalization on Indian society**
- **Social empowerment, communalism, regionalism & secularism.**

7.1 SOCIETY and TB

- **Why in News:** India is on its path to close the gap between the number of tuberculosis cases estimated and those detected, and it could soon find all its “missing million” TB patients.

Tuberculosis

- Tuberculosis is an airborne bacterial disease caused by the slow growing bacteria bacillus *Mycobacterium tuberculosis*.
- Since they grow best in areas of the body with high amount of oxygen and blood, it typically affects the lungs (80%-pulmonary TB)
- TB is a communicable disease that is transmitted through coughing, sneezing or spitting.
- High-risk people include those infected with HIV, suffering from under-nutrition (weak immunity), diabetes (weak immunity), smoking (weak lungs) and alcohol consumption.
- Dark and damp environments are more prone to infection where the bacteria thrive better.

Prevention and Treatment

- The BCG vaccine is widely administered among children to prevent severe forms of TB. However, there is currently no vaccine that is effective in preventing TB disease in adults.
- Early diagnosis is extremely important in fighting TB.
- Currently Bedaquiline and Delamanid are the new-generation drugs, recommended by the WHO for Drug Resistant-TB patients.
- DOTS strategy (Directly observed Treatment Short Course) is globally a recognized cost effective strategy to reduce the disease burden of TB.

Missing Millions

- Each year, 10 million people develop active tuberculosis (TB) disease, but millions of these individuals are “missed” each year by health systems and do not get the TB care they need and deserve.
- More than 75 percent of missed cases are concentrated in just 13 countries.
- Of the estimated 4.3 million people who are “missed” by health care systems, India, as per successive global TB reports, alone has one million “missing”.
- In addition, in a single year, people who are living with TB disease can infect up to 10 to 15 people/others with whom they are in close contact. This means that each missed case can add to the current TB burden, compounding the challenge to end TB.
- Many of the missing cases are among vulnerable or underserved populations that are hard to reach or have difficulty accessing public health services, such as children, people living with HIV (PLHIV), migrants, refugees, and mine workers, among others.

Need of finding the missing cases:

- Diagnosis of TB is more challenging for certain groups, such as children and PLHIV because traditional diagnostics do not perform as well and can fail to diagnose TB even when it is present.
- The private and informal health sectors often do not have access to or utilize quality-assured diagnostics or the anti-TB drugs needed to appropriately diagnose and cure patients, which can lead to under-diagnosis or inappropriate treatment, contributing to drug resistance.

SDG Target: END TB by 2030:

- Vision: A world free of TB. Zero deaths, disease and suffering due to TB.
- Goal: End the global tuberculosis epidemic.
- Indicators:
 - 95% reduction by 2035 in number of TB deaths compared with 2015.
 - 90% reduction by 2035 in TB incidence rate compared with 2015.
 - Zero TB-affected families facing catastrophic costs due to TB by 2035.

TB incidence in India

- India tops the list of 20 TB high burden countries in the world
- TB kills an estimated 480,000 Indians every year and more than 1,400 every day.
- The number of deaths per lakh population due to TB is 217 in India.
- India also has more than a million 'missing' cases every year that are not notified and most remain either undiagnosed or unaccountably and inadequately diagnosed and treated in the private sector.

Eradicating TB in India

- National TB control program is ongoing since 1962 which has not performed upto the mark.
- Revised National TB control Program (RNTCP) was adopted in 1997 after WHO declared TB as the global epidemic in 1993.

Objectives of RNTCP include

- To achieve and maintain a TB treatment success rate of at least 85% among new sputum positive patients.
- To achieve and maintain detection of atleast 70% of the new sputum positive patients.

- Under RNTCP about 4 lakh DOTS centres have been established so far
- In 2017, India started an initiative under which TB patients are given Rs 500 per month as nutrition support, as the disease is usually associated with undernutrition and low immunity.
- At the End TB Summit, 2018, the prime minister of India made a bold commitment to end tuberculosis by 2025 — five years ahead of the global target.
- In September 2019, the 'TB HaregaDeshJeetega Campaign' was launched to accelerate the efforts to end TB by 2025.
- The campaign aims to initiate preventive and promotive health approaches, and proposes potentially transformative interventions such as engagement with the private sector healthcare providers, inter-ministerial partnerships, corporate sector engagement, latent TB infection management and community engagement.

National Strategic Plan for TB Elimination 2017-2025

- India adopted the National Strategic Plan for TB Elimination based on TB Elimination Strategy of WHO and SDG of UN.
- The National Strategic Plan is built over 4 strategic pillars of "Detect – Treat – Prevent – Build".
 - It aims to eliminate TB in India by 2025.
 - Specific targets compared to 2015 include
 - 80% reduction in TB incidence
 - 90% reduction in TB mortality
 - 0% patient having catastrophic expenditure due to TB.
- In 2017, India had approximately 10 lakh missing TB cases (estimated 27.4 lakhs, detected 17.5 lakhs).
- In 2019, the gap has now reduced to 2.9 lakh cases (estimated 26.9 lakh, detected 24.03 lakh).
- Over the last two years, we have been able to track 10 lakh additional cases — 3.5 lakh in 2018 and 6.5 lakh in 2019.
- India has managed to trace 70 per cent i.e. around 7 lakh TB patients in the last year, which is a result of number of efforts including:
 - incentives for doctors,
 - expansion of diagnostic network,
 - nutrition support for patients,
 - a legal provision to punish non-notification of patients by private sector doctors
 - innovative means such as TB fora and TB champions to reach the unreachable

7.2 HERD IMMUNITY

Why in News: Last week, the UK Government hinted at a strategy that would allow the novel coronavirus to infect 60% of the country's population so that a degree of herd immunity could be achieved. Following widespread criticism and with Imperial College London projecting a dangerous scenario if the pandemic remains uncontrolled, the UK has now pulled back the idea and is looking at self-isolation for the elderly.

Herd Immunity

- Herd immunity refers to preventing an infectious disease from spreading by immunising a certain percentage of the population.
- While the concept is most commonly used in the context of vaccination, herd immunity can also be achieved after enough people have become immune after being infected.

How does herd immunity work?

- The idea is that if a certain percentage of the population is immune, members of that group can no longer infect another person.
- This breaks the chain of infection through the community (herd), and prevents it from reaching those who are not immune and most vulnerable.
- To estimate the extent of spread and immunity, experts use a measure called the basic reproductive number (R_0). This indicates how many persons will be infected when exposed to a single case; an R_0 of more than 1 indicates one person can spread the infection to multiple persons.
- Scientific evidence shows that a person with measles can infect around 12-18 persons; and a person with influenza can infect around 1.2-4.5 persons, depending on the season.
- On the basis of the available evidence from China, and according to various experts, R_0 COVID-19 ranges between 2 and 3.

Modes of transmission of an infection

- There are three ways in which an infection can spread in a community.
- The first scenario looks at a community that is not immunised. When two infectious cases, both with an R_0 value of 1, are introduced, there is a possibility of the entire community being infected, with a few exceptions.

- In the second scenario, there may be some persons who have been immunised. When at least two infectious cases are introduced in the community, only these immunised persons will not be infected.
- The third scenario is when the majority of the community is immunised. So, when two infectious cases are introduced, the spread can take place only in exceptional cases, like in the elderly or other vulnerable persons.
- Even in such a situation, the immunised persons protect the non-immunised by acting as a barrier — which is herd immunity.

When does a population achieve herd immunity?

- It depends on multiple factors viz. how effective the vaccine for a given disease is, how long-lasting immunity is from both vaccination and infection, and which populations form critical links in transmission of the disease.
- Mathematically, it is defined on the basis of a number called herd immunity threshold, which is the number of immune individuals above which a disease may no longer circulate.
- The higher the R_0 , the higher the percentage of the population that has to be immunised to achieve herd immunity. Polio has a threshold of 80% to 85%, while measles has 95%.
- With the current data for COVID-19, experts have estimated a threshold of over 60%. That means more than 60% of the population needs to develop immunity to reach the stage of herd immunity.

Issues with using herd immunity against Covid-19

- Experts have underlined, that it is very risky to seek herd immunity by allowing a large proportion of the population to get infected, as such a strategy at this stage, would be based on many unknowns and variables.
- To begin with, much about the behaviour of the pathogen is still unclear. There isn't enough statistically significant data to estimate conclusively how many persons can get the virus from a single infected person.
- While herd immunity may come about from a pandemic because the people who survive may develop immunity but it is also likely that people may not develop immunity against it.
- Hence, it is important to note that for COVID-19, it is still not clear whether one can become immune to the virus, nor is it clear whether a person who develops immunity will remain permanently immune.
- Further, it can take months, or even longer, to build group immunity to COVID-19 and during that time, the need is to protect people who are at greater risk.
- The UK's original strategy to achieve herd immunity would put a huge burden on the healthcare system, as allowing the virus to pass through the population means a significant

increase of patients, putting pressure on existing ICU and emergency beds.



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