

CURRENT AFFAIRS

Month of
MARCH-2020



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PART-1

Polity and Governance

Highlights

- ⌘ *ECI not in Favour of State Political Fundings for Polls*
- ⌘ *National Conference on Women in Police and CAPFs*
- ⌘ *Ban on Cryptocurrency Trading Removed*
- ⌘ *QS World University Subject Rankings 2020*
- ⌘ *Unutilized Budgetary Funds in Education*
- ⌘ *Court Documents Accessibility to Third-party*
- ⌘ *India Pharma & India Medical Device 2020 Conference*
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- ⌘ *SC Order on Land Acquisition*
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- ⌘ *Foreigners Tribunals*
- ⌘ *Mineral Laws (Amendment) Bill, 2020*
- ⌘ *Scheme for Adolescent Girls*
- ⌘ *KIRAN Scheme*
- ⌘ *National Biopharma Mission*

ECI not in Favour of State Political Fundings for Polls

Why in News

Recently, the Minister of State for Finance has informed Lok Sabha that the Election Commission of India (ECI) is **not in favour of state funding of elections**.

- ⌚ The state funding of elections was first recommended by the **Indrajit Gupta Committee in 1998**.

ECI's View

- ⌚ The ECI has stated that it **would not be able to prohibit or check candidates' expenditure or expenditure by others over and above that is provided for by the state**.
- ⌚ It also mentioned that for addressing the **real issues with political fundings**, changes need to be made in the following elements of the election funding process
 - ⌚ **Receipts of funds** by political parties.
 - ⌚ **The manner** in which **received funds are spent** by the political parties.
 - ⌚ **Complete transparency** in the political funding process.
- ⌚ The **scrutiny** over these aspects will help bring **better transparency** in political funding.

Recommendations on State Funding for Elections

⌚ **Indrajit Gupta Committee (1998)**

- ⌚ The Indrajit Gupta Committee had suggested that **state funding** would ensure a **level playing field** for poorer political parties and argued that such a move would be in the public interest.
- ⌚ It had also recommended that **state funds should only be given to recognised national and State parties**.
- ⌚ It had recommended that funding should be given **in the form of free facilities provided to these parties and their candidates**.

⌚ **Law Commission Report (1999)**

- ⌚ It had stated that a state funding of elections is 'desirable' provided that political parties are **prohibited from taking funds from other sources**.

⌚ **National Commission to Review the Working of the Constitution (2001)**

- ⌚ It **did not support** state funding of elections but mentioned that the appropriate framework for the regulation of political parties would need to be implemented before state funding is considered.

Recent Steps Taken by the Government

- ⌚ The government has amended the **Income Tax Act and limited anonymous cash donations to Rs 2,000 to discourage cash transactions and bring in transparency** in the source of funding of political parties.

- ⌚ The ‘**Electoral Bond Scheme**’ was introduced in 2018 to establish a transparent political funding system in the country, with a well-established audit trail.
- ⊙ An electoral bond is a **bearer instrument** like a Promissory Note.
- ⊙ It can be purchased by **any citizen of India or a body incorporated in India** to donate to the political party of their choice. **The donor’s name is not mentioned on the bond.**
- ⊙ These bonds can be used for making donations to the political parties registered under **Section 29A of the Representation of the People Act, 1951(RPA)** and which have secured **not less than one percent of the votes polled in the last general election** to the **House of the People or a Legislative Assembly.**

Current Scenario of Political Funding

- ⌚ Political Funding implies the methods that political parties use to raise funds to finance their campaign and routine activities.
- ⌚ **Methods of Political Funding in India:**
 - ⊙ **Individual Persons:** Section 29B of RPA allows political parties to receive donations from individual persons.
 - ⊙ **Indirect State Funding:** It includes methods except direct funding, like free access to media, free access to public places for rallies, free or subsidized transport facilities. **It is allowed in India in a regulated manner.**
 - ⊙ **Corporate Funding:** In India, donations by corporate bodies are governed by the **Companies Act, 2013.**
 - ⊙ **Electoral Trusts:** A non-profit company created in India for orderly receipt of voluntary contributions from any person like an individual or a domestic company.

Issues with Political Funding

- ⌚ One of the biggest disadvantages of corporate funding is the **use of fake companies to route black money.**
- ⌚ **Influence of people and companies over political parties** to which they provide funds.
- ⌚ **Hidden sources of funding** lead to more spending of funds in election campaigns, thus impacting the economy of the country.

National Conference on Women in Police and CAPFs

Why in News

- ⊙ **Bureau of Police Research and Development (BPR&D)** organised the National Conference on Women in Police and Central Armed Police Forces (CAPFs) in New Delhi.
- ⌚ It was inaugurated by the **Union Minister for Women And Child Development.**

Key Points

- ⌚ The main objective of the National Conference was to discuss and deliberate on the following two themes:
 - ⊙ **Cyber Stalking and Bullying of Women:** Steps for Protection.
 - ⊙ Challenges faced by **CAPF Women in Operational Areas.**
- ⌚ Few important issues related to women in Police which were highlighted during the conference are:
 - ⊙ **Workplace harassment** besides cybercrime.
 - ⊙ Society should not look at working **women with bias** and hold the performance of men to be the only benchmark for success.
 - ⊙ Training of members of the **Child Welfare Committees (CWC).**
 - ⊙ The need to **train more female forensic investigators and cybercrime experts.**
 - ⊙ BPR&D was also advised to make an SoP for “**One Stop Centre for Women**”.
- ⌚ To commemorate this event, a hand-out – “BPR&D Mirror – Gender Benders” was released, which stated the recent initiatives taken by BPR&D to promote Woman Safety.

Bureau of Police Research and Development (BPR&D)

- ⌚ The Government of India established the Bureau of Police Research and Development (BPR&D), under the Ministry of Home Affairs in the 1970s.
- ⌚ It replaced the Police Research and Advisory Council (1966), with the primary objective of modernization of the police force.
- ⌚ In 1995 the Government of India decided to entrust issues relating to **Correctional Administration Work** to the BPR&D.

- ⌚ Thereby BPR&D has to ensure the implementation of **prison reforms** as well.
- ⌚ The Government of India further decided to create a National Police Mission under the administrative control of BPR&D to transform the police forces in the country.
- ⌚ **Recently, BPR&D** observed its 50th foundation day.

Child Welfare Committees (CWC)

- ⌚ **The Child Welfare Committee (CWC)** is constituted under the Juvenile Justice (Care and Protection of Children) Act, 2015. It is the sole authority to deal with matters concerning children in need of care and protection.
- ⌚ The Committee is constituted for each district or group of districts.

Ban on Cryptocurrency Trading Removed

Why in News

The Supreme Court has struck down a ban on the trading of Virtual Currencies (VC) in India, which was imposed by the Reserve Bank of India (RBI) in April 2018.

- ⌚ The RBI order prohibited banks and entities regulated by it from dealing in VCs or providing services for facilitating any person or entity in dealing with or settling VCs.
- ⌚ Such services include maintaining accounts, registering, trading, settling, clearing, giving loans against virtual tokens, accepting them as collateral, opening accounts of **exchanges dealing with them and transfer/receipt of money in accounts relating to purchase/sale of VCs.**

Virtual Currencies

- ⌚ There is no globally accepted definition of what exactly is virtual currency. Basically, virtual currency is the larger umbrella term for all forms of non-fiat currency being traded online.
 - ⌚ Fiat Money is a kind of currency, issued by the government and regulated by a central authority such as a central bank. Such currencies act like legal tender and are not necessarily backed by a physical commodity.
- ⌚ Virtual currencies are mostly created, distributed and accepted in local virtual networks. Virtual Currencies **also includes cryptocurrencies.**

- ⌚ Cryptocurrencies have an extra layer of security, in the form of encryption and **WHERE OTHER COUNTRIES STAND**

- ⌚ Most cryptocurrencies now operate on the **blockchain or distributed ledger technology**, which allows everyone on the network to keep track of the transactions occurring globally.
- ⌚ **Popular forms of cryptocurrencies** include Bitcoin, Ethereum, etc.

Canada: Cryptocurrencies permitted as a payment system and as a form of investment; income from them is taxed

Switzerland: Permitted as a payment system (including consumer-to-government transactions) and as a form of investment

Japan: Permitted and regulated as a payment system

China: Banned for all purposes

- ⌚ Satoshi Nakamoto, widely regarded as the founder of the modern virtual currency bitcoin and the underlying technology called blockchain, defines bitcoins as “a new electronic cash system that’s fully peer-to-peer, with no trusted third party (central regulator)”.

Reasons Behind Banning Virtual Currencies

- ⌚ Lack of any underlying fiat, episodes of excessive volatility in their value, and their anonymous nature which goes against global money-laundering rules.
- ⌚ Risks and concerns about data security and consumer protection.
- ⌚ The potential impact on the effectiveness of the monetary policy.

Arguments in Support of

Use of Virtual Currencies in India

- ⌚ Digital/virtual currencies (both private or government-backed) are an integral part of digital economy and digital countries.
 - ⌚ 5 million Indians are engaged in virtual currency activities.
 - ⌚ India is the second-largest user of Pundi X’s blockchain wallet.
- ⌚ India is at the forefront of all things digital and an inspiration to the world. Its balanced approach between risk and innovation can become a role model for the world.

Highlights of the Judgement

⌚ Test of Proportionality

- ⌚ The ban did not pass the “proportionality” test. The test of proportionality of any action by the

government must pass the test of **Article 19(1)(g) of the Constitution**, which states that all citizens of the country will have the right to practice any profession or carry on any occupation or trade and business.

- ⊙ Till date, the 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.
- ⊙ Besides, the court found that the RBI **did not consider the availability of alternatives** before issuing the order i.e. achieving the same objective by imposing a less drastic restraint.
- ⌚ **Inconsistent with the RBI's Stand:** The RBI's order was "disproportionate" with an otherwise consistent stand taken by the central bank that VCs are not prohibited in the country.
- ⌚ **Referred to the Global Approach:** 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.
- ⌚ **On RBI's Power:** The Court held that the RBI has powers to regulate any currencies in the system.

Possible Impact of the Judgement

- ⌚ With the order, resumption of operations at **cryptocurrency exchanges and backward linkages** with the banking sector are expected.
 - ⊙ Even as virtual currency investors and businesses will welcome the Supreme Court's order on cryptocurrency, the relief for such players may be only temporary given that the Centre, in a draft law, has **proposed to ban all private cryptocurrencies**.
 - ⌚ The Supreme Court's judgment could lead to the RBI rethinking its policies surrounding virtual currencies.

QS World University Subject Rankings 2020

Why in News

The 2020 edition of the QS World University Subject Rankings has ranked as many as 26 departments of higher education institutions in India among the top 100 in the world in their respective subject category.

- ⌚ The QS World University Subject Rankings 2020 has been released from London by **Quacquarelli Symonds**. It is the world's leading provider of services, analytics, and insight to the global higher education sector.
- ⌚ QS uses **four key metrics** to compile the rankings including **academic reputation, employer reputation, citations per paper** and the **h-index** which measures how productive an institution's research faculty are.
- ⌚ 1,368 institutions have been ranked across 48 subjects in 5 broad categories across 159 locations.
- ⌚ **Top Rankers:** Globally, Massachusetts Institute of Technology (MIT - USA) emerged as the world's best-performing institution, achieving 12 number-one positions, followed by Harvard University (USA) with 11 number-one positions and University of Oxford (United Kingdom) with eight top-ranked subjects.

India's Performance

- ⌚ As against **21 institutions getting ranked in 2019**, the latest edition has seen 26 Indian departments entering the top-100 list for their subjects. **All 26 departments are in institutions run by the Union government** — IITs, IIMs, IISc and Delhi University.
- ⌚ QS has also seen an **increase in the number of Indian programs ranking among the global top 50**.
 - ⊙ In terms of institutes and subjects, India's highest-ranked programs included Indian Institute of Technology (IIT) Bombay's Mineral & Mining Engineering program at 41st rank globally, shared jointly with the University of Delhi's Development Studies program.
 - ⊙ Top-50 ranks have also been attained by IIT Kharagpur (46) for Mineral & Mining Engineering, IIT Delhi (49) for Electrical & Electronic Engineering and IIT Bombay (50) for Chemical Engineering.
- ⌚ **IIT Bombay** emerged with more top-100 ranks than any other Indian university in QS World University Rankings by Subject 2020.
- ⌚ In the **business and management studies subject category**, both Indian Institute of Management (IIM) Ahmedabad and IIM Bangalore were ranked in the 51-100 band.
- ⌚ The **rankings indicate India's particular strength** in the natural sciences, life sciences, and in engineering disciplines.

Unutilized Budgetary Funds in Education

Why in News

Recently, the **Parliamentary Standing Committee** on Human Resource Development (HRD) has presented a report on the **2020-2021 demand for grants for school education** in the Rajya Sabha.

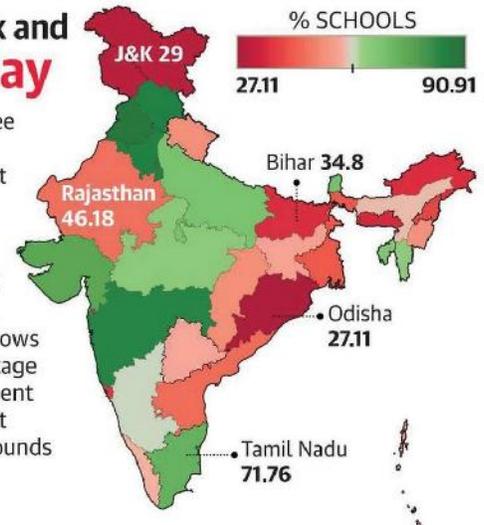
- ⌚ The report identifies **shortfalls in budgetary funding and utilisation**, resulting in **critical infrastructure gaps** in the government schools in India.

Key Points

- ⌚ **Reduction in Finance:**
 - ⌚ The budgetary allocations experienced a **27% cut from proposals** made by the School Education department.
 - ⌚ Similarly, **27% of reductions** have been observed in the fund needed for the **implementation of Central and Centrally Sponsored Schemes**.
 - ⌚ Also, the government has spent only 71% of allotted funds for the core **Samagra Shiksha Scheme** until 31st December 2019.
- ⌚ **Access to Electricity and Playground:**
 - ⌚ Almost **half of the government schools** in the country **do not have any electricity or playgrounds**.
 - ⌚ **Only 56% of schools have electricity**, with the lowest rates in Manipur and Madhya Pradesh, where less than 20% have access to power.
 - ⌚ **Less than 57% of schools have playgrounds**, including less than 30% of schools in Odisha and Jammu and Kashmir.
- ⌚ **Overall Infrastructure:**
 - ⌚ A **dismal rate of progress has been observed in building classrooms, labs and libraries** to strengthen government higher secondary schools.
 - ⌚ **Almost 40% of schools did not have a boundary wall**, endangering the safety of students and school property.
 - ⌚ The **higher secondary schools experienced greater infrastructural gaps** compared to secondary schools and primary schools.
 - ⌚ Also, **less than 5% of proposed infrastructure facilities** such as ramps and special toilets for **differently-abled students** have been completed in the government schools.

All work and no play

Almost three out of four government schools in Odisha did not have a playground as of 2018. The map shows the percentage of government schools that had playgrounds as of 2018



Recommendations

- ⌚ **Additional funds for implementation of the core schemes** such as Samagra Shiksha Abhiyan.
- ⌚ **Collaboration of HRD Ministry with the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)** to construct boundary walls and other infrastructure facilities.
- ⌚ **Collaboration with the Ministry of New and Renewable Energy** to provide solar energy and other renewable energy sources so that schools have access to power.

Court Documents Accessibility to Third-party

Why in News

A bench of the **Supreme Court** recently ruled that **court documents** such as copies of judgments and pleadings can now be **obtained by third-parties** or those not party to a case.

- ⌚ The information will be only available **after the court rules permit it and not under the Right to Information (RTI) Act, 2005**.
- ⌚ This decision comes a few months after a five-judge bench of SC **opened the office of the Chief Justice of India to scrutiny under the RTI Act**.

Key Points

- ⌚ **Rule 151 of Gujarat High Court Rules** were being upheld, which allows access to certified copies of

judgments, orders and pleadings **to a third-party, or those not party to a case, only under the order of an officer of the court.**

- ⌚ **High courts of Bombay, Himachal Pradesh, Karnataka, Madras, etc** have similar provisions.
- ⌚ The bench held that the **High Court holds the information as a trustee** for the litigants in order to adjudicate upon the matter and administer justice.
 - ⦿ Third parties should not be permitted to have open and easy access to such personal information of the litigants or information given by the government in the proceedings because there could be a misuse of the court process and the information to an unmanageable level.
- ⌚ According to the rules, litigants are entitled to receive copies of documents/judgments, etc on the filing of an application with prescribed court fees stamp.
 - ⦿ Third parties are not given copies of judgments and other documents without the assistant registrar's order.
 - ⦿ The registrar, on being satisfied with the reasonable cause for seeking the information/certified copies of the documents, allows access to the documents.

India Pharma & India Medical Device 2020 Conference

Why in News

The Department of Pharmaceuticals, **Ministry of Chemicals and Fertilizers, in association with Federation of Indian Chambers of Commerce and Industry (FICCI)** organised **India Pharma 2020 & India Medical Device 2020 Conference & Exhibition.**

- ⌚ This is the **fifth edition**, and was **organised for the first time in the State of Gujarat** (which is also the partner state for this event) at Gandhi Nagar from March 5-7, 2020.

Key Points

- ⌚ **Theme** -“**India Pharma: Meeting Challenges of Affordable and Quality Healthcare and India Medical Device: Promoting Affordable responsible and Quality Medical Device for Universal Health Care**”.
- ⌚ **Objectives**
 - ⦿ To **encourage innovations to further reduce the cost of quality healthcare** for all and a platform to

the global investment community to connect with stakeholders in the **Medical Device Sector in India.**

- ⦿ To **promote consumer-centric manufacturing** by involving Medical Electronics, Devices, Health Diagnostics, Hospitals and Surgical Equipment, etc.

Indian Pharma Industry

- ⌚ The Indian pharmaceutical market is the third largest in terms of volume and thirteenth largest in terms of value.
- ⌚ India is the **largest supplier of generic medicines** globally.
- ⌚ The **cost of manufacturing in India is approximately 33% lower** than that of the US.
- ⌚ India is also the **largest vaccine producer** in the world.
- ⌚ **Bio-Pharma is the largest sector** contributing to 62% of the total revenue.

Medical Devices Sector in India

- ⌚ The Medical Devices industry in India is valued at USD 5.2 billion, **contributing about 4-5%** to the USD 96.7 billion Indian healthcare Industry.
- ⌚ Medical devices sector in India is very small in size as compared to the rest of the manufacturing industry, though **India is one of the top twenty markets for medical devices in the world** and is the 4th largest market in Asia after Japan, China, and South Korea.
- ⌚ Indian medical devices industry is **growing at a CAGR of 15.8%**, vis-à-vis a CAGR of 4.1% for the Global medical devices industry.
 - ⦿ India currently **imports 80-90% of medical devices** of the USD15 billion market, the vast majority of which are unregulated for quality and safety.
 - ⦿ The **U.S., Germany, China, Japan and Singapore** constitute the five largest exporters of high technology medical equipment to India.

Rules for Filing Complaints with Lokpal Notified

Why in News

The Department of Personnel and Training (DoPT) has issued a notification providing the rules and prescribed format for filing complaints with the Lokpal.

Key Points

- ⌚ The notification, under the **Lokpal and Lokayuktas Act, 2013**, lays down the rules called the **Lokpal (Complaint) Rules, 2013**.
- ⌚ **Identity Proof:** According to the complaint form, a complainant has to give valid proof of identity, as specified therein.
- ⌚ **Foreign nationals can also lodge complaints.**
 - ⊙ Only a copy of their passports will be accepted as proof of identity.
- ⌚ **Mode of Complaint:**
 - ⊙ The complaint can be filed electronically, by post or in person.
 - ⊙ In case the complaint is filed electronically, its hard copy has to be submitted to the Lokpal within 15 days.
- ⌚ **No complaints can be filed against** a public servant under the Army Act, Navy Act, Air Force Act and the Coast Guard Act.
- ⌚ **Language:** A complaint may ordinarily be made in **English**, provided that the Lokpal may also entertain a complaint in any of the languages referred to in the **Eighth Schedule to the Constitution**.
- ⌚ The complaints, which **are not filed within the limitation period of seven years**, or are pending before any other court, tribunal or authority, will have to be disposed of within 30 days.
- ⌚ **Protection:** The identity of the complainant or the accused official will be protected by the Lokpal till the conclusion of inquiry or investigation.

The Lokpal Act

- ⌚ This Act provides for the **establishment of a body of Lokpal for the Union and Lokayukta for States** to inquire into allegations of corruption against certain public functionaries and for matters connected therewith or incidental thereto.
- ⌚ It was **passed in 2013**.
- ⌚ Lokpal has to **enquire into allegations of corruption against public functionaries of the central government** in a time-bound manner.
- ⌚ **Jurisdiction:** The Prime Minister, Ministers, Members of Parliament and officers and officials of the Central Government.
- ⌚ **Composition:**

- ⊙ The Lokpal consists of a **Chairperson** with a maximum of **8 members** of which **50% shall be judicial members**.
- ⊙ 50% of the members of the Lokpal shall come from amongst the SCs, the STs, the OBCs, minorities, and women.
- ⌚ **Selection of the Members:**
 - ⊙ The selection of the Chairperson and the members of Lokpal shall be through a **Selection Committee consisting of the Prime Minister, the Speaker of the Lok Sabha, the Leader of the Opposition in the Lok Sabha, the Chief Justice of India** or a sitting Supreme Court Judge nominated by the Chief Justice of India and an **eminent jurist** to be nominated by the President of India on the basis of recommendations of the first four members of the selection committee.
 - ⊙ **A Search Committee will assist the Selection Committee in the process of selection.** 50% of the members of the Search Committee shall also be from amongst the SCs, the STs, the OBCs, minorities and women.
- ⌚ The **Prime Minister** has been brought under the purview of the Lokpal with **subject matter exclusions** and specific process for handling complaints against the Prime Minister.

SC Order on Land Acquisition

Why in News

Recently, the Supreme Court of India **reaffirmed its February 2018 ruling on Section 24 on land acquisition compensation awards** in the Indore Development Authority case.

- ⌚ The five-judge Bench also overruled a 2014 ruling under the **Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation, and Resettlement Act of 2013**.

Background

- ⌚ The 2013 Act **replaced** the Land Acquisition Act, 1894 (1894 Act) and 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.
- ⌚ Under **Section 24(2) of the 2013 Act**, land acquisition made under the old law of 1894 lapses if the award of compensation had been made five years before the new Act came into force, but has not been paid.
 - ⊙ In such situations, the **process will start afresh under the new Act**, which mandates higher compensation.
- ⌚ However, there have been cases of farmers and landowners refusing compensation which delays the possession by the government.
 - ⊙ In such cases, the compensation is deposited in the government treasury and according to one interpretation, the acquisition process is saved.
 - ⊙ This interpretation has been contended on the basis that such cases will fall under the new Act because compensation has not been paid to the landowners, and the lapsing clause in **Section 24 should be applied**.
- ⌚ If a long-pending land acquisition process closes under the old law and fresh acquisition proceedings start under the new one, the land-owners will benefit and project proponents will have to pay higher compensation.
- ⌚ In the **Pune Municipal Corporation vs Harakchand Misirimal Solanki case (2014)**, a three-judge bench held that acquisition proceedings initiated under the 1894 Act, which were initiated five years before the 2013 law was enacted (in 2014), would lapse if the land in question was not taken control of or if compensation was not paid to displaced farmers.
 - ⊙ The judgment came as a relief for landowners.
- ⌚ However, in the **Indore Development Authority vs Shailendra (D) Through LRS & Ors case 2018**, another three-judge bench declared the 2014 judgment “**per incuriam**”.
 - ⊙ It held that if a landowner refuses to accept the compensation offered by the developer, they cannot take advantage of their own wrongdoing and have the acquisition proceedings lapse under the old law.
 - ⊙ This judgment was a relief for developers.

Per Incuriam

- ⌚ It literally translates as “**through lack of care**”.
- ⌚ A judgment can be declared per incuriam if it does not follow a statutory provision or a binding precedent that may have been relevant.
- ⌚ Such judgments can be declared to be without any legal force and are not treated as a valid precedent.

Key Points

- ⌚ In the latest ruling, the Bench was interpreting **Section 24 (2) of the 2013 Act**.
- ⌚ The provision said that **if the physical possession of land has not been taken or the compensation is not paid for five or more years prior to 1st January 2014, the acquisition proceeding is “deemed to have lapsed”**.
- ⌚ The judgment said that 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.
- ⌚ Thus, there is no lapse if possession has been taken and compensation has not been paid. Similarly, there is no lapse if compensation has been paid and possession not taken of the land.
- ⌚ Further, it was also held that Section 24(2) of the 2013 Act does not give rise to a new cause of action to question the legality of concluded proceedings of land acquisition.

Centre Cannot Brand Organisations ‘Political’: SC

Why in News

The Supreme Court recently held that the **central government cannot brand an organisation political** and deprive it of its right to receive foreign funds for using legitimate forms of dissent to aid a public cause.

Background

- ⌚ This move comes in the background of a petition filed by the Indian Social Action Forum (INSAF) challenging certain provisions of the **Foreign Contribution Regulation Act (FCRA), 2010 and the Foreign Contribution (Regulation) Rules of 2011**.

- ⊙ The FCRA 2010 prohibits acceptance and utilisation of foreign contribution or foreign hospitality for any activities detrimental to the national interest.
- ⊙ Both the Act and the rules confer the Centre with ‘unguided and uncatalyzed power’ to brand organisations political and shut down their access to foreign funds.
- ⌚ Section 5(1) of the FCRA was challenged for being vague as it allowed the Centre to decide freely whether a seemingly non-political organisation was actually political in nature. The Court said that the provision was expansive and not vague.
- ⌚ Section 5(4) of the FCRA was also questioned as it did not exactly identify the authority before which an organisation could represent its grievance. This contention was dismissed by the apex court.
- ⌚ Various clauses of Rule 3 of the 2011 Rules were also challenged. This provision identified the various types of ‘political’ activities for which an organisations’ foreign funding could be stopped by the government.

Key Points

- ⌚ SC observed that an organisation, which supports the cause of a group of citizens agitating for their rights without a political goal or objective, cannot be penalised by being declared as an organisation of a political nature.
- ⌚ However, foreign funding could be stopped if an organisation took recourse to these forms of protest to score a political goal.
 - ⊙ Organisations with political objectives in their memorandum of association or bye-laws cannot be permitted access to foreign funds because of their clear political nature.
- ⌚ **Justifications behind the move:**
 - ⊙ It is to make sure that the administration is not influenced by foreign-funded political organisations.
 - ⊙ A prohibition from receiving direct or indirect foreign aid ensures that the values of a sovereign democratic republic are protected.
 - ⊙ It will also protect the interests and fundings of voluntary organisations having no connection with either party politics or active politics.
- ⌚ Foreign funding can continue for organisations of farmers, workers, students, youth based on caste,

community, religion, language, etc as long as they work for the social and political welfare of society and not to further political interests.

Foreigners Tribunals

Why in News

Amnesty International has raised allegations over the functioning of the Foreigners Tribunals (FTs) in Assam.

Key Points

- ⌚ In a report titled ‘Designed to Exclude’, Amnesty International has asserted that the Supreme Court and Gauhati High Court had enabled the FTs to create a statelessness crisis in Assam.
 - ⊙ There appear to be aberrations in some cases to the policy of assessing the performance of a FT member.
- ⌚ The organization has also called for a review of the existing legislative regime governing the determination of nationality in India.
- ⌚ It has observed that the FTs that determined the paramount right to citizenship in Assam were often dismissive, used derogatory language, controlled their own procedures and applied them in arbitrary ways.

Foreigners Tribunals in Assam

- ⌚ The tribunals are quasi-judicial bodies, to determine if a person staying illegally is a “foreigner” or not.
- ⌚ Every individual, whose name does not figure in the final National Register of Citizens (NRC), can represent his/her case in front of the appellate authority i.e. Foreigners Tribunals (FT).
 - ⊙ Assam has set up FTs, specifically to handle the cases of 19.06 lakh people left out of the updated National Register of Citizens (NRC).
- ⌚ Under the provisions of Foreigners Act 1946 and Foreigners (Tribunals) Order 1964, only Foreigners Tribunals are empowered to declare a person as a foreigner.
- ⌚ The Assam Police Border Organisation, a wing of the State police tasked with detecting foreigners, readies the cases for the tribunals to decide who is a foreigner and who is not.

Foreigners Tribunal Member

- ⌚ Each FT member is appointed under the Foreigners Tribunal Act, 1941, and Foreigners Tribunal Order, 1984, as per the guidelines issued by the government from time to time.
- ⌚ A member can be a retired judicial officer of the Assam Judicial Service, a retired civil servant not below the rank of secretary and additional secretary with judicial experience, or a practicing advocate **not below the age of 35 years** and with **at least seven years of practice**.
- ⌚ A member is also required to have a **fair knowledge of the official languages of Assam** (Assamese, Bengali, Bodo, and English) as well as be conversant with the historical background to the foreigners' issue.

Amnesty International

- ⌚ AI is an **international Non-Governmental Organization (NGO)** founded in London on May 28, 1961,
- ⌚ It seeks to publicize violations by governments and other entities of rights recognized in the **Universal Declaration of Human Rights (1948)**, especially freedom of speech and of conscience and the right against torture.
- ⌚ In 1977 AI was awarded the **Nobel Prize for Peace**.

Mineral Laws (Amendment) Bill, 2020

Why in News

Recently, the Parliament has passed the **Mineral Laws (Amendment) Bill, 2020**.

- ⌚ The Bill replaces the **ordinance for amendment of the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act)** and the Coal Mines (Special Provisions) Act, 2015 (CMSP Act) which was promulgated on 11th January 2020.
- ⌚ The Bill is expected to open a **new era in Indian coal & mining sector especially to promote Ease of Doing Business**.

Key Points

- ⌚ **Removal of restriction on end-use of coal:**
 - ⊙ Currently, companies acquiring Schedule II and Schedule III coal mines through auctions can use the coal produced **only for specific end-uses such as power generation and steel production**.

Note:

- ⌚ The **MMDR Act** regulates the overall mining sector in India.
- ⌚ The **CMSP Act** provides for the auction and allocation of coal mines whose allocation was canceled by the Supreme Court in 2014.
 - ⊙ **Schedule I** of the Act provides a list of all such mines; **Schedule II** and **III** are sub-classes of the mines listed in the Schedule I.
 - ⊙ **Schedule II** mines are those where production had already started before the Supreme court's order in 2014 and **Schedule III** mines are ones that had been earmarked for a specific end-use.
- ⌚ The Bill removes this restriction on the use of coal mined by such companies. And thus companies will be allowed to carry on **coal mining operations** for their own 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**.
- ⌚ **Composite license for prospecting and mining:**
 - ⊙ The Bill adds a **new type of license**, called **prospecting license-cum-mining lease**. It will be a **composite license** providing for **both prospecting and mining activities**.
 - ⊙ **Currently, separate licenses** are provided for **prospecting and mining of coal and lignite**, called prospecting license, and mining lease, respectively. Prospecting includes exploring, locating, or finding mineral deposits.
- ⌚ **Advance action for auction:**
 - ⊙ The Bill provides that state governments can take **advance action for auction of a mining lease before its expiry**.
 - ⊙ Under the MMDR Act, mining leases for specified minerals (minerals other than coal, lignite, and atomic minerals) **are auctioned on the expiry of the lease period**.
- ⌚ **Transfer of statutory clearances to new bidders:**
 - ⊙ The Bill provides that the various approvals, licenses, and clearances given to the previous lessee will be **extended to the successful bidder for a period of two years**.

- ⊙ During this period, the new lessee will be allowed to continue mining operations. However, the new lessee **must obtain** all the required clearances **within this two-year period**.
- ⊙ Currently, upon expiry, mining leases for specified minerals (minerals other than coal, lignite, and atomic minerals) can be transferred to new persons through auction. This **new lessee is required to obtain statutory clearances before starting mining operations**.
- 🕒 **Prior approval from the central government:**
 - ⊙ The Bill provides that **prior approval of the central government will not be required by the state government** in granting licenses for coal and lignite, in certain cases.
 - ⊙ These include cases where the allocation has been done by the central government, and the mining block has been reserved to conserve a mineral.
 - ⊙ Under the MMDR Act, state governments **require prior approval** of the central government for granting reconnaissance permit, prospecting license, or mining lease for coal and lignite.

Scheme for Adolescent Girls

Why in News

The Government is implementing the 'Scheme for Adolescent Girls (SAG)' across the country.

About the Scheme

- 🕒 **Introduced in:** 2010
- 🕒 **Implemented By:** Ministry of Women and Child Development
- 🕒 **Implemented Through:** Existing **Anganwadi Centres (AWCs)** under the **Integrated Child Development Scheme (ICDS)**.
- 🕒 **Coverage:** Pan-India
- 🕒 **Key Objective:** To facilitate, educate and empower Adolescent Girls (AGs) so as to enable them to become self-reliant and aware citizens.
- 🕒 **Target Group:** Out of school girls in the age group of 11-14 years. The scheme aims at motivating out of school girls to go back to formal schooling or vocational /skill training.
- 🕒 **Components:**

- ⊙ **Nutrition:** Provision for providing a specified amount of calories, protein and micronutrients to AGs, etc.
- ⊙ **Non-nutrition:** Includes health check-up, mainstreaming out of school girls into the school system, Iron and Folic Acid (IFA) supplementation, life skill education, etc.
- 🕒 **Funding Pattern:**
 - ⊙ SAG is a **centrally sponsored scheme**, implemented through Centre and State share in the ratio of 50:50 for nutrition component and 60:40 for the rest of the activities.
 - ⊙ For both components, the ratio is 90:10 for North Eastern and three Himalayan States and 100% for UTs without legislation.
- 🕒 **Achievement of the Scheme is measured through:**
 - ⊙ **SAG- Rapid Reporting System (RRS):** It is a role-based Management Information System (MIS) that captures details of the AGs that are taking benefits under this scheme.
 - ⊙ **Kishore Health Card:** To record the information about the weight, height, Body Mass Index (BMI) of AGs along with other services provided under the scheme. These health cards for AGs are maintained at the AWCs.

KIRAN Scheme

Why in News

The **Knowledge Involvement in Research Advancement through Nurturing (KIRAN) Scheme** is one of the several pioneering initiatives started by the **Department of Science and Technology (DST)** for promoting women in science.

Key Points

- 🕒 The Department of Science and Technology (DST) is implementing the **KIRAN Scheme** to provide various career opportunities to women scientists and technologists.
- 🕒 It is primarily aimed to **bring gender parity in the Science & Technology sector** by inducting more women talent in the research & development domain through various programmes.
- 🕒 It also provides **fellowship support ranging from Rs 25000 to 55000 to women in the age group 27 to 57 years** for continuing higher education in Science and Technology **after a break in career**.

National Biopharma Mission

The **National Biopharma Mission (NBM)** is an **industry-academia collaborative mission** for accelerating **biopharmaceutical development** in the country.

- ⌚ It was **launched in 2017** at a total cost of **Rs 1500 crore** and is **50% co-funded by World Bank loan**.
- ⌚ It is being **implemented by the Biotechnology Industry Research Assistance Council (BIRAC)**.
 - ⌚ BIRAC is a Public Sector Enterprise, set up by the Department of Biotechnology (DBT).
- ⌚ The **oversight to the mission** activities is provided by the **inter-ministerial Steering Committee chaired by the Secretary-DBT** (Ministry of Science & Technology).
- ⌚ The **Technical Advisory Group (TAG)** chaired by an eminent scientist provides **scientific leadership** to the mission drawing upon global expertise.

- ⌚ Under this Mission, the Government has launched **Innovate in India (i3)** programme to create an enabling ecosystem to promote entrepreneurship and indigenous manufacturing in the biopharma sector.
- ⌚ It has a focus on following **four verticals**:
 - ⌚ **Development of product leads for Vaccines, Biosimilars** and Medical Devices that are relevant to the public health need by focussing on managed partnerships.
 - ⌚ Upgradation of shared **infrastructure** facilities and establishing them as centres of product discovery/ discovery validations and manufacturing.
 - ⌚ Developing **human capital** by providing specific training.
 - ⌚ Developing **technology transfer offices** to help enhance industry academia inter-linkages.



Economic Scenario

Highlights

- ⌘ Defence Expenditure as a Part of GDP
- ⌘ Long Term Reverse Repo Operation
- ⌘ Competition Commission of India
- ⌘ Serious Fraud Investigation Office
- ⌘ Nidhi Companies
- ⌘ Sahyadri Megha: New Paddy Variety

Defence Expenditure as a Part of GDP

Why in News

The Minister of State for Defence gave information about the **defence expenditure as a part of GDP** in Rajya Sabha.

Key Points

- ⌚ The **Defence Expenditure** is **increasing every year** in absolute terms, implying **higher spending**.
- ⌚ However, **Defence Budget as a percentage of GDP** may appear to be **decreasing** due to the **increasing trend** in the **growth of GDP**.
- ⌚ In Budget Expenditure (BE) 2019-20, the total Defence Budget (including Miscellaneous and Pensions) is 15.47% of total Central Government Expenditure.
- ⌚ In BE 2019-20, the Capital Budget of the Ministry of Defence is approximately 31.97% of the total capital expenditure of the Central Government Expenditure.

⌚ Capital receipts are loans raised by the government from the public (called market loans), borrowings by the government from the Reserve Bank and other parties through the sale of treasury bills, loans received from foreign bodies and governments, and recoveries of loans granted by the Central government to state and Union Territory governments and other parties.

⌚ Capital payments

⌚ Capital payments consist of capital expenditure on acquisition of assets like land, buildings, machinery, and equipment, as also investments in shares, loans and advances granted by the Central government to state and Union Territory governments, government companies, corporations and other parties.

⌚ The Capital Budget also incorporates transactions in the Public Account.

Long Term

Reverse Repo Operation

GDP

- ⌚ GDP stands for "Gross Domestic Product" and represents the total monetary value of all final goods and services produced (and sold on the market) within a country during a period of time.

Capital expenditure

- ⌚ Capital expenditure is the money spent on the acquisition of assets like land, buildings, machinery, equipment, as well as investment in shares.

Capital Budget

Capital Budget consists of:

- ⌚ **Capital receipts**

Why in news

According to the **Reserve Bank of India (RBI)**, the response to the **Long Term Reverse Repo Operation (LTROs)** has been highly encouraging.

Key Points

- ⌚ Long Term Reverse Repo Operation (LTRO) is a mechanism **to facilitate the transmission of monetary policy** actions and the flow of credit to the economy. This helps in **injecting liquidity into the banking system**.
- ⌚ Funds through LTRO are provided at the repo rate. This means that banks can avail one year and three-year

loans at the same interest rate of one day repo. But usually, loans with higher maturity period (here like 1 year and 3 years) will have a higher interest rate compared to short term (repo) loans.

- ⌚ According to the RBI, the LTRO scheme will be in addition to the existing **Liquidity Adjustment Facility (LAF)** and the **Marginal Standing Facility (MSF)** operations.
 - ⊙ The LAF and MSF are the two sets of liquidity operations by the RBI with the LAF having a number of tools like repo, reverse repo, term repo etc.
- ⌚ The central bank has been conducting LTROs for one and three year tenors of appropriate sizes for up to a total amount of 1,00,000 crore at the policy repo rate from the fortnight beginning 15th February 2020.
 - ⊙ The central bank received total bids of 1.94 lakh crore, for the three-year repo, compared with the notified amount of 25,000 crores.
 - ⊙ In yet another (LTROs) 48,856 crores worth of bids were conducted for an amount of 25,000 crores with a three-year tenor.
- ⌚ LTROs are conducted on the **Core Banking Solution (e-KUBER) platform**. The operations would be conducted at a fixed rate.

e-Kuber

- ⌚ e-Kuber is the **Core Banking Solution (CBS)** of **Reserve Bank of India** which was introduced in **2012**.
 - ⊙ CBS can be defined as a solution that enables banks to offer a multitude of customer-centric services on a 24x7 basis from a single location, supporting retail as well as corporate banking activities.
 - ⊙ The centralisation thus makes a “one-stop” shop for financial services a reality. Using CBS, customers can access their accounts from any branch, anywhere, irrespective of where they have physically opened their accounts.
 - ⊙ Almost all branches of commercial banks, including the Regional Rural Banks (RRBs), are brought into the core-banking fold.
- ⌚ The e-Kuber system can be **accessed either through INFINET or Internet**.
 - ⊙ The INFINET is a Closed User Group Network for the exclusive use of member banks and financial institutions and is the communication backbone for the National Payments System.

- ⌚ The minimum bid amount would be Rs 1 crore and multiples thereof. There will be no restriction on the maximum amount of bidding by individual bidders.

Benefits of the LTROs

- ⌚ **Enhance Liquidity:** It will enhance liquidity in the banking system by 1 lakh crore.
- ⌚ **Bring down the cost of funds for banks:** The introduction of LTRO will bring down the cost of funds for banks without effectively cutting deposit rates. This decision is likely to make reverse repo rate as the operative policy rate over a point of time.
- ⌚ **Boost Investment:** It is a measure that is expected to bring down short-term rates and also boost investment in corporate bonds.
- ⌚ **Ensure banks have durable liquidity:** These efforts are being carried forward with a view to assuring banks about the availability of durable liquidity at a reasonable cost relative to prevailing market conditions.
- ⌚ **Ensure credit flow to productive sectors:** This should encourage banks to undertake maturity transformation smoothly and seamlessly so as to augment credit flows to productive sectors.

Competition Commission of India

Why in News

The **Competition Commission of India (CCI)** organised the **Fifth National Conference on Economics of Competition Law** at the India Habitat Centre, New Delhi.

Competition Commission of India

- ⌚ Competition Commission of India is a **statutory body** responsible for enforcing the objectives of the **Competition Act, 2002**.
- ⌚ CCI has been established by the Central Government with effect from 14th October 2003.
- ⌚ **Composition:** A Chairperson and 6 Members appointed by the Central Government.
- ⌚ **Duty of the Commission:**
 - ⊙ To eliminate practices having adverse effects on competition.
 - ⊙ Promote and sustain competition.
 - ⊙ Protect the interests of consumers.
 - ⊙ Ensure freedom of trade in the markets of India.

- ⌚ The Commission is also required to **give an opinion on competition issues** on a reference received from a statutory authority established under any law and to undertake competition advocacy, create public awareness and impart training on competition issues.

The Competition Act

- ⌚ The Competition Act, 2002, as amended by the Competition (Amendment) Act, 2007, follows the philosophy of modern competition laws.
- ⌚ The Act **prohibits** anti-competitive agreements, abuse of dominant position by enterprises and regulates combinations (acquisition, acquiring of control and M&A), which causes or likely to cause an appreciable adverse effect on competition within India.

Serious Fraud Investigation Office

- ⌚ It is a multi-disciplinary organization under the **Ministry of Corporate Affairs**, consisting of experts in the field of accountancy, forensic auditing, law, information technology, investigation, company law, capital market and taxation for detecting and prosecuting or recommending for prosecution white-collar crimes/frauds.
- ⌚ It is **headquartered** in **New Delhi**.
- ⌚ The **Computer Forensic and Data Mining Laboratory (CFDML)** was set up in **2013** to provide support and service to the officers of SFIO in their investigations.
- ⌚ Section 211 of the Companies Act, 2013 has accorded **statutory status** to the SFIO.
 - ⌚ SFIO **has powers to arrest people** for the violation of the Company law.
- ⌚ SFIO **can initiate an investigation** into the affairs of a company under the following circumstances:
 - ⌚ On receipt of a report of the Registrar or inspector under section 208 (Report on Inspection made) of the Companies Act, 2013.
 - ⌚ On intimation of a special resolution passed by a company that its affairs are required to be investigated.
 - ⌚ In the public interest.
 - ⌚ On request from any department of the central government or a state government.

Nidhi Companies

Why in News

- The Central Government has **amended the provisions related to Nidhi companies** under the Companies Act, 2013 and the Rules.
 - ⌚ The amendments have been made to make the regulatory regime for Nidhi Companies more effective.
 - ⌚ This will accomplish the **objectives of transparency & investor friendliness** in the corporate environment of the country.

Key Points

- ⌚ Under **Nidhi Rules, 2014**, Nidhi is a company which has been incorporated as a Nidhi with the object of cultivating the habit of thrift and saving amongst its members, **receiving deposits from, and lending to, its members only**, for their mutual benefit.
- ⌚ It is a company registered under the **Companies Act, 2013**.
 - It works on the principle of mutual benefits that are regulated by the **Ministry of Corporate Affairs**.
- ⌚ Nidhi Company is a **class of Non-Banking Financial Company (NBFC)** and **Reserve Bank of India (RBI)** has powers to issue directives for them related to their deposit acceptance activities.
 - ⌚ However, since these Nidhis deal with their **shareholder-members only**, RBI has exempted them from the core provisions of the RBI Act and other directions applicable to NBFCs.

Sahyadri Megha: New Paddy Variety

Why in News

- The **University of Agricultural and Horticultural Sciences (UAHS)**, Shivamogga (Karnataka), has developed a **new variety of paddy, 'Sahyadri Megha'**.
 - The University has developed a new variety to **prevent the decline in the area under paddy cultivation**.

Sahyadri Megha

- ⌚ Sahyadri Megha is a red variety of paddy that is **resistant to blast disease and rich in nutrients**.

Reasons Behind Developing the New Variety

- ⌚ Paddy growers are **switching over to commercial crops** like areca nut, ginger and rubber for lucrative returns.
 - ⊙ The area under paddy that was around 1.5 lakh hectares in Shivamogga district in 1990, has come down to around 1.05 lakh hectares.
- ⌚ The **'Jyothi' variety** which is widely cultivated in the command areas of the Bhadra and the Tunga reservoirs and in semi-arid areas in Sorab, Shikaripur, Hanagal and Sirsi taluks in Karnataka has become **vulnerable to blast disease** and other infestations.
- ⌚ **Demand by customers in urban areas for red rice** which is rich in fibre and protein.
 - ⊙ **The red variety** gets its rich colour from an antioxidant called **anthocyanins**, which are also found in deep purple or reddish fruits and vegetables. The compound is believed to have properties that can reduce inflammation, allergy, prevent risks of cancer and help in weight

- ⌚ It was developed under the **hybridization breeding method** by cross-breeding the best among the **'Jyothi'** varieties with that of **'Akkalu'**, a disease-resistant and protein-rich paddy variety.
- ⌚ The new variety will be notified under the **Indian Seed Act 1966** shortly after which it will become part of the seed chain.
- ⌚ **Key Attributes**
 - ⊙ The **protein content in it is 12.48%, higher** than the other red rice varieties grown.
 - ⊙ The **yield per hectare** from 'Sahyadri Megha' is around 65 quintals, substantially higher than other red paddy varieties.
 - ⊙ It is a **medium-term paddy** that can be grown when there is a delay in the onset of monsoon. It can be **harvested after 120 days of sowing**.

Blast Disease

- ⌚ It is caused by **fungus Pyricularia grisea (P. oryzae)**.
- ⌚ Also known as **rotten neck or rice fever**.
- ⌚ First recorded in India during 1918.
- ⌚ Expected grain loss: 70 to 80%.



International Relations

Highlights

☞ USA-Taliban Peace Deal

☞ Visit of UN Delegation on Palestine to India

☞ India as an Observer at IOC

USA-Taliban Peace Deal

Why in News

The United States has signed a historic deal with Taliban insurgents that could pave the way for ending the 18-year-war in Afghanistan.

- ⌚ The deal was signed in **Doha (Qatar)** and thus termed as **Doha Agreement**.
- ⌚ India has welcomed the signing of the U.S.-Taliban peace deal by accepting an invitation to attend the ceremony for the same in Doha.



Background

- ⌚ The war in Afghanistan **was launched by the US in 2001 after the 9/11 attack**. The US-led coalition aimed to overthrow the Taliban.
- ⌚ However, **the war in Afghanistan got derailed** as the U.S. shifted focus and resources **towards Iraq from 2003 onwards**.
- ⌚ The end objective of a stable and peaceful Afghanistan began to recede as the **Taliban launched their insurgency in 2005** after they had recovered, regrouped and refinanced themselves from their sanctuary in Pakistan.
- ⌚ Since then, the insurgency has gathered momentum and also exposed the U.S. 's policy weaknesses.
- ⌚ After taking over in 2009, President Barack Obama authorised a **surge in U.S. troop presence with the objective to gain a decisive victory over the insurgency**. He simultaneously announced the drawdown of forces would commence in 2011, and

by 2014 the Afghan security forces would take charge of all combat operations.

- ⌚ However, this only encouraged the Taliban insurgency and exposed the shortcomings of the Afghan army and the police forces, in terms of numbers, training and equipment to deal with the post-2014 situation.
- ⌚ In 2014, the U.S. announced the withdrawal of the bulk of soldiers but a few thousand U.S. soldiers were to stay behind to **“advise, train and assist”** the Afghan security forces under Operation Resolute Support.
- ⌚ In 2017, the U.S. President Donald Trump laid out a strategy for “Afghanistan and South Asia”.
- ⌚ His policy was different from those of his predecessors as it stated that American involvement in Afghanistan was **“not for nation-building” but was limited to “killing terrorists”**.
- ⌚ He called this policy **“Principled Realism”** – with a shift from a time-based approach to one based on conditions. This policy was based on two pillars:
 - ⊙ **Military Involvement:** The additional troops which would serve two roles: counterterrorism missions and training the Afghan forces.
 - ⊙ **Political Involvement:** A negotiated political settlement with the Taliban, if the situation moves in that direction.
- ⌚ Since October 2018, Taliban representatives and US officials have been meeting to chalk out a peace treaty.

Key Elements of the Deal

- ⌚ The agreement set out a course for the **next 14 months**.
- ⌚ **Comprehensive Ceasefire between the Afghan Government and the Taliban.**
- ⌚ Timeline for the **withdrawal of all foreign forces from Afghanistan will be carried out**, provided the Taliban adhere to their security guarantees and ceasefire.

- ⌚ The prevention of the use of Afghanistan by any group or individual against the security of the United States and its allies.
- ⌚ The facilitation of an **intra-Afghan dialogue**.
 - ⌚ The participants of intra-Afghan negotiations will discuss the date and modalities of a permanent and comprehensive ceasefire, including agreement over the future political roadmap of Afghanistan.
- ⌚ In turn, the Taliban has demanded the release of **5000 fighters from Afghan-run jails**.

Peace Deal and the Possible Consequences

- ⌚ Taliban has **the ultimate goal of imposing Sharia in their respective regions**. This is in conflict with what the people in Afghanistan want.
- ⌚ Afghanistan has its own **Constitution and people want to be governed as per the Constitution**. This will make any peace deal unsustainable.
- ⌚ The Taliban will **hardly share power with the Afghan Government**. Thus, it is quite possible that even after the peace deal, the country will be back to civil war again.
- ⌚ Then, the world will face **twin challenges in Afghanistan: ISIS and Taliban**.

India's Stand

- ⌚ India has been always supportive of the inclusive peace process, specifically **Afghan-owned, Afghan-led and Afghan-controlled**.
- ⌚ The participation of the Afghan government's delegation during the **Doha agreement as well as the upcoming intra-Afghan peace negotiations** would be following the path desired by India.
- ⌚ The deal has reiterated India's commitment to Afghanistan's pursuit of **"sustainable peace and reconciliation"**.
- ⌚ Thus, India has **accepted** the Doha Agreement (2020).

Possible Issues for India

- ⌚ **Security of India:**
 - ⌚ The deal mentions about prevention of the use of Afghanistan by any group against the security of the **United States and its allies**. However, it is **unclear whether India, which is not a U.S. ally**, is included in this clause, and whether Pakistan-backed groups that threaten India, would still operate in Afghanistan.

- ⌚ **Benefit for Pakistan:**
 - ⌚ The deal also promises to take Taliban leaders of the **UN Security Council's sanctions list**, which could considerably bring down the number of terrorists harboured by Pakistan. This might benefit Pakistan during the June 2020 FATF Plenary.
- ⌚ **Sidelining of Intra-Afghan Dialogue:**
 - ⌚ The U.S. has committed to clear five bases and withdrawal of troops and it intends to submit to the Taliban-led government. Thus, priority to future Taliban led government may sideline the **"Intra-Afghan" dialogue and India's support for the election process for leadership in Afghanistan**.
- ⌚ **One-sided Deal:**
 - ⌚ The deal is more burdened with the **Taliban demands**, while the actual terms of the 'peace deal' are yet to be negotiated between the Taliban and the Afghan side, facilitated by the U.S. and thus deal seems to be a one-sided deal.

Way Forward

- ⌚ Achieving lasting peace in Afghanistan will require **patience and compromise** among all parties. And thus talking only with the Taliban is a **short-sighted policy**.
- ⌚ To resolve conflict within Afghanistan, the battlefield needs to be isolated i.e. external support to the terrorist activities needs to be abandoned. Also, the countries need to keep their respective interests aside, to build peace in the region.
- ⌚ The US needs to make its **policy vis-a-vis Afghanistan** clear.
- ⌚ India and Central Asian Republics can help in establishing peace in the region.
- ⌚ More militancy is witnessed in the region where the state fails to deliver. Thus, **administrative reforms within Afghanistan** are the need of the hour.

Visit of UN Delegation on Palestine to India

Why in News

Recently, a **UN delegation on Palestine** visited New Delhi to seek India's political and diplomatic support for a peaceful resolution to the long-standing conflict between Israel and Palestine.

- ⌚ The delegation of the **United Nations Committee on the Exercise of the Inalienable Rights of the Palestinian People (CEIRPP)** intends to engage India in the settling of the question of Palestine.

Key Points

- ⌚ During the visit of the UN delegation on Palestine, **India has reiterated its stand and supported the Two-State solution** for the **Israel-Palestine issue**.
- ⌚ The visit aimed to **enhance the political and diplomatic support of India for a peaceful solution to the Israel-Palestine conflict** and engaging Indian counterparts on synergies in capacity building for staff and institutions of Palestine.
- ⌚ The delegation intends to involve countries like India as it **shares good relations with both Israel and Palestine**, and are **also attached to multilateral principles**, to play a bigger role in the resolution of the issue.

Two-State Solution

- ⌚ The “two-states solution” is based on a **UN resolution of 1947** which proposed two states- one would be a state where Zionist Jews constituted a majority and the other where the Palestinian Arabs would be a majority of the population. However, the idea was rejected by the Arabs.
- ⌚ For decades, it has been held by the international community as the only realistic deal to end the Israeli-Palestinian conflict.
- ⌚ India has consistently voted in favour of those resolutions that **promote the two-state solution** with a Palestinian claim to East Jerusalem.

India’s Stand on Israel-Palestine Issue

- ⌚ In **June 2019**, India voted in **favour of a decision introduced by Israel** in the **UN Economic and Social Council (ECOSOC)** that objected to granting consultative status to a Palestinian non-governmental organization.



- ⌚ In **June 2018**, India had **voted in favour of Palestine** on the **UN General Assembly**

(UNGA) resolution to investigate an indiscriminate force usage by Israeli forces against Palestinian civilians.

- ⌚ As a part of **Link West Policy**, India has **de-hyphenated its relationship with Israel and Palestine in 2018** to treat both the countries mutually independent and exclusive.
- ⌚ In **December 2017**, India had **criticised the United States** vote for recognising **Jerusalem as the Israeli capital** at the UNGA vote.
- ⌚ In **2014**, India favoured **UNHRC’s** resolution to probe Israel’s human rights violations in Gaza. Despite supporting the probe, **India abstained from voting against Israel in UNHRC in 2015**.

Committee on the Exercise of the Inalienable Rights of the Palestinian People

- ⌚ It was **founded in 1975** by the **United Nations General Assembly**.
- ⌚ It aims to formulate a programme to enable the Palestinian people to exercise their right to self-determination, to national independence and sovereignty, and the right of Palestine refugees to return.

India as an Observer at IOC

Why in News

India has been accepted as an **observer of the Indian Ocean Commission (IOC)**.

- ⌚ India's joining of the IOC as an observer has **strategic importance** as the Commission is an important regional institution in the **Western/African Indian Ocean**.

Indian Ocean Commission

- ⌚ It is an **intergovernmental body created in 1984 to defend the interests of the Western Indian Ocean islands**.
- ⌚ It consists of **Madagascar, Comoros, La Réunion (French overseas territory), Mauritius and Seychelles**.
- ⌚ The Commission has **five observers — India, China, European Union (EU), Malta and International Organisation of La Francophonie (OIF)**.
- ⌚ OIF is a 54 french speaking nations collective.



Significance of an Observer Status of India

🕒 **Engagement with the Western Indian Ocean:**

- ⦿ It will facilitate **collective engagement with the islands** in the Western Indian Ocean that are becoming strategically significant.
- ⦿ Given China's growing presence in the region, **India will be able to increase its naval presence** and gain support for its maritime projects across the **Indo-Pacific**.
- ⦿ The **Western Indian Ocean (WIO)** is also a strategic location of the **Indian Ocean linking the Southeastern coast of Africa to the wider Indian Ocean and beyond**.

🕒 **Opportunity in the Mozambique Channel:**

- ⦿ The IOC islands are situated around one of the key **chokepoints** in the **Indian Ocean – the Mozambique Channel**.
 - ⌘ The Mozambique Channel is an arm of the Indian Ocean located between the African countries of Madagascar and Mozambique.

⦿ The Mozambique Channel **lost its significance** post the **opening of the Suez Canal**, but the **recent hostilities near the Strait of Hormuz** brought the channel back into focus as the original route for bigger commercial vessels (especially for oil tankers).

⦿ **Potential of natural gas reserves in the Mozambique Channel** further increases the significance of the region.

🕒 **Cooperation with France:**

⦿ It will also help to boost **cooperation with France** that has a strong presence in the western Indian ocean.

🕒 **SAGAR Policy:**

⦿ It will help to extend **India's SAGAR (Security and Growth for all in the Region) policy** in the region.

⌘ SAGAR is an articulation of India's vision for the Indian Ocean which aims for enhancement of capacities to safeguard land and maritime territories & interests; deepening economic and security cooperation in the littoral; action to deal with natural disasters and maritime threats like piracy, terrorism.



Science and Technology

Highlights

- * Covid-19
- * MAC Binding
- * Fuel Cell Technology for Disaster Management
- * National Supercomputing Mission
- * Qubit
- * ICONSAT 2020
- * Indian National Centre for Ocean Information Services
- * Methanotrophic Bacteria for Methane Mitigation
- * Nuclear Power Plants in India
- * Indigenously Developed Flow Diverters Stents
- * Speeding up Generation of RBCs in the Lab

Covid-19

- ⌚ **Coronaviruses** are a specific family of viruses, causing illness ranging from **common cold** to **respiratory and intestinal diseases**.
 - ⊙ 'Corona' is a **Latin word** which means '**Crown**'. It is named so, because of the presence of **crown-like spikes** on its surface.
 - ⊙ Under an electron microscope, the image of the virus looks like a solar corona.
- ⌚ It is an **RNA (RiboNucleic Acid) virus** because of which it **mutates at a faster rate** as RNA mutation rate is higher than the DNA (deoxyribonucleic acid) mutation rate.
- ⌚ They are **zoonotic, meaning they are transmitted between animals and people**.
- ⌚ Human **coronaviruses** were first identified in the mid-1960s. Till date scientists have identified six coronaviruses that can infect humans.
- ⌚ The two coronaviruses that have been known to frequently cause severe symptoms are:
 - ⊙ **Severe Acute Respiratory Syndrome (SARS) coronavirus.**
 - ⊙ **Middle East Respiratory Syndrome (MERS) coronavirus.**

MERS

- ⌚ Middle East respiratory syndrome (MERS) is a viral respiratory disease caused by a novel coronavirus MERS-CoV that was first identified in Saudi Arabia in 2012.

- ⌚ Typical MERS symptoms include fever, cough and shortness of breath. Pneumonia is common, but not always present.
- ⌚ Approximately 35% of reported patients with MERS-CoV infection have died.

SARS

- ⌚ SARS coronavirus (SARS-CoV) virus was identified in 2003. It first infected humans in the Guangdong province of southern China in 2002.
- ⌚ Transmission of SARS-CoV is primarily from person to person.
- ⌚ Symptoms are influenza-like and include fever, malaise, myalgia, headache, diarrhoea, and shivering (rigors).

- ⌚ The virus can affect humans as well as **mammals including pigs, cattle, cats, dogs, martens, camels, hedgehogs and some birds**.
- ⌚ Coronavirus disease (**Covid-19**) is a new strain that was discovered in 2019 and **has not been previously identified in humans**.

Origin of Covid-19

- ⌚ According to Chinese reports, it is expected to have come from a **seafood market in Wuhan**, where the wildlife is illegally traded.
 - ⊙ it is expected to have been transmitted from illegally-trafficked **pangolins**. Also, bats or snakes are also pointed out as the source of the virus by the scientists.
- ⌚ Even the WHO highlights the **animal source** as the primary source of the outbreak.

Transmission, Symptoms and Prevention

Transmission

- ⌚ The virus enters the body through the **respiratory tract** (that's why a respiratory virus) and enters the **circulatory system**. It multiplies there, leading to **Acute Respiratory Distress Syndrome** (ARDS – a disease in which the lung loses its capacity to expand further).
- ⌚ It is primarily transmitted:
 - ⊙ Through **secreted fluids** (during coughing or sneezing) from the respiratory system,
 - ⊙ By **touching** the hands of the **infected person**,
 - ⊙ **Contacting** with a **surface or object that has virus** on it and then touching it with one's nose, eyes or mouth,
 - ⊙ Rarely by **contact with feces**.

Symptoms

- ⌚ Common signs of infection include respiratory symptoms, **fever, cough, shortness of breath** and breathing difficulties.
- ⌚ In more severe cases, the infection can cause **pneumonia**, severe acute respiratory syndrome, **kidney failure** and even **death**.

Prevention

- ⌚ Regular handwashing.
- ⌚ Covering mouth and nose when coughing and sneezing.
- ⌚ Avoiding close contact with anyone showing symptoms of respiratory illness such as coughing and sneezing, etc.
- ⌚ Currently, there is **no vaccine** for it. Developing a new vaccine to contain its spread will require a few more months.

Impact of Covid-19 Outbreak

Impact on the Global Economy

⌚ Sectors Affected

- ⊙ **Travel & Tourism:** It is the **biggest sector** hit by the Coronavirus. Many countries have stopped their airline services to China. **Shipping and freight & container services** have also been affected.
- ⊙ **Industrial:** Many brands like Apple, Starbucks, etc. have shut down their plants in China. Around 50% of industries have shut down in Wuhan.
 - ⌘ Indian **pharmaceuticals**, Bangladesh's **garment sector** (approx. 85%), and global **automobile and electronics** industries are dependent

upon the raw material that is imported from China (China exports commodities worth about \$2.5 trillion).

- ⊙ **Education:** Out of the top 10 universities in China, 2 of them are located in Wuhan. Because of the Covid-19 outbreak, many Indian students studying there have returned to India.
- ⌚ **Global Growth**
 - ⊙ Due to the outbreak, it is **expected** that China's growth rate will **come down** by 1% and global growth by 0.3%.
 - ⊙ **Crude Oil:** However, globally the Crude oil prices have come down in the recent time. And after the Coronavirus disruptive impact on global growth, there would not be much price rise.
 - ⊙ **Belt & Road Initiative:** Due to dependency on physical transportation of steel, cement, etc., BRI's completion duration is expected to increase which will consequently affect the linked countries.
 - ⊙ **ASEAN:** ASEAN is closely connected with China in the value chain because of which the ASEAN countries' growth will also get affected.

Impact on Indian Economy

⌚ GDP Growth Rate

- ⊙ The **Organisation for Economic Co-operation and Development (OECD)** has slashed India's growth forecast for 2020-21 by 110 basis points (bps) to 5.1%, warning that the impact of the Covid-19 outbreak on business confidence, financial markets and the travel sector, including disruption to supply chains, could shave 50 bps off global growth in 2020.
- ⌚ **Pharmaceuticals:** Given the pharmaceutical industry's deep linkages to China, the supply chain of raw materials of drugs has taken a hit.
 - ⊙ Active Pharmaceutical Ingredients (APIs), also called bulk drugs, are significant ingredients in the manufacture of drugs. The Hubei province of China, the epicentre of the coronavirus, is the hub of the API manufacturing industry.
 - ⊙ India is heavily import-dependent for APIs from China.
- ⌚ **Automobile Industry**
 - ⊙ China is one of the leading suppliers of auto components in India, accounting for 27% of the total imports.

- ⌚ The coronavirus is expected to have an impact on the Indian automotive industry and therefore also on the automobile component and forging industries, which had already reduced their production rate due to the market conditions and on account of the impending change over to BS-VI emission norms from BS-IV from April 2020.

⌚ **Stock Market**

- ⊙ Stock markets in India crashed on 9th March, 2020 as **Sensex** and **Nifty** indices saw their biggest ever fall in absolute terms.
- ⊙ The Sensex dropped 1,942 points or 5.17% to 35,635 and the Nifty dropped 538 points to 10,451, wiping out as much as Rs 6.8 lakh crore of investor wealth.

⌚ **Currency**

- ⊙ The month of March is typically good for the Indian currency as remittances, from both overseas citizens and companies, tend to boost the exchange rate.
- ⊙ In the past decade, the rupee has appreciated seven times against the dollar in March. But March 2020 could be hard on the exchange rate and the rupee's sharp drop to more than Rs 75 per dollar. One of the reasons is an increase in the number of reported cases of coronavirus in India.

⌚ **Cocoon production in Karnataka** has picked up to meet the growing demand for indigenous silk.

- ⊙ Silk imports from China have been badly hit on account of **COVID-19**.

Impact on India's International Relations

- ⌚ The Indian Navy has postponed its multi-nation mega naval exercise 'MILAN' due to continuing spread of the coronavirus.
- ⌚ India's Prime Minister visit to Bangladesh was cancelled due to coronavirus cases in Bangladesh.
- ⌚ Recently, the **South Asian Association for Regional Cooperation (SAARC)** conference on **COVID-19** was held through video conference.
 - ⊙ India has proposed to create a **COVID-19 Emergency Fund** which could be based on a **voluntary contribution** from all SAARC members.
 - ⊙ Further, **\$10 million** has been extended by **India** as a contribution to the fund.
 - ⊙ The fund can be used to meet the **cost of immediate actions** by any member and will be coordinated through foreign secretaries and embassies of the member countries.

Challenges Faced by India

- ⌚ **Large Population:** India is highly vulnerable due to the **large population constantly travelling and working** in urban agglomerations like Delhi-NCR, Mumbai.
- ⌚ **Poor Public Hygiene:** Public hygiene in India is poor despite the "Swachh Bharat (Clean India)" movements.
 - ⊙ As many people spit and sneeze openly on the road.
 - ⊙ Also, mobile phones, or keyboards, a virtual extension of hands are some of the **dirtiest reservoirs of viruses**.
- ⌚ **Unknown Incubation Period:** The incubation period (interval between being infected and showing symptoms) is not very accurate. Hence, it can't be defined how long people should be quarantined.
 - ⊙ Covid-19 usually follows what is known as a **biphasic or dual-phase infection**.
 - ⊙ It means the virus persists and causes a different set of symptoms than observed in the initial bout. Also, sometimes, the recovered person can relapse.
- ⌚ **Super Spreader Disease:** Currently, the cases and clusters in India are simple spreaders which means an infected person with normal infectivity. But Covid 19 can also have a "**super spreader**", which means an infected person with high infectivity who can infect hundreds in no time.
- ⌚ **Rumours on Social Media:** As we grapple with the global Covid 19 anxiety and fear, unfortunately, people tend to rely on **social media platforms** where rumours spread faster than the virus.
- ⌚ The **United Nations Conference on Trade and Development (UNCTAD)**, said the virus outbreak could cost the global economy up to \$2-trillion this year and that the pandemic could cause a recession in some countries causing global economic growth to clock in below 2.5%.
 - ⊙ The Indian government is facing the twin challenge of containing the virus when the economy is already in the slowdown.

Steps to be Taken by India

- ⌚ The public health response to such outbreaks comprises three phases: The containment phase, delay phase and mitigation phase.
 - ⊙ **The containment phase:** The aim is to detect and isolate cases and trace people who have been in contact with those infected. In this regard, there is

an urgent need to clamp down on all major cities and towns, in all aspects, from travel to mass gatherings to schools, colleges and workplaces.

- ⌚ **The delay phase:** Delay is largely engineered through **social distancing strategies** and personal protection measures. These are the main tools to prevent accelerated transmission when no vaccine is available. This includes school closures, encouraging more home working and avoiding contacts like handshakes.
- ⌚ **The mitigation phase:** The focus will be on providing optimal care for people who need hospitalisation and ensuring support for those who become infected but do not require hospital treatment. It also involves plans to minimise the impact of the disease on society, public services and the economy.
- ⌚ **Immediate steps that should be taken**
 - ⌚ The **National Crisis Management Committee (NCMC)** which was designed to be set up in situations of large natural calamities, should be leveraged. Also, NCMC should coordinate across ministries and departments.
 - ⌚ A **dedicated web portal** should be set up, which includes a dashboard with key indicators, current case definitions, guidelines, risk communication materials and micro plans.
 - ⌚ Strict norms to be followed for people who are **quarantined**.
 - ⌚ The **response plan** should be able to maintain ongoing regular health programmes while at the same time devoting adequate resources to the response.
 - ⌚ It is essential that at least two negative tests are obtained before a person is certified as being uninfected.
 - ⌚ India must also **rapidly increase its operational labs for rapid diagnosis**, equip hospitals, and train medical staff for isolation and treatment of those infected.
- ⌚ **Addressing fears at the individual level.**
 - ⌚ There is a need for good reporting standards, the media should abide by the ethical framework of journalism.
 - ⌚ The ICMR has advised the government to go into partial shutdown for implementing partial lockdown (restricting the travel from the countries that have reported the major number of infections).

- ⌚ In order to deal with future epidemics, there is a need for a coordinated strategy between union and state governments.
 - ⌚ In this pursuit, the subject of 'health' can be transferred to the Concurrent List of the Indian Constitution from the State List.
- ⌚ **Large-scale behaviour change** will be the cornerstone of a successful response. It requires proper risk communication and adoption of an integrated approach towards **WASH (water, sanitation and hygiene), Cough hygiene (proposed by WHO) and community health programs**.

Response to COVID-19

Global Response

- ⌚ The COVID-19 outbreak was declared a **Pandemic** by the World Health Organization (WHO) on 30th January 2020.
 - ⌚ According to the WHO, a **pandemic** is declared when a new disease for which people do not have immunity spreads around the world beyond expectations.
- ⌚ According to recommendations by the WHO, the diagnosis of COVID-19 must be confirmed by the Real Time- Polymerase Chain Reaction (PCRT-PCR) or gene sequencing for respiratory or blood specimens, as the key indicator for hospitalisation.
- ⌚ \$15 million dollars has been released from the UN's Central Emergency Fund to help fund global efforts to contain the spread of the COVID-19 coronavirus, particularly vulnerable countries with weak health care systems.
- ⌚ Microsoft Bing team has launched a web portal for tracking COVID-19 infections worldwide.
- ⌚ Google is working on COVID-19-related portal for US citizens. Google's website is being built by **Verily**, a subsidiary of Alphabet focused on healthcare services.
- ⌚ Vaccines are being developed.

Indian Response

- ⌚ The Indian government arranged for the evacuation of 366 Indian citizens from Wuhan in a special Air India flight. The passengers were placed under quarantine for a period of 14 days.
- ⌚ The Central government has introduced travel restrictions and suspended visas from affected countries.

- ⌚ A detailed containment plan has been shared with states. States have been asked to identify possible isolation areas in hospitals that can accommodate larger numbers.
- ⌚ The Central government advised people to approach the government helpline numbers regarding the doubts related to symptoms of the deadly disease. The situation is being monitored at the highest level.
- ⌚ PCR Test: If PCR test is positive, the sample is sent to the National Institute of Virology in Pune, which is the only government laboratory currently doing genome sequencing, for final confirmation.
- ⌚ The Indian Council of Medical Research (ICMR) has announced that it would start testing influenza patients **without any travel history or contact with COVID-19 for signs of community transmission.**
- ⌚ Schools and colleges have been closed.
- ⌚ The Central government has asked the States and Union Territories to invoke provisions of Section 2 of the Epidemic Diseases Act, 1897.
 - ⌚ This law aims to provide for the better prevention of the spread of dangerous epidemic diseases.
- ⌚ The central government has notified that **masks (2 ply and 3 ply surgical masks, N95 masks) and hand sanitizers as essential commodities** up to June 30, 2020, under the **Essential Commodities Act, 1955 (EC Act).**
 - ⌚ The invocation of the EC Act aims to ensure that these products, key for preventing the spread of Covid-19 infection, are available to people at the **right price and of the right quality.**
- ⌚ The annual **Chaitra Jatra festival** scheduled to be held on 17th March, 2020 at **Odisha's Tara Tarini hill shrine** has been **cancelled** as a precautionary measure against **COVID-19** infection.
 - ⌚ The festival is **held on each Tuesday in the month of Chaitra**, which falls in March-April as per the English calendar.

MAC Binding

Why in News

- ⌚ The authorities have **removed a ban on social media and restored full internet access** in Kashmir on 4th March 2020.

- ⌚ Among various conditions, Internet connectivity will be made available **“with mac-binding”**.

Key Points

- ⌚ Every device has a **Media Access Control (MAC) address**, a **hardware identification number** that is unique to it. While accessing the Internet, every device is assigned an Internet Protocol (IP) address.
 - ⌚ This forces a particular device to access the internet from a specific IP address.
 - ⌚ If either the MAC (Media Access Control) address or the IP address changes, the device will not be able to access the internet.
 - ⌚ MAC-binding will also enable authorities to trace a device on the basis of its online activity.
- ⌚ Mobile internet services too will be available **only on postpaid connections**. Prepaid connections will not have access to the internet "unless verified as per the norms applicable to postpaid connections," the order said.
- ⌚ Further, internet speed is **restricted to second-generation 2G networks**, while the high-speed 4G networks will remain blocked.

Media Access Control (MAC) address

- ⌚ The address that uniquely defines a **hardware interface is called MAC (Media Access Control) Address.**
- ⌚ It identifies the physical address of a computer on the internet.
- ⌚ It is **48 bits (6 bytes) hexadecimal address.**
- ⌚ MAC Address of each computer on a network is unique.

Internet Protocol (IP) address

- ⌚ The address provided to a connection in a network is called IP (Internet Protocol) address.
- ⌚ It identifies the connection of a computer on the internet.
- ⌚ **IPv4 is a 32-bit (4 bytes) address**, and IPv6 is a 128-bits (16 bytes) address.
- ⌚ IP address does not uniquely identify a device on a network but, it specifies a particular connection in a network.
- ⌚ IP address changes each time a device is connected to the network as it is dynamically allocated to the device when it participates in the network.

Fuel Cell Technology for Disaster Management

Why in News

The **International Advanced Research for Powder Metallurgy & New Materials (ARCI)**, Hyderabad has developed Polymer Electrolyte Membrane Fuel Cells (PEMFC).

- ARCI is an **autonomous** Research and Development (R&D) Centre of the Department of Science and Technology (DST).

Polymer Electrolyte Membrane Fuel Cells

- PEMFC convert the **chemical energy stored in hydrogen fuel directly and efficiently to electrical energy with water as the only byproduct** without the need for grid power as required by conventional battery backup systems.
- Potential:** To reduce energy use, pollutant emissions and dependence on fossil fuels and providing sustainable electricity.
- Advantage:** Operational capability at low-temperatures with applications in decentralised power generation systems.

Key Points

- The ARCI has developed in-house PEMFC systems in the power range of **1 to 20 kiloWatt (kW)** at its Centre for Fuel Cell Technology, Chennai.
- ARCI is planning to set up a **PEMFC system at Tamil Nadu State Emergency Operation Centre (TN SEOC)** as a disaster management measure.
 - Tamil Nadu is generally affected by five to six cyclones every year, of which two to three are severe.
- In general, **Emergency Operation Centres (EOC)** backed with a **10 kW system** along with fuel cell stack, air moving subsystems, power control devices and control and monitoring system is being planned as a natural disaster management measure.
 - EOCs have been set up in the states as per the National disaster Management Guidelines.
 - An EOC is the hub to coordinate various activities during emergencies. The basic functions of the EOC includes collection and dissemination of early warnings on disaster, ensuring administrative and

community preparedness and coordinating with all emergency support functions.

- Fuel cell systems in EOCs offer a potential benefit in terms of providing sustainable electricity.

National Supercomputing Mission

Why in News

Recently, a **Right to Information (RTI)** reply has revealed that India has produced **just three supercomputers since 2015** under the **National Supercomputing Mission (NSM)**.

National Supercomputing Mission

- It was announced in **2015**, with an aim to connect national academic and R&D institutions with a grid of more than **70 high-performance computing facilities at an estimated cost of 4,500 crores** over the **period of seven years**.
- It supports the government's vision of **'Digital India'** and **'Make in India'** initiatives.
- The mission will be **implemented by the Department of Science and Technology** (Ministry of Science and Technology) and **Ministry of Electronics and Information Technology** (MeitY), through the **Centre for Development of Advanced Computing (C-DAC), Pune** and Indian Institute of Science (IISc), Bengaluru.
- It is also an effort to improve the number of supercomputers owned by India.
 - These supercomputers will also be networked on the **National Supercomputing grid** over the **National Knowledge Network (NKN)**. The NKN connects academic institutions and R&D labs over a high-speed network.
- Under NSM, the long-term plan is to build a strong base of **20,000 skilled persons** over the next five years who will be equipped to handle the complexities of supercomputers.

Key Points

- Progress of NSM:**
 - NSM's first supercomputer named **Param Shivay** has been installed in IIT-BHU, Varanasi, in 2019.
 - It has **837 TeraFlop High-Performance Computing (HPC)** capacity.

- ⌚ The **second supercomputer** with a capacity of **1.66 PetaFlop** has been installed at IIT-Kharagpur.
- ⌚ The **third system, Param Brahma**, has been installed at IISER-Pune, which has a capacity of 797 TeraFlop.
- ⌚ **Incomplete Utilization of Fund allocated to NSM:**
 - ⌚ The **NSM** envisaged setting up a network of **70 high-performance computing** facilities in the country but **skewed funding** for the mission **during the initial years slowed down the overall pace** of building supercomputers.
 - ⌚ **Only 16.67% of the total budget of Rs 4,500 crore**, has been utilised during the **last four-and-a-half years** for execution of the mission.
- ⌚ **Global Scenario:**
 - ⌚ Globally, **China has the maximum number of supercomputers** and maintains the top position in the world, followed by the US, Japan, France, Germany, the Netherlands, Ireland and the United Kingdom.

Note:

- ⌚ **Teraflops:** It is a unit of computing speed equal to one million million (10^{12}) floating-point operations per second (FLOPS).
- ⌚ **Petaflops:** It is a unit of computing speed equal to one thousand million million (10^{15}) floating-point operations per second (FLOPS).

Qubit

A quantum bit, or qubit, is the **basic unit of information for a quantum computer**, analogous to a bit in ordinary machines.

- ⌚ But unlike a bit, which can have the value 0 or 1, a qubit can take on an infinite number of values.

Quantum computer

- ⌚ A quantum computer is **any device for computation** that makes direct use of distinctively quantum mechanical phenomena, such as superposition and entanglement, to perform operations on data.
- ⌚ **Superposition** means that each qubit can represent both a '1' and a '0' at the same time.
- ⌚ **Quantum entanglement** occurs when two particles become inextricably linked, and whatever happens to one immediately affects the other, regardless of how far apart they are.

ICONSAT 2020

Why in News

The **International Conference on Nano Science and Nano Technology (ICONSAT) 2020** was organized in March 2020 at **Kolkata (West Bengal)**.

- ⌚ ICONSAT is the series of **biennial** international conferences held in India **under the aegis of Nano Mission, Department of Science and Technology (DST)**.

Key Points

- ⌚ The conference intends to bring out **cutting-edge developments** in the domain of physical, chemical, materials as well as biological sciences with the help of nanotechnology.
- ⌚ The event emphasised on **5Ms – Mechanical, Material, Machines, Manufacturing and Manpower** and integration of these 5 Ms with nano-science and technology.
- ⌚ It also aims to **integrate nanotechnology with sustainable development and new technology** (machine learning, artificial intelligence and so on).
- ⌚ It emphasized the need to **create a network of experts in nano-science and to collaborate the knowledge across sectors** like energy, agriculture, transport, health and so on.
- ⌚ It also aims to provide a **potential platform for young researchers and students from within the country and abroad** to keep pace with the latest development in the emerging areas of Nano Science and Technology.

Nano Mission

- ⌚ The Government of India launched the Nano Mission in **2007** as an "**umbrella capacity-building programme**".
- ⌚ It is being implemented by **the Department of Science and Technology (DST)** under the Ministry of Science and Technology.
- ⌚ The **objectives of the mission** are:
 - ⌚ Basic research promotion.
 - ⌚ Infrastructure development.
 - ⌚ Nano applications and technology development.
 - ⌚ Human Resource development.
 - ⌚ International collaborations.

- ⌚ As a result of the efforts led by the Nano Mission, today, India is amongst the **top five nations in the world** in terms of **scientific publications in nanoscience and technology** (moving from 4th to the 3rd position).
- ⌚ The Nano Mission has established national dialogues to promote R&D in the development of standards for nanotechnology and for laying down a **National Regulatory Framework Road-Map for Nanotechnology (NRFN-Nanotech)**.

Indian National Centre for Ocean Information Services

Why in News

Recently the **Indian National Centre for Ocean Information Services (INCOIS), Hyderabad** celebrated **International Women's Day (March 8)**.

Key Points

- ⌚ INCOIS is an **autonomous organization under the Ministry of Earth Sciences (MoES)**.
- ⌚ It is located in Hyderabad & was established in 1999.
- ⌚ It is a **unit of the Earth System Science Organization (ESSO), New Delhi**.

Earth System Science Organization

- ⌚ The ESSO operates as an **executive arm of the Ministry of Earth Sciences (MoES)** for its policies and programmes.
- ⌚ **Aim:** To develop and improve capability to forecast, weather, climate and hazard related phenomena for social, economic and environmental benefits including addressing aspects relating to climate change science, and climate services.
- ⌚ It is also responsible for the **development of technology towards the exploration and exploitation of marine resources**.
- ⌚ It has **four major branches of earth sciences**.
 - ⊙ Ocean Science & Technology
 - ⊙ Atmospheric and Climate Science
 - ⊙ Geoscience and Technology
 - ⊙ Polar Science and Cryosphere
- ⌚ It is **mandated** to provide the best possible ocean information and advisory services to society, industry,

government agencies and the scientific community through sustained ocean observations and constant improvement through systematic and focused research.

Methanotrophic Bacteria for Methane Mitigation

Why in News

Recently, scientists at the Agharkar Research Institute (ARI), Pune have enriched, isolated and cultivated 45 different strains of **methanotrophs (methane-utilising bacteria)** and created the first indigenous methanotroph culture.

- ⊙ **ARI** is an autonomous institute under the **Department of Science & Technology**.

Key Points

- ⌚ Scientists used some of the isolated strains of methanotrophs as bio-inoculants in rice plants.
- ⌚ They found that there was a **decrease in methane emissions** in inoculated plants with a positive or neutral effect on the growth of the rice. This finding could lead to the development of microbial inoculants for methane mitigation in rice.
- ⌚ **Methanotrophs metabolise and convert methane into carbon-di-oxide** enabling them to reduce methane emissions from rice plants.
 - ⊙ In rice fields, methanotrophs are active near the roots or soil-water interfaces.
 - ⊙ Rice fields are human-made wetlands and are waterlogged for a considerable period.
 - ⌘ **Anaerobic degradation** of organic matter results in the generation of methane.
 - ⌘ **Rice fields** contribute to nearly **10% of global methane emissions**.

Inoculation

- ⌚ In microbiology, inoculation is defined as **introducing microorganisms into a culture** where they can **grow and reproduce**. More generally, it can also be defined as introducing a certain substance into another substance.
- ⌚ **Bio-inoculants** are living organisms containing strains of specific bacteria, fungi, or algae. These are also known as microbial inoculants.

Significance

- ⌚ **Methanotrophs** can effectively **reduce the emission of methane**, which is the second most important **greenhouse gas** (GHG) and 26 times more potent as compared to carbon-di-oxide.
- ⌚ Native methanotrophs isolated from rice fields can be excellent models to understand the effect of various factors on methane mitigation.
- ⌚ Besides methane mitigation studies, methanotrophs can also be used in methane value addition (valorization) studies.
 - ⊙ Bio-methane generated from waste can be used by the methanotrophs and can be converted to value-added products such as single-cell proteins, **biodiesel**, and so on.

Nuclear Power Plants in India

Why in News

Recently, the government provided details related to various nuclear power plants in the country.

- ⌚ Presently, **India has 22 operating reactors**, with an installed capacity of 6780 MegaWatt electric (MWe). Among these eighteen reactors are **Pressurised Heavy Water Reactors (PHWRs)** and four are **Light Water Reactors (LWRs)**.
 - ⊙ The **nuclear energy programme** in India was launched around the time of independence under the leadership of Homi J Bhabha.
- ⌚ **Prototype Fast Breeder Reactor (PFBR) is being implemented by the Bharatiya Nabhikiya Vidyut Nigam Limited (BHAVINI)**, a wholly-owned Enterprise of Government of India under the administrative control of the Department of Atomic Energy (DAE).

Pressurized Heavy Water Reactor

- ⌚ PHWR is a nuclear power reactor, commonly using **unenriched natural uranium** as its fuel. It **uses heavy water (Deuterium oxide D₂O)** as its coolant and moderator.
- ⌚ While heavy water is significantly more expensive than ordinary light water, it yields a greatly enhanced neutron economy, allowing the reactor to operate without fuel enrichment facilities.

Light Water Reactor

- ⌚ The light water reactor is a type of **thermal – neutron reactor that utilizes normal water** as opposed to heavy water.
- ⌚ It is fuelled by **Low Enriched Uranium**.
- ⌚ It uses water as both a coolant method and a neutron moderator.
- ⌚ It produces heat by controlled **nuclear fission**.

Prototype Fast Breeder Reactor

- ⌚ A breeder reactor is a nuclear reactor that **generates more fissile material than it consumes**. These are designed to extend the nuclear fuel supply for electric power generation.
- ⌚ Breeder reactors achieve this because their neutron economy is high enough to create more fissile fuel than they use, by **irradiation of a fertile material**, such as **uranium-238** or **thorium-232** that is loaded into the reactor along with fissile fuel.
- ⌚ **PFBR** is a 500 MWe fast breeder nuclear reactor presently **being constructed at the Madras Atomic Power Station in Kalpakkam (Tamil Nadu)**. It is **fuelled by Mixed Oxide (MOX) Fuel**.

Mixed Oxide (MOX) Fuel

- ⌚ MOX fuel is manufactured from **plutonium recovered from used reactor fuel**, mixed with **depleted uranium**.
- ⌚ Mixed oxide (MOX) fuel provides almost 5% of the new nuclear fuel used today.
- ⌚ MOX fuel also provides a means of burning weapons-grade plutonium (from military sources) to produce electricity.

Depleted Uranium

- ⌚ In order to produce fuel for certain types of nuclear reactors and nuclear weapons, uranium has to be "enriched" in the U-235 isotope, which is responsible for nuclear fission.
- ⌚ During the enrichment process the fraction of U-235 is increased from its natural level (0.72% by mass) to between 2% and 94% by mass.
- ⌚ The **by-product uranium mixture** (after the enriched uranium is removed) has reduced concentrations of U-235. This by-product of the enrichment process is known as **Depleted Uranium (DU)**.

India's Nuclear Energy Programme

- ⌚ The **main objectives** of the Indian Nuclear Energy programme are to provide safe and reliable electric power for the country's social and economic progress and to be self-reliant in all aspects of nuclear technology.
- ⌚ Exploration of atomic minerals in India, undertaken since the early fifties, has indicated that **India has limited reserves of uranium** (natural uranium consists of mostly 238U, with 0.7% 235U), but **fairly abundant reserves of thorium** (232Th).
- ⌚ Accordingly, India has adopted a **three stage strategy of nuclear power generation**:
 - ⊙ **Stage 1 Pressurised Heavy Water Reactor (PHWR)**: Considering the growing energy demands and the necessity to increase the energy potential, a second line of **light water reactors** have been added to the current indigenous programme of Pressurised Heavy Water Reactors.
 - ⊙ **Stage 2 Fast Breeder Reactor (FBR)**: India's second stage of nuclear power generation uses the Pu-239 obtained from the first stage reactor operation, as the main fissile element of fuel core in fast breeder reactors (FBR). The Fast Breeder Programme is in the technology demonstration stage.
 - ⊙ **Stage 3 Thorium based Reactor**: Thorium utilization is the long term objective of the Indian Nuclear Power Programme. The third phase of India's Nuclear Power Generation programme is breeder reactors based on Thorium- Uranium-233 cycle.

Indigenously Developed Flow Diverters Stents

Why in News

The research team of Sree Chitra Thirunal Institute of Medical Science and Technology (SCTIMST), Thiruvananthapuram has developed an **intracranial flow diverter stent for the treatment of aneurysms of the blood vessels of the brain**.

- ⌚ Currently, the flow diverter stents are **imported and are not manufactured in India**.
- ⌚ The availability of indigenous technology will help to manufacture these stents at a **much lower price within the country**.



- ⊙ SCTIMST is an **Institute of National Importance** under the **Department of Science and Technology**.

Key Points

- ⌚ Flow diverter stents are deployed in the artery in the brain bearing the aneurysms to **divert blood flow away from the aneurysm**, thus reducing the chances of its rupture from the pressure of blood flow.
- ⌚ The **weave shape of the designed stent** makes it **resistant to kinking or twisting** when it is placed in complex-shaped arteries.
- ⌚ It is made up of **Nitinol, a superelastic alloy with shape memory** acquired from National Aerospace Laboratories, Bengaluru (CSIR-NAL).
 - ⊙ A shape-memory alloy is an alloy that can be deformed when cold but returns to its pre-deformed (remembered) shape when heated.

Nitinol

- ⌚ Nitinol is a **nickel-titanium alloy** distinguished from other materials by its **shape memory and superelastic characteristics**.
- ⌚ It was discovered while searching for materials that could be used in tools for dismantling magnetic mines.
- ⌚ It is widely used in various kinds of industries but **majorly used in the medical industry due to its narrow temperature range**.

Brain Aneurysm

- ⌚ Brain aneurysm is also known as **Intracranial aneurysm**.
- ⌚ Intracranial aneurysm is a **localised ballooning, bulging or dilation of arteries** in the brain, caused by progressive weakening of the inner muscles of the wall of the blood vessels.
- ⌚ Spontaneous rupture of the aneurysm can result in bleeding into the space around the brain **leading to paralysis, coma or death**.

Speeding up Generation of RBCs in the Lab

Why in News

A team of Indian researchers have invented a process through which **generation of Red Blood Cells (RBCs) outside the body (in vitro) from Haematopoietic Stem Cells (HSCs) can be speeded up**.

- ⌚ The invented process would help to **fasten the process of transfusion of RBCs in life-saving treatments** for numerous conditions such as severe anaemia, transplant surgery, pregnancy-related complications, and blood-related cancers.

Background

- ⌚ The blood banks, particularly in developing countries, often face a **severe shortage of whole blood as well as components of blood** like red blood cells.
- ⌚ Various groups have been able to produce RBCs in the laboratory from HSCs. However, the process takes a **long time, around 21 days**.
 - ⊙ The **umbilical cord blood** contains special cells called hematopoietic stem cells that can be used to treat some types of diseases.
 - ⊙ Hematopoietic stem cells **can mature into different types of blood cells** in the body.
- ⌚ The resources required to grow cells in the laboratory over **such a long duration can be very expensive** for the generation of RBCs on a large scale for clinical purposes.

Key Points

- ⌚ The process of generation of RBCs in the laboratory from HSCs **can be speeded up** by adding a **very low concentration of a small protein molecule** called 'Transforming Growth Factor $\beta 1$ ' (TGF- $\beta 1$), along with a **hormone** called 'Erythropoietin' (EPO).

- ⊙ Usually, the **addition of only Erythropoietin (EPO)** to HSCs generates RBCs in **21 days**.
- ⌚ Indian researchers have found that the addition of TGF- $\beta 1$ with EPO has **cut down the processing time by three days**.
- ⌚ The physical appearance and the quality of the cells formed has revealed that the RBCs formed using this procedure are **normal**.

Blood

- ⌚ Blood is a **fluid connective tissue** that consists of plasma, blood cells and platelets.
- ⌚ It helps to **circulate oxygen and nutrients** to various cells and tissues.
- ⌚ The major types of blood cells include:
 - ⊙ **Red Blood Cells**
 - ⌘ These are also known as **Erythrocytes**.
 - ⌘ RBCs contain the iron-rich protein called **haemoglobin** that gives blood its red colour.
 - ⌘ RBCs are the most copious blood cells produced in bone marrow. Their main function is to transport oxygen from and to various tissues and organs.
 - ⊙ **White Blood Cells**
 - ⌘ These are also known as **Leucocytes** and are the **colourless** blood cells as it is **devoid of haemoglobin**.
 - ⌘ It mainly contributes to **immunity and defence mechanisms**.



Environment and Ecology

Highlights

- * Increased Recycling of E-waste in India
- * Solar Charkha Mission
- * Concentration of Black Carbon on Gangotri Glacier
- * Water Crisis in the Himalayan Region
- * CPCB Notifies Contaminated Sites
- * White Giraffe
- * Gir National Park
- * Fishing Cat and Otters
- * BEE – Star Rating Programme
- * Whale Shark
- * Red-Crowned Roofed Turtle
- * World Wildlife Day
- * Hubli-Ankola Railway Line Project

Increased Recycling of E-waste in India

Why in News

Recently, the government has informed that **E-waste recycling has doubled** in the country compared to 2017-18.

- ⌚ The government has reported that the **recycling rate of 10% in 2017-18 has risen to 20% in 2018-19.**

E-waste

- ⌚ E-Waste is short for **Electronic-Waste**. It is the term used to describe old, end-of-life or discarded electronic appliances. It includes computers, mobiles, consumer electronics etc.
- ⌚ It majorly includes electronic equipment, completely or in part discarded as waste by the consumer or bulk consumer as well as rejects from manufacturing, refurbishment and repair processes.

Why should E-waste be managed properly?

- ⌚ E-waste consists of toxic elements such as Lead, Mercury, Cadmium, Chromium, Polybrominated biphenyls and Polybrominated diphenyl.
- ⌚ Non-Disposal and burning of e-waste can have serious implications on human health and can cause air, soil pollution and groundwater contamination.

Key Points

- ⌚ **Production of E-waste in India:**

- ⌚ According to the **Global E-Waste Monitor 2017**, India generates about **2 million tonnes (MT)** of E-waste **annually**.
- ⌚ India ranks **fifth among E-waste producing countries** after the US, China, Japan, and Germany.
- ⌚ However, the government has stated that the **E-waste produced in India is lower than estimates by international agencies.**
- ⌚ **Management of E-waste:**
 - ⌚ **Producers:**
 - * The government has implemented the **E-waste (Management) Rules (2016)** which enforces the **Extended Producer Responsibility (EPR)**.
 - * Under EPR principle the producers have been made responsible to collect a certain percentage of E-waste generated from their goods once they have reached their **“end-of-life”**.
 - ⌚ **State Governments:**
 - * They have been entrusted with the responsibility for maintaining industrial space for e-waste dismantling and recycling facilities.
 - * They are also expected to establish measures for protecting the health and safety of workers engaged in the dismantling and recycling facilities for e-waste.
- ⌚ **Recycling of E-waste:**
 - ⌚ Most of India’s **e-waste is recycled by the informal sector and under hazardous conditions.**
 - ⌚ A report by the Union Environment Ministry in 2018 found that many of India’s e-waste recyclers did not have the capacity to **handle a large quantity of waste.**

- ⊙ **India's first e-waste clinic** for segregating, processing and disposal of waste from household and commercial units will soon be set-up in **Bhopal, Madhya Pradesh**.

E-Waste (Management) Rules, 2016

- ⊙ The **Ministry of Environment, Forest and Climate Change** notified the E-Waste Management Rules, 2016 in supersession of the E-waste (Management & Handling) Rules, 2011.
- ⊙ The new rules included **Compact Fluorescent Lamp (CFL)** and other mercury-containing lamps as well as other such equipment.
- ⊙ For the first time, the rules brought the producers under **Extended Producer Responsibility (EPR)**, along with targets. Producers have been made responsible for the collection of E-waste and for its exchange.
- ⊙ Various producers can have a separate **Producer Responsibility Organisation (PRO)** and ensure the collection of E-waste as well as its disposal in an environmentally sound manner.
- ⊙ **Deposit Refund Scheme** has been introduced as an additional economic instrument wherein the producer charges an additional amount as a deposit at the time of sale of the electrical and electronic equipment and returns it to the consumer along with interest when the end-of-life electrical and electronic equipment is returned.
- ⊙ The **role of State Governments** has been also introduced to ensure safety, health and skill development of the workers involved in dismantling and recycling operations.
- ⊙ **A provision of penalty for violation of rules** has also been introduced.
- ⊙ **Urban Local Bodies** (Municipal Committee/Council/ Corporation) has been assigned the duty to collect and channelize the **orphan products** to authorized dismantler or recycler.

Solar Charkha Mission

Why in News

Recently, the Minister for Micro, Small & Medium Enterprises gave information about the Solar Charkha Mission in Lok Sabha.

Key Points

- ⊙ The **Solar Charkha Mission** is an **enterprise driven scheme** and envisages setting up of '**Solar Charkha Clusters**' which will have 200 to 2042 beneficiaries (Spinners, Weavers, Stitchers and other skilled artisans).
- ⊙ One cluster would involve a maximum subsidy of Rs. 9.60 crore provided in the form of Capital subsidy for individual and Special Purpose Vehicle (SPV), interest subvention for working capital and capacity building.
- ⊙ These solar charkhas are to be operated using solar power which is a renewable energy source. It will help in the development of the Green Economy as it is an environment-friendly programme. It will also generate sustainable employment for the artisans.

Background

- ⊙ The Solar Charkha Mission is a **Ministry of Micro Small & Medium Enterprises (MSME)** initiative launched in June **2018**.
- ⊙ A **pilot project** on Solar Charkha was implemented at **Khanwa village, Nawada District of Bihar** in 2016. Based on the success of the pilot project, the Government of India had accorded approval to set up 50 such clusters with a budget of Rs. 550 Crore for 2018-19 and 2019-20.
- ⊙ The scheme is envisaged to **generate direct employment** nearly to **one lakh persons** in the approved clusters.

Scheme Objectives

- ⊙ To ensure inclusive growth by generation of employment, especially for women and youth, and sustainable development through solar charkha clusters in rural areas.
- ⊙ To boost the rural economy and help in arresting migration from rural to urban areas.
- ⊙ To leverage low-cost, innovative technologies and processes for sustenance.

Concentration of Black Carbon on Gangotri Glacier

Why in News

According to a research done by the **Wadia Institute of Himalayan Geology**, the **concentration of black carbon on Gangotri glacier has almost doubled in the past few years** primarily because of agricultural burning and forest fires.

Gangotri Glacier

- ⌚ It is the **largest glacier in Uttarakhand** and is one of the **sources of Ganges** (Bhagirathi).
- ⌚ The Gangotri glacier originates at the northern slope of **Chaukhamba range** of peaks in **Garhwal Himalayas**.
- ⌚ Gangotri is not a single valley glacier, but a **combination of several other glaciers**.

Black Carbon

- ⌚ Black carbon is a kind of **aerosol**. An aerosol is a suspension of fine solid particles or liquid droplets in the air.
- ⌚ Among aerosols (such as brown carbon, sulphates), Black Carbon (BC) has been recognized as the second most important anthropogenic agent for climate change and the primary marker to understand the adverse effects caused by air pollution.
- ⌚ It gets emitted from gas and diesel engines, coal-fired power plants, and other sources that burn fossil fuel. It comprises a significant portion of **particulate matter or PM**, which is an air pollutant.

- ⌚ Scientists have been monitoring black carbon through two weather stations on way to Gangotri glaciers - namely **Chirbasa station** at a height of 3,600 m, and **Bhojbasa station** at a height of 3,800 m - for the last few years.
- ⌚ Wadia Institute of Himalayan Geology (WIHG) is an **autonomous institution under the Department of Science & Technology**. It is headquartered in Dehradun (Uttarakhand).

Key Findings

⌚ Seasonal Variation

- ⊙ The concentration of black carbon increases in summer months due to varied factors. Scientists have found a range of black carbon up to 4.62 micrograms per cubic meter.
- ⊙ In the non-summer months, the concentration comes down to about 2 micrograms per cubic metre.

⌚ Reasons for Increase in Black Carbon Concentration in Summer Season

- ⊙ The period from April to June shows a remarkable increase in black carbon concentration primarily due to direct and indirect activities related to **tourism**.
- ⊙ Also, forest fires contribute to increasing black carbon concentration. According to the Forest

Survey of India, the forest fire activity is generally reported in Uttarakhand from February to June, with a peak in fire incidences in May and June.

- ⊗ Besides man-made, other reasons for forest fires in the state include lightning, the friction of falling rocks and monkeys accidentally throwing stones that create sparks leading to forest fires.
- ⊗ Over 44,554 hectares of forest area has been damaged in forest fires in Uttarakhand since its formation in 2000.

- ⊙ The lowest black carbon concentration has been recorded during August followed by December, likely due to the absence of tourist activities and forest fire incidences during these months.

⌚ Local Sources of Black Carbon

- ⊙ Forest fires, domestic and commercial fuel wood burning, seasonal burning of crop residue and developmental activities.
- ⊙ Pollution from local, regional and global sources that accumulate over the Himalayan region and increase the concentration of black carbon.

⌚ Possible Impact

- ⊙ Black materials absorb more light and emit infrared radiation which increases the temperature. So, when there is an increase in black carbon in the higher Himalayas, it will contribute to faster melting of the Himalayan glaciers.
- ⊙ In the longer run, the changes in the atmospheric composition of the high Himalayan will affect the weather pattern (such as rain and snow precipitation patterns), and accordingly natural resources and socio-economic activities of Himalayan communities.

Way Forward

- ⌚ The Black Carbon (BC) aerosols contribute significantly towards global warming due to its light-absorbing nature.
- ⌚ Their presence in the eco-sensitive zone, such as the Himalayan glacier valleys, is a matter of serious concern and needs to be meticulously monitored.

Water Crisis in the Himalayan Region

Why in News

Recently, several towns were surveyed in the **Himalayan region of Bangladesh, Nepal, India and**

Pakistan to understand the challenges of the water crisis in urban areas of these regions.

Key Points

- ⌚ Eight towns in the Himalayan region of Bangladesh, Nepal, India, and Pakistan were **nearly deficient in their water supply**.
- ⌚ The **places surveyed are extremely dependent on springs** (ranging between 50% and 100%) for their water, and **three-fourths were in urban areas**.
- ⌚ Rural areas have typically garnered much of the attention in terms of development and **issues surrounding urban environments have been sidelined**.
- ⌚ **Factors responsible:**
 - ⌚ Unplanned urbanisation
 - ⌚ Climate change
- ⌚ Across the region, the **encroachment and degradation of natural water bodies** (springs, ponds, lakes, canals, and rivers) and the growing **disappearance of traditional water systems** (stone spouts, wells, and local water tanks) are evident.
- ⌚ Although only 3% of the total Hindu Kush Himalayan population lives in larger cities and 8% in smaller towns, **projections show that over 50% of the population will be living in cities by 2050, placing stress on water availability**.
 - ⌚ Under current trends, the demand-supply gap may double by 2050.

Water Crisis in India

- ⌚ **India tops the list of countries** with the most number of people living with **water scarcity**.
- ⌚ As many as **one billion people in India live in areas with physical water scarcity**, of which 600 million are in areas of high to extreme water stress.
- ⌚ Approximately **330 million people from 302 districts were affected by droughts in 2016**.
- ⌚ **Over 21% of the country's diseases are water-related**.



In 2015, India lost over 1 lakh children under the age of five to diarrheal diseases.

- ⌚ As per a report by NITI Aayog, **Bengaluru will soon be among one of the 11 cities in the world to run out of ground water**.
- ⌚ The report also states that the 'Day Zero' will hit Bengaluru and 20 other major cities (including Delhi) in India by the year 2020 affecting an estimated 100 million people.

Day Zero Situation

- ⌚ Day Zero is a situation **when taps in a region start running dry**. It is a situation when there will be no water in the taps and the use of water will become restricted for vital services only.
- ⌚ Considering the present situation of water crisis in several cities of India, they are being termed as **soon to be India's Cape Towns**.
- ⌚ The city of South Africa 'Cape Town', in 2018, launched a countdown to the day when tap water would be cut-off to millions of residents as a result of a three-year drought.
- ⌚ **Brazil's Sao Paulo** faced its own Day Zero in 2015. The city turned off its water supply for 12 hours a day forcing many businesses and industries to shut down.
- ⌚ In **2008, Barcelona in Spain** had to import tankers full of fresh-water from France.

Way Forward

- ⌚ Communities were coping through short-term strategies such as groundwater extraction, which is proving to be unsustainable.
- ⌚ A **holistic water management approach** that includes **springshed management** and **planned adaptation** is therefore paramount.

CPCB Notifies Contaminated Sites

Why in News

According to the **Central Pollution Control Board (CPCB)**, there are 128 sites in India contaminated by **toxic and hazardous substances**.

- ⌚ **West Bengal led the list with 27 sites followed by Odisha at 23.**

Incidents of Contamination

- ⌚ **Oil contamination** due to leakage of underground oil pipelines of Bharat Petroleum Corporation Limited in Tamil Nadu.
- ⌚ **Pesticide and heavy metal contamination** in creeks at Eloor, Kerala.
- ⌚ **Chromium contamination** at Rania, Ranipet, Tamil Nadu, and Lohianagar, Uttar Pradesh.
- ⌚ Improperly disposed **electronic waste** lying on the banks of river Ramganga, Moradabad.
- ⌚ **Mercury contamination** of the soil at Kodaikanal, Tamil Nadu, and Ganjam, Odisha.

The Central Pollution Control Board

- ⌚ CPCB is a **statutory organisation** which was constituted in September.
- ⌚ 1974 under the **Water (Prevention and Control of Pollution) Act, 1974**.
- ⌚ It is also entrusted with the powers and functions under the **Air (Prevention and Control of Pollution) Act, 1981**.
- ⌚ It serves as a field formation and also provides technical services to the Ministry of Environment and Forests of the provisions of the **Environment (Protection) Act, 1986**.
- ⌚ Principal Functions of the CPCB, as spelt-out in the Water (Prevention and Control of Pollution) Act, 1974, and the Air (Prevention and Control of Pollution) Act, 1981:
 - ⦿ to promote cleanliness of streams and wells in different areas of the States by prevention, control and abatement of water pollution.
 - ⦿ to improve the quality of air and to prevent, control or abate air pollution in the country.

India's Record

- ⌚ Independent organisations have warned that **India has a poor track record** in dealing with chemical accidents.
- ⌚ According to **ToxicsLink**, an organisation that deals with hazardous waste disposal, there have been four major chemical accidents recorded, on average, every month between 2016-2019 and several accidents are not duly recorded.
- ⌚ A committee constituted by the **National Green Tribunal (NGT)** in a report on the state of the management of Hazardous Waste (HW) in India noted that the **inventory was not very comprehensive**.

White Giraffe

Why in News

Poachers have killed two extremely rare white giraffes in northeast Kenya, leaving just one such animal in the world.

Key Points

- ⌚ The white giraffes were first spotted in 2016.
- ⌚ The white appearance of the giraffe is **due to leucism**, a genetic condition that causes skin cells to have no pigmentation.
- ⌚ **Leucism is different from albinism** where no melanin is produced at all.
- ⌚ Melanin is a dark biological pigment found in skin, hair, feathers, scales, eyes, and some internal membranes.



Giraffe

- ⌚ Giraffes are most often found in savanna/woodland habitats and range widely throughout Africa.
- ⌚ The **International Union for Conservation of Nature (IUCN)** had classified giraffes as **vulnerable** in the Red List in December 2016, when it noted that their population had dropped by over 40% since 1985.
- ⌚ According to IUCN, the **four principal factors that have led to a population decline** among giraffes are **habitat loss, civil unrest, poaching** and **ecological issues**.
- ⌚ Giraffes are listed under **Appendix II of the CITES**.

Gir National Park

- ⌚ The Gir National Park and Wildlife Sanctuary is located in the **Junagadh district of Gujarat**.
- ⌚ The Gir Forests is the **only natural habitat of Asiatic lions**.
 - ⦿ It was declared as a **sanctuary in 1965** and a **national park in 1975**.
- ⌚ The Gir Forests is the largest compact tract of dry deciduous forests in the semi-arid western part of India.
- ⌚ Gir is often linked with "**Maldharis**" who have survived through the ages by having a **sympiotic relationship with the lion**.

- ⌚ Maldharis are religious **pastoral communities** living in Gir. Their settlements are called "nesses".
- ⌚ Other National Parks in Gujarat
 - ⊙ Blackbuck National Park
 - ⊙ Vansda National Park
 - ⊙ Marine National Park

Asiatic Lion

- ⌚ **Habitat:** Gir National Park and Wildlife Sanctuary.
- ⌚ **Threats:** They are vulnerable to disease, encroachment, forest fire, poaching, and accidental lion deaths due to human causes.
 - ⊙ In 2018, the **Canine Distemper Virus (CDV)** was responsible for the death of more than 25 Lions in the Gir forest of Gujarat.
- ⌚ **Protection Status**
 - ⊙ **IUCN Red List: Endangered**
 - ⊙ CITES: Appendix I
 - ⊙ Wildlife (Protection) Act 1972: Schedule I

Fishing Cat and Otters

Why in News

Recently, the presence of a viable, breeding population of a **fishing cat** has been found in **Chilika Lake**.

- ⌚ Further, the presence of a smooth-coated otter and a **Eurasian otter** has also been recorded in the lake.

Fishing Cat

- ⌚ **Habitat:** In India, fishing cats are mainly found in the **mangrove forests of the Sundarbans, on the foothills of the Himalayas** along the Ganga and Brahmaputra river valleys and in the **Western Ghats**. 
- ⌚ **Protection Status**
 - ⊙ **IUCN Red List: Vulnerable**
 - ⊙ CITES: Appendix II
 - ⊙ Indian Wildlife Protection Act, 1972: Schedule I

Smooth-Coated Otter

- ⌚ **Habitat:** Smooth-coated otters are distributed throughout India from the Himalayas to the south.

Protection Status

- ⊙ **IUCN Red List: Vulnerable**
- ⊙ CITES: Appendix II
- ⊙ Indian Wildlife Protection Act, 1972: Schedule II



Eurasian Otter

- ⌚ **Habitat:** Throughout Europe and Asia from Ireland in the west to far eastern Russia and China. They are also found in **North Africa (Morocco, Algeria, and Tunisia) and the Middle East (Israel, Jordan, Iraq, and Iran)**. 
- ⌚ **Protection Status**
 - ⊙ **IUCN Red List: Near Threatened**
 - ⊙ CITES: Appendix I
 - ⊙ Indian Wildlife Protection Act, 1972: Schedule II

BEE – Star Rating Programme

Why in News

Recently, the **Bureau of Energy Efficiency (BEE)** celebrated its **19th foundation day**.

- ⌚ It intended to develop a vision towards building an energy efficient India.

Key Points

- ⌚ On this occasion, BEE expanded the coverage of its star labelling programme by including energy efficient **Deep freezer and Light Commercial Air Conditioners (LCAC)**.
 - ⊙ The inclusion of the above appliances will make a **total of 26 appliances** under the star rating programme of BEE.
 - ⊙ The program will be initially launched in **voluntary mode from 2nd March, 2020 to 31st December, 2021**. Thereafter, it will be made mandatory after reviewing the degree of market transformation in this particular segment of appliances.
 - ⊙ Through this initiative, it is expected to save around **1.5 Billion Units** by FY2030, which is equivalent to Greenhouse Gas (GHG) reduction of 2.4-million-ton Carbon Dioxide.

- ⌚ **The Star Labeling Programme** has been formulated by the **Bureau of Energy Efficiency**, under the **Energy Conservation Act, 2001**.
- ⌚ During the event, a **database on energy efficiency named Urja Dakshata Information Tool (UDIT)** was also launched. This initiative has been taken by the BEE with the **World Resources Institute (WRI)**.
 - ⊙ It is a user-friendly platform that explains the energy efficiency landscape of India across industry, appliances, building, transport, municipal and agriculture sectors.
 - ⊙ It will also showcase the capacity building and new initiatives taken up by the Government across the sectors in the increasing energy efficiency domain.

Bureau of Energy Efficiency

- ⌚ The Government of India set up Bureau of Energy Efficiency (BEE). on 1st March 2002 under the provisions of the **Energy Conservation Act, 2001**.
- ⌚ The mission of the Bureau of Energy Efficiency is to assist in developing policies and strategies with a thrust on self-regulation and market principles, within the overall framework of the Energy Conservation Act, 2001 with the **primary objective of reducing energy intensity of the Indian economy**.
- ⌚ BEE coordinates with designated consumers, designated agencies and other organizations and recognize, identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the Energy Conservation Act.

The Standards & Labeling Programme

- ⌚ **The Standards & Labeling Programme** is one of the major thrust areas of BEE.
- ⌚ A key objective of this scheme is to provide the consumer an informed choice about the energy-saving and thereby the cost-saving potential of the relevant marketed product.
- ⌚ The scheme targets display of energy performance labels on high energy end use equipment & appliances and lays down minimum energy performance standards.

Whale Shark

- ⌚ **Scientific Name:** Rhincodon typus
- ⌚ **Features:** Whale sharks are the largest shark and they feed on plankton and travel large distances to

find enough food to sustain their huge size, and to reproduce.

- ⌚ **Habitat:** Whale sharks are found in all the tropical oceans of the world.



- ⌚ **Threats:** Oil & gas drilling, shipping lanes etc.

Protection Status:

- ⊙ **IUCN Red List:** Endangered
- ⊙ **CITES:** Appendix II
- ⊙ **Indian Wildlife Protection Act, 1972:** Schedule I

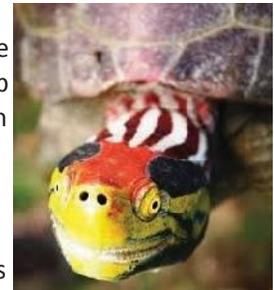
Red-Crowned Roofed Turtle

- ⌚ Red-Crowned Roofed Turtle is **one of the 24 species endemic to India**.

- ⌚ It is also known as **Bengal roof turtle**.

Distribution:

- ⊙ It is a freshwater turtle species found in deep flowing rivers with terrestrial nesting sites. It is native to India, Bangladesh and Nepal.



Historically, the species was widespread in the Ganga River, both in India and Bangladesh. It also occurs in the Brahmaputra basin.

Currently in India, the **National Chambal River Gharial Sanctuary** is the only area with a substantial population of the species.

Major Threats:

- ⊙ **Loss or degradation of habitat** due to pollution and large scale development activities.
- ⊙ **Sand mining and growing of seasonal crops** along Ganga River are majorly affecting the sandbars along the river that are used by the species for nesting.
- ⊙ Drowning by illegal fishing nets.
- ⊙ Poaching and illegal trade.

Conservation Status:

- ⊙ **IUCN Red List:** Critically Endangered
- ⊙ **CITES:** Appendix II
- ⊙ **Indian Wildlife Protection Act, 1972:** Schedule I

World Wildlife Day

- ⌚ World Wildlife Day is celebrated every year on the 3rd of March since 2013. The date chosen coincides with the day the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was signed in 1973.
- ⌚ The United Nations General Assembly (UNGA) resolution has designated the CITES Secretariat as the facilitator for the global observance of this special day for wildlife on the UN calendar.
- ⌚ Theme: 'Sustaining all Life on Earth', highlights the unique place of wild fauna and flora as essential components of the world's biodiversity.
 - ⦿ This aligns with UN Sustainable Development Goals 1, 12, 14 and 15.
 - ⌘ Goal 1: No Poverty
 - ⌘ Goal 12: Responsible Consumption And Production
 - ⌘ Goal 14: Life Below Water
 - ⌘ Goal 15: Life On Land
 - ⦿ The year 2020, known as “biodiversity super year,” will host several major global events that place biodiversity at the forefront.

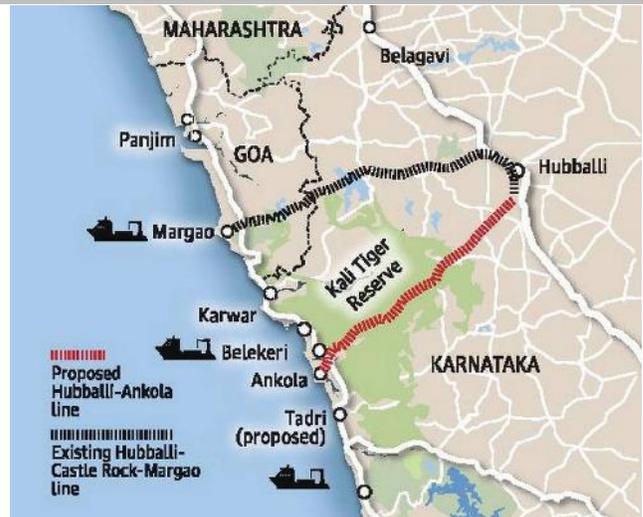
Hubli-Ankola Railway Line Project

Why in News

The Hubballi-Ankola railway line project saw stiff opposition from a majority of the board members of the Karnataka State Wildlife Board.

Key Points

- ⌚ The proposed 164.44-km railway line passes through forests between two major protected areas — Kali Tiger Reserve and Bedthi Conservation Reserve.
- ⌚ More than 80% of the line has to pass through the dense forest lands of the Western Ghats, and this entails the diversion of 727 hectares of prime forests.



Kali Tiger Reserve

- ⌚ Kali Tiger Reserve is located in the central portion of Uttara Kannada district of Karnataka state.
- ⌚ The Tiger Reserve comprises two important protected areas of the region viz., Dandeli Wildlife Sanctuary and Anshi National Park.
- ⌚ These two protected areas are contiguous to each other and form a single tract of protected area located in the biologically sensitive Western Ghats.
- ⌚ Forests of the Tiger Reserve are primarily moist deciduous and semi-evergreen, with excellent patches of evergreen forests in the westernmost parts as well as in deep valleys.
- ⌚ Animals found in the Tiger Reserve include Tiger, Leopard, Elephant, Bison, Wild dog, Sambar, Spotted deer, Sloth bear, Wild boar, Hanuman langur, Bonnet macaque, varieties of reptiles and birds, etc.

State Boards for Wildlife (SBWL)

- ⌚ SBWL is constituted under the Wildlife Protection Act, 1972.
- ⌚ The SBWL is headed by the Chief Minister, with the Forest Minister of the State as the Vice-Chair.
- ⌚ State Boards for Wildlife advise the state governments in selection and management of protected areas and other matters connected with the protection of wildlife.

Geography

Highlights

- * Greek Island of Lesbos
- * Sukhna Lake
- * Gairsain: Summer Capital of Uttarakhand
- * Katchatheevu Island
- * Sericulture in India
- * Effects of Changing Groundwater Levels on Himalayas

Greek Island of Lesbos

- ⌚ **Lésbos**, also called **Mitilíni**, is a **greek island**.
- ⌚ It is the largest island after Crete and Euboea in the **Aegean Sea**.
- ⌚ The island is largely volcanic in the west, and numerous thermal springs indicate the unstable subterranean structure that has caused severe earthquakes throughout history.
- ⌚ The irregular coast of Lésbos is penetrated by **two narrow-mouthed bays**, Géras (southeast) and the Gulf of Kallonís (southwest).
- ⌚ The principal peak is **Mount Lepethymnus** (Áyios Ilías) which reaches 3,176 feet.



- ⌚ The lake was **constructed in 1958** and is spread over 3 sq km.
 - ⦿ An area of 2 km to 2.75 km around the lake has been declared as **an eco-sensitive zone** by the Chandigarh Administration.
 - ⦿ All activities in this area fall under provisions of the **Environment Protection Act**.
- ⌚ The court has completely banned new construction in the catchment areas falling in the states of Punjab, Haryana and Union Territory Chandigarh as well as in the **Sukhna Wetland** and **Sukhna Wildlife Sanctuary**.
- ⌚ Earlier, the **Uttarakhand High Court** declared the rivers **Yamuna and Ganga as legal or juridical persons**, enjoying all the rights, duties and liabilities of a living person.

Environment Protection Act, 1986

It empowers the government of India to lay down standards for emission or discharge of environmental pollutants from various sources whatsoever, provided that different standards for emission or discharge may be laid down under this clause from different sources having regard to the quality or composition of the emission or discharge of environmental pollutants from such sources.

Sukhna Lake

The **Punjab and Haryana High Court** has declared **Sukhna lake (Chandigarh)** as a **living entity** recently.

- ⌚ The court invoked its **parens patriae** jurisdiction to declare the lake as a **legal entity** for its **survival, preservation and conservation** having a distinct persona with corresponding rights, duties and liabilities of a living person.
- ⌚ All the citizens of Union Territory, Chandigarh, are hereby declared as **loco parentis (in the place of a parent)** to save the lake from extinction.
- ⌚ Sukhna Lake is a **rain-fed lake**, located within Chandigarh and its catchment area falls both in Punjab and Haryana.

Gairsain: Summer Capital of Uttarakhand

Why in News

Recently, the **Uttarakhand Government** named **Gairsain as the new summer capital** of the state.

- ⌚ A summer capital is a city used as an administrative capital during extended periods of, particularly hot weather.

Key Points

- ⌚ Uttarakhand (earlier known as Uttranchal) was carved out as a separate state from Uttar Pradesh in 1998. Those who spearheaded the movement for statehood to **Uttarakhand wanted Gairsain to be made its permanent capital.**
- ⌚ However, **Dehradun has been the temporary capital of the state** since it attained statehood and still houses the chief minister’s residence, Raj Bhavan and MLA residences.
 - ⦿ **The state Assembly is located in Dehradun but sessions are held in Gairsain as well.**
- ⌚ Statehood activists had long contended that **Gairsain, a tehsil in Chamoli district**, was best suited to be the capital of the mountainous state as it was a hilly region falling on the border of Kumaon and Garhwal regions.
 - ⦿ It covers a large area suitable for the construction of the capital and accommodating people.
 - ⦿ It is emerging as a tourist place and it is also a part of the major route connecting Garhwal with the Kumaon region.
 - ⦿ It is the site of the source of the **Ramganga River** which rises near the **Dudhatoli Parvat.**
 - ⦿ The famous tourist attractions are the **Nanda Devi and Valley of Flowers National Parks (UNESCO World Heritage Site), Badrinath, Vasundhara Falls etc.**
- ⌚ With the fresh announcement, there is no clarity whether Dehradun’s current status will remain the same or it will be considered the new winter capital.



Katchatheevu Island

- ⌚ It is an uninhabited off-shore island in the **Palk Strait** originally owned by a **king of Ramnad (present-day Ramanathapuram, Tamil Nadu).**

- ⌚ The island is used by fishermen to dry their nets.
- ⌚ During the **British rule**, it was administered jointly by **India and Sri Lanka.**
- ⌚ In the early 20th century, Sri Lanka claimed territorial ownership over the islet, so in **1974 India ceded the island to Sri Lanka, through a joint agreement.**
 - ⦿ **Two years later through another accord, India further gave up its fishing rights in the region.**



Sericulture in India

Why in News

- Cocoon production in Karnataka has picked up to meet the growing demand for indigenous silk.
- ⌚ Silk imports from China have been badly hit on account of **Coronavirus.**

Key Points

- ⌚ **Sericulture:**
 - ⦿ It is an **agro-based** industry.
 - ⦿ It involves **rearing of silkworms** for the production of raw silk, which is the yarn obtained out of cocoons spun by certain species of insects.
 - ⦿ The major activities of sericulture comprise of food-plant cultivation to feed the silkworms which spin silk cocoons and reeling the cocoons for unwinding the silk filament for value-added benefits such as processing and weaving.
 - ⦿ Domesticated silkworm (*Bombyx mori*) are raised for the purpose of sericulture.
- ⌚ The Government of India has allocated **2161.68 crores** for three years i.e. 2017-2020 to its **Central Sector Scheme ‘Silk Samagra’** for the development of sericulture in the country.
- ⌚ **Silk Production in India:**
 - ⦿ There are five major types of silk of commercial importance, obtained from different species of silkworms. These are **Mulberry, Oak Tasar & Tropical Tasar, Muga and Eri.**
 - ⦿ Except for mulberry, other non-mulberry varieties of silks are wild silks, known as Vanya silks.

Sl no	State	Silk Centre
1	Andhra	Dharmavaram, Pochampalli, Venkatagiri, Narainpet
2	Assam	Sualkuchi
3	Bihar	Rheggapur
4	Gujarat	Surat, Cambay
5	Jammu & Kashmir	Srinagar
6	Karnataka	Langanore, Anekal, Ikal, Molakalmuru, Melkote, Kollegal
7	Chattisgarh	Champa, Chanderi, Raigarh
8	Maharashtra	Patnan
9	Tamil Nadu	Kanchipuram, Arni, Salem, Kumbhakonam, Tenjavar
10	Uttar Pradesh	Varanasi
11	West Bengal	Bishnupur, Minschikabed, Bishuan

- ⊙ India has the unique distinction of producing all these commercial varieties of silk.
- ⊙ South India is the leading silk producing area of the country and is also known for its famous silk weaving enclaves like Kancheepuram, Dharmavaram, Arni, etc.

Effects of Changing Groundwater Levels on Himalayas

Why in News

Recently, researchers from the Indian Institute of Geomagnetism (IIG) have found that the Himalayan range **subsides and moves up depending on the seasonal changes** in groundwater, apart from the normal and common reasons.

- ⌚ IIG is an autonomous institute under the Department of Science & Technology (DST).

Key Points

- ⌚ The **Global Positioning System (GPS)** and **Gravity Recovery And Climate Experiment (GRACE)** data were used to quantify the variations of hydrologic mass.
- ⊙ The GRACE satellites, launched by the US in **2002**, monitor changes in water and snow stores on the continents, enabling the researchers to study terrestrial hydrology.

- ⌚ The combined GPS and GRACE data suggest a **12% reduction in the rate of the subsurface slip**.
 - ⊙ The subsidence rate is associated with groundwater consumption.
 - ⊙ Subsurfaceslip prefersto how fast the fault is slipping relative to the foot and hanging wall.
 - ⊙ The slip occurs at the Main Himalayan Thrust (MHT), due to hydrological variations and human activities, over which there is the periodic release of accumulated strain.
- ⌚ Wateracts as a lubricating agent and in the dry season, the rate of the slip of the fault in the region is **reduced**.
- ⌚ There are normal and common reasons also affecting the Himalayas apart from the groundwater levels.
 - ⊙ The Himalayan foothills and the Indo-Gangetic plain are sinking because its **contiguous areas are rising** due to tectonic activity associated with land mass movement or continental drift.
 - ⊙ In the Himalaya, seasonal water from glaciers as well as monsoon precipitation plays a key role in the deformation of the crust and the seismicity associated with it.
- ⌚ This is the first study to look at the rising Himalayas from a hydrological standpoint.
- ⌚ Since the Himalayas play an important role in **influencing climate in the Indian subcontinent**, the study will help in understanding the effects of hydrology on climate.

Fault

- ⌚ It is a **planar or gently curved fracture** in the rocks of the Earth's crust, where compressional or tensional forces cause relative displacement of the rocks on the opposite sides of the fracture.
- ⌚ When rocks slip past each other in faulting, the upper or overlying block along the fault plane is called the hanging wall or headwall; the block below is called the footwall.

Main Himalayan Thrust

- ⌚ The Indian plate underthrusts the Eurasian plate along a northerly dipping detachment surface known as Main Himalayan Thrust (MHT) that separates the downgoing Indian plate from the overriding Himalayan wedge.

Art & Culture

Highlights

- ⌘ Lalit Kala Akademi Awards
- ⌘ Bharatnatyam
- ⌘ Attukal Pongala Festival
- ⌘ Nominations for the World Heritage List 2020
- ⌘ Warli Tribe

Lalit Kala Akademi Awards

Why in News

The President of India conferred the **61st annual Lalit Kala Akademi Awards** on 15 meritorious artists at a function held at Rashtrapati Bhavan on 4th March, 200.

- ⌚ The Lalit Kala Akademi nominated a seven-member Jury of eminent art practitioners, artists and, critics from all over the country to finalise list of artists to be awarded.
- ⌚ Lalit Kala Akademi organizes exhibitions and award ceremonies **every year to promote art as well as to honor talents.**

Lalit Kala Academy

- ⌚ The Akademi was **inaugurated on August 5, 1954**, by the then Honourable Minister for Education, Maulana Abul Kalam Azad.
- ⌚ The Akademi was given **statutory authority in 1957**, under the **Societies Registration Act 1860**.
- ⌚ Since its establishment it has been serving the entire country by promoting the creative endeavours of Indian artists and bringing their arts to bear upon a large number of people, thereby playing an important role in defining and redefining the sensibility of an entire culture, falling under the **visual arts spectrum**.
- ⌚ It is **headquartered in New Delhi**.

Bharatnatyam

Origin

- ⌚ Bharatanatyam is **one of the oldest** (considered to be over 2000 years old) and most popular forms of

classical dance that **originated in Tanjore district in Tamil Nadu, India.**

- ⌚ Bharatnatyam is **one among the eight classical dances of India**. Other classical dances of India are: Kathakali (Kerala), Kuchipudi (Andhra Pradesh), Kathak (North India), Mohiniyattam (Kerala), Manipuri (Manipur), Odissi (Odisha) and Sattriya (Assam).
- ⌚ The origin of this dance can be traced to the sage **Bharata Muni's Natyashastra**.
- ⌚ The **Abhinaya Darpana by Nandikesvara** is one of the main sources of textual material, for the study of the technique and grammar of body movement in Bharatnatyam Dance.
- ⌚ The **style was kept alive by the devadasis**, the young girls 'gifted' by their parents to the temples and married to the gods.

E. Krishna Iyer and Rukmini Devi Arundale had played a significant role in popularizing the dance form.

Features

- ⌚ Bharatnatyam dance is known to be **ekaharya**, where one dancer takes on many roles in a single performance.
- ⌚ It **encompasses Bhav, Rag, Ras and Taal**.
- ⌚ This form of dance is slow and moving, but at times fast and fluid and hence is also called **Fire Dance**.
- ⌚ The **accompanying orchestra** consists of a vocalist, a mridangam player, violinist or veena player, a flutist and a cymbal player. The person who conducts the dance recitation is the **Nattuvanar**.



Attukal Pongala Festival

Why in News

The annual “Attukal Pongala”, one of the largest all-women religious congregations began recently amid the **COVID-19** virus threat.

Key Points

- ⌚ Pongala is a **ten-day-long festival of Attukal Bhagavathy Temple (Kerala)**.
- ⌚ The festival commences with the musical rendering of the story of the **Goddess (Kannaki Charitam)** during the “**Kappu Kettu ceremony**”.
- ⌚ The story invokes the presence of Kodungallur Bhagavathy and the slaying of the Pandyan King. This festival commemorates the victory of Good over Evil, by the slaying of Pandyan King.

Pongala

- ⌚ Pongala, which means 'to boil over', is the ritual in which women prepare sweet payasam (a pudding made from rice, jaggery, coconut and plantains cooked together) and offer it to the Goddess or 'Bhagavathy'.
- ⌚ The pongala is cooked in pots – preferably earthen.

Attukal Bhagavathy temple

- ⌚ This temple is **dedicated to Goddess Bhagavathy**.
- ⌚ Also known as “**the Sabarimala of Women**”, this temple attracts the biggest set of women devotees for the annual Attukal Pongala festival.
- ⌚ Attukal Devi temple and its main festival Attukal Pongala reached **Guinness Book of World Records of largest annual gathering of women**, when 1.5 million (15 Lakhs) women offered pongala on February 23, 1997 and on March 10, 2009, when over 2.5 million people took part in it.
- ⌚ The temple is built with **elements of Kerala architectural style**.
- ⌚ The main building also comprises Goddess Kali, Goddess Parvathy, Lord Shiva, Goddess Sri Rajarajeswari and several others.

Kerala Architectural Style

- ⌚ It displays certain **variations on plan and elevation from its counterparts on the eastern coast of south India**.

- ⌚ These variations are mainly **owing to distinct climatic conditions and the employment of different building materials** along with the native systems of beliefs and culture.
- ⌚ Kerala temples have a distinct style of their own by the lavish use of wood, stone and metals.
- ⌚ Wood is used for making temples because of rich forest cover.
- ⌚ The base structure of the temple is made using granite and laterite.
- ⌚ The roof may have one, two or even three stories.
- ⌚ The shape of the roof depends on the plan of the sanctum below.
- ⌚ The **steep and needle-like roof** is made of wood and is covered with copper plates in order to protect the inner skeletal framework from the **vigorous monsoons**.

Nominations for the World Heritage List 2020

Why in News

Recently, the Minister of State of Culture and Tourism has informed Lok Sabha that India has submitted two nomination dossiers namely ‘**Dholavira: A Harappan City**’ and ‘**Monuments and Forts of Deccan Sultanate**’ for inclusion in the **World Heritage List for the year 2020**.

Dholavira: A Harappan City

- ⌚ The City of Dholavira located in **Khadir island of the Rann of Kutch (Gujarat)** belonged to the mature **Harappan phase**.
- ⌚ It was excavated by **R.S Bisht in 1985**.
- ⌚ It demonstrates a **highly organised system of town planning with perfected proportions, street-pattern and an efficient water conservation system** that supported life for **more than 1200 years (3000 BCE to 1800 BCE)** against harsh hot arid climate.
 - ⊙ The water conservation methods of Dholavira are unique and measured as one of the most efficient systems of the ancient world.
- ⌚ The presence of a **three-tier zonation** comprising of a distinct upper (citadel, bailey) and middle (having a distinct street-pattern, large scale enclosure and a ceremonial ground) towns enclosed by a lower town

(with narrower streets, smaller enclosures and industrial area) – **distinguishes the city of Dholavira from other metropolises of the Indus Valley Civilisation.**

Monuments and Forts of Deccan Sultanate

- ⌚ The ‘Monuments of the Deccan Sultanate’ demonstrates the **convergence of national and international styles of Islamic architecture and their intersections with the prevalent Hindu architecture** of the period in present-day Karnataka and Andhra Pradesh.
- ⌚ It comprises of **four components** namely,
 - ⊙ **Bahmani Monuments at Gulbarga, Karnataka.**
 - ⌘ It primarily comprises the **Gulbarga Fort with the Great Mosque** in the Fort, Jami Masjid and the **Haft Gumbad complex with seven tombs.**
 - ⌘ Gulbarga was the **first capital of the Bahmani dynasty.**
 - ⊙ **Bahmani and Barid Shahi Monuments at Bidar, Karnataka.**
 - ⌘ It includes monuments at Bidar dating from **late 15th to the early 16th centuries** comprising the Bidar Fort, the Madrasa Mahmud Gawan, the Bahamani tombs at Ashtur and the Barid Shahi tombs.
 - ⌘ The significant feature of Bidar is the **sophisticated system of gates and sluices** (a sluice is a water channel controlled at its head by a gate) that could be used when required to flood segments of the moat and thus preserve water.
 - ⊙ **Adil Shahi Monuments at Bijapur, Karnataka.**
 - ⌘ These monuments date from the late **15th to the late 17th centuries.**
 - ⌘ These are an ensemble of 80 small and big monuments including the fortifications, gates, water systems and tanks, several mosques and tombs and palatial structures.
 - ⌘ The most remarkable monuments within the fort include the **Gol Gumbaz** which is the **second largest dome in the world.**
 - ⊙ **Qutb Shahi Monuments at Hyderabad Andhra Pradesh.**
 - ⌘ It comprises Golconda Fort, Qutb Shahi Tombs and Charminar that symbolize the **Qutb Shahi Dynasty.**
 - ⌘ Golconda is a fortified citadel and an early capital city of the Qutb Shahi dynasty.

- ⌘ The tombs of Qutb Shahis are a mausoleum complex comprising the tombs of the Royal family and the officials who faithfully served them.
- ⌘ Charminar is a ceremonial Gateway built to celebrate the foundation of Hyderabad, a new Millennial City, in 1591 A.D.

Indus Valley Civilisation

- ⌚ The Indus Valley Civilisation (IVC), which is now more popularly referred to as the Harappan civilisation after Harappa, the **first of its sites** to be excavated in the 1920s by British archaeologist **Sir Mortimer Wheeler.**
- ⌚ Harappan civilisation emerged on the **banks of the river Indus** in the second half of the third millennium BCE and spread across large parts of western India.
- ⌚ **Harappa and Mohenjo-Daro – the two major sites of this civilization** – are among the earliest and finest examples of urban civic planning.
- ⌚ The planned network of roads, houses and drainage systems indicate the planning and engineering skills that developed during those times.
- ⌚ The Harappan Civilisation was widespread as it **covered parts of India, Pakistan and Afghanistan.**
- ⌚ Harappan civilization was a **trade based civilization** which had overseas trade links with Mesopotamia attested by the discovery of Harappan seals there and Mesopotamian carnelian beads here.

UNESCO’s World Heritage Site List

- ⌚ The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.
- ⌚ This is embodied in an international treaty called the **Convention concerning the Protection of the World Cultural and Natural Heritage**, adopted by UNESCO in **1972.**
- ⌚ A World Heritage Site is a place that is listed by UNESCO for its special cultural or physical significance. The list of World Heritage Sites is maintained by the international **‘World Heritage Programme’, administered by the UNESCO World Heritage Committee.**

Warli Tribe

- ⌚ The Warli tribe is spread across **Thane, Nashik and Dhule districts of Maharashtra, Valsad district of Gujarat, Karnataka, Goa and the Union Territories of Dadra & Nagar Haveli and Daman & Diu.**
- ⌚ They are small-scale cultivators and cultivate rice, pulses and vegetables. They also sell toddy, mahua and fuelwood to their tribesmen and neighbouring communities for a living.
- ⊙ The Warli revolt (1945) in Talasari taluka (Maharashtra) is noteworthy.



- ⊙ Affected from the exploitation from the landlords and money-lenders, nearly 5,000 indentured tribals gathered and refused to work on landlords' fields until they received 12 annas a day in wages.
- ⌚ Warli are **nature worshippers**. Warli art stems from their belief system shaped by their centuries-old subsistence on forest land.
- ⌚ They did not have a written word until recent times and their art was a way of transmitting their belief systems from one generation to the next.
- ⌚ Their drawings revolve around community traditions, the tools they use and their association with nature.



Social Issues

Highlights

- ⌘ Gender Parity Index: UNESCO
- ⌘ Establishment of Chairs in the Name of Eminent Women Scientists
- ⌘ Seven Themes for International Women's Day 2020
- ⌘ Ekam Fest
- ⌘ Divya Kala Shakti

Gender Parity Index: UNESCO

- ⌚ **Gender Parity Index** in primary, secondary and tertiary education is the ratio of the number of female students enrolled at primary, secondary and tertiary levels of education to the number of male students in each level.
- ⌚ In short, GPI at various levels **reflects equitable participation of girls** in the School system.
- ⌚ GPI is **released by the United Nations Educational, Scientific and Cultural Organization (UNESCO)** as a part of its **Global Education Monitoring Report**.
- ⌚ A **GPI of 1 indicates parity** between the sexes; a GPI that varies between 0 and 1 typically means a disparity in favour of males; whereas a GPI greater than 1 indicates a disparity in favour of females.
- ⌚ **India's GPI for the year 2018-19** at different levels of School Education is as under:
 - ⌚ Primary Education: 1.03
 - ⌚ Upper Primary Education: 1.12
 - ⌚ Secondary Education: 1.04
 - ⌚ Higher Secondary Education: 1.04
- ⌚ India's GPI indicates that the **number of girls is more than the number of boys** at all levels of school Education.
- ⌚ In 2018-19, the Ministry of Human Resource Development launched the '**Samagra Shiksha**' scheme. It is a **Centrally Sponsored Scheme**.
 - ⌚ It is an overarching programme for the school education sector extending from pre-school to class XII and aims to ensure inclusive and equitable quality education at all levels of school education.
 - ⌚ One of its objectives is to bridge social and gender gaps in school education.

- ⌚ To provide quality education to girls from disadvantaged groups, **Kasturba Gandhi Balika Vidyalayas (KGBVs)** have been sanctioned in Educationally Backward Blocks (EBBs) under SamagraShiksha.
- ⌚ KGBVs are residential schools from class VI to XII for girls belonging to disadvantaged groups such as SC, ST, OBC, Minority and Below Poverty Line (BPL).

Note:

- ⌚ Educationally Backward Blocks are drawn on the basis of twin criteria of Female Literacy Rate and Gender Gap in Literacy. However, some blocks have been identified only on the basis of Female Literacy Rate also.

Establishment of Chairs in the Name of Eminent Women Scientists

Why in News

On the occasion of National Science Day (28th February), the Government has announced 11 chairs in the name of eminent Indian women scientists in various fields.

- ⌚ The **theme** for National Science Day 2020 is '**Women In Science**'.

Key Points

- ⌚ The programme intends to **encourage, empower women and give due recognition to young women researchers excelling in various fields**.
- ⌚ The 11 Chairs have been instituted in various areas of research including Agriculture, Biotechnology,

Immunology, Phytomedicine, Biochemistry, Medicine, Social Sciences, Earth Science & Meteorology, Engineering, Mathematics, and Physics & Fundamental Research.

- ⌚ Additionally, the University Grants Commission (UGC) and the Ministry of Women and Child Development (MWCD) have jointly established 10 chairs across different universities after eminent women to encourage women to pursue higher education and excel in their chosen fields.

Seven Themes for International Women’s Day 2020

Why in News

The Ministries of Women and Child Development with other ministries have **launched a campaign from 1st-7th March to celebrate International Women’s Day (IWD) 8th March 2020.**

Key Points

- ⌚ The campaign has a theme for all the days beginning from 1st March 2020.
- ⌚ The themes that are being observed include
 - ⊙ **Education,**
 - ⊙ **Health and nutrition,**
 - ⊙ **Empowerment of women,**
 - ⊙ **Skills & entrepreneurship,**
 - ⊙ **Participation in sports,**
 - ⊙ **Rural women agriculture,**
 - ⊙ **Urban women.**
- ⌚ Doordarshan would also be organising **special programmes to commemorate the contribution of women members of the Indian Constituent Assembly to honour their contribution in the foundation of the Indian Republic.**

Ekam Fest

Why in News

A week-long exhibition-cum-fair “EKAM Fest” was organised by the **National Handicapped Finance Development Corporation (NHFDC)** in New Delhi from 2nd March, 2020.

Key Points

- ⌚ EKAM Fest is an **effort for promoting entrepreneurship and knowledge among the Divyangjan community.** EKAM stands for **Entrepreneurship, Knowledge, Awareness and Marketing.**
- ⌚ Further, it will help in generating awareness among society about Persons with Disabilities (PwDs) entrepreneurs’ potential.
- ⌚ In the **first Ekam Fest, Divyang Entrepreneurs and Artisans from all over the country have been invited.** The fest will see vibrant products ranging from handicrafts, handloom, Embroidery work and dry fruits.

National Handicapped

Finance Development Corporation

- ⌚ NHFDC is a corporation **under the aegis** of the Department of Empowerment of Persons with Disabilities (Divyangjan), **Ministry of Social Justice & Empowerment** and has been working since **1997.**
- ⌚ It is registered as a **company not for profit** and provides financial assistance to the Divyangjan/Persons with Disabilities (Divyangjan/PwDs) for their economic rehabilitation and provides a number of skill development programmes to empower them to grow & sustain their enterprises.
- ⌚ **Some of the initiatives of NHFDC**
 - ⊙ **NHFDC Swavalamban Kendra (NSK):** NHFDC has taken an initiative to establish PwD owned micro skill training Centers throughout the country for skill training of PwDs.
 - ⊙ **Safe Cabs in Delhi and Indore:** NHFDC has made arrangements with Sakha Cabs (Social enterprise) where the PwD owned commercial vehicles will be driven by the women drivers to provide safe taxi options for the women, children and senior citizen commuters.
 - ⊙ **Safe Drinking Water E-Carts:** NHFDC has recently agreed to finance E-carts (owned by PwDs) fitted with RO water dispensing vending machines.

Divya Kala Shakti

Why in News

The first ever **regional event “Divya Kala Shakti: Witnessing the Abilities in Disabilities”** is being organized in Chennai (Tamil Nadu) on 12th March, 2020.

Key Points

- ⌚ Divya Kala Shakti is a **cultural event** that provides a wider and unique platform to **showcase the potential of Persons with Differently Abled** in the field of performing art, music, dance, acrobatics etc.
- ⌚ The **Ministry of Social Justice and Empowerment** had organized the event at national level on 18th April and 23rd July 2019.
- ⌚ In Chennai, the event is being organized by the National Institute for Empowerment of Persons with Multiple

Disabilities (Divyangjan), Chennai in collaboration with Department of Empowerment of Persons with Disabilities (Divyangjan), Ministry of Social Justice and Empowerment, Government of India.

- ⌚ National Institute for Empowerment of Persons with Multiple Disabilities (NIEPMD) was established in the year 2005 in Chennai under the Department of Empowerment of Persons with Disabilities.
- ⌚ It serves as a national resource center for empowerment of persons with Multiple Disabilities.



Security

Highlights

⌘ *RaIDer-X: Explosive Detection Device*

⌘ *Naval Exercise - MILAN2020*

⌘ *8th Foundation Day of LPAI*

RaIDer-X: Explosive Detection Device

Why in News

An **explosive detection device, RaIDer-X**, was unveiled at the National Workshop on Explosive Detection (NWED-2020) in Pune (Maharashtra).

⌚ The Workshop was organized by the **High Energy Materials Research Laboratory (HEMRL), Pune**.

Key Points

- ⌚ RaIDer-X has the **capability to detect 20 explosives within a distance of about 2 metres**. Bulk explosive in concealed condition can also be detected by the device.
- ⌚ The **data library** can be built in the system to **expand its capability to detect a number of explosives** in pure form as well as with the contaminants.
- ⌚ The device has various **applications** including narcotics, for local police, for customs and other detection agencies who need to detect various elements that may be explosive or non-explosive in nature.
- ⌚ RaIDer-X has been **co-developed** by HEMRL, Pune and the Indian Institute of Science, Bangalore.

High Energy Materials Research Laboratory, Pune

- ⌚ HEMRL Pune is a **premier laboratory of the Defence Research and Development Organisation (DRDO)**.
- ⌚ It is **involved** in basic and applied research in the area of **high energy materials**.
 - ⌚ High energy materials are **compounds which store chemical energy**. Such materials, on stimulation by mechanical, thermal or electrical devices, undergo rapid decomposition giving out heat, light, sound and large volumes of gases.

⌚ The amount of energy released varies with the properties of the material such as composition, structure, density, heat of formation and decomposition, etc.

⌚ **Examples:** Propellants used in rockets, pyrotechnics used in festivities, explosives used for military purposes, **blasting chemicals used in construction activities**, etc., are high energy materials.

8th Foundation Day of LPAI

Why in News

Recently, the **8th Foundation Day of the Land Ports Authority of India (LPAI)** has been celebrated in New Delhi.

⌚ **LPAI is involved in the development of land ports (also known as Integrated Check Posts (ICPs))** to maintain regional connectivity across the international borders of India.

⌚ Currently, the LPAI is building the Passenger Terminal Building at Dera Baba Nanak, **Kartarpur Sahib Corridor**.

Land Ports Authority of India

⌚ The **Land Ports Authority of India** is a statutory body established under the **Land Ports Authority of India Act, 2010**.

- ⌚ **The Committee of Secretaries in 2003 recommended** setting up of Integrated Check Posts (ICPs) at major entry points on India's land borders.
- ⌚ These ICPs were planned to house all the regulatory agencies like Immigration, Customs, Border Security etc. together with support facilities in a single complex to serve as a single-window facility as is prevalent at Airports and Seaports.

⌚ LPAI intends to provide safe, secure and systematic facilities for movement of cargo as well passengers at its ICPs along the **international borders of India**.

⌚ **Functions:**

- ⊙ It plans, constructs and maintains roads, terminals and ancillary buildings other than national highways, State highways and railways, at an ICP.
- ⊙ It establishes and maintains warehouses, container depots and cargo complexes for the storage or processing of goods with the establishment of hotels, restaurants and restrooms at ICP.

The Integrated Check Posts (ICPs) along with the border areas, State / UT wise are given below:

S. No.	ICP Location	State	Borders with	Current Status
1	Attari (Amritsar)	Punjab	Pakistan	Operational
2	Agartala	Tripura	Bangladesh	
3	Petrapole	West Bengal	Bangladesh	
4	Raxaul	Bihar	Nepal	
5	Jogbani	Bihar	Nepal	
6	Moreh	Manipur	Myanmar	
7	Dawki	Meghalaya	Bangladesh	Under Construction
8	Rupaidiha	Uttar Pradesh (U.P.)	Nepal	Approved in December 2018

9	Sunauli	Uttar Pradesh (U.P.)	Nepal
10	Sutarkandi	Assam	Bangladesh

Naval Exercise – MILAN 2020

Why in News

The Indian Navy has postponed its multi-nation mega naval exercise 'MILAN' due to continuing spread of the coronavirus.

- ⌚ **MILAN (11th edition)** was scheduled to be held in **Visakhapatnam from 18th – 28th March 2020**.

Exercise MILAN

- ⌚ It is a **biennial, multilateral naval exercise** which started in **1995**.
- ⌚ The Navy has held 10 editions of the Milan exercise, with the theme of **“synergy across the seas”** to enhance professional interactions between friendly foreign navies and learn best practices from each other, since 1995.
- ⌚ It was conducted at the **Andaman and Nicobar Command until 2018**.
- ⌚ It is held under the aegis of Eastern Naval Command.
- ⌚ **Over 40 countries** were expected to participate in the exercise in 2020.



Miscellaneous

Highlights

- ⌘ National Sports Development Fund
- ⌘ AYUSH Grid and NAMASTE Portal

- ⌘ 35th Inception Day Of NCRB

National Sports Development Fund

Why in News

Security Printing & Minting Corporation of India Limited (SPMCIL) has contributed 1 crore to the National Sports Development Fund under the **corporate social responsibility** (CSR) initiatives.

- ⌚ The contribution has been made in line with the **Target Olympic Podium Scheme (TOPS)** for the top athletes of India, selected for the Tokyo Olympics, 2020 and beyond.

National Sports Development Fund

- ⌚ It was established in 1998 under the **Charitable Endowments Act, 1890**.
- ⌚ It is intended to impart **momentum and flexibility in assisting the cause of sports**.
- ⌚ The Fund helps sportspersons excel by providing them opportunities to train under coaches of international repute with technical, scientific and psychological support and giving them exposure to international competitions.
- ⌚ It also provides **financial assistance** for the development of infrastructure and other activities for the promotion of sports.
- ⌚ The Fund is managed by a Council constituted by the Central Government.
 - ⊙ **Chairperson:** Union Minister in charge of Youth Affairs and Sports.
 - ⊙ **Members:** Senior Officers of the Department of Sports, Chairman & Managing Directors of Private and Public Sector Companies/Corporations, representatives of Sports Promotion Boards, etc.

Security Printing & Minting Corporation of India Limited

- ⌚ It is a wholly-owned Schedule 'A' **Miniratna Category-I company** of Government of India, incorporated on 13th January 2006.
- ⌚ The Ministry of Finance exercises its administrative control over SPMCIL through the Board of Directors.
- ⌚ SPMCIL is engaged in the manufacture/ production of Currency and Bank Notes, Security Paper, Non-Judicial Stamp Papers, Postal Stamps & Stationery, Travel Documents viz. Passport and Visa, Security certificates, Cheques, Bonds, Warrant, Special Certificates with security features, Security Inks, Circulation & Commemorative Coins, Medallions, Refining of Gold & Silver, and Assay of Precious Metals.

35th Inception Day Of NCRB

Why in News

Recently, on the occasion of **35th Inception Day of National Crime Records Bureau (NCRB) Crime Multi Agency Centre** and **National Cybercrime Training Centre** has been launched.

Key Points

- ⌚ **Crime Multi Agency Centre (Cri-MAC)** has been launched for sharing the information on heinous crime and other issues related to inter-state coordination.
- ⌚ **National Cybercrime Training Centre (NCTC)** has been launched for professional quality e-Learning services on cyber crime investigation on a large scale to police officers, judges, prosecutors and other stakeholders.
- ⌚ **Few important initiatives/roles of NCRB:**
 - ⊙ Coordination and networking among the police stations and police offices across India.

- ⊙ **National Fingerprint Identification System (NAFIS)** provides a huge database of fingerprints helping in solving crimes faster. It is a network based pan India system for recording and sharing of fingerprints of criminals in various crimes
- ⊙ Important publications including 'Crime in India', 'Accidental Deaths & Suicides in India', 'Prison Statistics India' and 'FingerPrint in India' have been released.
- ⊙ It organised **CCTNS Hackathon & Cyber Challenge 2020** which helped in gathering innovative ideas for improving CCTNS.

National Crime Record Bureau

- ⌚ NCRB was **set-up in 1986 under the Ministry of Home Affairs (MHA)** to function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators.
- ⌚ It is headquartered in **New Delhi**.
- ⌚ It was set up based on the recommendations of the **National Police Commission (1977-1981) and the MHA's Taskforce (1985)**.
- ⌚ It was constituted by merging the Directorate of Coordination and Police Computer (DCPC), Inter-State Criminals Data Branch of CBI, Central Finger Print Bureau of CBI and Statistical Branch of BPR&D.
- ⌚ NCRB brings out the **annual comprehensive statistics of crime across the country** through the '**Crime in India**' report.
 - ⊙ Being **published since 1953**, the report serves as a crucial tool in understanding the law and order situation across the country.
- ⌚ It developed CCTNS in 2009 which interconnects approximately **15000 police stations and 6000** higher offices across the country.

- ⊙ CCTNS digitises data related to FIR registration, investigation and charge sheets in all police stations leading to the development of a national database of crimes and criminals.

AYUSH Grid and NAMASTE Portal

AYUSH Grid

- ⌚ **AYUSH Grid**, initiated by the **Ministry of AYUSH**, aims to **bring onboard all AYUSH** (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy) **facilities including hospitals and laboratories** and to promote traditional systems of healthcare.
- ⌚ The Ministry of AYUSH and Ministry of Electronics and Information Technology have already inked a pact to **collaborate with each other for the digitisation of the AYUSH sector**.

National AYUSH Morbidity and Standardized Terminologies Electronic Portal

- ⌚ National AYUSH Morbidity and Standardized Terminologies Electronic Portal (**NAMASTE Portal**) was launched on **17th October, 2017 (2nd Ayurveda day)**.
 - ⊙ The **National Ayurveda Day** is celebrated every year on the occasion of **Dhanwantari Jayanti (Dhanteras)**.
- ⌚ The portal provides standardized terminologies & morbidity codes for Ayurveda, Siddha and Unani systems of medicines.
 - ⊙ Morbidity codes provide a comprehensive classification of diseases described in the traditional medicines system.



PART-2

Polity and Governance

Highlights

- * Supreme Court Invoked Special Powers to Remove a Minister
- * Finance Bill, 2020 Passed
- * National Commission for Indian Systems of Medicine Bill, 2019
- * National Commission for Homoeopathy Bill, 2019
- * Prime Minister's 15 Point Programme
- * Schemes Approved to Promote Drug Manufacturing
- * Defence Fund Shortfall
- * Unnat Bharat Abhiyan
- * Public Health vs Private Information
- * Worldwide Closure of Educational Institutions due to Covid-19
- * Covid-19 and Work from Home in India

Supreme Court Invoked Special Powers to Remove a Minister

Why in News

Recently, the **Supreme Court** invoked its special powers under **Article 142** of the Constitution to **remove a Minister from the State Cabinet**.

Key Points

- ⌚ The Supreme Court removed Thounaojam Shyamkumar Singh from the state cabinet and restrained him “from entering the Legislative Assembly till further orders”.
- ⌚ A **disqualification petition against the minister was pending before the Speaker since 2017** but the Speaker failed to take the decision within a reasonable time period.
- ⌚ **Article 212** of the Constitution **bars courts from inquiring into proceedings of the Legislature**. In this case, however, prompted by the fact that the Speaker’s conduct has been called into question on several occasions, the Court said it was “constrained” to invoke the court’s extraordinary powers under Article 142 of the Constitution.
- ⌚ Earlier, the **Manipur High Court, in this matter, had found grounds for disqualification under the Tenth Schedule** but stopped short of issuing directions.
 - ⦿ The reason being that question of whether a High Court can direct a Speaker to decide on a disqualification petition within a time frame is already pending before a Supreme Court Bench.

- ⌚ The Speaker also failed to take any decision within the **stipulated time period of 4 weeks** as provided by the **Supreme Court in its recent judgement on Disqualification Powers of Speakers**.

Highlights of SC Order on Disqualification Powers of Speakers

- ⌚ The court in general said that “**the Speaker, in acting as a Tribunal under the Tenth Schedule**, is bound to decide disqualification petitions within a reasonable period”, which “will depend on the facts of each case.”
- ⌚ The Supreme Court also held that disqualification petitions under the tenth schedule should be **adjudicated by a mechanism outside Parliament or Legislative Assemblies**.
- ⌚ The Court had suggested a **permanent tribunal headed by a retired Supreme Court judge or a former High Court Chief Justice** as a new mechanism. However, this would require an amendment to the Constitution.
 - ⦿ Currently, the disqualification of members of a House/Assembly is referred to the Speaker of the House/Assembly.
- ⌚ The rationale behind the Court’s suggestion was to **ensure that such disputes are decided both swiftly and impartially**, thus giving real teeth to the provisions contained in the Tenth Schedule.

Disqualification under the Tenth Schedule

- ⌚ The **Anti-Defection Law** was passed in 1985 through the **52nd amendment to the Constitution**. It **added the Tenth Schedule** to the Indian Constitution. The main intent of the law was to combat “the evil of political defections”.

- ⌚ According to it, a member of a House belonging to any political party becomes disqualified for being a member of the House, if
 - ⊙ he voluntarily gives up his membership of such political party; or
 - ⊙ he votes or abstains from voting in such House contrary to any direction issued by his political party without obtaining prior permission of such party and such act has not been condoned by the party within 15 days.

Exceptions to the disqualification on the ground of defection (Two cases)

- ⌚ If a member goes out of his party as a result of a merger of the party with another party. A merger takes place when two-thirds of the members of the party have agreed to such merger.
- ⌚ If a member, after being elected as the presiding officer of the House, voluntarily gives up the membership of his party or rejoins it after he ceases to hold that office. This exemption has been provided in view of the dignity and impartiality of the office.

Powers of Speaker with regard to Anti-Defection Law

- ⌚ Any question regarding disqualification arising out of defection is to be **decided by the presiding officer of the House.**
- ⌚ After the **Kihoto Hollohan case (1993)**, the Supreme Court declared that the **decision of the presiding officer is not final** and can be questioned in any court. It is **subject to judicial review** on the grounds of malafide, perversity, etc.

Article 142

- ⌚ It provides **discretionary power to the Supreme Court** as it states that the Supreme Court in the exercise of its jurisdiction may pass such decree or make such order as is necessary for **doing complete justice** in any cause or matter pending before it.
- ⌚ In the **Union Carbide case**, relating to the victims of the Bhopal gas tragedy, the Supreme Court placed itself above the laws made by the Parliament or the legislatures of the States by saying that, to do complete justice, it could even override the laws made by Parliament.
 - ⊙ However, in the Supreme Court Bar Association v. Union of India, the Supreme Court stated that **Article 142 could not be used to supplant the existing law, but only to supplement the law.**

- ⌚ **Constructive Application:** The Cleansing of Taj Mahal and justice to many undertrials is a result of the invocation of this article only.
- ⌚ **Cases of Judicial Overreach:** The ban on the sale of alcohol along national and state highways.
- ⌚ **Suggestions:** All cases invoking Article 142 should be **referred to a Constitution Bench of at least five judges** so that this exercise of discretion may be the outcome of five independent judicial minds operating on matters having such far-reaching impact on the lives of people
 - ⊙ In all cases where the court invokes Article 142, the **government should bring out a white paper** to study the beneficial as well as the negative effects of the judgment **after a period of six months or so from its date.**

Finance Bill, 2020 Passed

Why in News

Recently, the Lok Sabha passed the **Finance Bill, 2020** without any debate due to the situation arising out of the **Coronavirus** pandemic.

Finance Bill

- ⌚ A Finance Bill is a Bill that, as the name suggests, concerns the country's finances — it could be about taxes, government expenditures, government borrowings, revenues, etc. Since the Union Budget deals with these things, it is passed as a Finance Bill.
- ⌚ **Rule 219 of the Rules of Procedure of Lok Sabha states:** 'Finance Bill' means the Bill ordinarily introduced each year to give effect to the financial proposals of the Government of India for the following financial year and includes a Bill to give effect to supplementary financial proposals for any period.
- ⌚ It is introduced in Lok Sabha after the presentation of the annual Budget is passed by the House. It is also certified as a Money Bill.
- ⌚ The Constitution defines financial legislation into two categories: Money Bills and Financial Bills.
 - ⊙ **Money Bills** – Article 110
 - ⊙ **Financial Bills (I)** – Article 117 (1)
 - ⊙ **Financial Bills (II)** – Article 117 (3)

- ⌚ All **Money bills** are **Financial bills** but all **Financial bills** are not **Money bills**.
- ⊙ Only those financial bills are Money bills which contain exclusively those matters which are mentioned in Article 110 of the Constitution.
- ⊙ Money bills are **certified by the Speaker of Lok Sabha**.

Financial Bills (I)

- ⌚ A financial bill (I) contains **all the matters mentioned in the Money Bill, as well as other matters of general legislation**. It is dealt under Article 117 (1) of the Constitution.
- ⌚ It is **similar to a money bill in two respects** –
 - ⊙ Both of them can be introduced only in the Lok Sabha and not in the Rajya Sabha.
 - ⊙ Both of them can be introduced only on the recommendation of the President.
- ⌚ In all other respects, a financial bill (I) is treated as an ordinary bill. ie.
 - ⊙ It can be either rejected or amended by the Rajya Sabha.
 - ⊙ In case of a disagreement between the two Houses over such a bill, the President can summon a joint sitting of the two Houses to resolve the deadlock.
 - ⊙ When the bill is presented to the President, he can either give his assent to the bill or withhold his assent to the bill or return the bill for reconsideration of the Houses.

Financial Bills (II)

- ⌚ A financial bill (II) contains provisions involving **expenditure from the Consolidated Fund of India**, but does not include any of the matters mentioned in Article 110. It is dealt under Article 117 (3) of the Constitution.
- ⌚ It is governed by the **same legislative procedure which is applicable to an ordinary bill**.
- ⌚ Such Bills can be introduced in either House of Parliament. However, recommendation of the President is essential for consideration of these Bills by either House and unless such recommendation is received, neither House can pass the Bill.
 - ⊙ In other words, the recommendation of the President is not required at the introduction stage but is required at the consideration stage.

National Commission for Indian Systems of Medicine Bill, 2019

Why in News

Recently, the Rajya Sabha passed the **National Commission for Indian Systems of Medicines (NCIM) Bill, 2019**.

Key Features of the Bill

- ⌚ **Constitution of the National Commission for Indian System of Medicine:**
 - ⊙ The NCISM will consist of 29 members, appointed by the central government.
- ⌚ **Functions of the National Commission for Indian System of Medicine:**
 - ⊙ Framing policies for regulating medical institutions and medical professionals of Indian System of Medicine.
 - ⊙ Ensuring compliance by the State Medical Councils of Indian System of Medicine to the regulations made under the Bill.
 - ⊙ Ensuring coordination among the autonomous boards set up under the Bill.
- ⌚ **Constitution of Autonomous Boards:**
 - ⊙ **Board of Ayurveda, Unani, Siddha and Sowa-Rigpa** responsible for formulating standards, curriculum, guidelines for setting up of medical institutions, and granting recognition to medical qualifications at the undergraduate and postgraduate levels in their respective disciplines.
 - ⊙ **Board of assessment and rating** to assess as well as to grant permission to educational institutions of Indian systems of medicine.
 - ⊙ **Board of ethics and registration of practitioners of Indian systems of medicine** to maintain a National Register and deal with ethical issues.
- ⌚ **Entrance Exams:**
 - ⊙ In order to ensure transparency it also proposes a **common entrance exam and an exit exam** that all graduates will have to clear to **obtain their license to practice Indian medicine**.
 - ⊙ Further, a **teacher's eligibility test** has been proposed in the Bill to **assess the standard of teachers before appointment and promotions**.

- ⌚ **Advisory Council for Indian System of Medicine:**
 - ⊙ The Advisory Council for Indian System of Medicine will be the **primary platform through which the states/union territories can put forth their views** and concerns before the NCISM.
 - ⊙ Further, the Council will advise the NCISM on measures to determine and maintain the minimum standards of medical education.

National Commission for Homoeopathy Bill, 2019

Why in News

Recently, the Rajya Sabha passed **National Commission for Homoeopathy Bill, 2019** to develop and streamline the usage of homoeopathy in the country.

Key Features of the Bill

- ⌚ **Constitution of the National Commission for Homoeopathy:**
 - ⊙ The Bill seeks to **repeal the Homoeopathy Central Council Act, 1973** and aims to provide availability of adequate and high quality homoeopathic medical professionals.
 - ⊙ The Bill sets up the **National Commission for Homoeopathy (NCH)**, which will consist of 20 members, appointed by the central government.
- ⌚ **Functions of the National Commission for Homoeopathy:**
 - ⊙ Framing policies for regulating medical institutions and homoeopathic medical professionals.
 - ⊙ Assessing the requirements of healthcare related human resources and infrastructure.
 - ⊙ Ensuring compliance by the State Medical Councils of Homoeopathy of the regulations made under the Bill.
 - ⊙ Ensuring coordination among the autonomous boards set up under the Bill.
- ⌚ **Autonomous boards:**
 - ⊙ **Homoeopathy Education Board:** It will be responsible for formulating standards, curriculum, guidelines for setting up of medical institutions and granting recognition to medical qualifications at the undergraduate and postgraduate levels respectively.

- ⊙ **Medical Assessment and Rating Board for Homoeopathy:** It determines the process of rating and assessment of medical institutions and has the power to levy monetary penalties on institutions which fail to maintain the minimum standards. It will also grant permission for establishing a new medical institution.
- ⊙ **Board of Ethics and Medical Registration for Homoeopathy:** It will maintain a National Register of all licensed homoeopathic medical practitioners and regulate their professional conduct. Only those medical practitioners who are included in the Register will be allowed to practice homoeopathic medicine.
- ⌚ **Advisory Council for Homoeopathy:**
 - ⊙ The Council will be the primary platform through which the states/union territories can put forth their views and concerns before the NCH.
 - ⊙ Further, the Council will advise the NCH on measures to determine and maintain minimum standards of medical education.
- ⌚ **Entrance examinations:**
 - ⊙ There will be a uniform **National Eligibility-cum-Entrance Test** and an exit test for under-graduate homoeopathy education in all medical institutions regulated by the Bill.
 - ⊙ The Bill also proposes a **National Teachers' Eligibility Test** for postgraduates of homoeopathy who wish to take up teaching homoeopathy as a profession.
- ⌚ **Appeal on matters related to professional and ethical misconduct:**
 - ⊙ If the medical practitioner is aggrieved by the decision of the Board of Ethics and Medical Registration for Homoeopathy, he can approach the NCH to appeal against the decision. Appeal of the decision of the NCH lies with the central government.

Homoeopathy

- ⌚ The word 'Homoeopathy' is derived from two **Greek** words, **Homois** meaning **similar** and **pathos** meaning **suffering**. It was introduced in India in the 18th century.
- ⌚ It takes a holistic approach towards the sick individual through promotion of inner balance at mental, emotional, spiritual and physical levels.

Prime Minister's 15 Point Programme

Why in News

Recently, the Union Minister of Minority Affairs shared information about the **Prime Minister's New 15 Point Programme** for the **Welfare of Minorities (PM's New 15 PP)**, in the Lok Sabha.

Key Points

- ⌚ PM's New 15 PP is an overarching programme covering various schemes/initiatives of the participating Ministries/Departments and is implemented throughout the country.
- ⌚ **Aim:**
 - ⊙ To ensure that the benefits of various government schemes for the underprivileged reach the disadvantaged sections of the minority communities.
 - ⊙ It also provides that, wherever possible, 15% of targets and outlays under various schemes should be earmarked for minorities.
- ⌚ In the context of the PM's New 15 PP, Substantial **minority** population, has been used for identification of districts which are relatively backward.
 - ⊙ Districts with **at least 25%** of the total population belonging to minority communities have been identified as the **Minority Concentration Districts (MCDs)**.
- ⌚ The programme has four objectives further divided into focus areas with schemes under them. These are as follows:
 - A. Enhancing Opportunities for Education**
 1. Equitable availability of **Integrated Child Development Services (ICDS)** Services.
 2. Improving access to School Education.
 3. Greater resources for teaching Urdu by Central assistance for recruitment and posting of Urdu language teachers.
 4. Modernizing Madarsa Education.
 5. Scholarships for meritorious students from minority communities.
 6. Improving educational infrastructure through the Maulana Azad Education Foundation.

B. Equitable Share in Economic Activities and Employment

7. Self-Employment and Wage Employment for the poor.
8. Upgradation of skills through technical training.
9. Enhanced credit support for economic activities.
10. Recruitment to State and Central Services.

C. Improving the Conditions of Living of Minorities

11. Equitable share in rural housing scheme.
12. Improvement in condition of slums inhabited by minority communities.

D. Prevention and Control of Communal Riots

13. Prevention of communal incidents.
14. Prosecution for communal offences.
15. Rehabilitation of victims of communal riots.

Minorities

- ⌚ Muslims, Sikhs, Christians, Buddhists, Jains and Zoroastrians (Parsis) have been notified as minority communities under **Section 2 (c) of the National Commission for Minorities Act, 1992**.
- ⌚ **Constitutional Provisions:**
 - ⊙ The term "**minority**" is **not defined** in the Indian Constitution. However, the Constitution recognises only religious and linguistic minorities.
 - ⊙ **Article 29:** It provides that any section of the citizens residing in any part of India having a distinct language, script or culture of its own, shall have the right to conserve the same.
 - ⊙ **Article 30:** Under the article, all minorities shall have the right to establish and administer educational institutions of their choice.
 - ⊙ **Article 350-B:** Originally, the Constitution of India did not make any provision with respect to the Special Officer for Linguistic Minorities. But, the Seventh Constitutional Amendment Act of 1956 inserted Article 350-B in the Constitution.
- ⌚ **Parliamentary Provisions:**
 - ⊙ **National Commission for Minorities Act, 1992**
 - ⌘ It defines a minority as "a community notified as such by the Central government".

Schemes Approved to Promote Drug Manufacturing

Why in News

Recently, the Union Cabinet has approved two schemes, namely the **scheme on Promotion of Bulk Drug Parks** and **Production Linked Incentive (PLI) Scheme** to promote domestic manufacturing of critical Key Starting Materials/Drug Intermediates and Active Pharmaceutical Ingredients in the country.

Promotion of Bulk Drug Parks Scheme

- ⌚ **Number of Parks:** The government aims to **develop 3 mega Bulk Drug parks** in India in partnership with States.
- ⌚ **Funding:** Government of India will give **Grants-in-Aid to States** with a maximum limit of Rs. 1000 Crore per Bulk Drug Park.
 - ⦿ A sum of Rs. 3,000 crore has been approved for this scheme for next 5 years.
- ⌚ **Facilities:** Parks will have common facilities such as solvent recovery plant, distillation plant, power & steam units, common effluent treatment plant etc.
- ⌚ **Need of the Scheme:** Despite being 3rd largest in the world by volume the Indian pharmaceutical industry is significantly dependent on import of basic raw materials, viz., Bulk Drugs that are used to produce medicines. In some specific bulk drugs the import dependence is 80 to 100%.
- ⌚ **Objectives:** The scheme is expected to **reduce manufacturing cost of bulk drugs** in the country and dependency on other countries for bulkdrugs.
 - ⦿ The scheme will also help in providing continuous supply of drugs and **ensure delivery of affordable healthcare to the citizens.**
- ⌚ **Implementation:** The scheme will be implemented by **State Implementing Agencies (SIA)** to be set up by the respective State Governments.

Production Linked Incentive (PLI) Scheme

- ⌚ **Aim:** The PLI scheme aims to **promote domestic manufacturing of critical Key Starting Materials (KSMs)/Drug Intermediates and Active Pharmaceutical Ingredients (APIs)** in the country.

- ⌚ **Funding:** Under the scheme **financial incentive will be given to eligible manufacturers of identified 53 critical bulk drugs** on their incremental sales over the base year (2019-20) for a period of 6 years.
- ⌚ **Impact:** PLI scheme will reduce India's import dependence on other countries for critical KSMs/ Drug Intermediates and APIs.
 - ⦿ This will lead to expected **incremental sales** of Rs. 46,400 crore and significant additional **employment generation** over 8 years.
- ⌚ **Implementation:** The scheme will be implemented through a **Project Management Agency (PMA)** to be nominated by the Department of Pharmaceuticals.

Active Pharmaceutical Ingredients

- ⌚ **APIs, also called bulk drugs,** are significant ingredients in the manufacture of drugs. The Hubei province of China is the hub of the API manufacturing industry.
- ⌚ India is heavily import-dependent for APIs from China. India's API imports stand at around \$3.5 billion per year, and around 70%, or \$2.5 billion, come from China.

Defence Fund Shortfall

Why in News

Recently, a **Parliamentary Standing Committee on Defence** has shown concern at the widening gap between projections and allocations in the defence **budget**.

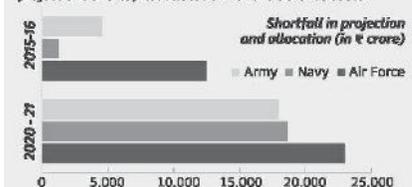
- ⌚ The Committee noted that since 2015-16, **none of the three Services (Army, Navy and Air Force) has been given the matching allocation as per the projection.**

Key Findings of the Committee

- ⌚ There is a considerable **shortage in the allocation in the Capital Head,** which is 35% less than the projection.

Missing the target

There is a widening gap over the last five years between projections and capital allocation for the defence sector



- ⌚ S u c h a situation is not conducive for preparation of the country to modern-day warfare,

Such a situation is not conducive for preparation for modern-day warfare, where possession of capital intensive machines is a prerequisite for not only tilting the result of war in our favour but also has a credible deterrence. — Standing Committee report

where possession of capital intensive modern machines is a prerequisite for tilting the result of the war in favour and also to have a credible deterrence.

- ⌚ Both the Navy and the Indian Air Force (IAF) has a situation where their committed liabilities are more than their share of the capital allocation in the Budget.
- ⌚ The shortfall in expenditure will affect:
 - ⊙ Operationalisation of three tri-service organizations i.e. **Defence Space Agency** (DSA), Defence Cyber Agency (DCYA) and Armed Forces Special Operations Division (AFSOD).
 - ⊙ Operational readiness of **Andaman and Nicobar Command** (ANC).
 - ⊙ Maintenance of SIGINT (Signal Intelligence) equipment.
 - ⊙ Administration of training institutes and operational units.

Unnat Bharat Abhiyan

Why in News

Recently, information related to the **Unnat Bharat Abhiyan (UBA)** was given by the Ministry for Human Resource Development (MHRD).

Key Points

- ⌚ **Unnat Bharat Abhiyan is a flagship program of the Ministry for Human Resource Development (MHRD).**
- ⌚ It aims to **link the Higher Education Institutions with a set of at least (5) villages**, so that these institutions can contribute to the economic and social betterment of these village communities using their knowledge base.
- ⌚ **Main Objectives:**
 - ⊙ To engage the faculty and students of **Higher Educational Institutions (HEIs)** in identifying development issues in rural areas and finding sustainable solutions for the same.
 - ⊙ **Identify & select** existing innovative technologies, enable customisation of technologies, or devise implementation methods for innovative solutions, as required by the people.
 - ⊙ To allow HEIs to contribute to devising systems for smooth implementation of various Government programmes.

⌚ **Unnat Bharat Abhiyan 2.0**

- ⊙ It is the **upgraded version of Unnat Bharat Abhiyan 1.0**. It was **launched in 2018**.

The scheme is extended to all educational institutes; however, under **Unnat Bharat Abhiyan 2.0** participating institutes are selected based on the **fulfillment of certain criteria**.

⌚ **Performance So Far**

- ⊙ Currently, under the scheme, 13072 villages have been adopted by 2474 Institutes.
- ⊙ The **technological interventions** under the UBA cover different subjects broadly categorized as in the area of sustainable agriculture; water resource management; artisans, industries and livelihood; basic amenities (infrastructure & services) and rural energy system.
- ⊙ This has transformed the living conditions in villages and has been beneficial for rural India.

Public Health vs Private Information

Why in News

- ⌚ Recently, a list containing private information of suspects of **Covid-19** was found on social media and also some state governments have officially disclosed the data of those under quarantine.
 - ⊙ Such disclosures have raised concerns over balancing the importance of **public health, doctor-patient confidentiality** and the **fundamental right to privacy**.

Key Points

- ⌚ In the **absence of a national protocol or law**, state governments are divided on the approach to handle the situation.
- ⌚ While some states have put the data in the public domain to **better inform citizens**, other states are making efforts to **protect identities to avoid panic and to respect privacy**.
- ⌚ For **contact tracing** and **ensuring social isolation**, states are relying upon **informing communities**. **For example:**
 - ⊙ **Karnataka** has published a district-wise list of those who are home-quarantined with travel details and exact addresses on the Department of Health and Family Planning's website.

- ⊙ Many states including **Delhi, Gujarat and Karnataka** have instructed local authorities to label houses where individuals are quarantined.
- ⌚ However, **West Bengal**, which has put peoples under home surveillance and in isolation, has **not disclosed the identities of individuals or hospitals** in which they are kept.

Legal Perspective

- ⌚ There is **no law which backs disclosure** of personnel information to the public.
- ⌚ The **Code of Medical Ethics** prescribed by the **Indian Medical Council**, bars disclosure of information relating to the patient learnt during the treatment **except in certain cases**.
 - ⊙ The exceptions include circumstances **where there is a serious and identified risk to a specific person and /or community**; and in the case of **notifiable diseases**.
- ⌚ The **Ministry of Health guidelines** for surveillance provide for sharing of patient/contact information with the **state or district level surveillance units** of the **Integrated Disease Surveillance Programme** or any **other authority** that first comes in contact with the patient.
 - ⊙ But there is **no provision** in these guidelines to **make patient details public or even naming missing patients**.
- ⌚ Legislation invoked to handle a public health emergency, **the Epidemic Act, 1897**, and **the Disaster Management Act, 2005**, provide **legal immunity** to action taken in **“good faith”** during this time.
 - ⊙ The provision states that officers and employees of the Central/State Government, shall be immune from legal process in regard to any warning in respect of any impending disaster communicated or disseminated by them in their official capacity or any action taken or direction issued by them in pursuance of such communication or dissemination.
- ⌚ Even, under the **Data Protection Bill**, a data fiduciary (the government) can process personal data of individuals to respond to a medical emergency where the life of a data principal is at risk.
 - ⊙ It can also be processed in the face of an epidemic, outbreak of diseases or any other threat to public health.
 - ⊙ The Covid-19 pandemic can fall under these categories.

Issues

- ⌚ Publishing names of individuals, along with their addresses on social media or in front of their houses puts families at **risk of physical or emotional distress**.
- ⌚ It will also create more **panic among the people**.
- ⌚ If challenged in court, disclosure of personnel information by the government will have to pass the **“proportionality test”** prescribed by the Supreme Court in the landmark **Puttaswamy verdict**, 2017 that **recognised the fundamental right to privacy**.
 - ⊙ **Proportionality test** is a legal method used by constitutional courts to decide hard cases, that is cases **where legitimate rights collide**.
 - ⊙ In such a case, a **decision necessarily leads to one right prevailing at the expense of another**.

Way Forward

- ⌚ Disclosures that are needed for contact tracing need to be **restricted to public officials** who are entrusted with enforcing the quarantine.
- ⌚ Personal details must be **masked when disclosed in public**.

Worldwide Closure of Educational Institutions due to Covid-19

Why in News

According to the estimates of the **United Nations Educational, Scientific and Cultural Organization (UNESCO)** the **Covid-19** outbreak has pulled the majority of the world's **student population out of schools and universities**.

- ⌚ UNESCO has also observed that 107 countries have announced a temporary closure of educational institutions, **impacting 86.17 crore children and youth**.

Key Points

- ⌚ **Non-Pharmaceutical Interventions:**
 - ⊙ The **World Health Organisation (WHO)** recommends school closure (including preschool and higher education) as one of the **“Non-Pharmaceutical Interventions (NPIs)”** for mitigating influenza pandemics.

⊙ NPIs are actions, **apart from getting vaccinated and taking medicine**, that people and communities can take to help slow the spread of illnesses like pandemic influenza (flu).

🕒 **Reasons:**

- ⊙ The main reason for keeping educational institutions closed is that children and young people can be **vectors of transmission**.
- ⊙ There are also **high contact rates** in schools which could result in the spread of the virus.
- ⊙ The school closures during a pandemic are expected to **break the chains of transmission** of Covid-19 and in turn it will **reduce the number of confirmed cases, avoiding stress on healthcare systems**.
- ⊙ It will also help to **delay possible transmission** and will also allow **more time to develop a vaccine**.

🕒 **Economic Costs Involved:**

- ⊙ The closure of education institutions **not only disrupts learning but also has a direct economic cost**.
- ⊙ Because when schools close, families would have to **find childcare**.
- ⊙ While some may manage to look after children without missing work, many parents will **end up skipping work**. Those **lost work hours** are a cost to the economy.
- ⊙ A study published in the BMC Public Health journal in April 2008 suggested that a **12-week closure of schools in the UK** during an influenza pandemic could **cost about 0.2-1% of the country's Gross Domestic Product (GDP)**.

🕒 **Disadvantages:**

- ⊙ **Loss of Nutrition:** When schools close, children's **nutrition is compromised**. This is already evident in India, where the closure of schools has disrupted the supply of **midday meals**.
- ⊙ **Access to Internet:** As schools and universities move towards learning online to make up for lost time, students from low-income families **risk falling behind** as they **don't have access to technology or stable Internet connections**.
- ⊙ **Issues with Distance Learning:** The parents of first-generation learners in schools are often **unprepared for distance learning and home-schooling**.

🕒 **Measures:**

- ⊙ Countries are adopting **distance learning solutions** to ensure continuity of education.

⊙ The UNESCO has set up a **Covid-19 task force** to advise countries in regular virtual meetings with Education Ministers.

Indian Scenario

- 🕒 In India, the closure of schools started towards the end of the academic year. Hence, as of now, it **hasn't caused any significant learning loss**.
- 🕒 The Ministry of Human Resource Development has decided to encourage schools and universities to make full use of **existing e-learning portals**.
- 🕒 These e-learning portals include the **Massive Open Online Courses (MOOCs), platform SWAYAM**, and the **free DTH channel Swayam Prabha**, which telecasts educational videos prepared by the NCERT.
- ⊙ **Massive Open Online Course (MOOC)** is a free Web-based distance learning program that is designed for the participation of large numbers of geographically dispersed students.
- ⊙ **SWAYAM platform** is indigenously developed by the Ministry of Human Resource Development (MHRD) and All India Council for Technical Education (AICTE) with the help of Microsoft. It is designed to achieve the **three cardinal principles of Education Policy viz. access, equity and quality**.

United Nations Educational, Scientific and Cultural Organization

- 🕒 It was founded in **1945** to develop the "intellectual and moral solidarity of mankind" as a means of building lasting peace.
- 🕒 It is located in **Paris (France)**.
- 🕒 It develops educational tools to help people live as global citizens free of hate and intolerance.
- 🕒 It also aims to promote cultural heritage and the equal dignity of all cultures with strengthening bonds among nations.

Covid-19 and Work from Home in India

Why in News

The rising wave of the **Covid-19 outbreak in India** has forced the corporate world in the country to **opt for 'work from home' widely**.

- ⌚ Currently, the work from home is the only viable option to **continue and sustain economic activities** in the country to **contain the spread of Covid-19**.

Key Points

⌚ **Legal Provisions:**

- ⌚ India's labour laws and proposed Labour Codes **do not recognise work from home as a viable work arrangement**.
- ⌚ An organisation is also **required to maintain statutory records** under various acts such as Shops and Establishment Act, Minimum Wages Act, Payment of Wages Act, Equal Remuneration Act, Payment of Bonus Act, Factories Act, and Contract Labour Regulation and Abolition Act.
- ⌚ These laws **regulate** hours of work, payment of wages, leaves, holidays, terms of service and other conditions of work of persons employed.
- ⌚ However, the above provisions **assume that an employee has a fixed geography of work and does not account for an employee working from a remote location**.

⌚ **Current Scenario:**

- ⌚ Most organisations in India **do not have well documented policies and guidelines** to support extended work from home arrangements.
- ⌚ Also most of the **managerial staff is not trained and equipped** to manage remote teams.

Applicability and Computation Challenges

⌚ **Labour-a Subject on the Concurrent List:**

- ⌚ Under the Constitution of India, **Labour is a subject in the Concurrent List** where both the Central & State Governments are competent to enact legislation subject to certain matters being reserved for the Centre.
- ⌚ There are **416 Labour Laws and Rules between Centre, States and Union Territories** leading to 278 different filings and approximately 1,000 different formats of Registers.
- ⌚ Thus, if an employee works remotely and is **based in a different state**, the applicable labour laws will change leading to different compliance obligations.

- ⌚ States have implemented **labour laws with different applicability criteria, registration and documentation requirements**.

⌚ **Minimum Wages Act, 1948:**

- ⌚ It is an Act of Parliament concerning Indian labour law that sets the minimum wages that must be paid to skilled and unskilled labourers.
- ⌚ **The different states have different minimum wages based on schedule, skill level and zone**. As an example, just the state of Karnataka has over 800 different minimum wages.
- ⌚ In the event of employees working remotely from different states, the complexity of wage computation will increase sharply.
- ⌚ Minimum wage requirements for different states will have to be satisfied to stay compliant.

⌚ **Overtime Wage Calculations:**

- ⌚ An employer has to compute the wage of an employee **based on the days and hours of work** and maintain statutory registers as evidence.
- ⌚ Overtime work hours have **different slabs and statutory payment requirements**.
- ⌚ In a remote work arrangement, organisations will need to manage these records such that they are admissible by the Labour Department.

⌚ **Professional Tax:**

- ⌚ Professional tax is a tax on all kinds of professions, trades, and employment and levied based on the income of such profession, trade and employment.
- ⌚ Professional Tax implementation **varies between states** in applicability, computation and filing requirements.

⌚ **Labour Welfare Fund**

- ⌚ Labour Welfare Fund is a **statutory contribution** managed by **individual state authorities**.
- ⌚ In case an employee telecommutes from a different state, there are implications leading to additional registration and filings leading to **higher complexity and cost of managing compliance**.

Way Forward

- ⌚ The world economies have become increasingly connected and interdependent. **Greater flexibility,**

adaptability and resilience will be the keys to the next-generation workforce.

- ⌚ **The implementation of technology advancements** in office productivity tools, collaboration tools, digital documents, flexible workflows, cheaper broadband connectivity will continue to make work from home easier.
- ⌚ The proposed labour codes in India are expected to acknowledge gig, informal and unorganised labour in addition to work from home as a **legal option**.
- ⌚ The government is also expected to make a **regulatory framework** to enable teleworking, organisations should understand the implications of work from home during the ongoing crisis and ensure that they inadvertently do not miss critical compliances.

Pros and Cons of Work from Home

⌚ **Pros:**

- ⊙ Development of **virtual collaboration** without political as well as geographical boundaries.
- ⊙ Easy **balance of Professional and Personal life**.
- ⊙ Helps to **avoid congestion problems** majorly in metro cities.
- ⊙ Leads a way towards a **conservation of resources** like fossil fuels, water, electricity, etc.

⌚ **Cons:**

- ⊙ **Reduction** in productivity.
- ⊙ Lack of **creativity**.
- ⊙ Risk of **isolation**.
- ⊙ Lack of **accountability**.



Economic Scenario

Highlights

- ⌘ Covid-19 Economic Relief Package
- ⌘ Covid-19 and Global Unemployment
- ⌘ India: 3rd Largest Producer of Electricity
- ⌘ Electronics Manufacturing Clusters (EMC2.0) Scheme
- ⌘ Use of Waterways for Reducing Transportation Cost
- ⌘ ROPAX Service
- ⌘ Regulating Payment Aggregators and Gateways
- ⌘ Open Market Operations
- ⌘ Cess Fund for Welfare of Construction Workers
- ⌘ Burden on Companies Eased
- ⌘ VIX: Measure of Market Volatility
- ⌘ NRIs Can Invest in Specified Government Securities
- ⌘ Withdrawal from EPF Accounts
- ⌘ Flexibility Under the FRBM Act
- ⌘ Recapitalisation of RRBs

Covid-19 Economic Relief Package

Why in News

The Union Finance Minister has announced a **1.70 lakh crore relief package** under the **newly framed Pradhan Mantri Garib Kalyan Yojana** for the poor to help them fight the battle against **CoronaVirus (Covid-19)**.

- ⌚ As part of the **lockdown** in order to stop the virus from spreading, the government has stopped public transport, airlines and construction work, bringing to a halt most economic activities and **leaving millions of workers in the informal economy without a livelihood**.
- ⌚ The central government's package **comes a week after Kerala announced a 20,000 crore support** for its people. Many states including Uttar Pradesh, Uttarakhand, Punjab, Telangana and Rajasthan have followed the suit.

Key Components

- ⌚ **Insurance Scheme for Health Workers**
 - ⌚ The Centre would provide **50 lakh medical insurance cover** for the next **three months** for about 22 lakh health workers in government hospitals fighting the spread of the virus at personal risk.

The health workers include **ASHA (Accredited Social Health Activist) workers**, medical sanitary workers in government hospitals, paramedics, nurses and doctors.

- ⌚ **Food Security for Next Three Months (PM Gareeb Kalyan Ann Yojana)**
 - ⌚ Each person who is covered under the **National Food Security Act** would get an additional 5kg wheat or rice for free, in addition to the 5kg of subsidised foodgrain already provided through the **Public Distribution System (PDS)**.
 - ⌚ A household would also be provided 1 kg pulse for free, according to regional preferences. This is expected to benefit about 80 crore people.
- ⌚ **Cash Transfers and Other Benefits over Next Three Months**
 - ⌚ About 3 crore poor pensioners above 60 years, widows and disabled people would be given 1000 in two instalments.
 - ⌚ The 20 crore women holding **Jan Dhan Yojana** accounts would get 500 a month.
 - ⌚ The 8.3 crore poor households, which received cooking gas connections under the **Ujjwala scheme**, would get free gas cylinders.
- ⌚ **For Workers**
 - ⌚ Wages are being hiked under the **Mahatma Gandhi National Rural Employment Guarantee Act** scheme, from **182 to 202 a day**.

- ⌚ The Centre is directing the States to use the 31,000 crore held by **Building and Other Construction Workers Welfare Boards** to provide support to the 3.5 crore registered workers.
- ⌚ The States can also use the money available under **District Mineral Funds** for medical screening, testing and treatment.
- ⌚ **For Land-owning Farmers**
 - ⌚ The first instalment of 2000 due under the **PM-KISAN** income support scheme will be paid promptly in April, the first month of the financial year.
- ⌚ **For Companies & Self-Help Groups**
 - ⌚ For small companies with **100 employees or less**, of whom 90% earn less than 15,000 a month, the **Centre will bear the cost of both employer and employee contribution (a total of 24%) to the Employees Provident Fund (EPF)** for the next three months. This will benefit 80 lakh employees and incentivise 4 lakh establishments.
 - ⌚ **Collateral free loans** provided for women **self-help groups (SHGs)** under the **National Rural Livelihood Mission** are being doubled to 20 lakh, potentially benefiting seven crore households.

Immediate Impact of the Announcement on the Market

- ⌚ Sentiments in the **market improved** leading to gains in **BSE Sensex and NSE Nifty**. Earlier, Sensex and Nifty crashed badly during the pandemic.
- ⌚ The **rupee appreciated 57 paise** to 75.37 against the US Dollar in intraday trade.
 - ⌚ Rupee has weakened against the US Dollar during the pandemic.
- ⌚ The other news that is positive for India's fiscal health is the fall in crude oil prices.

Analysis of the Package

- ⌚ **Positive Points**
 - ⌚ It **covers various sections of the vulnerable**, ranging from farmers to healthcare workers.
 - ⌚ It is appreciable on the part of the government that it has **made the use of existing schemes** like PM Kisan in the package. The efforts appear to keep the **funding within the budget** as much as possible and **retain control over the deficit**.

- ⌚ Application of PM Gareeb Kalyan Yojana will **help in the disposal of excess stocks with the Food Corporation of India (FCI)**.
 - ⌘ The Food Corporation of India (FCI) and the National Agricultural Cooperative Marketing Federation of India are now holding some 77.6 mt of cereals (3.5 times more than required) and 2.2 mt of pulses.
- ⌚ The offer to pay both employer and employee contributions to the Provident Fund for very small business enterprises will offer **relief to those businesses that have been forced to shut down operations**.
- ⌚ **Negative Points**
 - ⌚ The **effectiveness of PM Gareeb Kalyan will be more in states with well-functioning PDS** viz Kerala, Tamil Nadu, Chhattisgarh and Odisha but not Uttar Pradesh and Bihar.
 - ⌚ When daily wage earners are supposed to remain at their homes (lockdown), **the only way to compensate them under MNREGA is through unemployment allowance**.
 - ⌚ **Farmers** are facing both lower crop prices due to a coronavirus-induced market collapse and higher harvesting costs on account of labour shortages from the lockdown.
 - ⌘ **No new benefit** has been announced for them in the package.
 - ⌚ Another challenge for **the government will be to locate and deliver support to the migrant workers**, many of whom are walking hundreds of kilometres to their homes or lining up at shelters for a meal.
 - ⌚ **Corporate sector and middle class people not being beneficiaries**.

Way Forward

- ⌚ Globally, many countries have announced stimulus packages involving 10-12% fiscal expansions. In comparison, this package is only **about 0.75% of India's GDP**, which is **marginal**.
- ⌚ The **Government should now turn its focus towards businesses** that are running out of cash and may soon default on even salaries and statutory commitments if relief is not given.
- ⌚ **Part II of the economic relief package** should not be delayed beyond few following days.

Covid-19 and Global Unemployment

Why in News

The **International Labour Organization (ILO)** has recently said that the **Covid-19 pandemic** will **drastically increase global unemployment**, leaving up to 25 million more people out of work and slashing incomes.

- ⌚ Covid-19 is not only a global health crisis but also a major labour market and economic crisis that is having a huge impact on people.

Key Points

- ⌚ The **International Labour Organization (ILO)**, has warned that the **economic and labour crisis** sparked by the coronavirus will have far-reaching impacts on labour market outcomes.
- ⌚ The ILO said that by comparison, the global financial crisis of 2008-09 increased global unemployment by 22 million.
- ⌚ **Major Findings:**
 - ⊙ A study based on the report suggests that the world should prepare to see a significant **rise in unemployment and underemployment** in the wake of the pandemic.
 - ⌘ In the best-case scenario, 5.3 million more people will be pushed into unemployment.
 - ⌘ In the worst case scenario, 24.7 million more will become jobless, on top of the 188 million registered as unemployed in 2019.
 - ⊙ Underemployment is also expected to increase on a large scale, as the economic consequences of the virus outbreak translate into reductions in working hours and wages.
 - ⊙ Self-employment in developing countries usually serves to cushion the impact of economic shifts but this time due to the severe restrictions on the movement of people and goods, it might not help
 - ⊙ Reductions in access to work will also mean large income losses for workers.
 - ⊙ The number of people who **live in poverty despite holding one or more jobs will also increase** significantly.
 - ⌘ The strain on incomes resulting from the decline in economic activity will devastate workers close to or below the poverty line.

⌚ Suggestions:

- ⊙ The ILO has called for urgent, large-scale and coordinated measures to protect workers in the workplace and stimulate the economy, employment and job support through social protections, paid leave and other subsidies.
- ⊙ It is suggested to tackle this pandemic in the same way the global financial crisis of 2008 was tackled, by presenting a united front to address the consequences.

India: 3rd Largest Producer of Electricity

Why in News

- ⌚ As per the **Key World Energy Statistics 2019**, India is the 3rd largest producer of electricity in the world.
 - ⊙ India was 106th in terms of per capita consumption in 2017.

Key Points

- ⌚ With a generation of 1,497 Terawatt-hour (TWh), India is the third largest producer and the third largest consumer of electricity in the world after the US and China.
- ⌚ Although power generation has grown more than 100-fold since independence, growth in demand has been even higher due to accelerating economic activity.
- ⌚ Electricity is also one of the **eight core industries** of India.
 - ⊙ Electricity use and access are strongly correlated with economic development.
- ⌚ **Related Government Initiatives**
 - ⊙ **Saubhagya Scheme:** The 'Pradhan Mantri Sahaj Bijli Har Ghar Yojana' was launched by the Government of India with the aim of providing electricity access to **over 40 million families** in the country.
 - ⊙ **The Ujwal Discom Assurance Yojana:** UDAY was launched by the Ministry of Power to help turn around the poor financial situation of state discoms. It also envisages development of renewable energy sector and availability of **24*7 Power For All at an affordable price**.
 - ⊙ **Unnat Jyoti by Affordable LEDs for All (UJALA):** It aims to promote efficient lighting, enhance awareness on using efficient equipment which

reduce electricity bills and help preserve the environment. The project is spearheaded by the **Energy Efficiency Services Limited**.

International Energy Agency

- ⌚ The IEA was **created in 1974** to help coordinate a collective response to major disruptions in the supply of oil.
 - ⌚ It was established in the wake of the 1973 (set up in 1974) oil crisis after the **OPEC** cartel had shocked the world with a steep increase in oil prices.
- ⌚ It is made up of **30 member countries**. It also includes 8 association countries.
 - ⌚ **India became an associate member** of International Energy Agency in 2017.
- ⌚ It is an **autonomous inter-governmental organisation** within the **Organisation for Economic Co-operation and Development (OECD)** framework, headed by its Executive Director.
- ⌚ The IEA has four main areas of focus, i.e. 4Es:
 - ⌚ Energy security,
 - ⌚ Economic development,
 - ⌚ Environmental awareness and
 - ⌚ Engagement worldwide.
- ⌚ It is headquartered in **Paris, France**.

Key World Energy Statistics

- ⌚ KWES is published by the **International Energy Agency**.
- ⌚ It is an introduction to energy statistics, providing top-level numbers across the energy mix, from supply and demand, to prices and research budgets, including outlooks, energy indicators and definitions.
- ⌚ It is part of the IEA's annual edition of the world's most comprehensive series of energy databases and data services, which include World Energy Statistics and Balances and the full range of fuel information data services.

Electronics Manufacturing Clusters (EMC2.0) Scheme

Why in News

Recently, the Union Cabinet has approved financial assistance to the Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme.

- ⌚ EMC 2.0 is a scheme for development of world class infrastructure along with common facilities and amenities through Electronics Manufacturing Clusters (EMCs).

Background

- ⌚ **The Ministry of Electronics and Information Technology (MeitY)** notified the **Electronics Manufacturing Clusters (EMC) Scheme** in October, 2012.
- ⌚ The objective of the scheme was to provide support for **creation of world class infrastructure for attracting investments in the Electronics Systems Design and Manufacturing (ESDM) sector**.
- ⌚ The scheme provided grant assistance for setting up of both Greenfield and Brownfield EMCs across the country.
 - ⌚ For projects in Greenfield Electronics Manufacturing Clusters, assistance is provided to the extent of 50% of the project cost subject to a ceiling of Rs. 50 crore for every 100 acres of land.
 - ⌚ For Brownfield EMCs, 75% of the cost of infrastructure is provided, subject to a ceiling of Rs. 50 crore.
- ⌚ Under the scheme, **20 Greenfield EMCs and 3 Common Facility Centres (CFCs)** have been approved in 15 states across the country.
- ⌚ There was a need for EMC 2.0 for **further strengthening the infrastructure base** for the electronics industry in the country and **deepening the electronics value chain**. Thus, **EMC 2.0** was approved.

Key Features of the EMC 2.0

- ⌚ The Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme is in line with **National Policy for Electronics (NPE), 2019** to make India a global hub for mobile and component manufacturing.
- ⌚ The scheme would support setting up of **Electronics Manufacturing Clusters (EMCs)**.
 - ⌚ The focus is on development of basic infrastructure, amenities and other common facilities for the ESDM sector.
- ⌚ The scheme would also support setting up of **Common Facility Centres (CFCs)**.
 - ⌚ They would be set up in an area where a significant number of existing manufacturing units are located.

- ⊙ The focus is on **upgrading common technical infrastructure** and providing common facilities for the units in EMCs, Industrial Areas/Parks/ industrial corridors.

Expected Benefits

- ⌚ **A robust infrastructure base** for the electronic industry.
- ⌚ **New investments** in the Electronics System Design and Manufacturing (ESDM) sector.
- ⌚ Increased **employment opportunities** in manufacturing units.
- ⌚ **Revenue in the form of taxes** paid by the manufacturing units.
- ⌚ Help development of the **entrepreneurial ecosystem**.
- ⌚ Drive **innovation** and catalyze the **economic growth** of the country.

Electronic Production in India

- ⌚ India's electronics production has **increased from** Rs. 1,90,366 crore (US\$29 billion) in 2014-15 to Rs. 4,58,006 crore (US\$ 70 billion) in 2018-19, at a **Compound Annual Growth Rate (CAGR) of about 25%**.
- ⌚ India's share in global electronics manufacturing grew from 1.3% (2012) to 3.0% (2018). Electronics production accounts for **2.3% of India's GDP at present**.

Use of Waterways for Reducing Transportation Cost

Why in News

Recently, the Minister of State for Shipping has informed in the Rajya Sabha that significant savings in the cost of transportation are expected by using the **Inland Water Transport (IWT) mode**.

- ⌚ IWT mode is widely recognized as an **environment- friendly and cost-effective mode** of transport.
- ⌚ It aims to create for the shippers and logistic players, an alternative to the two dominant modes of transport viz. road and rail.

Key Points

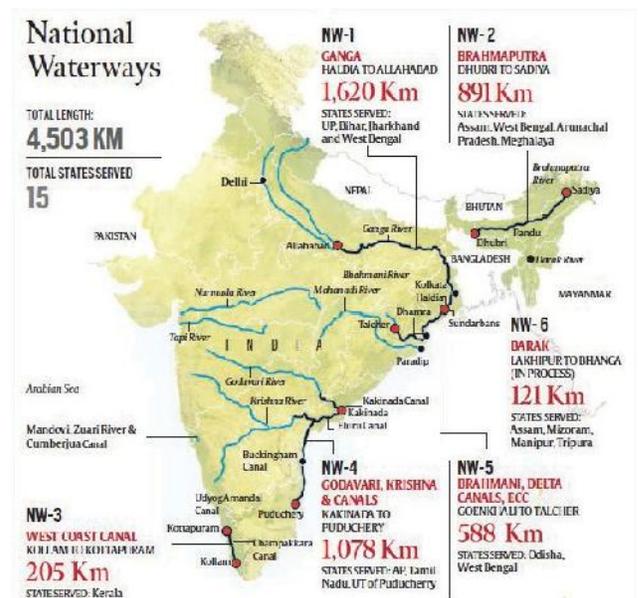
- ⌚ As per RITES Report of 2014 on **Integrated National Waterways Transportation Grid**, the cost comparison on the modes of surface transport is given below:

Mode	Highways	Railways	IWT
Freight (Rs./T.km)	2.50	1.36	1.06

- ⌚ India has about 14,500 km of **navigable waterways** which comprise of rivers, canals, backwaters, creeks, etc.
- ⌚ About 55 million tonnes of cargo is being moved annually by IWT, a **fuel-efficient and environment-friendly mode**.
- ⌚ As per the **National Waterways Act 2016**, 111 waterways have been declared as National Waterways (NWs).
 - ⊙ **National Waterway-1 (Prayagraj-Haldia)** with length 1620 km is the longest National waterway in India.
- ⌚ The **Inland Waterways Authority of India (IWAI)** is implementing the **Jal Marg Vikas Project (JMVP)** at an estimated cost of 5369.18 crores for capacity augmentation of navigation on the **Haldia-Varanasi stretch of Ganga (part of NW-1)** with the technical and financial assistance of the **World Bank**.

Integrated National Waterways Transportation Grid

- ⌚ It plans to link many of the national waterways to each other and also to roads, railways and major ports.
- ⌚ Setting up of a large number of ports/terminals, riverside jetties, godowns, boat-building workshops, repairing yards and ancillary industries will spur investment opportunities.



ROPAX Service

Why in News

The **Ministry of Shipping** has launched a **roll on-roll off cum passenger ferry service**, called '**ROPAX**', between **Mumbai and Mandwa** (Maharashtra).

- ⌚ ROPAX service is a **water transport service** project under **Eastern Waterfront Development**.
- ⌚ The road distance from Mumbai to Mandwa is about 110 kilometres, and it takes three to four hours, whereas by waterway the distance is about 18 kilometres and a journey of just an hour.
- ⌚ **ROPAX Vessel M2M-1** was built in Greece in September 2019. This Vessel has a speed of 14 knots and can carry 200 cars and 1000 passengers at a time. It is capable of operating even in a monsoon season.
 - ⦿ People will be able to travel in their cars directly onto the ROPAX vessel.
- ⌚ The **benefits** of this service include reduction in the travel time, vehicular emission and traffic on the road.

Eastern Waterfront Development

- ⌚ The Eastern Waterfront is the **Mumbai Port Trust's (MbPT's) plan** to develop the port lands across Mumbai's eastern coast stretching from Sassoon Dock to Wadala.
 - ⦿ MbPT is an autonomous Body of the Government of India under the Ministry of Shipping.
- ⌚ Some of the major proposals under the project include a 93-hectare park near Haji Bunder, around 17 hectares for tourism-related projects such as themed streets and affordable housing.
- ⌚ The project also has a focus on water transport by making a provision for water taxis, international and domestic cruises and ro-pax (roll on/roll off passengers) services.

Regulating Payment Aggregators and Gateways

Why in News

The **Reserve Bank of India (RBI)** has released **guidelines** for regulating activities of **Payment Aggregators (PAs)** and **Payment Gateways (PGs)** in the country.

- ⌚ PAs and PGs are intermediaries playing an important function in **facilitating payments in the online space**.

Payment Aggregators and Payment Gateways

- ⌚ **Payment Aggregators facilitate e-commerce sites and merchants in accepting payment instruments from the customers** for completion of their payment obligations without the need for merchants to create a separate payment integration system of their own. **Example:** Billdesk.
- ⌚ **Payment Gateways** are entities that **provide technology infrastructure** to route and facilitate processing of an online payment transaction without any involvement in handling of funds. PGs in India mainly include **banks**.
- ⌚ A Payment Gateway allows the merchants to deal in a specific payment option put on the portal, whereas a Payment Aggregator allows one to have multitudes of options for payment. Thus, **a Payment Aggregator covers a payment gateway in its ambit**.

Guidelines

- ⌚ **Authorisation**
 - ⦿ **Non-bank PAs** will require authorisation from the RBI under the Payment and Settlement Systems Act, 2007 (PSSA). A PA should be a company incorporated in India under the Companies Act, 1956 / 2013.
 - ⦿ **Banks provide PA services** as part of their normal banking relationship and **do not therefore require a separate authorisation from RBI**.
 - ⦿ **E-commerce marketplaces** (e.g. flipkart, Paytm) providing PA services **should separate PA services from the marketplace business** and they should apply for authorisation on or before 30th June, 2021.
 - ⦿ PGs will be considered as 'technology providers' or 'outsourcing partners' of banks or non-banks, as the case may be.
- ⌚ **Capital Requirement**
 - ⦿ **Existing PAs** have to achieve a net worth of ₹ 15 crore by 31st March, 2021 and a net worth of ₹ 25 crore on or before 31st March, 2023. The net worth of ₹ 25 crore has to be maintained at all times thereafter.
 - ⦿ **New PAs** should have a minimum net worth of ₹ 15 crore at the time of application for authorisation and have to attain a net worth of ₹ 25 crore by

the end of the third financial year of the grant of authorisation. The net worth of ₹ 25 crore has to be maintained at all times thereafter.

🕒 **Disclosure Requirements**

- ⦿ PAs need to disclose **comprehensive information** regarding merchant policies, customer grievances, privacy policy and other terms and conditions on the website and / or their mobile application.
- ⦿ They need to undertake **background and antecedent checks of the merchants** to ensure that such merchants do not have any malafide intention of duping customers, and do not sell fake/counterfeit / prohibited products.

Open Market Operations

Recently, the **Reserve Bank of India (RBI)** has decided to infuse ₹ 10,000 crore liquidity in the banking system by buying government securities through Open Market Operations (OMO).

- 🕒 The financial markets have been facing heightened volatility due to the spread of the **Covid-19**.
- 🕒 RBI had earlier infused **Rs. 25,000 crore** of liquidity through **Long-Term Repo Operations (LTRO)**.

Key Points

- 🕒 **Open Market Operations (OMOs)** are market operations conducted by RBI by way of **sale/purchase of government securities to/from the market** with an objective to **adjust the rupee liquidity conditions** in the market on a durable basis.
- 🕒 If there is excess liquidity, RBI resorts to sale of securities and sucks out the rupee liquidity.
- 🕒 Similarly, when the liquidity conditions are tight, RBI buys securities from the market, thereby releasing liquidity into the market.
- 🕒 It is one of the **quantitative (to regulate or control the total volume of money) monetary policy tools** which is employed by the central bank of a country to control the money supply in the economy.

Long-term Repo Operations

- 🕒 Under **LTRO**, RBI will conduct term repos of one-year and three-year tenors of appropriate sizes for up to a total amount of Rs. 1 lakh crore at the prevailing **repo rate**.

- 🕒 As banks get long-term funds at lower rates, their cost of funds falls. In turn, they reduce interest rates for borrowers.
- 🕒 LTRO helps RBI to ensure that banks reduce their marginal cost of funds-based lending rate, without reducing policy rates.

Objectives of LTRO

- 🕒 To assure banks about the availability of durable liquidity at reasonable cost relative to prevailing market conditions.
- 🕒 Further encourage banks to undertake maturity transformation smoothly and seamlessly so as to augment credit flows to productive sectors.
 - ⦿ Maturity transformation is when banks take short-term sources of finance, such as deposits from savers, and turn them into long-term borrowings, such as mortgages.

Cess Fund for Welfare of Construction Workers

Why in News

Recently, the Ministry of Labour & Employment has Issued an advisory to all States/UTs to use the Cess Fund for Welfare of Construction Workers.

Key Points

- 🕒 The advisory comes under Section 60 of the **Building and Other Construction Workers (BOCW) Act, 1996**.
 - ⦿ The Act regulates the employment and conditions of service of building and other construction workers.
 - ⦿ It provides for their safety, health and welfare measures and for other matters connected therewith or incidental thereto.
- 🕒 All State Governments/UTs have been advised to transfer funds from the Cess Fund to the account of construction workers through **Direct Benefit Transfer (DBT) mode**.
- 🕒 The amount to be granted to construction workers may be decided by the respective state governments and Union territories.
- 🕒 The financial assistance at this point in time would help to mitigate the financial crisis of construction workers to some extent and boost their morale to deal with Covid-19.

🕒 **About the Cess Fund**

- ⦿ The BOCW Cess Act, 1996, provides for the levy and collection of cess at 1-2 % of the cost of construction, as the Central government may notify.
- ⦿ The cess has been levied at the rate of 1% of the cost of construction, as notified by the Central government in its official gazette.
- ⦿ The cess is **collected by the State governments and UTs**.
- ⦿ It is utilised for the welfare of building and other construction workers by the respective State Building and Other Construction Workers Welfare Boards.

Cess

- 🕒 Cess is a **form of tax** levied over and above the base tax liability of a taxpayer.
- 🕒 Cess is resorted to only when there is a need to meet the **particular expenditure for public welfare**.
- 🕒 Cess is not a permanent source of revenue for the government, and it is **discontinued** when the purpose of levying it is fulfilled.
- 🕒 It can be levied on **both indirect and direct taxes**.
- 🕒 **Examples:**
 - ⦿ **Swachh Bharat Cess:** Introduced in 2015, a 0.5% Swachh Bharat cess was imposed to fund a national campaign for clearing the roads, streets and the infrastructure of India.
 - ⦿ **Infrastructure Cess:** Announced in Union Budget 2016, this cess was charged on the production of vehicles.

Burden on Companies Eased

Why in News

The Ministry of Corporate Affairs has made a series of announcements to ease the burden of companies during the Covid-19 outbreak.

Announcements

- 🕒 Increase in the threshold for initiation of corporate insolvency from **Rs. 1 lakh to Rs. 1 crore**.
 - ⦿ This would **prevent small businesses** from being **dragged into insolvency** (inability to pay debts when they are due).
 - ⦿ This would also ease the compliance burden on companies during the coronavirus outbreak.

- 🕒 A **suspension on mandatory filings** with the **Corporate Affairs Ministry's MCA-21 portal**, also additional fees for late filing has been removed.
- 🕒 A **60 day relaxation** in the rule requiring that **board meetings** be held once every 120 days for the next two quarters.
- 🕒 The companies would also be exempt from the requirement under the **Companies Act** that **at least one director** be in residency in the country for at least 182 days in the year.

Insolvency and Bankruptcy Code, 2016

- 🕒 In India, the Insolvency and Bankruptcy Code, 2016 is a step towards settling the legal position with respect to **financial failures and insolvency**.
- 🕒 It provides easy exit with a painless mechanism in cases of insolvency of individuals as well as companies.

Applicability of the Code

- 🕒 The provisions of the Code shall apply for **insolvency, liquidation, voluntary liquidation or bankruptcy of the following entities:**
 - ⦿ Any company incorporated under the Companies Act, 2013 or under any previous law.
 - ⦿ Any other company governed by any special act for the time being in force, except in so far as the said provision is inconsistent with the provisions of such Special Act.
 - ⦿ Any Limited Liability Partnership under the LLP Act 2008.
 - ⦿ Any other body being incorporated under any other law for the time being in force, as specified by the Central Government in this regard.
- 🕒 Moreover, this code shall apply only if the **minimum amount of the default is Rs. 1 lakh**.
- 🕒 However, by placing the notification in the Official Gazette, the Central Government may specify the minimum amount of default of higher value which **shall not be more than Rs. 1 crore**.
- 🕒 **Exceptions:** There is an exception to the applicability of the Code that it shall not apply to corporate persons who are regulated financial service providers such as Banks, Financial Institutions and Insurance companies.

MCA21

- 🕒 MCA21 is an e-Governance initiative of the **Ministry of Corporate Affairs (MCA)**, Government of India.

- ⌚ It enables an **easy and secure access of the MCA services** to the corporate entities, professionals and citizens of India.
- ⌚ The application is designed to fully **automate all processes** related to the proactive enforcement and compliance of the legal requirements under **the Companies Act, 1956, New Companies Act, 2013 and Limited Liability Partnership Act, 2008.**
- ⌚ This will help the business community to **meet their statutory obligations.**

VIX: Measure of Market Volatility

- ⌚ **VIX (Volatility index)** is an index used to **measure the near term volatility expectations of the markets.**
 - ⊙ Volatility signifies the rate and magnitude of change in the stock price or index value.
- ⌚ The movement in the VIX index reflects the overall market volatility expectations **over the next 30 days.**
- ⌚ Given the nature of the index, it is also known as **‘fear gauge’ or ‘fear index’.**
- ⌚ The VIX index was first created by the **Chicago Board Options Exchange (CBOE)** and introduced in **1993** based on the prices of S&P 500 index.

India VIX

- ⌚ The India VIX was **launched by National Stock Exchange (NSE)** in 2010 and is **based on the computation methodology of CBOE** though amended to align with the Indian markets.
- ⌚ India VIX indicates the **Indian market’s volatility from the investor’s perception.**
- ⌚ **Volatility** and the value of **India VIX move parallel.** i.e a spike in the VIX value means the market is expecting higher volatility in the near future and viceversa.
- ⌚ **India VIX** also has a strong **negative correlation** with **NSE Nifty.** i.e every time India VIX falls, Nifty rises and when India VIX rises, Nifty falls.

National Stock Exchange of India Ltd. (NSE)

- ⌚ **NSE** is the leading stock exchange of India, located in **Mumbai.**
- ⌚ The NSE was **established in 1992** as the first dematerialized electronic exchange in the country.

- ⌚ VIX value is among the important parameters that are taken into account for pricing of options contracts, which are one of the most popular **derivative instruments.**

NRIs Can Invest in Specified Government Securities

Why in News

Recently, the **Reserve Bank of India (RBI)** has introduced a separate channel called Fully **Accessible Route (FAR)** to enable non-residents to invest in specified Government of India dated securities with effect from April 1.

- ⌚ The move follows the **Union Budget** announcement that certain specified categories of government securities would be opened fully for non-resident investors without any restrictions.

Key Points

- ⌚ **‘Specified securities’** shall mean Government Securities as periodically notified by the Reserve Bank for investment under the FAR route.
 - ⊙ The RBI has said that **all new issuances of Government securities (G-secs)** of 5-year, 10-year, and 30-year tenors will be eligible for investment as specified securities.
- ⌚ Non Resident investors can invest in specified government securities **without being subject to any investment ceilings.**
- ⌚ This scheme shall operate along with the two existing routes:
 - ⊙ **The Medium Term Framework (MTF)** for Foreign Portfolio Investment (FPI) in Central Government Securities (G-secs) and State Government Securities (SDLs) was introduced in October 2015.
 - ⌘ FPI consists of securities and other financial assets passively held by foreign investors.
 - ⊙ **The Voluntary Retention Route (VRR)** encourages Foreign Portfolio Investors to undertake long-term investments in Indian debt markets.

Benefits of the Scheme

- ⌚ This will **ease the access** of non-residents to Indian government securities markets.
- ⌚ This would facilitate **inclusion in global bond indices.**

- ⌚ Being part of the global bond indices would help Indian G-secs **attract large funds from major global investors**, including pension funds.
- ⌚ This would also facilitate **inflow of stable foreign investment** in government bonds.

Government Security

- ⌚ A G-Sec is a **tradable instrument** issued by the Central Government or the State Governments.
- ⌚ It acknowledges the Government's debt obligation. Such securities are **short term** (usually called treasury bills, with original maturities of less than one year- presently issued in three tenors, namely, 91 day, 182 day and 364 day) or **long term** (usually called Government bonds or dated securities with original maturity of one year or more).
- ⌚ In India, the **Central Government issues both treasury bills and bonds or dated securities** while the State Governments issue only bonds or dated securities, which are called the State Development Loans (SDLs).
- ⌚ G-Secs carry practically **no risk of default** and, hence, are called risk-free **gilt-edged instruments**.
- ⌚ Gilt-edged securities are high-grade investment bonds offered by governments and large corporations as a means of borrowing funds.

Withdrawal from EPF Accounts

Why in News

The **Union Ministry of Labour and Employment** has notified an **amendment to the Employees' Provident Funds (EPF) Scheme** allowing members to withdraw non-refundable advance amounts in the wake of the **Covid-19 pandemic**.

Key Points

- ⌚ The notification amends the EPF Scheme, 1952 by inserting Sub-Para (3) under Para 68L of the EPF Scheme, 1952.
- ⌚ This permits **withdrawal not exceeding the basic wages and dearness allowance for three months or up to 75% of the PF balance, whichever is lower**, in the event of outbreak of epidemic or pandemic.

- ⌚ **Earlier, non-refundable advances were permitted only for specified purposes** such as housing and marriage. Even these were permitted only where the employee has put in a minimum service period.
- ⌚ Since **the outbreak of Covid-19 had been declared a pandemic** for the entire country, all employees of establishments and factories in India who are members of the EPF scheme would be eligible for the amended scheme.
- ⌚ Recently, the Finance Minister — as part of the **Pradhan Mantri Garib Kalyan Yojana** — said that the government will bear the **cost of the provident fund contributions, both of the employer and employees—12% each—for the next three months** for those establishments which have up to **100 employees and 90% of whom are earning less than 15,000 per month as salary**. It also relaxed withdrawal conditions from EPF accounts.

Employees' Provident Funds Scheme

- ⌚ EPF is the main scheme under the **Employees' Provident Funds and Miscellaneous Act, 1952**. This scheme offers the institution of provident funds for factory employees and other establishments.
- ⌚ The employee and employer each contribute 12% of the employee's basic salary and dearness allowance towards EPF.
 - ⌚ The **Economic Survey 2016-17** had suggested that employees be allowed to choose whether or not to save 12% of their salary into EPF or keep it as take home pay.
- ⌚ As per current laws, a person mandatorily becomes a member of EPF if his monthly **salary does not exceed Rs. 15,000**.

Flexibility Under the FRBM Act

Why in News

Recently, the State government of **Kerala has sought flexibility under the Fiscal Responsibility and Budget Management (FRBM) Act**.

- ⌚ This is to ensure that fiscal stimulus in the wake of Covid-19 does not get deterred by FRBM considerations.

Reasons for Seeking Flexibility

- ⌚ According to Kerala's current fiscal position, Kerala can borrow about 25,000 crore during the financial year 2020-21.

FRBM Act

- ⌚ It was enacted in **August 2003**.
- ⌚ It aims to make the Central government responsible for ensuring inter-generational equity in fiscal management and long-term macro-economic stability.
- ⌚ The Act envisages the **setting of limits on the Central government's debt and deficits**.
 - ⊙ It limits the fiscal deficit to 3% of the GDP.
- ⌚ To ensure that the States too are financially prudent, the 12th Finance Commission's recommendations in 2004 linked debt relief to States with their enactment of similar laws.
 - ⊙ The States have since enacted their own respective **Financial Responsibility Legislation**, which sets the same **3% of Gross State Domestic Product (GSDP) cap on their annual budget deficits**.
- ⌚ It also mandates **greater transparency in fiscal operations** of the Central government and **the conduct of fiscal policy in a medium-term framework**.
 - ⊙ The Budget of the Union government includes a **Medium Term Fiscal Policy Statement** that specifies the annual revenue and fiscal deficit goals over a three-year horizon.
- ⌚ The rules for implementing the Act were notified in July 2004. The rules were amended in 2018, and most recently to the setting of **a target of 3.1% for March 2023**.
- ⌚ **The NK Singh committee** (set up in 2016) recommended that the government should target a fiscal deficit of 3% of the GDP in years up to March 31, 2020 cut it to 2.8% in 2020-21 and to 2.5% by 2023.
- ⌚ Kerala has announced an **emergency relief package of worth Rs. 20,000 crore** to mitigate the impact on livelihoods and overall economic activity from the sweeping steps taken to battle the Covid-19 pandemic, including the latest 21-day nationwide lockdown.
- ⌚ The State has proposed to borrow as much as **12,500 crore** from the market at the start of the financial year (April-March).
- ⌚ The government is concerned that the stringent **borrowing cap under the fiscal responsibility laws should not constrain its borrowing and spending ability** over the remaining 11 months.
 - ⊙ During the 11 months, the government will have to take not only Covid-19 mitigation measures but would also have to meet other expenditure for

routine affairs related to the running of the State's socio-economic programmes as well as the post pandemic recovery.

Relaxation under the FRBM Act

- ⌚ **Escape Clause:**
 - ⊙ Under **Section 4(2) of the Act**, the Centre can exceed the annual fiscal deficit target citing certain grounds.
 - ⊙ The grounds include
 - ⌘ National security, war
 - ⌘ National calamity
 - ⌘ Collapse of agriculture
 - ⌘ Structural reforms
 - ⌘ Decline in real output growth of a quarter by at least three percentage points below the average of the previous four quarters.
- ⌚ The lockdown could cause severe contraction in economic output and the Covid-19 pandemic could be considered as a national calamity.
- ⌚ Also, the government has already made the use of escape clause this year.

Instances of the FRBM

Norms been Relaxed in the Past

- ⌚ During the **Budget 2020-21** presentation:
 - ⊙ The **reductions in corporate tax** were cited as **structural reforms** that triggered the **escape clause**. This implies that this year the government has already made use of the escape clause
 - ⊙ **This enabled the government to adjust the fiscal deficit target** for 2019-20 to 3.8%, from the budgeted 3.3%.
 - ⊙ It was also cited that the impact of the reforms would also necessitate a reset for 2020-21: from the earlier deficit target of 3% to 3.5%.
- ⌚ During the **global financial crisis in 2008-09:**
 - ⌚ The Centre resorted to a focused fiscal stimulus: tax relief to boost demand and increased expenditure on public projects **to create employment and public assets**, to counter the fallout of the global slowdown.
 - ⌚ This led to the fiscal deficit climbing to 6.2%, from a budgeted goal of 2.7%.
 - ⌚ Simultaneously, **the deficit goals for the States too were relaxed** to 3.5% of Gross State Domestic Product (GSDP) for 2008-09 and 4% of GSDP for fiscal 2009-10.

Recapitalisation of RRBs

Why in News

Recently, the Centre has approved a 1,340 crore recapitalisation plan for Regional Rural Banks (RRBs).

- ⌚ The move is crucial to ensure liquidity in rural areas during the lockdown due to the **Covid-19** crisis.

Regional Rural Banks

- ⌚ RRBs are financial institutions which ensure adequate **credit for agriculture and other rural sectors**.
- ⌚ Regional Rural Banks were set up on the basis of the recommendations of the **Narasimham Working Group (1975)**, and after the legislation of the **Regional Rural Banks Act, 1976**.
- ⌚ The first Regional Rural Bank “Prathama Grameen Bank” was set up on 2nd October, 1975.
- ⌚ **Stakeholders:** The **equity** of a regional rural bank is held by the **Central Government**, concerned **State Government** and the **Sponsor Bank** in the proportion of **50:15:35**.
- ⌚ The RRBs combine the **characteristics of a cooperative** in terms of the familiarity of the rural problems and **a commercial bank** in terms of its professionalism and ability to mobilise financial resources.
- ⌚ Each RRB operates within the local limits as notified by the Government.
- ⌚ The **main objectives** of RRBs are:
 - ⌚ To provide credit and other facilities to **the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs in rural areas**.
 - ⌚ To check the outflow of rural deposits to urban areas and **reduce regional imbalances** and **increase rural employment generation**.
- ⌚ The RRBs are required to provide 75% of their total credit as **priority sector lending**.

Key Points

- ⌚ This recapitalisation (a strategy of enhancing the financial base of an entity to overcome a rough financial situation) would improve their **capital-to-risk weighted assets ratio (CRAR)** and strengthen these institutions for providing credit in rural areas.
 - ⌚ The step will help those RRBs which are unable to maintain a minimum CRAR of 9%, as per the regulatory norms prescribed by the RBI.
- ⌚ The release of the Rs. 670 crore as the central share funds will be contingent upon the release of the proportionate share by the sponsor banks.
- ⌚ The recapitalisation process of RRBs **was approved by the cabinet in 2011 based** on the recommendations of a committee set up under the **Chairmanship of K.C Chakrabarty**.
 - ⌚ The **National Bank for Agriculture and Rural Development (NABARD)** identifies those RRBs, which require recapitalisation assistance to maintain the mandatory CRAR of 9% based on the CRAR position of RRBs, as on 31st March of every year.
 - ⌚ The scheme for recapitalization of RRBs was extended up to 2019-20 in a phased manner post 2011.

Capital-to-risk Weighted Assets Ratio

- ⌚ CRAR or **Capital Adequacy Ratio (CAR)** is the ratio of a bank's capital in relation to its **risk weighted assets and current liabilities**.
- ⌚ It is decided by central banks and bank regulators to prevent commercial banks from taking excess leverage and becoming insolvent in the process.
- ⌚ The **Basel III norms** stipulated a capital to risk weighted assets of 8%.
- ⌚ However, as per **RBI** norms, Indian scheduled commercial banks are required to maintain a **CRAR of 9%**.

International Relations

Highlights

- ⌘ Virtual G20 Leaders' Summit
- ⌘ Video Conference of SAARC Leaders on Covid-19
- ⌘ Electronic Platform to Fight Covid-19
- ⌘ Extradition Treaty between India and Belgium
- ⌘ Kuril Islands
- ⌘ Tokyo Olympics 2020 Postponed

Virtual G20 Leaders' Summit

Why in News

An extraordinary **Virtual G20 Leaders' Summit** was convened to discuss the challenges posed by the outbreak of the **Covid-19 pandemic** and to forge a global coordinated response.

- 🕒 The **video-conference of leaders** of the world's top twenty economies was **hosted by Saudi Arabia's King Salman bin Abdulaziz Al Saud**.

Key Points

- 🕒 **Major Takeaways:**
 - ⌘ The G20 countries have voluntarily 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**.
 - ⌘ A **joint statement** has been issued which calls for a transparent, robust, coordinated, large-scale and science-based global response in the spirit of solidarity to come over the interconnectedness and vulnerabilities of the countries highlighted by the pandemic.
 - ⌘ The member countries have **agreed to share** timely and transparent information, exchange epidemiological and clinical data, share materials necessary for research and development and strengthen health systems globally by supporting the full implementation of the WHO International Health Regulations.
 - ⌘ The leaders agreed to have more interactions before the **Riyadh Summit** which will take place in **November 2020**.
- 🕒 **Criticisms:**
 - ⌘ **WHO was criticised** for failing to alert the world quickly enough of the potential threat from the

pandemic, even after it had been informed of its spread in Wuhan by China in December 2019.

- ⌘ The **US has criticised China** for not having been transparent and sharing information about the virus.
- 🕒 **Difference of opinion on lockdown:**
 - ⌘ There have been differences among G-20 countries on lockdowns in order to control the pandemic spread through social distancing.
 - ⌘ The **US wants to lift the lockdown** as it is impacting the economy.
 - ⌘ The **President of Brazil** has called state-imposed lockdowns a **crime**.
 - ⌘ **India** has imposed a **stringent 21-day lockdown** across the country.
- 🕒 **Suggestions:**
 - ⌘ In the effort to control the pandemic, most countries have acted individually but the **need for a more coordinated effort** was stressed upon by the members.
 - ⌘ India emphasised on the **need to redefine conversations on globalisation to include social and humanitarian issues** like terrorism, climate change and pandemics along with financial and economic discussions.

G20

- 🕒 It is an **informal group of 19 countries** and the **European Union (EU)**, with representatives of the **International Monetary Fund** and the **World Bank**.
- 🕒 The membership comprises a mix of the world's largest advanced and emerging economies, representing about two-thirds of the world's population, 85% of global gross domestic product, 80% of global investment and over 75% of global trade.

- ⌚ The **work of G20 is divided into two tracks:**
 - ⊙ The **Finance track** comprises all meetings with G20 finance ministers and central bank governors and their deputies. Meeting several times throughout the year, they focus on monetary and fiscal issues, financial regulations, etc.
 - ⊙ The **Sherpa track** focuses on broader issues such as political engagement, anti-corruption, development, energy, etc.
- ⌚ **G20 Members**
 - ⊙ The members of the G20 are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the European Union.
 - ⊙ **Spain** as a **permanent, non-member invitee**, also attends leader summits.
- ⌚ **Structure and Functioning of G20**
 - ⊙ The G20 **Presidency rotates annually** according to a system that ensures a regional balance over time.
 - ⌘ For the selection of presidency, the 19 countries are divided into 5 groups, each having no more than 4 countries. The presidency rotates between each group.
 - ⌘ Every year the G20 selects a country from another group to be president.
 - ⌘ **India is in Group 2** which also has **Russia, South Africa** and **Turkey**.
 - ⊙ The G20 **does not have a permanent secretariat or Headquarters**.
- ⌚ **Issues Addressed by G20:**
 - ⊙ The G20 focuses on a broad agenda of issues of global importance, although, issues pertaining to the global economy dominate the agenda, additional items have become more important in recent years, like:
 - ⌘ Financial markets
 - ⌘ Fight against corruption
 - ⌘ Advancement of women in job market
 - ⌘ 2030 Agenda for Sustainable development
 - ⌘ Climate Change
 - ⌘ Global Health
 - ⌘ Anti-terrorism
 - ⌘ Inclusive entrepreneurship

Video Conference of SAARC Leaders on Covid-19

Why in News

Recently, the **Video Conference of South Asian Association for Regional Cooperation (SAARC) Leaders on Covid-19** has been held.

- ⌚ All the **members of SAARC** (India, Bangladesh, Bhutan, Nepal, Maldives, Sri Lanka, Afghanistan and Pakistan) attended it..
- ⌚ The conference is considered as a **step towards the revival of SAARC** as the SAARC Summit has not taken place since 2014 because of India-Pakistan tensions.

Key Points

- ⌚ **Covid-19 Emergency Fund:**
 - ⊙ India has proposed to create a **Covid-19 Emergency Fund** which could be based on a **voluntary contribution** from all SAARC members.
 - ⊙ Further, **\$10 million** has been extended by **India** as a contribution to the fund.
 - ⊙ The fund can be used to meet the **cost of immediate actions** by any member and will be coordinated through foreign secretaries and embassies of the member countries.
 - ⊙ The **World Health Organisation (WHO)** has also constituted the **Covid-19 Solidarity Response Fund** with the help of corporate bodies, foundations and the UN Foundation.
- ⌚ **Other Proposals by India:**
 - ⊙ India has also proposed a **rapid response team of doctors and specialists**, along with testing kits and other equipment for all the member countries.
 - ⊙ India has set up and offered to share an **Integrated Disease Surveillance Portal** to better trace possible virus carriers and the people they contacted.
- ⌚ **Economic Issues and Measure:**
 - ⊙ The conference also discussed **longer-term economic consequences** of Covid-19.
 - ⊙ The member countries have also proposed to **insulate internal trade of South Asia and local value chains** from its impact.
- ⌚ **Measures to Manage Health Pandemics:**
 - ⊙ It has been decided to frame and enforce the **common SAARC pandemic protocols**.

- ⌚ The members have decided to establish a **working group of national authorities for health information, data exchange and coordination** in real-time.
- ⌚ It has also proposed a **SAARC health ministers' conference** and the **development of regional mechanisms** to share disease surveillance data in real-time.
- ⌚ **Country-Specific Issues:**
 - ⌚ **Afghanistan** has highlighted the **vulnerability** as it shares a **long and open border with Iran**, one of the worst affected countries in the world.
 - ⌚ The **Maldives** has cited the **economic downturn** owing to the **drop in tourists inflow from Italy, China and Europe**, the main source of tourists for the country, and sought a South Asian response to the crisis.
 - ⌚ The **tourism-dependent countries like Bhutan, Sri Lanka** have also sighted issues related to the **economic slowdown**.

Electronic Platform to Fight Covid-19

Why In News

Recently, **India has decided to set up an electronic platform to help member countries of the South Asian Association for Regional Cooperation (SAARC) fight the Covid-19 pandemic.**

- ⌚ The decision was conveyed during a **virtual conference** of health professionals of eight countries in the region.

Key Points

- ⌚ The virtual conferencing of the health workers of the SAARC Nations was part of the two proposals made by Indian Prime Minister during the recently held virtual meeting of SAARC.
 - ⌚ The other proposal was to set up the **SAARC Covid-19 Emergency Fund**.
- ⌚ The e-Platform will enable the SAARC nations to share and exchange information, knowledge, expertise and best practices for jointly combating the Coronavirus epidemic.
- ⌚ **Objectives** of the e-Platform
 - ⌚ Training of emergency personnel
 - ⌚ Disease surveillance
 - ⌚ Joint research

- ⌚ Currently the platform is **in the construction stage**. India suggested setting up a **Whatsapp or email group** to help facilitate exchange of information among the SAARC countries till the platform became fully operational.

Technology Diplomacy by India in SAARC Region

- ⌚ India launched the **GSAT-9**, also dubbed the **South Asia Satellite**, aiming to provide space-enabled services to other South Asian countries.
- ⌚ India has offered member countries of the South Asian Association for Regional Cooperation (SAARC) to join its advanced navigational satellite programme—**GPS-Aided Geo Augmented Navigation (GAGAN)**.
- ⌚ **Indian Regional Navigation Satellite System (IRNSS)** has potential to be useful for the SAARC countries which are dependent on foreign systems.

Extradition Treaty between India and Belgium

Why in News

Recently, the Union Cabinet has approved the signing and ratifying of the Extradition Treaty between the Republic of India and the Kingdom of Belgium.



- ⌚ This will **replace the pre-Independence Extradition Treaty** between Great Britain and Belgium of 1901 that was made applicable to India through the exchange of Letters in 1958.
- ⌚ The Treaty provides a legal framework for seeking extradition of terrorists, economic offenders, and other criminals from and to Belgium.

Salient Features of the Treaty

- ⌚ **Obligation to Extradite:** Each Party agrees to extradite to the other any person found in its territory, who is accused or convicted of an **extraditable offence** in the territory of the other Party.
 - ⌚ However, extradition of nationals is **discretionary**. The nationality will be determined **at the time the offence was committed**.
- ⌚ **Extraditable Offences**

Extradition

- ⌚ It is the formal process of one state surrendering an individual to another state for prosecution or punishment for crimes committed in the requesting country's jurisdiction.
- ⌚ This is generally enabled through a bilateral or multilateral treaty.
- ⌚ The legal basis for extradition with countries with whom India does not have an Extradition treaty is provided by **Section 3 (4) of the Indian Extradition Act, 1962.**
 - ⊙ An extraditable offence means an **offence punishable under the laws of both the Parties with imprisonment for a period of one year or more severe punishment.**
 - ⊙ **Offences relating to taxation, or revenue or one of a fiscal character** also fall within the scope of this Treaty.
- ⌚ **Mandatory Grounds for Refusal Under the Treaty:**
 - ⊙ The offence involved is a **political offence.**
 - ⊙ The offence is a **military offence.**
 - ⊙ The request for prosecution has been made on **account of his race, sex, religion, nationality or political opinion.**

Kuril Islands

Why in News

Recently, a 7.5 magnitude **earthquake** struck in the northern Pacific and a **tsunami warning** was issued for the **closest shores on Russia's far eastern Kuril Islands.**

- ⌚ The earthquakes of this strength in the region have caused tsunamis in the past far from the epicenter of the earthquake.
 - ⊙ The **epicenter is the point on the Earth's surface directly above a hypocenter or focus.** (The hypocenter is where an earthquake or an underground explosion originates).

Geographic Location of Kuril Islands

- ⌚ Kuril Islands are stretched from the **Japanese island of**

Hokkaido to the southern tip of Russia's Kamchatka Peninsula separating Okhotsk Sea from the North Pacific ocean.

- ⌚ It consists of **56 islands and minor rocks.**
- ⌚ The chain is part of the belt of geologic instability circling the Pacific and contains at least 100 volcanoes, of which 35 are still active and many hot springs.
- ⌚ Earthquakes and tidal waves are common phenomena over these islands.

Importance of South Kuril Islands

- ⌚ **Natural resources:**
 - ⊙ The islands are surrounded by **rich fishing grounds** and are thought to have **offshore reserves of oil and gas.**
 - ⊙ Rare **rhodium deposits** have been found on the Kudriavyy volcano on Iturup.
 - ⊗ **Nickel-based superalloys of rhodium** are used in the combustion chambers, turbine blades, and exhaust nozzles of jet engines.
 - ⊙ **Tourism** is also a potential source of income, as the islands have several volcanoes and a variety of birdlife.
- ⌚ **Strategic Importance:**
 - ⊙ Russia has deployed **missile systems** in the region.
 - ⊙ Russia also plans a **submarine project** and intends to prevent any American military use of the islands.
- ⌚ **Cultural Importance:**
 - ⊙ The Japanese people, especially conservatives in Hokkaido, are emotionally attached to the islands.

Historical Background of Kuril Islands Dispute

- ⌚ **Sovereignty Issue of South Kuril Islands:**
 - ⊙ The Kuril Islands dispute between **Japan and Russia** is over the **sovereignty of South Kuril Islands.**
 - ⊙ The South Kuril Islands comprises **Etorofu island, Kunashiri island, Shikotan island and the Habomai**



island. These islands are **claimed by Japan** but **occupied by Russia** as successor state of the Soviet Union.

- ⊙ These islands are known as **Southern Kurils by Russia** whereas **Japan** calls them **Northern Territories**.
- 🕒 **Original Inhabitants-Ainu People:**
 - ⊙ The Kurils were **originally inhabited by the Ainu people**, and they were later settled by the Russians and Japanese, following several waves of exploration in the **17th and 18th centuries**.
 - ⊙ The Ainu or the Aynu, also **known as the Ezo** in the historical Japanese texts, are indigenous people of Japan and Russia.
- 🕒 **Treaty of Shimoda (1855):**
 - ⊙ In **1855**, Japan and Russia concluded the **Treaty of Shimoda**, which gave control of the four southernmost islands to Japan and the remainder of the chain to Russia.
- 🕒 **Treaty of Saint Petersburg (1875):**
 - ⊙ In the **Treaty of Saint Petersburg**, signed between two countries in **1875**, Russia ceded possession of the Kurils to Japan in exchange for uncontested control of **Sakhalin Island**.
- 🕒 **Yalta Agreement (1945):**
 - ⊙ In **1945**, as part of the **Yalta agreements (formalized in the 1951 by Treaty of Peace with Japan)**, the islands were ceded to the Soviet Union and the Japanese population was repatriated and replaced by Soviets.
 - ⊙ The **San Francisco Peace Treaty** signed between the Allies and Japan in 1951, states that Japan must give up “all right, title and claim to the Kuril Islands”, **but it also does not recognize the Soviet Union’s sovereignty over them**.
- 🕒 **Japan-Soviet Joint Declaration (1956):**
 - ⊙ The dispute over the islands has **prevented the conclusion of a peace treaty to end World War II**.
 - ⊙ In 1956, diplomatic ties were restored between Japan and Russia by **Japan-Soviet Joint Declaration**.
 - ⊙ During that time, Russia offered to give away the two islands closest to Japan. But the offer was rejected by Japan as the two islands constituted **only 7% of the land** in question.
- 🕒 **Developments After 1991:**
 - ⊙ Despite a series of agreements, the dispute continues and **Japan still claims historical rights to**

the southernmost islands and has tried repeatedly to persuade the Soviet Union and, from 1991, Russia to return those islands to Japanese sovereignty.

- ⊙ In **2018**, the Russian President and the Japanese Prime Minister met on the sidelines of the **East Asia Summit** and decided to end the territorial dispute by Japanese PM agreeing to negotiate based on the 1956 declaration.
 - ⌘ This implicitly showed that Japan has given up the two islands to maintain peace with Russia.
 - ⌘ However, Russia indicated that the joint declaration signed by Japan and the Soviet Union in 1956 **neither mentions a basis for returning Habomai and Shikotan nor clarifies which country has sovereignty over the islands**.
- ⊙ Further, in **2019**, Japanese PM made it clear that the country is **not in the favour of withdrawing control over the islands**. Japan also believes that the islands are the inherent part of the nation’s territory. Therefore, Japan mentioned that it aims to sign the peace treaty after the territorial issue is resolved.

Tokyo Olympics 2020 Postponed

Why in News

The **International Olympic Committee** and the **Tokyo 2020 Organising Committee** have decided to **postpone** the Tokyo 2020 Summer Games **to the summer 2021** due to the **coronavirus pandemic**.

- 🕒 However, the Olympics Games **will keep the name Olympic and Paralympic Games Tokyo 2020**.
- 🕒 The decision came after some of the major sporting nations like **Australia** and **Canada** withdrew from the Tokyo Olympics 2020.
- 🕒 The nations withdrew in the backdrop of **limited international travel, difficulty in training and exposed risk of contracting or spreading the disease**.

Key Points

- 🕒 **Historic Postponement:**
 - ⊙ The organisers have postponed the event for the **first time in its 124-year modern history**. It is also considered as the **first postponement** of an Olympics in **peacetime**.

- ⌚ Earlier, the games were not held during World War II considering the turmoil across the world.
- ⌚ In **1940, Japan was to be the first Asian country to host** the Olympics.
 - ⌘ However, its military aggression in Asia forced the annulment of the Olympics scheduled in Japan.
 - ⌘ The 1940 Olympics is known as the “**Missing Olympics**” after the Games were switched to Helsinki (Finland) before finally being scrapped because of World War II.
- ⌚ **Economic Cost:**
 - ⌚ Tokyo was **spending \$12.6 billion** to host the Games and a postponement could **cost it \$6 billion** as the short-term period loss.
 - ⌚ It will also be a **bitter blow to sponsors and major broadcasters** who rely on this four-yearly event for critical advertising revenue.

International Olympic Committee (IOC):

- ⌚ It was created on **23rd June 1894** and is the **supreme authority** of the Olympic Movement.
- ⌚ It is a **not-for-profit independent** international organisation that is committed to building a better world through sports.
- ⌚ It ensures the regular celebration of the Olympic Games, supports all affiliated member organisations and strongly encourages, by appropriate means, the promotion of the Olympic values.
- ⌚ **Pattern of Olympics Games:**
 - ⌚ The Olympics have been held **every four years since 1948**.
 - ⌚ The honour of holding the Olympic Games is **entrusted to a city, not to a country**. The choice of the city lies solely with the IOC.
 - ⌘ Thus, the application to hold the Games is made by the chief authority of the city, with the support of the national government.



Science and Technology

Highlights

- ⌘ Covid-19 and Medical Solutions
- ⌘ ICMR to test for Community Transmission of Covid-19
- ⌘ Anti-HIV Drugs for Covid-19
- ⌘ ICMR Recommended Use of Hydroxy-Chloroquine
- ⌘ Indigenously Developed Testing Kits for Covid-19
- ⌘ Antibody Kits for Covid-19
- ⌘ IIT-B Designs UV Sanitiser
- ⌘ Superhydrophobic Coating on Metallic Surfaces
- ⌘ Successful Trails in Treating Drug-Resistant TB
- ⌘ Google Subsidiary Verily
- ⌘ Whiteflies Resistant Variety of Cotton
- ⌘ Iron Rain on Exoplanet
- ⌘ Nanocomposite Coatings
- ⌘ Laser Surface Micro-Texturing
- ⌘ Role of Lipids in Infectious Diseases
- ⌘ Huntington Disease
- ⌘ MACS 4028 Wheat Variety
- ⌘ Operation Namaste: Indian Army
- ⌘ DRDO Developed Ventilators
- ⌘ Humidity and Spread of Coronavirus
- ⌘ Sodium Hypochlorite Sprayed on Migrants

Covid-19 and Medical Solutions

Why in News

According to the **World Health Organization (WHO)**, the virus **SARS-CoV-2**, has caused the world's largest pandemic infecting nearly six lakh people globally.

- ⌚ Considering the grave scenario the **discovery of vaccine and the licensed use of a drug** has been **ruled out as an immediate solution** noting that even if the process is fast-tracked, it would **take over 18 months to be ready for use**.
- ⌚ Hence, WHO and other health agencies are re-looking the efficacy of **known therapies** such as **convalescent plasma therapy and drugs** to treat **Covid-19**.
 - ⌚ The known drugs include a **combination of two HIV drugs - lopinavir and ritonavir**, anti-malaria medications- chloroquine and hydroxychloroquine and antiviral compound namely, remdesivir.

Efficacy of Known Drugs

- ⌚ **Anti-Malaria Medications: Chloroquine and Hydroxychloroquine**
 - ⌚ The **Indian Council of Medical Research (ICMR)**, has suggested the use of hydroxy-chloroquine to

contain the spread of SARS-CoV-2 (Coronavirus) for restricted populations.

- ⌚ Also, the small study conducted in **France** found that it led to a **significant reduction in viral load in Covid-19 patients**.
- ⌚ However, Hydroxychloroquine is known to have a **variety of side-effects** and can damage the organs like the heart, in some cases.
- ⌚ **HIV Drugs: Lopinavir and Ritonavir**
 - ⌚ The combination drug, ritonavir/lopinavir was introduced **to treat HIV infections**.
 - ⌚ It was experimented in China with Covid-19 patients but there was **no significant difference observed among them**.
 - ⌚ Although the drug is generally safe, it **may interact with other drugs** usually given to severely ill patients with other diseases.
 - ⌚ The drug could cause significant **liver damage**.
- ⌚ **Antiviral Compound: Remdesivir**
 - ⌚ The drug, remdesivir which was developed **to treat Ebola and related viruses**, is being tested to find out whether it can be used on Covid-19 patients.
 - ⌚ According to WHO, the drug helps to **prevent Covid-19 viral replication**.
 - ⌚ It has the best potential and **can be used in high doses without causing toxicities**.

Convalescent Plasma Therapy

⌚ **Basis of the Therapy:**

- ⊙ The convalescent plasma therapy seeks to make **use of the antibodies developed in the recovered patient** against the coronavirus.
- ⊙ The **whole blood or plasma** from such people is taken, and the plasma is then injected in critically ill patients so that the **antibodies are transferred** and boost their fight against the virus.

⌚ **Time Period for Infusion:**

- ⊙ A study in The Lancet Infectious Diseases stated that a Covid-19 patient usually **develops primary immunity against the virus in 10-14 days**.
- ⊙ Therefore, if the plasma is **injected at an early stage**, it can possibly help fight the virus and prevent severe illness.

⌚ **Infusion into Covid-19 Patients:**

- ⊙ The plasma can be infused into two kinds of Covid-19 patients— those with a **severe illness or individuals at a higher risk of getting the virus**.
- ⊙ However, while plasma transfers immunity from one person to another, it is **not known if it can save lives** in Covid-19 infection.
- ⊙ The treatment could be **effective for patients in the age group 40-60** but may be **less effective for people aged beyond 60 years**.

⌚ **Previous Application of the Convalescent Plasma Therapy:**

- ⊙ The **United States** used plasma of recovered patients to treat patients of **Spanish flu (1918-1920)**.
- ⊙ **Hong Kong** used it to treat **SARS (Severe Acute Respiratory Syndrome)** patients in **2005**.
- ⊙ In **2009, the swine flu (H1N1)** patients were treated with plasma.
 - ⌘ A study in Oxford University's journal Clinical Infectious Diseases found that "convalescent plasma reduced respiratory tract viral load, serum cytokine response, and mortality" in H1N1 patients.

⌚ **WHO Guidelines (2014):**

- ⊙ WHO guidelines in 2014 mandate a **donor's permission before extracting plasma**.
- ⊙ Plasma from **only recovered patients must be taken** and donation must be done from people

not infected with HIV, hepatitis, syphilis or any infectious disease.

- ⊙ If whole blood is collected, the plasma is separated by sedimentation or centrifugation, then injected in the patient.
- ⊙ If plasma needs to be collected again from the same person, it must be done after 12 weeks of the first donation for males and 16 weeks for females.

⌚ **Application in India:**

- ⊙ Currently, India **has facilities for removing 500ml of plasma** from a donor.
- ⊙ For this experimental therapy, the Drug Controller General of India will first have to grant blood banks approval for removal of plasma from recovered Covid-19 patients.
- ⊙ In India, the **special care of the risk of infection during transfusion** needs to be taken care of.

Relapse in Patients Recovered from Covid-19

- ⌚ Patients who test positive for Covid-19 develop protective antibodies. Theoretically, **there can be a relapse even in patients who have antibodies**. There are various reasons for such relapsing of Covid-19. Some of them are:

⊙ **Mutation:**

- ⌘ The **probable mutations** is one of the major reasons for making an individual vulnerable to reacquire the Covid-19 infection.

⊙ **Unknown Behaviour:**

- ⌘ Since the exact behaviour of the novel coronavirus is still being studied, **immunity against it is not fully understood**.
- ⌘ At this stage, it is not fully understood as to **how long the antibodies provide protection** against the viral infection.
- ⌘ Also, in the **absence of any vaccination**, it is not known whether the **immunity acquired by the persons is permanent or not**.

⊙ **False RT-PCR test (Reverse Transcription Polymerase Chain Reaction) Test:**

- ⌘ It has been observed that a "false negative" **RTPCR test**, the RNA test being conducted to diagnose Covid-19 infection, can lead to a patient testing positive a second time after testing negative in between.

ICMR to test for Community Transmission of Covid-19

Why in News

The Indian Council of Medical Research (ICMR) has announced that it would start testing influenza patients **without any travel history or contact with novel coronavirus disease (Covid-19)** for signs of community transmission.

Four Stages of Transmission of Covid-19

- 🕒 **Stage 1-Imported Transmission**
 - ⦿ It is reported among the travellers **entering the country** via the **borders and airports**.
 - ⦿ These can be controlled through thermal screening and quarantine.
 - ⦿ To prevent imported transmissions, India has suspended visas to foreign nationals and the facility of visa-free travel to **Overseas Citizen of India (OCI) card-holders**.
- 🕒 **Stage 2-Local Transmission**
 - ⦿ The **World Health Organisation (WHO)** defines it as the transmission through **direct contact with an infected person within the country**.
- 🕒 **Stage 3-Community Transmission**
 - ⦿ It signifies that a virus is circulating in the community and can affect people with no history of travel to affected areas or of contact with an infected person.
 - ⦿ India's current emphasis on social distancing and discouragement of public gatherings is aimed at checking community transmission.
 - ⦿ Once community transmission begins, it is more difficult to trace contacts. As one unknown source of infection can infect many people unknowingly.
 - ⦿ Among the countries where community transmission seems to have begun are China, Italy and South Korea.
- 🕒 **Stage 4 - Epidemic**
 - ⦿ An **epidemic** is a large outbreak, one that spreads among a population or region.
 - ⦿ It is less severe than pandemic due to a limited area of spread.

Level of Transmission in India

- 🕒 So far, most of the cases in India have had a history of travel abroad or have contracted the disease from somebody around them.
- 🕒 However, some of the cases in the country had neither any history of foreign travel nor had they come directly in contact with an infected person.
- 🕒 Currently, India is at Stage 2 of Local Transmission and precautions are being taken to prevent it from entering Stage 3 of Community Transmission.

India's Current Strategy to tackle Covid-19

- 🕒 **Social Distancing and Cluster Containment:**
 - ⦿ The cluster containment strategy intends to contain the disease within a defined geographic area by early detection, breaking the chain of transmission and thus preventing its spread to new areas.
 - ⦿ It includes geographic quarantine, social distancing measures, enhanced active surveillance, testing all suspected cases, isolation of cases, home quarantine of contacts, social mobilization to follow preventive public health measures.
- 🕒 **Possible Involvement of the Private Sector:**
 - ⦿ The government is working with private hospitals to develop standard operating procedures for treatment and isolation of patients.
 - ⦿ The involvement of the private sector may face some issues like the possibility of profiteering, affordability issues, crowding of people at a large number of places, etc.

Global Scenario

- 🕒 Italy followed a model of lockdown whereas South Korea has observed a model of free testing.
 - ⦿ India has been following the Italian model of lockdown.
- 🕒 China has adopted a graded approach, and the number of new cases are gradually declining.
 - ⦿ It has locked down Hubei, the epicentre. Elsewhere, it enforced social distancing measures.

Indian Council of Medical Research

- 🕒 Indian Council of Medical Research (ICMR) is the apex body in India for the formulation, coordination and promotion of biomedical research.

- ⌚ Its mandate is to conduct, coordinate and implement medical research for the benefit of the Society; translating medical innovations into products/processes and introducing them into the public health system.
- ⌚ It is funded by the Government of India through the Department of Health Research, Ministry of Health & Family Welfare.

Anti-HIV Drugs for Covid-19

Why in News

The Ministry of Health and Family Welfare has issued revised guidelines on the '**Clinical Management of Covid-19**'.

- ⌚ The Ministry has recommended use of **drug combinations Lopinavir and Ritonavir (sold under the brand name Kaletra)** depending upon the severity of the condition of a person having **coronavirus** infection, on a case-to-case basis.

Key Points

- ⌚ Lopinavir-Ritonavir is recommended for high-risk groups of patients **aged above 60 who are suffering from diabetes mellitus, renal failure, chronic lung disease and are immuno-compromised**.
- ⌚ Lopinavir-Ritonavir is used **widely for controlling Human Immunodeficiency Virus (HIV) infection**.
 - ⊙ However, the use of Lopinavir-Ritonavir is also associated with significant adverse events which many times have led to discontinuation of therapy.
- ⌚ There is **no current evidence from randomised controlled trials** to recommend any specific treatment for suspected or confirmed **Covid-19** patients.
 - ⊙ **No specific antivirals** are recommended for treatment of those suffering from respiratory ailment due to lack of adequate evidence from medical literature.
- ⌚ The use of this drug combination is suggested by an expert committee comprising doctors from the All India Institutes of Medical Sciences (AIIMS), experts from **National Centre for Disease Control (NCDC)** and **World Health Organisation (WHO)**.

ICMR Recommended Use of Hydroxy-Chloroquine

Why in News

The **National Task force for Covid-19**, constituted by the **Indian Council of Medical Research (ICMR)**, has suggested the **use of hydroxy-chloroquine** to contain the spread of **SARS-CoV-2 (Coronavirus)** for restricted populations.

Key Points

- ⌚ **Hydroxy-chloroquine:**
 - ⊙ Hydroxy-chloroquine (not to be confused with anti-malaria drug chloroquine) is an **oral drug** used in the treatment of **autoimmune diseases such as rheumatoid arthritis**.
 - ⌘ Autoimmune diseases are in which the body's immune system attacks healthy cells.
 - ⌘ Rheumatoid arthritis is a chronic inflammatory disorder affecting many joints, including those in the hands and feet.
- ⌚ **Hydroxy-chloroquine against Covid-19:**
 - ⊙ The drug shows antiviral activity in vitro against coronaviruses, and specifically, SARS-CoV-2 (the virus that causes Covid-19).
 - ⊙ Further, the study suggests that prophylaxis (treatment given to prevent disease) with hydroxy-chloroquine at approved doses could prevent SARS-CoV-2 infection and may help to improve viral shedding.
 - ⊙ Clinical trials are under way in China to know whether the drug can be used for treatment.
- ⌚ **ICMR Recommended Usage of Hydroxy-chloroquine:**
 - ⊙ The restricted population for usage of hydroxy-chloroquine include, namely, '**Asymptomatic (showing no symptoms) Healthcare Workers**' and '**Asymptomatic household contacts**' of laboratory-confirmed cases.
 - ⊙ The above mentioned population have been advised to use the hydroxy-chloroquine to **contain further spread of the pandemic**.
 - ⊙ However, the drug is **not recommended** as a preventive healthcare in children under **15 years of age**.

- ⌚ ICMR also advised that placing healthcare workers under hydroxy-chloroquine treatment **should not instill a sense of false security** and they **need to follow all prescribed public health measures** such as frequent washing of hands, respiratory etiquettes, keeping a distance of minimum one metre and use of personal protective equipment, etc.
- ⌚ It has been also advised that the drug **should only be given on the prescription** of a registered medical practitioner.

Combination of Hydroxy-chloroquine with Other Drugs

- ⌚ **Hydroxy-chloroquine and Chloroquine:**
 - ⌚ A study suggests that **both hydroxy-chloroquine and chloroquine** have in vitro activity against SARS-CoV, SARS-CoV-2 and other coronaviruses, with hydroxy-chloroquine having higher potency against SARS-CoV-2.
- ⌚ **Hydroxy-chloroquine with Azithromycin:**
 - ⌚ It combines hydroxy-chloroquine with azithromycin, a commonly used antibiotic.
 - ⌚ It is expected to be efficient for virus elimination.

Note:

- ⌚ **In vitro studies** are performed with microorganisms, cells, or biological molecules outside their normal biological context (such as in a test tube).
- ⌚ In contrast to in vitro experiments, **in vivo studies** are those conducted in living organisms, including humans, and whole plants.

Indigenously Developed Testing Kits for Covid-19

Why in News

Recently, the **test kits for Covid-19** developed by the Pune-based **MyLab Discovery Solutions** and Germany's **Altona Diagnostics** have been approved by the **Indian Council of Medical Research (ICMR)**.

- ⌚ The two companies have also received **approval to mass manufacture the kits** after they received commercial approval from the **Central Drugs Standard Control Organisation (CDSCO)**.
- ⌚ Currently, the diagnostic kits to test people for Covid-19 are **imported from the USA**.

Key Points

- ⌚ **Approval Conditions:**
 - ⌚ Earlier, the kits approved by the **United States Food and Drugs Administration** or certified by the **European Union** were allowed to offer commercial tests for detecting SARS CoV-2.
 - ⌚ However, ICMR stated that it is no longer a requirement and even those **approved by the National Institute of Virology (NIV)** would be eligible for testing.
- ⌚ **Feature of the Developed Testing Kit:**
 - ⌚ **Quick Detection:** The developed kit **detects the infection within two and half hours** compared to over seven hours taken by current protocol.
 - ⌚ **Accuracy:** The **ability to detect the early stage of disease and highest accuracy** has been observed with the indigenously developed testing kit for Covid-19.
 - ⌚ **Affordable:** For the government labs, these testing kits would cost nearly **Rs. 1,200 per test kit, which is about one-fourth of the current testing kit** used by India.
- ⌚ **Indigenously Developed:**
 - ⌚ The indigenously developed testing kits for Covid-19 by MyLabs have been manufactured **as per World Health Organisation (WHO)/Centre for Disease Control (CDC) guidelines**.
 - ⌚ **MyLabs discovery Solutions is the first indigenous manufacturer** to be approved for deploying its **kits for Covid-19 testing**.
 - ⌚ The approval from National Institute of Virology (NIV) to MyLabs is expected to provide major support to the **'Make in India' programme** in the future.

Antibody Kits for Covid-19

Why in News

Recently, the Indian Council of Medical Research (ICMR) has invited manufacturers to supply **5 lakh antibody kits** for diagnosis of Covid-19 infection.

- ⌚ The antibody test will help in screening suspected patients.

Key Points

- ⌚ **The Antibody Test**

- ⊙ The antibody test for **Covid-19** will act as a **screening process** that will give quick results in a few hours.
- ⊙ The antibody test detects the body's response to the virus. It gives an indication that a person has been exposed to the virus.
- ⊙ If the test is positive, the swab is collected and an Ribonucleic Acid (RNA) test is done using the Polymerase Chain Reaction (PCR) kit. Therefore, this is a **two-stage process**.
- ⊙ However, the antibody test **does not not definitely indicate that a person is infected with Covid-19 infection**. It is **only for screening**.
- ⌚ Currently, India is **only conducting the conventional RT-PCR test (Reverse Transcription Polymerase Chain Reaction)**.
- ⌚ **Antibody Kits vs RT-PCR Test**
 - ⊙ RT-PCR test detects the **virus genetic material, which is the RNA**.
 - ⊙ The antibody test detects the body's response to the virus.
 - ⊙ RT-PCR provides direct evidence whereas antibody kits provide the indirect evidence.
- ⌚ **Need for Antibody Kits**
 - ⊙ **Shortage of the PCR kits** and thus the test is complicated, expensive and time-consuming.
 - ⌘ The antibody test will be where a large number of people are being quarantined and where everybody cannot undergo an RNA test.
 - ⊙ **Results of Testing in South Korea**
 - ⌘ The antibody test was done in South Korea, one of the few countries which has been able to flatten the pandemic curve.
 - ⌘ In South Korea, people with a history of travel and contact are screened using the antibody kit.
 - ⌘ Then, a large number of suspected patients were being quarantined in the country through **contact tracing** of just a single patient.

Ribonucleic Acid

- ⌚ RNA is an important **biological macromolecule** that is present in all biological cells.
- ⌚ It is principally involved in the **synthesis of proteins, carrying the messenger instructions** from Deoxyribonucleic acid (DNA), which itself contains the genetic instructions required for the development and maintenance of life.

- ⌚ In some **viruses, RNA, rather than DNA, carries genetic information**.

Contract Tracing

- ⌚ Contact tracing is the process of identifying, assessing, and managing people who have been exposed to a disease to prevent transmission.

Indian Council of Medical Research

- ⌚ Indian Council of Medical Research (ICMR) is the **apex body in India for the formulation, coordination and promotion of biomedical research**.
- ⌚ Its mandate is to **conduct, coordinate and implement medical research** for the benefit of the Society; translating medical innovations into products/processes and introducing them into the public health system.
- ⌚ It is funded by the Government of India through the **Department of Health Research, Ministry of Health & Family Welfare**.

IIT-B Designs UV Sanitiser

Why in News

Recently, the **Industrial Design Centre (IDC)** of **Indian Institute of Technology (IIT), Bombay** has developed a **portable UltraViolet (UV) sanitiser**.

- ⌚ It can sterilise wallets, purses and other small items that are passed on from hand to hand.

Key Points

- ⌚ The UV sanitiser has been made **using stainless steel kitchen containers and aluminium mesh** and is in the **proof-of-concept stage** right now.
- ⌚ It's design is based on a study published in a journal PubMed, by the US National Library of Medicine.
 - ⊙ The study demonstrates how **ultraviolet C Light**

can inactivate **Severe Acute Respiratory Syndrome Coronavirus, Crimean-Congo Haemorrhagic Fever (CCHF) Virus and Nipah Virus**.

- ⌚ **Objects might be carriers of the viruses** and sanitising gel cannot be used on every object humans come in contact with like papers, files, currency notes and phones.
- ⌚ **Other contributions by IDC:**

- ⌚ IDC is also working on projects on sanitising bigger surfaces and working on different models.
- ⌚ The institute has also been making its own **cotton masks**, which are **double-layered and washable**.
- ⌚ IDC has also **collaborated with a company called Applied Systems to manufacture face shields using helmet visors**.
- ⌚ IIT also **developed apps** to help **keep quarantine violations in check**.

Crimean-Congo Haemorrhagic Fever

- ⌚ It is a **viral haemorrhagic fever** usually transmitted by ticks.
- ⌚ It can also be **contracted through contact with viraemic animal tissues** (animal tissue where the virus has entered the bloodstream) during and immediately post-slaughter of animals.
- ⌚ CCHF outbreaks constitute a threat to public health services as the virus can lead to **epidemics**, with a **high case fatality ratio** (10-40%).
- ⌚ CCHF is endemic in all of Africa, the Balkans, the Middle East and in Asia.
- ⌚ **Symptoms:**
 - ⌚ Fever, muscle ache, dizziness, neck pain, backache, headache, sore eyes and photophobia (sensitivity to light).
 - ⌚ There may be nausea, vomiting, diarrhoea, abdominal pain and sore throat early on, followed by sharp mood swings, confusion, depression and liver enlargement.
- ⌚ **Treatment:**
 - ⌚ General supportive care with treatment of symptoms is the main approach to managing CCHF in people.
 - ⌚ The **antiviral drug ribavirin** has been used to treat CCHF infection with apparent benefit. Both oral and intravenous formulations seem to be effective.
 - ⌚ There are **no vaccines widely available for human or animal use**. In the absence of a vaccine, the only way to reduce infection in people is by raising awareness of the risk factors and educating people about the measures they can take to reduce exposure to the virus.

Superhydrophobic Coating on Metallic Surfaces

Why in News

- ⌚ A team from the Indian Institute of Technology (Indian School of Mines), Dhanbad, and Ohio State University has created a superhydrophobic coating to save steel from rusting.
- ⌚ The coating was made from **polyurethane and silicon dioxide nanoparticles**.

Superhydrophobic Surfaces

- ⌚ The term hydrophobicity is derived from two greek words that are **hydro (water)** and **phobos (fear)**. It is the ability to **repel water**.
- ⌚ Superhydrophobic coating is a nanoscopic surface layer that repels water.
- ⌚ Adding a superhydrophobic coating makes a surface liquid and water repellent, easy to clean, and boosts its anti-icing performance (ability to delay the formation of ice for a certain period of time).
- ⌚ Super-hydrophobic coatings are also found in nature; they appear on plant leaves, such as the Lotus leaf, and some insect wings.
- ⌚ Apart from steel the coating can be done on **other metallic surfaces, such as aluminum, copper, brass**. The coatings have also been **developed for glass, cloth, paper and wood**.

Silicon dioxide

- ⌚ Silicon dioxide (SiO_2), also known as silica, is a natural compound made of two of the earth's most abundant materials: silicon (Si) and oxygen (O_2).
- ⌚ Silicon dioxide is most often recognized in the form of quartz. It's found naturally in water, plants, animals, and the earth.

Polyurethane

- ⌚ Polyurethane is a **polymer composed of organic units joined by urethane links**.
- ⌚ It is a plastic material, which exists in various forms.
- ⌚ They are used in a wide variety of applications to create all manner of consumer and industrial products that play a crucial role in making our lives more convenient, comfortable and environmentally friendly.

Successful Trails in Treating Drug-Resistant TB

Why in News

Recently, a small trial was undertaken to test the safety and efficacy of a few oral drugs against the **extensively drug-resistant TB (XDR-TB) and multidrug-resistant TB (MDR-TB)**.

- ⌚ The trial showed encouraging results with a **success rate of 90%**.
- ⌚ The favourable results held true regardless of the **HIV status** of the patients.

Key Points

- ⌚ The trial (**Nix-TB**) tested three oral drugs namely **bedaquiline, pretomanid and linezolid** in patients with **XDR-TB and MDR-TB**.
- ⌚ **Success Rate**
 - ⊙ The **90% treatment success** in the case of hard-to-treat patients is at par with the success rate seen while treating drug-sensitive TB.
 - ⌘ Of the 109 patients treated, 11 had unfavourable outcomes.
 - ⌘ Of the 11 patients, there were seven deaths and two had a relapse during the six-month follow-up period.
 - ⊙ The treatment **success rate was 89% for XDR-TB and 92% for MDR-TB**.
 - ⌘ The MDR-TB patients included in the trial were either not responsive to standard treatment or had discontinued treatment due to side effects.

Tuberculosis

- ⌚ It is caused by **bacteria (Mycobacterium tuberculosis)** that most often **affect the lungs**.
- ⌚ **Transmission:** TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air.
- ⌚ **Symptoms:** Cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
- ⌚ **Treatment:** TB is treatable and curable disease. It is treated with a standard 6 month course of 4 antimicrobial drugs that are provided with **information, supervision and support to the patient** by a health worker or trained volunteer.

Multidrug-resistant Tuberculosis

- ⌚ It is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful, first-line anti-TB drugs.
- ⌚ MDR-TB is treatable and curable by using second-line drugs.

Extensively drug-resistant Tuberculosis

- ⌚ It is a **more serious form of MDR-TB** caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.

Google Subsidiary Verily

Why in News

The company **Verily** has gone live with its **Project Baseline website for Covid-19 testing**.

- ⌚ The website helps in determining whether a coronavirus screening test is required for a person living in the United States.

Key Points

- ⌚ Verily is the **life sciences and healthcare subsidiary owned by Google's parent company Alphabet**.
- ⌚ **Launched in 2015**, Verily claims its mission is to "make the world's health data useful so that people enjoy healthier lives".
- ⌚ **Project Baseline was launched by Verily in 2017** with the goal of bridging the gap between research and care. A clear agenda is to create a detailed baseline of what a healthy human being should be using anonymised data from hundreds of users.
- ⌚ **Verily also owns Calico** — acronym for "California Life Company" — researching into aging and related diseases.

Steps Taken by Technology

Giants to Deal With Covid-19

- ⌚ **Google**
 - ⊙ An "**SOS Alert**" on coronavirus searches across the world, giving prominence to posts from mainstream news publications and health authorities.
 - ⌘ SOS Alerts aim to make emergency information more accessible during a natural or human-caused crisis.

- ⊙ It has also **banned ads for face masks as well as monetisation on YouTube videos** related to Covid-19. This seeks to disincentive creation of fake videos promoting alternative treatments for the virus.
- 🕒 **Microsoft**
 - ⊙ Microsoft Bing team has launched a **web portal for tracking Covid-19 infections worldwide**.

Whiteflies Resistant Variety of Cotton

Why in News

Recently, the **National Botanical Research Institute (NBRI), Lucknow** has developed a **whiteflies-resistant variety of cotton**.

- 🕒 Whiteflies are **one of the top ten devastating pests in the world** that damage more than 2000 plant species and also function as **vectors for some 200-plant viruses**.
- 🕒 Cotton is one of the worst-hit crops by whiteflies. As **two-third of the cotton crop was destroyed** by the **whiteflies in Punjab in 2015**.

Key Points

- 🕒 **Need for Development:**
 - ⊙ Even though **Bt cotton** is also genetically-modified cotton and present in the market for farmers usage, it is resistant to two pests only and not resistant to whiteflies.
- 🕒 **Constituents:**
 - ⊙ The leaf extract of an **edible fern Tectaria Macrodonata** causes **toxicity to the whitefly**.
 - ⊙ It works against whiteflies but is safe for application on the crop plants and provides protection from them.
- 🕒 **Process:**
 - ⊙ When whiteflies feed on doses of insecticidal protein of Tectaria Macrodonata, it interferes with the **life cycle of insects**.
 - ⊙ The whiteflies suffer from very poor egg-laying, abnormal eggs, nymph and larval development, and the poor overall growth of the fly.
- 🕒 **Target and Non-target Insects:**
 - ⊙ The Tectaria Macrodonata is found to be **un-effective on non-target insects**.

- ⊙ Thus, it clearly shows that the protein is **specifically toxic to whitefly** and **does not cause any harmful effect on other beneficial insects like butterflies and honeybees**.

Tectaria Macrodonata

- 🕒 Tectaria Macrodonata is **native to tropical areas of Asia** and **commonly found in Western Ghats of India**.
- 🕒 The fern is known to be used in salads in Nepal and as a concoction for gastric disorders in many regions of Asia.

National Botanical Research Institute

- 🕒 It is amongst one of the constituent research institutes of the **Council of Scientific and Industrial Research (CSIR)**, New Delhi.
- 🕒 It undertakes basic and applied research on various aspects of plant science, including documentation, systematics, conservation, prospecting, and genetic improvement.
- 🕒 It emphasises on under-exploited, non-traditional, and wild plant genetic resources of the country for sustainable development and human welfare.

Iron Rain on Exoplanet

Why in News

- 🕒 **Wasp-76b**, an **exoplanet** (planet outside the solar system), probably has iron **raining** on it.

Key Points

- 🕒 Wasp-76b orbits so close to its host star that its **dayside temperatures exceed 2,400 degrees Celsius - hot enough to vaporise metals like iron**.
- 🕒 The planet's nightside, on the other hand, is 1,000 degrees cooler, allowing those metals to condense and rain out.

Wasp-76b

- 🕒 Wasp-76b is a **huge gas planet** that is **twice the width of Jupiter**. It's name comes from the UK-led Wasp telescope system that detected it in 2016.
 - ⊙ The UK **Wide Angle Search for Planets (WASP)** is a collaborative project involving several UK universities. The primary aim is the discovery of exoplanets.

- ⌚ It is **640 light-years from the Earth** and is so close to its star that it takes just 43 hours to complete one revolution.
- ⌚ Another of the planet's interesting features is that it always presents the same face to the star - a behaviour scientists call being "**tidally locked**". Earth's Moon does exactly the same thing.
 - ⊙ Tidal locking is the name given to the situation when an object's orbital period matches its rotational period.
 - ⊙ The moon takes 28 days to go around the Earth and 28 days to rotate once around its axis. This results in the same face of the Moon always facing the Earth.

Nanocomposite Coatings

Why in News

A group of scientists at the **International Advanced Research Centre for Powder Metallurgy & New Materials (ARCI)**, an **autonomous R&D center of the Department of Science & Technology (DST)** have developed a process for size-selective deposition of nanocomposite coatings.

Key Points

- ⌚ Nanocomposite coatings are formed by mixing two or more dissimilar materials at nanoscale to **improve the physical, chemical and physicochemical properties** of the new materials.
- ⌚ The scientists have found that **nickel tungsten-based coatings** with infusion of **particular sized Silicon Carbide (SiC) submicron particles** using a **pulsed electroplating** can provide an excellent combination of **wear and corrosion resistance**.

Need for Nanocomposite coatings:

- ⌚ Several **aerospace, defence, automobile, space devices** need to reduce friction, wear, and tear to enhance the life of components.
- ⌚ Lubricating these dynamic systems add to the **cost, complexity, and weight** of these systems.
- ⌚ The coating **could help in reducing the friction** of such devices.

Advantages of the Process

- ⌚ The nanocomposite demonstrated excellent **tribological behavior** (science and engineering of interacting

surfaces in relative motion, which includes principles of friction, lubrication, and wear) compared to other wear-resistant coatings.

- ⌚ The coatings **withstood 1000 hours of salt spray (corrosion)** without degradation when compared to conventional wear-resistant coatings.
- ⌚ The process is **highly economical without environmental constraints**.

Electroplating

- ⌚ Electroplating or electrodeposition is a process that employs an electrical signal provided by an external power source to reduce cations of a desired metal in solution and produce a **metallic coating**.
- ⌚ It involves the metal parts to be immersed in an electrolyte bath solution.
- ⌚ In this case, it is typically prepared by dissolving crystals of Nickel (Ni) and Tungsten (W) salts in a mix of distilled water and other additives.
- ⌚ A Direct Current (DC) is passed through the solution, and the resulting reaction leaves a deposit of Ni-W alloy on the piece being plated.

Size-Selective Electrodeposition

- ⌚ For size-selective electrodeposition, Pulse Current (PC) electrodeposition – **intermittent application of current** is used in place of conventional Direct Current (DC) deposition.
- ⌚ In this process, **only particles having a size equal to or less than diffusion layer thickness** can be incorporated into the nanocrystalline coating.
 - ⊙ The size of the diffusion layer thickness is controlled by changing the duration of the electric current pulse.

Laser Surface Micro-Texturing

Why in News

The **International Advanced Centre for Powder Metallurgy & New Materials (ARCI)** has developed ultrafast laser surface texturing technology, which can improve the fuel efficiency of internal combustion engines.

- ⌚ The technology helps to **control friction and wear**.

Key Points

- ⌚ Laser surface micro-texturing offers precise control of the size, shape and density of micro-surface texture features.
- ⌚ In this technology, a pulsating laser beam **creates micro-dimples or grooves** on the surface of materials in a very controlled manner.
- ⌚ Such textures can **trap wear debris** while operating under dry sliding conditions and sometimes provide effects like **enhancing oil supply (lubricant reservoir)** which can lower friction coefficients and may enable reduced wear rate.

International Advanced Research

Centre for Powder Metallurgy and New Materials

- ⌚ It was **established** in the year **1997**.
- ⌚ It is an **autonomous research and development centre** of the Department of Science and Technology (DST).
- ⌚ Its **main campus** is located at **Hyderabad** with operations in Chennai and Gurgaon.
- ⌚ ARCI's **mandate** is:
 - ⦿ Development of high-performance materials and processes for niche markets.
 - ⦿ Demonstration of technologies at prototype/pilot scale.
 - ⦿ Transfer of technology to Indian industry.
- ⌚ Surface engineering, ceramics, powder metallurgy and laser processing of materials constitute the **four major thrust areas** at ARCI.

Role of Lipids in Infectious Diseases

Why in News

Researchers at IIT-Bombay are using biologically active lipid molecules as chemical biology tools to understand their biological disease-causing function.

- ⌚ Researchers are using **lipids from Mycobacteria tuberculosis (Mtb)**.

Key Points

- ⌚ The role of lipids in critical mechanisms involved in host-pathogen interplay is being explored.

Lipids

- ⌚ Lipids are molecules that contain **hydrocarbons** and make up the building blocks of the structure and function of living cells.
- ⌚ They are responsible for maintaining the **integrity of our cell membrane, which allows nutrients and drugs to pass through the cell**.
- ⌚ They play a major role in **altering properties** of the cell membrane.
- ⌚ During infection and in diseases, the lipids are breached and membranes are harnessed by pathogens for their survival and infection.
- ⌚ The mechanism of action of Mtb lipids on human host membrane and related cellular events represents a golden opportunity to deepen the understanding of the function of Mtb lipids in membrane-dictated bacterial survival, pathogenesis, and drug resistance.
- ⌚ Scientists are also investigating the role of Mtb lipids in drug-membrane interactions, underscored by the fact that lipids critically dictate the molecular interactions of drugs with membranes influencing drug diffusion, partitioning, and accumulation.
- ⌚ Membrane structures specific to mycobacterial lipids have also been developed which can act as 'cell-free' platforms for **anti-tubercular (relating to TB) drug interactions**. They would help in:
 - ⦿ Investigating antibiotic interactions with mycobacterial (causative agent of Tuberculosis) specific membranes for **future antibiotic design**.
 - ⦿ Shaping the **effectiveness** of already existing anti-TB drug molecules and fostering development of new ones.
 - ⦿ Investigation of host **cellular pathways** rewired by pathogenic factors and elucidate possible **therapeutic targets in Tuberculosis**.

Huntington Disease

Why in News

A team of scientists from the **National Centre for Cell Science (NCCS), Pune** studied the **HTT gene in fruit flies**.

- ⌚ Mutations in the HTT gene (also called Huntington or HD gene) cause Huntington Disease (HD).

Huntington Disease

- ⌚ Huntington Disease (HD) is a **progressive genetic disorder** which **affects the brain**.
- ⌚ It causes uncontrolled movements, impaired coordination of balance and movement, a decline in cognitive abilities, difficulty in concentrating and memory lapses, mood swings and personality changes.
- ⌚ The HTT genes are involved in the production of a **protein called huntingtin**. They provide the instruction for making the protein.
 - ⦿ Mutated genes provide faulty instructions leading to production of abnormal huntingtin proteins and formation of clumps.
 - ⦿ These clumps disrupt the normal functioning of the brain cells, which eventually leads to death of neurons in the brain, resulting in Huntington disease.
- ⌚ No cure exists, but drugs, physiotherapy and talk therapy can help manage some symptoms.

National Centre for Cell Science

- ⌚ It is a national level, biotechnology, tissue engineering and tissue banking research center located at Savitribai Phule Pune University, Pune.
- ⌚ It is one of the premier research centers in India, which works on cell-culture, cell-repository, immunology, chromatin-remodelling.

MACS 4028 Wheat Variety

Recently, scientists from Agharkar Research Institute (ARI), Pune, have developed a **biofortified durum wheat variety MACS 4028**.

- ⌚ ARI Pune is an autonomous institute under the **Department of Science & Technology, Government of India**.

Key Points

- ⌚ Biofortified durum MACS 4028 wheat variety shows **high protein content of about 14.7%, better nutritional quality having zinc 40.3 ppm, and iron content of 40.3 ppm and 46.1 ppm respectively, good milling quality** and overall acceptability.
 - ⦿ ppm stands for parts per million.
- ⌚ MACS 4028, is a **semi-dwarf variety**, which matures in 102 days and has shown the superior and **stable yielding ability** of 19.3 quintals per hectare.

Note:

- ⌚ **Biofortification** is a process to increase the bioavailability and the concentration of nutrients in crops through both conventional plant breeding and **genetic engineering**.
- ⌚ **Durum** is a kind of hard wheat grown in arid regions that is typically ground into semolina and used to make pasta.
 - ⦿ **Durum wheat, or Triticum turgidum, is the second most cultivated species of wheat after bread wheat**, which is also called common wheat or **Triticum aestivum**.
- ⦿ It is **resistant to stem rust, leaf rust, foliar aphids, root aphids, and brown wheat mite**.
- ⌚ The MACS 4028 variety is also included by the **Krishi Vigyan Kendra (KVK)** programme for United Nations Children's Fund (UNICEF) to alleviate malnutrition in a sustainable way and can boost the Vision 2022 **"Kuposhan Mukh Bharat"**, the National Nutrition Strategy.
 - ⦿ The **Indian Council of Agricultural Research (ICAR)** has also tagged this variety under the **Biofortified category** during the year 2019.
- ⌚ MACS 4028 has been notified by the Central Sub-Committee on Crop Standards, Notification and Release of Varieties for Agricultural Crops (CVRC) for **timely sown, rainfed condition of Peninsular Zone, comprising Maharashtra and Karnataka**.
 - ⦿ In the peninsular zone of India (Maharashtra and Karnataka states), wheat cultivation is majorly done under rainfed and limited irrigation conditions. Under such conditions, the crop experiences moisture stress.
- ⌚ Efforts for the development of high yielding, early maturing varieties with good quality and disease resistance for rainfed conditions are carried out at **Agharkar Research Institute, Pune** under **All India coordinated Wheat and Barley improvement programme**, coordinated through **Indian Institute of Wheat and Barley Research, Karnal** governed by the ICAR.
 - ⦿ The MACS 4028 is an outcome of such intervention for the farmers.
- ⌚ **All India Coordinated Research Project on Wheat and Barley (AICRP)** mandates **multidisciplinary and multilocational testing of varietal, newly developed**

improved genotypes, crop management and crop protection technologies across the diverse ecosystems for increasing and stabilizing the wheat production.

Wheat

- ⌚ This is the **second most important cereal crop in India after rice**.
- ⌚ It is the main food crop, in the north and north-western part of the country.
- ⌚ Wheat is a **rabi crop** that requires a cool growing season and a bright sunshine at the time of ripening.
- ⌚ It requires 50 to 75 cm of annual rainfall evenly distributed over the growing season.
- ⌚ There are **two important wheat-growing zones** in the country – the **Ganga-Satluj plains in the north-west and black soil region of the Deccan**.
- ⌚ The Major wheat-producing states are **Punjab, Haryana, Uttar Pradesh** etc.

Operation Namaste: Indian Army

Why in News

The **Indian Army** has code-named its **anti-Covid-19 campaign** as **Operation Namaste** to help the government in its fight against the pandemic.

Key Points

- ⌚ **Soldiers are advised to follow the lockdown**, wherever they do not have any operational role, and stay fit. They are assured that their families will be well taken care of.
 - ⌚ **Leave extension** of those on leave as well as **curtailment of leave** to bare minimum have been imposed.
 - ⌚ **Segregation facilities** have been set up to observe troops already back from leave from various states.
- ⌚ So far **six quarantine facilities** at Manesar, Jaisalmer, Jodhpur, Chennai, Hindan and Mumbai have been established where 1,463 people evacuated from coronavirus-affected countries have been accommodated.
 - ⌚ The forces are setting up more such facilities at Kolkata, Visakhapatnam, Kochi, Dundigal, Bengaluru, Kanpur, Jaisalmer, Jorhat and Gorakhpur which can be ready within 72 hours, if needed.

⌚ **28 Armed Forces hospitals have been earmarked as Covid hospitals.**

- ⌚ These hospitals will include armed forces patients as well as civilian patients transferred from state health authorities.
- ⌚ Five hospitals from the Army, Navy and the Air Force are conducting coronavirus tests using the **RT-PCR methodology** and more hospitals will be equipped soon with the resources.
- ⌚ 62 Cantonment Boards have been instructed to identify beds in hospitals and health centres and guesthouses for any eventuality.

Contributions by Other Forces

- ⌚ Recently, **Defence Research and Development Organisation (DRDO)** also came forward to help by **developing ventilators** and providing other medical equipment.
- ⌚ **Indian Navy** also contributed by delivering 60,000 face masks ordered by **Indian Medical Association, Goa** which were stuck in Delhi due to the lockdown.
 - ⌚ **Ilyushin 38 SD** departed **INS Hansa** for Palam Airport, New Delhi and returned on the same day with the masks.

DRDO Developed Ventilators

Why in News

Recently, the **Defence Research and Development Organisation (DRDO)** has developed a ventilator and plans to produce 5,000 of them per month to treat **Covid-19** patients.

Key Points

- ⌚ DRDO had developed a ventilator along with the **Society for Biomedical Technology (SBMT)** and now the technology has been transferred to an industry in Mysuru.
 - ⌚ The industry is producing the secondary version of a ventilator initially developed by DRDO.
 - ⌚ Currently, it has a capacity to manufacture 5,000 ventilators per month and this could be scaled up to 10,000 per month.
- ⌚ **Other contributions by DRDO:**
 - ⌚ DRDO laboratories have **manufactured 20,000 litres of sanitiser** and supplied to various organisations like Delhi police.

- ⊙ It has **developed N-99 and 3-layered masks** and **supplied** 10,000 masks to Delhi police personnel.
- ⊙ It is **tying up with some private companies** to make **personal protection equipment** such as body suits and also ventilators.
- ⊙ It is working on **providing ready-to-eat meals** for the government and health workers through the Defence Food Research Laboratory, Mysore which already supplies them to the armed forces.
- ⊙ The **Ordnance Factory Board (OFB)** has also **increased the production of sanitisers, masks and bodysuits.**

Defence Research and Development Organisation

- ⌚ It works under the **administrative control** of the **Ministry of Defence.**
- ⌚ It's **objective** is to establish a world class science and technology base for India and provide Indian Defence Services decisive edge by equipping them with internationally competitive systems and solutions.
- ⌚ It was **established in 1958** after **combining** Technical Development Establishment (TDEs) of the Indian Army and the Directorate of Technical Development & Production (DTDP) with the Defence Science Organisation (DSO).
- ⌚ **Mission:**
 - ⊙ Design, develop and lead to production state-of-the-art sensors, weapon systems, platforms and allied equipment for Indian Defence Services.
 - ⊙ Provide technological solutions to the services to optimise combat effectiveness and to promote well-being of the troops.
 - ⊙ Develop infrastructure and committed quality manpower and build strong indigenous technology base.

Society for Biomedical Technology

- ⌚ It is an **inter-ministerial initiative of the Government of India** established to **promote healthcare** by providing indigenous solutions in the field of medical equipment and devices.
- ⌚ It was established under the **Department of Defence Research and Development (DRDO)** in collaboration with the Ministry of Science and Technology, Ministry of Social Justice and Empowerment and Ministry of Health & Family Welfare.

Ordnance Factory Board

- ⌚ The OFB which comprises 41 ordnance factories is **headquartered at Kolkata.**
- ⌚ Indian Ordnance Factories is the **oldest and largest industrial setup** which functions under the **Department of Defence Production of the Ministry of Defence.**
- ⌚ The ordnance factories form an **integrated base for indigenous production of defence hardware and equipment**, with the **primary objective of self reliance** in equipping the armed forces with state of the art battlefield equipment.

Humidity and Spread of Coronavirus

Why in News

Recently, a study by researchers at the **Massachusetts Institute of Technology (MIT)** in the United States found that regions experiencing a monsoon might see a slowdown (not a stop) in transmission of the coronavirus as a result of moderate levels of humidity.

- ⌚ This could help **mitigation strategies in tropical countries** such as India.

Key Points

- ⌚ The findings show that 90% of the novel coronavirus transmissions have occurred in regions with **temperatures between 3 and 17 degrees Celsius.**
- ⌚ These regions also had an **average humidity range of 3-9 gram per cubic metre (g/m³).**
- ⌚ These regions comprised the **United States and several European countries** that are inundated by **Covid-19** infections.
- ⌚ There are comparatively **fewer infections in warmer and humid countries** such as Singapore, Australia, Taiwan and Qatar.
 - ⊙ It is also possible that **warmer temperatures retarded the spread of the virus.**
- ⌚ A series of experimental studies have shown that the **Coronaviruses** are sensitive to humidity and are less likely to thrive at moderate levels of humidity.
- ⌚ A 2018 study in the peer-reviewed Applied and Environmental Microbiology concluded that

- ⌚ Coronavirus thrived when the **Relative Humidity (RH)** (the proportion of water vapour in the air compared to what's the maximum possible) exceeded 85% or dipped below 60%.
- ⌚ There is a **significant decrease in infectivity at mid-range RHs** (60 to 85%).
- ⌚ A similar experiment that tested the ability of viruses to survive on **stainless steel surfaces**, found that:
 - ⌚ At 4°C, infectious viruses persisted for as long as 28 days.
 - ⌚ The lowest level of inactivation occurred at 20% RH.
 - ⌚ Inactivation was quicker at 20°C than at 4°C at all humidity levels.
 - ⌚ The slowest inactivation occurred at low levels of RH.

Sodium Hypochlorite Sprayed on Migrants

Why in News

Recently, migrant labourers returning to their homes from urban centres were forced to take an open bath with disinfectant before they were allowed to enter **Bareilly (Uttar Pradesh)**.

- ⌚ It was done in order to **prevent Covid-19 from spreading** even further in the town.
- ⌚ The Medical Officer of Bareilly has informed that **sodium hypochlorite solution** was sprayed on the migrants.

Sodium Hypochlorite

- ⌚ Sodium hypochlorite is commonly used as a **disinfectant**, a **bleaching agent**, and also to **sanitise swimming pools**.

- ⌚ It **releases chlorine**, which is a disinfectant and big quantities of chlorine can be harmful.
- ⌚ **Uses:**
 - ⌚ A **normal household bleach** usually is a **2-10%** sodium hypochlorite solution.
 - ⌚ At a much lower **0.25-0.5%**, this chemical is used to **treat skin wounds** like cuts or scrapes.
 - ⌚ An even **weaker solution (0.05%)** is sometimes used as a **handwash**.
- ⌚ **Harmful effects on human beings:**
 - ⌚ Sodium hypochlorite is **corrosive**, and is meant largely to clean hard surfaces.
 - ⌚ If it gets inside the body, it can cause **serious harm to lungs**.
 - ⌚ Even a 0.05% solution could be very **harmful for the eyes**.
 - ⌚ It can cause **itching or burning** and is not recommended to be used on human beings, certainly not as a spray or shower.
- ⌚ **Effect on the novel coronavirus:**
 - ⌚ The **World Health Organization (WHO)**, and the US Centers for Disease Control and Prevention, **recommend homemade bleach solutions** of about 2-10% concentration to clean hard surfaces to **disinfect them from coronavirus**.
 - ⌚ A Michigan State University tutorial says that cleaning hard surfaces with this solution can disinfect them not just from novel coronavirus but also **help prevent flu, food borne illnesses, and more**.
 - ⌚ However, it advises to **always use the bleach in a well-ventilated area and wear gloves** when handling the product or solution.

Environment and Ecology

Highlights

- ⌘ Olive Ridley Turtle
- ⌘ Earth Hour
- ⌘ World Water Day
- ⌘ Legacy Waste
- ⌘ House Sparrow
- ⌘ Krishna Raja Sagar (KRS) Dam
- ⌘ Teesta River

Olive Ridley Turtle

Why in News

- 🕒 Recently, mass nesting of **Olive Ridley Turtles** started at Odisha's Rushikulya rookery coast.
- ⌚ The **Rushikulya rookery on the coast of Odisha in India is the largest mass nesting site for the Olive-ridley**, followed by the coasts of Mexico and Costa Rica.



Key Points

- 🕒 **Features:** The Olive ridley turtles are the **smallest and most abundant of all sea turtles** found in the world.
 - ⌚ These turtles are **carnivores** and get their name from their olive colored carapace.
- 🕒 **Habitat:** They are **found in warm waters of the Pacific, Atlantic and Indian oceans.**
- 🕒 **Migration:** They migrate thousands of kilometers between feeding and mating grounds in the course of a year.
- 🕒 **Arribada (Mass Nesting):** They are best known for their **unique mass nesting called Arribada**, where thousands of females come together on the same beach to lay eggs.
 - ⌚ They lay their eggs over a period of five to seven days in conical nests about one and a half feet deep which they dig with their hind flippers.
- 🕒 **Threats:** They are extensively **poached for their meat, shell and leather, and their eggs.** However, the most severe threat they face is the **accidental killing through entanglement in trawl nets and gill**

nets due to uncontrolled fishing during their mating season around nesting beaches.

- 🕒 **Protection Status and Steps Taken:** The species is recognized as **Vulnerable by the IUCN Red list**, they are also **protected under CITES Appendix I**. They are also listed on Schedule – I of the **Indian Wildlife (Protection) Act, 1972.**
 - ⌚ To reduce accidental killing in India, the Orissa government has made it mandatory for **trawls to use Turtle Excluder Devices (TEDs)**, a net specially designed with an exit cover which allows the turtles to escape while retaining the catch.

Earth Hour

- 🕒 Earth Hour was observed on 28th March this year.
- 🕒 It is the **World Wildlife Fund for Nature's (WWF)** annual initiative that began in 2007.
- 🕒 It is held **every year on the last Saturday of March.**
- 🕒 It encourages people from more than 180 countries to **switch off the lights from 8.30 pm to 9.30 pm as per their local time.**

World Wildlife Fund for Nature

- 🕒 It is the world's leading conservation organization and works in more than 100 countries.
- 🕒 It was **established in 1961** and is **headquartered at Gland, Switzerland.**
- 🕒 Its mission is to **conserve nature and reduce the most pressing threats** to the diversity of life on Earth.
- 🕒 WWF collaborates at every level with people around the world to develop and deliver innovative solutions that protect communities, wildlife, and the places in which they live.

- ⌚ The idea is to refrain from the use of non-essential lighting to save energy in a symbolic call for environmental protection.
- ⌚ Earth Hour has become a **catalyst for positive environmental impact**, driving major legislative changes by harnessing the power of the people and collective action.

World Water Day

- ⌚ It is observed on **22 March every year**. It focuses on the importance of freshwater.
- ⌚ It has been observed **since 1993** and intends to raise awareness of the 2.2 billion people living without access to safe water.
- ⌚ The **theme for 2020 is 'Water and Climate Change'** which aims to explore interrelation between water and climate change.
- ⌚ A core focus of World Water Day is to support the achievement of **Sustainable Development Goal (SDG) 6: water and sanitation for all by 2030**.
- ⌚ In addition to it, the **International Decade for Action on Water for Sustainable Development (2018-2028)** is being observed.
- ⌚ These observances serve to reaffirm that water and sanitation measures are key to poverty reduction, economic growth, and environmental sustainability.

Note:

- ⌚ **22 March:** World Water Day
- ⌚ **22 April:** Earth Day
- ⌚ **22 May:** World Biodiversity Day

Legacy Waste

Why in News

Recently, the **National Green Tribunal (NGT)** has directed a committee to assess the amount of damage caused to the environment due to the dump sites (legacy waste) in Delhi.

- ⌚ The committee comprises representatives from the **Central Pollution Control Board, National Environmental Engineering Research Institute (NEERI)** and IIT Delhi.

Key Points

- ⌚ Legacy wastes are the wastes that have been collected and kept for years at some barren land or a place dedicated for Landfill (an area to dump solid waste).
- ⌚ This waste can be roughly grouped into **four categories**:
 - ⊙ Contained and/or stored waste (contained or stored waste are wastes in tanks, canisters, and stainless steel bins).
 - ⊙ Buried waste.
 - ⊙ Contaminated soil and groundwater
 - ⊙ Contaminated building materials and structures.
- ⌚ **Biomining method** has been proposed by the Central Pollution Control Board (CPCB) for the effective disposal of legacy wastes.
- ⌚ **Environmental Impact of Legacy Waste**
 - ⊙ Legacy wastes not only **occupy large space**, but also become a **breeding ground** for pathogens, flies, malodours and generation of leachate, which may lead to **water contamination**.
 - ⊙ They also contribute to generation of **greenhouse gases** and **pose risk of uncontrollable fire**.

Biomining

- ⌚ Biomining is the process of **using microorganisms (microbes)** to extract metals of economic interest from rock ores or mine waste.
- ⌚ Biomining techniques may also be used to **clean up sites** that have been polluted with metals.
- ⌚ It is usually used for old dumped waste that remains in a **partly or fully decomposed state with no segregation in existence between wet and dry waste**.
- ⌚ In the cost effective method of biomining, treatment is done by dividing the garbage heap at the site into suitable blocks to let the air percolate in the heap.
- ⌚ As a result, the leachate which is the water in the heap with suspended solid particles is drained off and microbes are sprayed in the heap to initiate biological decompositions.
- ⌚ The waste is turned over several times in order to devoid the waste to leachate as much as possible.
- ⌚ This biological decomposition of the waste **decreases the volume of the waste by 40%**.

House Sparrow

Why in News

Every year **March 20** is observed as the '**World Sparrow Day**' to raise awareness about the bird.

- ⌚ The Day was **first celebrated in 2010**.
- ⌚ The initiative was started by the '**Nature Forever Society (NFS)**' of India.
- ⌚ In India, **House Sparrow** is found throughout the country, up to the Assam valley and lower parts of the Assam hills. Towards the eastern Himalayas, the species is replaced by the **Eurasian tree sparrow**.

Key Points Related to House Sparrow

- ⌚ **Scientific Name** - *Passer domesticus*
- ⌚ **Conservation Status** - Least Concern on the Red List of The International Union for Conservation of Nature (IUCN).
- ⌚ **Habitat and Distribution**
 - ⊙ The house sparrow is widespread across the world, inhabiting every continent, **except Antarctica, China and Japan**. It is native to **Eurasia and North Africa**.
- ⌚ It is the **State bird of Bihar and Delhi**.
- ⌚ It is known to stay **close to human habitations**, and is therefore among the most commonly found bird species in urban cities.
- ⌚ Some of the **causes for decline in its population** are as follow:
 - ⊙ Unfriendly architecture of our homes.
 - ⊙ The use of chemical fertilisers in crops.
 - ⊙ Noise pollution.
 - ⊙ Exhaust fumes from vehicles.

Krishna Raja Sagar (KRS) Dam

Why in News

The water level in the **Krishna Raja Sagar (KRS) Dam in Mandya district (Karnataka)** is coming down rapidly owing to the increase in the evaporation rate and the decrease in the inflows as a result of summer.

Key Points

- ⌚ The Krishna Raja Sagar Dam was built across river Kaveri for the **Mysore and Mandya districts in Karnataka** in 1932.

- ⊙ The dam is named for the then ruler of the Mysore Kingdom, **Krishnaraja Wodeyar IV**.



- ⊙ The Dam is the creation of one of the greatest engineers that India had produced, **Sir M. Vishweshwaraiah**. His birthday, **15th September is celebrated as Engineers day**.

- ⌚ The reservoir is also the main source of drinking water for **all of Mysore city and almost the whole of Bangalore**.
- ⌚ The water released from this dam is further used as an important source of water in the **state of Tamil Nadu**.

Kaveri River

- ⌚ **Source:** The river rises on Brahmagiri Hill of the Western Ghats in southwestern Karnataka.
- ⌚ **Drainage Basin:** It flows in a southeasterly direction through the states of Karnataka and Tamil Nadu, and descends the Eastern Ghats in a series of **great falls**. Before emptying into the Bay of Bengal south of Cuddalore, Tamil Nadu, the river breaks into a large number of distributaries forming a wide delta called the "**garden of southern India**".
- ⌚ **Tributaries:** Arkavathi, Hemavathi, Lakshmana Theertha, Shimsa, Kabini and Harangi.

Teesta River

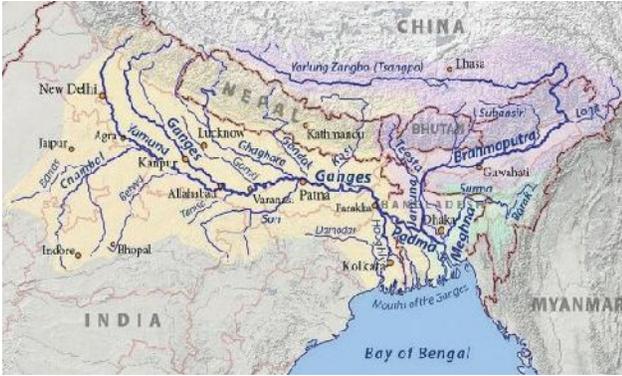
Why in News

The **Border Roads Organisation (BRO)** has opened a 360 feet long bailey suspension bridge over Teesta river in Munshithang, Sikkim.

- ⌚ The construction was commenced in October 2019 under **Project Swastik**.
- ⌚ The bridge will help the state tourism in growing and facilitate the movement of logistics for the Armed Forces deployed in the state.

Key Points

- ⌚ Teesta river is a **tributary of the Brahmaputra** (known as **Jamuna in Bangladesh**), flowing through India and Bangladesh.



- ⌚ It **originates in the Himalayas** near Chunthang, **Sikkim** and flows to the south through **West Bengal** before entering **Bangladesh**.
- ⌚ Originally, the river continued southward to empty directly into the Padma River (main channel of Ganga in Bangladesh) but around 1787 the river changed its course to flow eastward to join the Jamuna river.
- ⌚ The **Teesta Barrage** dam helps to provide irrigation for the plains between the upper Padma and the Jamuna.

⌚

Border Roads Organization

- ⌚ It was conceived and raised in **1960 by Pandit Jawaharlal Nehru** for coordinating the speedy development of a **network of roads in the North and the North Eastern border** regions of the country.
- ⌚ It works under the **administrative control** of the **Ministry of Defence**.
- ⌚ BRO is regarded as a symbol of **nation-building, national integration** and an inseparable component in maintaining the security and integrity of the country.
- ⌚ The executive arm of the BRO, the **General Reserve Engineer Force (GREF)**, is a combined force consisting of members of the Army and GREF.
- ⌚ It has diversified into a large spectrum of construction and development works comprising airfields, building projects, defence works and tunneling and has endeared itself to the people.



Social Issues

Highlights

- ⌘ Permanent Commission for Women in Indian Navy
- ⌘ Rashtriya Vayoshri Yojana
- ⌘ Mid Day Meal
- ⌘ Rashtriya Kishor Swasthya Karyakram
- ⌘ Tech For Tribals: TRIFED
- ⌘ Ayush Wellness Centres under National Ayush Mission
- ⌘ School Health Programme: Ayushman Bharat
- ⌘ OneHealth Approach
- ⌘ Maharashtra: Top Performer in Organ Donation
- ⌘ Covid-19 and 'Force Majeure'
- ⌘ World Tuberculosis Day
- ⌘ Eklavya Model Residential and Day Boarding Schools

Permanent Commission for Women in Indian Navy

Why in News

Recently, the Supreme Court upheld **the right of serving Short Service Commission (SSC) women officers of the Navy to be granted Permanent Commission (PC)** on par with their male counterparts.

- ⌚ The judgment was based on a case filed by 17 women SSC officers who were denied PC and discharged despite completing 14 years of service as SSC officers.
- ⌚ The verdict comes after the top court had **opened the doors for similarly-placed women officers in the Army.**

Note:

- ⌚ A **permanent commission** entitles an officer to serve in the Navy **till he/she retires** unlike **Short Service Commission (SSC), which is currently for 10 years** and can be **extended by four more years**, or a total of 14 years.

Key Points

- ⌚ **PC for Women:**
 - ⌚ SC has directed that SSC women officers, found suitable for the grant of PC, shall be entitled to **all consequential benefits, including arrears of pay, promotions and retirement benefits as and when due.**
 - ⌚ The grant of PCs will be subject to availability of vacancies in the stabilised cadre, suitability of

the candidate and recommendation by the chief of Naval Staff.

⌚ Criticism of Government's View:

- ⌚ It rejected the submissions of the Centre stating that **certain sea-sailing duties are ill-suited for women officers** as there is no return to the base, unlike in the Army and the Air Force.

⌚ Stand against Discrimination:

- ⌚ The Court **denied the discrimination on the grounds of physiology, motherhood and physical attributes** of the women officers in the Indian Navy.
- ⌚ Thus, the judgement ensured the **right to fair and equal treatment with constitutional entitlement to dignity at the workplace for women.**

⌚ Previous Notifications for PC of Women:

- ⌚ The Court stated that the government had already drawn up **policies in 1991 and 1998 to give Permanent Commission to women in the Navy.**
 - ⌘ The 1991 notification lifted the restriction on the appointment or enrolment of women for specified cadres/branches of the Navy.
 - ⌘ The 1998 notification made women eligible for appointment as officers in all the branches of the Indian Navy.
- ⌚ It also directed the stipulation in a **policy letter dated 26th September 2008**, making the grant of PC prospective and restricting its application to specified cadres/branches of the Navy **shall not be enforced.**

Rashtriya Vayoshri Yojana

Why in News

Recently, the **Ministry of Social Justice and Empowerment** has informed about the implementation of the **Rashtriya Vayoshri Yojana (RVY)** in the country.

Key Points

- ⌚ Rashtriya Vayoshri Yojana is the scheme of the **Ministry of Social Justice and Empowerment**.
- ⌚ It was launched in **2017**.
- ⌚ It is a **central sector scheme** funded from the **Senior Citizens' Welfare Fund**. The fund was notified in the year 2016.
 - ⦿ All unclaimed amounts from small savings accounts, PPF and EPF are transferred to this fund.
- ⌚ It aims to provide **aids and assistive living devices to senior citizens belonging to Below Poverty Line (BPL) category** who suffer from age-related disabilities such as low vision, hearing impairment, loss of teeth and locomotor disabilities.
 - ⦿ The aids and assistive devices, viz walking sticks, elbow crutches, walkers/crutches, tripods/quad pods, hearing aids, wheelchairs, artificial dentures and spectacles are provided to eligible beneficiaries.
- ⌚ The scheme is being implemented by **Artificial Limbs Manufacturing Corporation of India (ALIMCO)**, which is a **public sector undertaking** under the Ministry of Social Justice and Empowerment.

Mid Day Meal

Why in News

- ⌚ Recently, the Ministry of Human Resource Development (HRD) has asked state governments to provide **Mid Day Meals (MDM) or food security allowance** whichever is feasible, to all eligible children till schools are closed due to Covid-19.
 - ⦿ Kerala is already providing hot-cooked meals to students at home.
 - ⦿ The schools across the country have been closed to contain the transmission of **Covid-19 outbreak**.

Key Points

- ⌚ The Ministry's order came after the Supreme Court issued notices to all state governments to explain how they would ensure the midday meals reach the vulnerable while schools stay shut.
- ⌚ According to the **MDM Rules 2015**, when meals cannot be provided to students on account of unavailability of foodgrains, cooking cost, or due to any other reason, the state government is expected to provide a **food security allowance to each child consisting of foodgrains and cooking cost entitlement**.
- ⌚ The MDM rules 2015, provide that:
 - ⦿ The **place of serving meals to the children shall be school only**.
 - ⦿ If the Mid-Day Meal is not provided in school on any school day due to non-availability of food grains or any other reason, the State Government shall pay **food security allowance** by 15th of the succeeding month.
 - ⦿ The meal shall be prepared in accordance with the Mid Day Meal guidelines issued by the Central Government from time to time.
 - ⦿ Procuring **AGMARK** quality items for preparation of midday meals, tasting of meals by two or three adult members of the school management committee, including at least one teacher, before serving to children.
 - ⦿ The School Management Committee mandated under **Right to Free and Compulsory Education Act, 2009** shall also monitor implementation of the Mid-day meal Scheme.
 - ⦿ The **State Steering-cum Monitoring Committee (SSMC)** shall oversee the implementation of the scheme including establishment of a mechanism for maintenance of nutritional standards and quality of meals.

Mid Day Meal Scheme

- ⌚ The MDM Scheme comes under the Ministry of HRD.
- ⌚ It was launched in the year 1995 as a **centrally sponsored scheme**.
- ⌚ The scheme provides that every child within the age group of **six to fourteen years** studying in **classes I to VIII** who enrolls and attends the school, shall be provided **hot cooked meal** having nutritional standards of 450 calories and 12 gm of protein for primary (I- V class) and 700 calories and 20 gm protein for upper

primary (VI-VIII class), free of charge every day except on school holidays.

- ⌚ The scheme covers all government and **government aided schools** and also Madarsa and Maqtabas supported under the **Samagra Shiksha Abhiyan**.

Samagra Shiksha Abhiyan

- ⌚ It is an **overarching programme launched in 2018** for the school education sector extending from **pre-school to class 12**.
- ⌚ It has been prepared with the broader goal of improving school effectiveness measured in terms of equal opportunities for schooling and equitable learning outcomes.
- ⌚ It subsumed the three schemes of **Sarva Shiksha Abhiyan (SSA)**, **Rashtriya Madhyamik Shiksha Abhiyan (RMSA)** and **Teacher Education (TE)**.

Rashtriya Kishor Swasthya Karyakram

- ⌚ **Rashtriya Kishor Swasthya Karyakram (RKSK)** was launched by the **Ministry of Health and Family Welfare (MoHFW) in 2014**.
- ⌚ It intends to **ensure holistic development of the adolescent population**.
- ⌚ The RKSK programme defines an **adolescent as a person within 10-19 years of age**, in **urban and rural areas**, including both **girls and boys, married and unmarried**, poor and affluent, whether they are in **school or out of school**.
- ⌚ The programme also focuses on reaching out to **all adolescents including those from the Lesbian, Gay, Bisexual, Transgender and Queer (LGBTQ) community**.
- ⌚ To guide the implementation of this programme, MoHFW, in **collaboration with the United Nations Population Fund (UNFPA)**, has developed a **National Adolescent Health Strategy**.
- ⌚ The **six thematic areas** of RKSK as well as that of the strategy are nutrition, sexual reproductive health, substance misuse, non-communicable diseases, mental health and injuries and violence.
- ⌚ The program envisages a **paradigm shift from the clinic-based services to the promotion and prevention services**. It also tries to reach adolescents in their own environment, such as in schools, families and communities.

- ⌚ The prime elements of the programme are:
 - ⦿ **Adolescent Friendly Health Clinics (AFHCs)**.
 - ⦿ **Weekly Iron Folic Acid Supplementation (WIFS) Programme**.
 - ⦿ **Peer Educator Programme**.
 - ⦿ **Menstrual Hygiene Scheme**.

Tech For Tribals: TRIFED

Why in News

- ⌚ Recently, the **Tribal Cooperative Marketing Development Federation of India (TRIFED)** has launched a transformational **“Tech For Tribals” program** in partnership with Institutes of National Importance (INIs) to develop Tribal entrepreneurship.

Key Points

- ⌚ **Tech For Tribals** program aims to **transform 5 crore Tribal Entrepreneurs by capacity building and imparting entrepreneurship skills to tribal forest produce gatherers** enrolled under the **Pradhan Mantri Van Dhan Yojana (PMVDY)**.
- ⌚ The program will ensure higher success rate of the Tribal Entrepreneurs by enabling and empowering them to run their business with marketable products with quality certifications.
- ⌚ Under the program **trainees will undergo a 30 days training program** over six weeks comprising 120 sessions. The **Partner institutions will develop course contents relevant to Entrepreneurship in Value Addition and Processing of Forest Produces**.
 - ⦿ The course curriculum will include achievement motivation and positive psychology, entrepreneurial competencies, capacity utilization, product positioning - Grading / Sorting, Branding, Packaging, etc.

TRIFED

- ⌚ The Tribal Cooperative Marketing Development Federation of India (TRIFED) came into existence in 1987. It is a national-level apex organization functioning **under the administrative control of the Ministry of Tribal Affairs**.
- ⌚ The **objective of TRIFED is socio-economic development of tribal people in the country by way of marketing development of the tribal products**

such as metal craft, tribal textiles, tribal paintings and pottery on which the tribals depend heavily for a major portion of their income.

- ⌚ It also involves capacity building of the tribal people through sensitization, formation of Self Help Groups (SHGs) and imparting training to them for undertaking a particular activity.
- ⌚ TRIFED has its Head Office located in **New Delhi** and has a network of 13 Regional Offices located at various places in the country.

Pradhan Mantri Van Dhan Yojana

- ⌚ It was launched in 2018, in Chhattisgarh. A Van Dhan Vikas Kendra was set up under the program.
- ⌚ The Van Dhan Vikas Kendra caters to ten Self Help Groups of thirty tribal gatherers each.

Ayush Wellness Centres under National Ayush Mission

Why in News

Recently, the Union Cabinet has approved the inclusion of **AYUSH Health and Wellness Centres** (AYUSH HWCs) in the **National AYUSH Mission** (NAM).

- ⌚ AYUSH HWCs are a component of the **Ayushman Bharat**.

Background

- ⌚ The **National Health Policy 2017** advocated for mainstreaming the potential of **AYUSH systems** (Ayurveda, Yoga & Naturopathy, Unani, Siddha, Sowa-rigpa and Homoeopathy) within a **pluralistic system of integrative healthcare**.
- ⌚ In 2018, the Government of India decided that **1.5 lakh health & wellness Centres** would be created by transforming existing sub-health centres and primary health centres **to deliver comprehensive primary health care**.
- ⌚ So, it was decided that the Ministry of AYUSH would operationalize 10% of the total sub-health centres as HWCs under Ayushman Bharat.

Key Points

- ⌚ **Cost and time:**
 - ⊙ **Expenditure** - 3399.35 Crore (with a **ratio of almost 2:1 between the centre and the states** respectively).

- ⊙ **Time** - Within a period of **five years** from **2019-20 to 2023-24**.
- ⌚ AYUSH HWCs operating under NAM will have the following **objectives**:
 - ⊙ To **establish a holistic wellness model** based on AYUSH principles and practices focusing on preventive, promotive, curative, rehabilitative and palliative healthcare by integration with the existing public health care system.
 - ⊙ To **provide informed choice** to the public in need, by making the AYUSH services available.
 - ⊙ To spread community awareness about lifestyle, yoga, medicinal plants and provision of medicines for selected conditions as per strength of AYUSH systems.
- ⌚ After consulting with the States/UTs, Ministry of Health and Family Welfare and other ministries involved, the **Ministry of AYUSH** has proposed **two models** for operationalization of AYUSH HWCs:
 - ⊙ **Upgradation of existing AYUSH dispensaries.**
 - ⊙ **Upgradation of existing Sub Health Centres (SHCs).**
- ⌚ **Benefits:**
 - ⊙ **Enhanced accessibility** to achieve universal health coverage for affordable treatment.
 - ⊙ **Reduced burden** on secondary and tertiary health care facilities.
 - ⊙ **Reduced out of pocket expenditure** due to self-care model.
 - ⊙ **Integration** of AYUSH in implementation of **Sustainable Development Goal (SDG) 3 (Good Health and Well-being)**, as mandated by the **NITI Aayog**.
 - ⊙ **Validated holistic wellness model in target areas.**

National Health Policy, 2017

- ⌚ It seeks to reach everyone in a comprehensive integrated way to move towards wellness.
- ⌚ It aims at **achieving universal health coverage** and delivering quality health care services to all at affordable cost.

National AYUSH Mission

- ⌚ It was launched by the **Department of AYUSH** under the **Ministry of Health and Family Welfare**, during the **12th Plan for implementation** through States/UTs.

🕒 **Objectives:**

- ⊙ To **promote** AYUSH medical systems through cost effective AYUSH services.
- ⊙ To **strengthen** the educational systems.
- ⊙ To **facilitate** the enforcement of quality control of Ayurveda, Siddha, Unani and Homoeopathy (ASU&H) drugs and sustainable availability of the raw-materials needed in them.
- ⊙ It envisages **flexibility of implementation** of the programmes which will lead to substantial participation of the State Governments/UT.

🕒 **Elements of the National AYUSH Mission:**

- ⊙ **Obligatory** Components
 - ⌘ AYUSH Educational Institutions.
 - ⌘ AYUSH Services.
 - ⌘ Medicinal Plants Quality Control of ASU&H Drugs.
- ⊙ **Flexible** Components
 - ⌘ AYUSH Wellness Centres comprising Yoga and Naturopathy.
 - ⌘ Tele-medicine.

School Health Programme: Ayushman Bharat

Why in News

Recently, the **Ministry of Human Resource and Development (HRD)** informed the Rajya Sabha about the implementation of **School Health Programme (SHP)**.

Key Points

🕒 **About the Programme:**

- ⊙ The School Health Programme (SHP) **under Ayushman Bharat** was launched in **2018** by the Prime Minister in Bijapur, Chhattisgarh.
- ⊙ It is a **joint collaborative** programme of the **Ministry of Health and Family Welfare** and the **Ministry of Human Resource and Development**.

🕒 **Vision:**

- ⊙ The initiative **targets both Education and Health** and intends to facilitate an **integrated approach to health programming** and more **effective learning** at the school level.

🕒 **Major Roles:**

- ⊙ Under the programme **teachers** act as **“Health and Wellness Ambassadors”** and disseminate various key information by organising culturally sensitive activity based sessions for one hour per week for 24 weeks in a year to promote joyful learning.
- ⊙ Further, the **students act as Health and Wellness Messengers** in the society and **every Tuesday** is dedicated as **Health and Wellness Day** in the schools.

🕒 **Objectives:**

- ⊙ Awareness about age appropriate information about health and nutrition to the children in schools.
- ⊙ Detection and treating diseases early in children and adolescents including identification of malnourished and anemic children.
- ⊙ Usage of safe drinking water in schools.
- ⊙ Promotion of safe menstrual hygiene practices by girls.
- ⊙ Promotion of yoga and meditation through Health and Wellness Ambassadors.
- ⊙ Encouragement for research on health, wellness and nutrition for children.

🕒 **Themes:**

- ⊙ The Programme is based on the **11 identified themes**.
- ⊙ Some of them are emotional wellbeing, interpersonal relationships, responsible citizenship, gender equality, reproductive health, HIV prevention, safety and security against violence and promotion of safe use of the internet.

🕒 **Linked with SDGs:**

- ⊙ The Ministry of Human Resource and Development and the Ministry of Health and Family Welfare (MoHFW) **along with National Council of Educational Research and Training (NCERT)** have also developed **curriculum framework and training material for training of nodal teachers**, in line with the **Sustainable Development Goals (SDG-3)**.
 - ⌘ SDG 3 aspires to ensure health and well-being for all.

🕒 **Integration with Other Initiatives:**

- ⊙ The initiative is also linked with other government initiatives such as **Fit India movement, Eat Right campaign, Poshan Abhiyaan** for an all-round and holistic development model of health for the school children.

- ⌚ Additionally, the government is implementing a few schemes on the similar lines namely, **Rashtriya Kishor Swasthya Program** and **Rashtriya Bal Swasthya Programme**.
 - ⌘ Rashtriya Kishor Swasthya Program intends to ensure holistic development of the adolescent population.
 - ⌘ Rashtriya Bal Swasthya Programme is aimed at early identification and intervention of diseases in children from their birth to 18 years of age.

OneHealth Approach

Why in News

Recently, to deal with zoonotic diseases, a need to operationalize "OneHealth" policy in India was highlighted.

- ⌚ Presently, India is dealing with **coronavirus (Covid-19)**. The virus appears to have its origin in bats.

OneHealth

- ⌚ OneHealth is an **approach** to designing and implementing programmes, policies, legislation and research in which **multiple sectors communicate** and work together to achieve **better public health outcomes**.
- ⌚ The **areas of work** in which a One Health approach is particularly relevant include **food safety**, the **control of zoonotic diseases** and **combating antibiotic resistance** (when bacteria evolve after being exposed to antibiotics and become more difficult to treat).
- ⌚ Although OneHealth, as a conceptual entity, emerged relatively recently, a stellar **example of OneHealth being operationalised in the field was seen in India in the late 1950s**.

Zoonotic Diseases

- ⌚ The diseases, which "**spillover**" from animals to humans are referred to as zoonotic diseases
- ⌚ They represent more than **60% of emerging infectious diseases** worldwide.
- ⌚ The destruction of the natural environment, globalised trade and travel and industrialised food production systems have created numerous pathways for new pathogens to jump between animals and humans.
- ⌚ **E.g.** Flu, rabies, etc.

India and OneHealth Approach

- ⌚ In the 1950s, the OneHealth approach helped discover the source of **Kyasanur Forest Disease (KFD)**, a highly dangerous haemorrhagic fever more threatening than Covid-19.
 - ⌚ This was the result of working of several organizations such as the Virus Research Centre (now known as the National Institute of Virology), Pune, the World Health Organization (WHO) and the Bombay Natural History Society.
- ⌚ In **2018**, Kerala reacted quickly and efficiently to tackle the **Nipah virus outbreak** and successfully managed to confine it to 23 cases.
 - ⌚ This success is credited to the strong public health infrastructure and the political will to quickly seek help from a multidisciplinary team of national and international experts.
- ⌚ One of the components of the **National Mission on Biodiversity and Human Well-being** explicitly links biodiversity to human health through the OneHealth framework.
 - ⌚ However, the regulatory framework for doing OneHealth research in India with international collaboration typically requires **approvals from multiple authorities**. This hampers the country's ability to rapidly respond to emerging threats from infectious diseases.

National Mission on Biodiversity and Human Well-being

- ⌚ The mission aims to explore the neglected links between biodiversity science and human well-being across the sectors of health, economic development, agricultural production and livelihood generation, in combination with efforts to mitigate climate change and related disasters.

Way Forward

- ⌚ The frequency with which new pathogens are emerging or old ones are re-emerging across the world are alarm calls for greater transparency, cross-country collaborations, and enhanced national infrastructure and capacity for integrated OneHealth science.
- ⌚ India needs to leap-frog over the systemic and institutional barriers that prevent an integrated OneHealth framework from being operationalised.

- ⌚ The OneHealth framework will help government and private institutions, across a range of disciplines, in collaborating to understand how zoonotic diseases can emerge, the threats they can pose, and the mechanisms by which the emergence or spread can be controlled.

Maharashtra: Top Performer in Organ Donation

Why in News

Recently, **Maharashtra surpassed** Tamil Nadu and Telangana and became the top performer in the field of **organ donation**.

- ⌚ Sensitisation drives and the meticulous efforts of **Regional Organ and Tissue Transplant Organisation – State Organ and Tissue Transplant Organisation (ROTTO-SOTTO)** along with four Zonal Transplant Coordination Centres (ZTCCs) are important contributing factors behind this achievement.

ROTTO-SOTTO

- ⌚ The **Ministry of Health and Family welfare** has established **National Organ and Tissue Transplant Organisation (NOTTO)** at National level, **State Organ and Tissue Transplant Organisation (SOTTO)** in States and **Regional Organ and Tissue Transplant Organisation (ROTTO)** at regional level.
- ⌚ National Network division of NOTTO functions as apex centre for coordinating all activities and networking for procurement and distribution of organs and tissues and maintaining registry of organs and tissues donation and transplantation in the country.

Organ Donation

- ⌚ **Organ donation** means giving part of the body (organ) to a person with end stage organ disease who needs a transplant.
- ⌚ The **organs that can be donated** for transplantation include kidney, liver, heart, lungs, and small bowel and **tissues** such as corneas, heart valves, skin and bone.
 - ⊙ Tissue means a group of cells performing a particular function in the human body such as bone, skin, cornea of the eye, heart valve, blood vessels, nerves and tendon etc.
- ⌚ **There are two types of organ donation:**

- ⊙ **Living Donor Organ Donation:** A person during his life can donate one kidney, a portion of pancreas and a part of the liver.
- ⊙ **Deceased Donor Organ Donation:** A person can donate multiple organs and tissues after (brain-stem/cardiac) death.

⌚ **Legal Framework:**

- ⊙ Organ Transplantation and Donation is permitted by law, and covered under the "**Transplantation of Human Organs Act 1994**", which has allowed organ donation by live & Brain-stem Dead donors.
- ⊙ In 2011, amendment of the Act also brought in donation of human tissues, thereby calling the Amended Act "Transplantation of Human Organs & Tissues Act 2011".
- ⌚ The Government of India has also started a **National Organ and Transplant Program (NOTP)**, under which patients below the poverty line are supported for the cost of transplant as well as cost of immunosuppression after transplant for one year.

Covid-19 and 'Force Majeure'

Why in News

- ⌚ In view of the **Covid-19 pandemic**, Indian Railways has decided that the period from 22.03.2020 to 14.04.2020 shall be treated under "**Force Majeure**".

Key Points

- ⌚ **Force Majeure (FM)** means extraordinary events or circumstances beyond human control such as an event described as an Act of God (like a natural calamity).
- ⌚ During this period **no demurrage, wharfage, stacking, stabling, detention and ground usage charge shall be leviable.**
- ⌚ Zonal Railways have been advised to coordinate with State Government authorities **to ensure logistics support** in order **to keep up the essential goods transportation.**

Force Majeure

- ⌚ Force majeure refers to a **clause that is included in contracts** to remove liability for natural and unavoidable catastrophes that interrupt the expected course of events and restrict participants from fulfilling obligations.

- ⌚ Force majeure clauses **excuse companies (or other parties to a contract) from meeting certain obligations** when events beyond their control interfere with their ability to hold up their end of the bargain.
- ⌚ If invoked, the clauses can relieve companies from commitments, temporarily or permanently, without being in breach of their agreement.

World Tuberculosis Day

Why in News

World Tuberculosis (TB) Day is observed on **24th March** every year to raise public awareness about the devastating health, social and economic consequences of TB and to step up efforts to end the global TB epidemic.

- ⌚ The date 24th March is chosen to commemorate the anniversary of **Dr. Robert Koch's discovery of the cause of Tuberculosis (Mycobacterium Tuberculosis) in 1882.**

Key Points

- ⌚ TB remains the **world's deadliest infectious killer.**
 - ⊙ Each day, over 4000 people lose their lives to TB and close to 30,000 people fall ill with this **preventable and curable disease.**
- ⌚ **Theme for 2020: 'It's time'.** It puts the accent on the **urgency to act on the commitments** made by global leaders to:
 - ⊙ scale up access to prevention and treatment.
 - ⊙ build accountability.
 - ⊙ ensure sufficient and sustainable financing including for research.
 - ⊙ promote an end to stigma and discrimination.
 - ⊙ promote an equitable, rights-based and people-centered TB response.
- ⌚ **Global Efforts:**
 - ⊙ The **World Health Organization (WHO)** has launched a **joint initiative "Find. Treat. All. #EndTB"** with the **Global Fund and Stop TB Partnership.**
 - ⌘ It aims to accelerate the TB response and ensure access to care, in line with WHO's overall drive towards **Universal Health Coverage.**
 - ⊙ WHO also releases the **Global Tuberculosis Report.**
- ⌚ **India's Efforts:**

resources to rapidly reduce TB incidence prevalence and mortality in India.

- ⊙ The **Ministry of Health and Family Welfare** is implementing the **National Strategic Plan (NSP)** for Tuberculosis Elimination (**2017-2025**).
- ⊙ The President of India had appealed to all the stakeholders to come together to reinforce the efforts in **"TB Harega Desh Jeetega Campaign"** to make it a true people's movement.

Tuberculosis

- ⌚ TB is caused by **bacteria (Mycobacterium tuberculosis)** that most often affect the lungs.
- ⌚ **Transmission:** TB is spread from **person to person through the air.** When people with TB cough, sneeze or spit, they propel the TB germs into the air.
- ⌚ **Symptoms:** Cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
- ⌚ **Treatment:** TB is a treatable and curable disease. It is treated with a **standard 6 month course of 4 antimicrobial drugs** that are provided with information, supervision and support to the patient by a health worker or trained volunteer.
- ⌚ Anti-TB medicines have been used for decades and strains that are resistant to 1 or more of the medicines have been documented in every country surveyed.
 - ⊙ **Multidrug-resistant tuberculosis (MDR-TB)** is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful, first-line anti-TB drugs. MDR-TB is treatable and curable by using second-line drugs.
 - ⊙ **Extensively drug-resistant TB (XDR-TB)** is a more serious form of MDR-TB caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.

Eklavya Model Residential and Day Boarding Schools

Why in News

- ⌚ In view of prevailing sensitive health conditions affecting community health due to **Covid-19**, the **Ministry of**

Tribal Affairs has asked the State Governments for rescheduling of holidays in **Eklavya Model Residential Schools (EMRS)** and **Eklavya Model Day Boarding Schools (EMDBS)**.

Eklavya Model Residential Schools

- ⌚ These schools **started in 1997-98** to impart **quality education to Scheduled Tribes (ST) children in remote areas**.
- ⌚ The schools focus not only on academic education but on the all-round development of the students.
- ⌚ The objective of EMRS is **to provide quality middle and high level education** to ST students in remote areas enabling them to avail of reservation in high and professional educational courses and also in government, public and private sector jobs.
 - ⊙ It also seeks to ensure that the standard of the education they get is, at par with the education of non-ST population.
- ⌚ Each school has a capacity of **480 students, catering to students from Class VI to XII**.

- ⌚ These are being set up by grants provided **under Article 275(1) of the Constitution** and are **funded by the Ministry of Tribal Affairs**.
- ⌚ In order to give further impetus to EMRS, it has been decided that by the **year 2022, every block with more than 50% ST population and at least 20,000 tribal persons**, will have an EMRS.
- ⌚ Eklavya schools are on par with Navodaya Vidyalaya and have special facilities for preserving local art and culture besides providing training in sports and skill development.

Eklavya Model Day Boarding Schools

- ⌚ Wherever **density of ST population is higher** in identified Sub-Districts (90% or more), it is proposed to set up Eklavya Model Day Boarding School (EMDBS) on an experimental basis for providing additional scope for ST Students seeking to avail of school education without residential facility.



Art & Culture

Highlights

- ⌘ *Classical Languages*
- ⌘ *Mamallapuram*
- ⌘ *Tara Tarini Temple*
- ⌘ *Navroz*
- ⌘ *Traditional New Year Festivals*
- ⌘ *Gond tribals & Covid-19*
- ⌘ *Tribal Lockdown Rituals*
- ⌘ *Dr. Ram Manohar Lohia*

Classical Languages

Why in News

Recently, a Bill to grant the status of Central universities to three deemed Sanskrit universities was passed by the Rajya Sabha.

- ⌚ The **Central Sanskrit Universities Bill, 2019** gives Central status to the Rashtriya Sanskrit Sansthan and Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeeth in Delhi and the Rashtriya Sanskrit Vidyapeeth in Tirupati.
- ⌚ The **Government has been accused of neglecting other classical languages** in India.

Key Points

- ⌚ Currently there are **six languages** that enjoy the '**Classical**' status in India:
 - ⌚ Tamil (declared in 2004), Sanskrit (2005), Kannada (2008), Telugu (2008), Malayalam (2013), and Odia (2014).
- ⌚ The **Ministry of Culture** provides the guidelines regarding Classical languages.
- ⌚ **Guidelines for declaring a language as 'Classical' are:**
 - ⌚ High antiquity of its early texts/recorded history over a period of 1500-2000 years;
 - ⌚ A body of ancient literature/texts, which is considered a valuable heritage by generations of speakers;
 - ⌚ The literary tradition be original and not borrowed from another speech community;
 - ⌚ The classical language and literature being distinct from modern, there may also be a discontinuity between the classical language and its later forms or its offshoots.

- ⌚ Once a language is notified as a Classical language, the **Human Resource and Development Ministry provides certain benefits to promote it:**
 - ⌚ Two major annual international awards for scholars of eminence in classical Indian languages.
 - ⌚ A Centre of Excellence for studies in Classical Languages is set up.
 - ⌚ The University Grants Commission is requested to create, to start with at least in the Central Universities, a certain number of Professional Chairs for the Classical Languages so declared.

Mamallapuram

- ⌚ **Location:** Mamallapuram, also called **Mahabalipuram** or **Seven Pagodas**, is a town that lies along the Coromandel Coast of the Bay of Bengal, **south of Chennai (Tamil Nadu)**.
- ⌚ **History:**
 - ⌚ It is an important town of the **erstwhile Pallava dynasty** that ruled in parts of **South India** from 275 CE to 897 CE.
 - ⌚ It was **founded by the Pallava king Narasimhavarman I** in the 7th century AD.
 - ⌚ The name Mamallapuram derives from **Mamalla**, or "**great warrior**", a title by which the Pallava King Narasimhavarman I was known.
 - ⌚ The **name Mamallapuram got distorted during the British era to Mahabalipuram** and thus it is also known as Mahabalipuram.



- 🕒 **Architecture:**
 - ⦿ Mamallapuram contains many surviving 7th and 8th century Pallava temples and monuments, chief of which are the **sculptured rock relief** popularly known as “**Arjuna’s Penance**”, or “**Descent of the Ganges**”, a series of sculptured **cave temples**, and the **Shore Temple**.
 - ⦿ The town’s **Five Rathas**, or monolithic temples, are the remnants of seven temples, for which the town was known as Seven Pagodas. The entire assemblage collectively was designated a **UNESCO World Heritage Site** in 1984.
- 🕒 **Significance:**
 - ⦿ Ancient Chinese, Persian, and Roman coins found at Mamallapuram point that it was a **seaport**.
 - ⦿ Mamallapuram and the Pallava dynasty are also historically relevant, for the earliest recorded **security pact between China and India** (in the early 8th century) that involved a Pallava king (Rajasimhan, or **Narasimha Varma II**), from whom the Chinese sought help to counter Tibet.
 - ⦿ The **second informal summit between India and China** was held here in October 2019.

Tara Tarini Temple

Why in News

The annual **Chaitra Jatra festival** scheduled to be held on 17th March, 2020 at **Odisha’s Tara Tarini hill shrine** was **cancelled** as a precautionary measure against **Covid-19** infection.

- 🕒 The festival is **held on each Tuesday in the month of Chaitra**, which falls in March-April as per the English calendar.

Key Points

- 🕒 Tara Tarini hill shrine, located at a hilltop on banks of the **Rushikulya river**, is a major centre of **Shakti worship in Odisha**.
- 🕒 The twin goddesses Tara and Tarini represent one Shakti and are the **main deity of Ganjam district (Odisha)**.



- ⦿ **Tara** is an important deity of the **Mahayana Buddhist Sect**.
- 🕒 This temple had been built as per traditional **Rekha style of Odia temple architecture**, as per which famous Jagannath temple of Puri and Lingaraj temple of Bhubaneswar have been built.
- 🕒 Unlike other temples, it wasn’t built under the patronage of a King or a Noble, the temple was set up by a **Brahmin named Basu Praharaj** as per popular legend.
- 🕒 Since its inception it has been an established **seat of Tantrism**.
- 🕒 Indian Navy’s sailboat **INSV Tarini** was named after Tara Tarini hill shrine. The first Indian all-woman crew had circumnavigated the globe in INSV Tarini.

Navroz

- 🕒 Navroz is the new year celebrations for **Parsis (Zoroastrians) and Muslims (both Shia and Sunni)**.
- 🕒 It is celebrated on **21st March every year**.
- 🕒 In 1079 AD, a **Persian (Iranian) king** named **Jalaluddin Malekshah** introduced this festival to generate revenue and collect taxes from people.
- 🕒 It was observed on March 21 to mark the beginning of spring and the day of equinox.
 - ⦿ The equinoxes are the only time when both the Northern and Southern Hemisphere experience roughly equal amounts of daytime and nighttime.
 - ⦿ The equinoxes happen in March (about March 21) and September (about September 23). These are the days when the Sun is exactly above the Equator, which makes day and night of equal length.
 - ⦿ March equinox is also known as vernal or spring equinox and the September equinox is also known as autumnal or fall equinox.
- 🕒 It is inscribed in the **list of UNESCO Intangible Cultural Heritage of Humanity of India**.
- 🕒 In India it is known as Jamshed Navroz.

Intangible Cultural Heritage of India			
Kumbh Mela	Yoga	Traditional brass and copper craft of utensils among thatheras of Punjab	Sankirtana (ritual singing, dancing and drumming of Manipur)

Buddhist chanting of Ladakh	Chhau Dance	Kalbelia (folk song and dance of Rajasthan)	Kutiyattam (a Sanskrit theatre of Kerala)
Tradition of Vedic Chanting	Ramlila	Novruz (Persian New Year)	Ramman (religious festival and ritual theatre of the Garhwal Himalayas)
Mudiyettu (ritual theatre dance drama of Kerala)			

Traditional New Year Festivals

Chaitra Shukla Pratipada

- It marks the beginning of the new year of the **Vikram Samvat** also known as the **Vedic [Hindu] calendar**.
- Vikram Samvat is based on the day when the **emperor Vikramaditya** defeated Sakas, invaded Ujjain and called for a new era.
- It is the first day during the waxing phase (in which the visible side of moon is getting bigger every night) of the moon in the Chaitra (first month of Hindu calendar).

Gudi Padwa and Ugadi

- These festivals are celebrated by the people in the Deccan region including **Karnataka, Andhra Pradesh and Maharashtra**.
- The common practice in the celebrations of both the festivals is the festive food that is prepared with a mix of sweet and bitter.
- Gudi is a doll prepared in Maharashtrian homes.
- For Ugadi, doors in homes are adorned with mango leaf decorations called toranalu or Torana in Kannada.

Cheti Chand

- Sindhis celebrate the new year as Cheti Chand. Chaitra month is called 'Chet' in Sindhi.
- The day commemorates the birth anniversary of Uderolal/Jhulelal, the patron saint of Sindhis.

Navreh

- It is the lunar new year that is celebrated in Kashmir.
 - It is the Sanskrit word 'Nav-Varsha' from where the word 'Navreh' has been derived.
- It falls on the first day of the Chaitra Navratri.
- On this day, Kashmiri pandits look at a bowl of rice which is considered as a symbol of riches and fertility.

Sajibu Cheiraoba

- It is a ritual festival of Meiteis which is observed on the first day of Manipur lunar month Shajibu, which falls in March/April every year.
- On the day of the festival, people arrange a joint family feast in which traditional cuisines are offered to local deities at the entrance gates of the houses.

Meities

- The Meiteis are one of the most eminent ethnic groups of Manipur, hailing from the Manipur Valley.
- They speak Tibeto-Burman language and most of the people belonging to the group, follow Hindu customs.

Gond tribals & Covid-19

Why in News

- While people are struggling for masks and sanitizers in the urban areas, **Gond tribal** people living in **Panna, Madhya Pradesh** have devised **their own way to make masks to fight coronavirus**.
- Tribal** people are **making masks with medicinal leaves** and following **traditional ways** to prevent the spread of the **coronavirus**.

Gond Tribe

- Gonds** are one of the largest tribal groups in the world.
- They mostly live in **Madhya Pradesh, Chhattisgarh, Maharashtra, Andhra Pradesh, Gujarat, Jharkhand, Karnataka, Telangana, Uttar Pradesh, West Bengal and Odisha**.
- Gonds are subdivided into **four tribes**:
 - Raj Gonds
 - Madia Gonds
 - Dhurve Gonds

- ⊙ Khatulwar Gonds
- ⌚ Their staple food is two kinds of millet: **kodo and kutki**.
- ⊙ **Rice** is mostly consumed during festival feasts.
- ⌚ Gonds believe that earth, water and air are ruled by Gods.
- ⌚ They majorly speak **Gondi** which is an unwritten language of the **Dravidian family**.
- ⌚ It has been notified as a **Scheduled Tribe**.

Tribal Lockdown Rituals

Why in News

Tribes in Arunachal Pradesh have **revived indigenous lockdown rituals** to contain the spread of **Covid-19**.

- ⌚ The State of Arunachal Pradesh is geographically closest to **China's Hubei province** where the Covid-19 outbreak began.

Rituals by Different Tribes

- ⌚ **Galo Tribe**
 - ⊙ **Galos**, which are one of the 26 major tribes of Arunachal Pradesh that dominate West Siang district practised the **Arr-Rinam ritual**.
 - ⌘ The Galo community has been recognized as a **Scheduled Tribe** in the Amendment to the Constitution (ST), Order, 1950, Part-XVIII.
 - ⌘ **Mopin** is the main festival in Galos which is celebrated for the prosperity of the villages. The Galos perform **Popir dance**.
 - ⊙ **Arr-Rinam** is the Galo equivalent of **lockdown** imposed by consensus for 48 hours whenever an epidemic strikes.
 - ⊙ The Arr-Rinam follows the **Ali-Ternam** (the word Ali means epidemic and Ternam means forestall) ritual to **ward off an epidemic**.
 - ⊙ These rituals were last performed almost four decades ago when a water-borne disease had affected many members of the community.
 - ⊙ However, these rituals have been performed periodically for **livestock, primarily the semi-wild animal mithun, that are prone to contagious diseases**.
 - ⊙ This is for the **first time in 30-40 years** that the rituals were performed for the **safety of humans**.

- ⊙ The **Bos or deputy priests** performed the Ali-Ternam under the guidance of a **Nyibo (shaman)**.

- ⊙ The ritual **ended with the community leaders sealing five major entry points of the district**.

⌚ **Adi Tribe**

- ⊙ The Adi community also performed a similar ritual called the **motor or pator system** in the Adi (tribe) dialect.
- ⊙ This is a customary **self-restriction**, where the locals lock down several villages by **erecting barricades** to prevent the entry of outsiders. No person is allowed to enter or leave the villages.
- ⊙ They believe that this ritual lets shamans with legendary powers to locate wild herbs to combat an epidemic.

Note:

- ⌚ The Adi tribe of Arunachal Pradesh is believed to have come from southern China in the 16th century.
- ⌚ They are the **Tibeto-Burman language** speaking population.
- ⌚ They reside in the far north inhabiting **East Siang and Lower Dibang Valley districts** of Arunachal Pradesh.
- ⌚ The Adis are experts at **making cane and bamboo items**.
- ⌚ **Solung** (harvesting festival where animal sacrifices and rituals are performed) and **Aran** (a hunting festival where all the male members of the family go for hunting) are two major festivals of the Adi tribes.

⌚ **Nyishi Tribe**

- ⊙ In districts such as Papum Pare and East Kameng, the dominant Nyishi community observed **Arrue** involving **self-quarantine**.
- ⊙ Nyishi Tribes also called **Bangni** are the tribal people of eastern Bhutan and Arunachal Pradesh (formerly North East Frontier Agency).
- ⊙ Nyishi is a **Scheduled Tribe**. It is the **single largest tribe of Arunachal Pradesh**.
- ⊙ They speak the **Tibeto-Burman language of the Sino-Tibetan family**.
- ⊙ The Nyishi support themselves with **slash-and-burn agriculture and with hunting and fishing**.
- ⊙ They live together in a longhouse without partitions but with a separate fireplace for each conjugal family.
- ⊙ Aside from a patrilineal household there is **no formal social organization or village government**.

- ⌚ Their religion involves **belief in spirits associated with nature**.

Dr. Ram Manohar Lohia

Why in News

The Prime Minister paid tribute to Dr Ram Manohar Lohia on his birth anniversary.

Key Points

- ⌚ Ram Manohar Lohia, (born March 23, 1910) was a prominent figure in **socialist politics** and in the movement towards **Indian independence**.
- ⌚ In 1934, Lohia became actively involved in the **Congress Socialist Party (CSP)**, a left-wing group within the Indian National Congress; he served on the CSP executive committee and edited its weekly journal.
- ⌚ He **opposed the Indian participation on the side of Great Britain in World War II** and was arrested for anti-British remarks in 1939 and 1940.
- ⌚ Lohia along with other CSP leaders, mobilized support for **the Quit India movement** (a campaign

initiated by Mohandas K. Gandhi to urge the withdrawal of British authorities from India) in 1942. He was jailed again in 1944-46 for such resistance activities.

- ⌚ Lohia and other CSP members **left the Congress in 1948**.
- ⌚ He became a member of the **Praja Socialist Party** upon its formation in 1952 and served as general secretary for a brief period, but conflicts within the party led to his resignation in 1955.
- ⌚ Later that year Lohia established a new Socialist Party, for which he became chairman as well as the editor of its journal, **Mankind**.
- ⌚ He advocated for various **socio-political reforms** in his capacity as party leader, including the abolition of the caste system, the adoption of Hindi as India's national language, and stronger protection of civil liberties.
- ⌚ Some of **his works** include: 'Marx, Gandhi and Socialism', 'Guilty Men of India's Partition', etc.
- ⌚ In 1963, Lohia was elected to the Lok Sabha.
- ⌚ He passed away in 1967.



Miscellaneous

Highlights

- ⌘ Real-time Train Information System
- ⌘ World Consumer Day

- ⌘ UN World Happiness Report- 2020

Real-time Train Information System

Why in News

The Real-time Train Information system is being installed in locomotives to enable better tracking of train movement.

- ⌚ The RTIS Project is being executed by the **Centre for Railway Information Systems (CRIS)** in collaboration with the **Indian Space Research Organisation (ISRO)**.
- ⌚ RTIS is an **example of 'Make In India'** as it has been entirely designed, developed and manufactured within the country.

Benefits of RTIS

- ⌚ RTIS enables **automatic acquisition of train movement timings** at the stations, including that of arrival & departure or run-through.
- ⌚ It also helps in **automatic plotting of control charts** in ICT based Control Office Application (COA) on all divisions of Indian Railways.
- ⌚ It also enables the train controllers to track the location and speed of locomotives/trains more closely, without any manual intervention, which helps in **improving the efficiency of train control**.
 - ⌚ Further, it is extremely handy for **emergency messaging** from locomotive to control centre, helping in **faster response in case of any breakdown or disaster**.
- ⌚ The real time data of RTIS is also linked with the **National Train Enquiry System (NTES)**. Thus, more accurate train running information is being passed to the passengers, which helps them to conveniently plan their arrival at the stations.

Centre for Railway Information Systems

- ⌚ The Ministry of Railways set up CRIS as a Society in July 1986. It is the **Information Technology (IT) wing of Indian Railways**.
- ⌚ It is **headquartered in New Delhi**.
- ⌚ It performs the functions of Indian Railways such as passenger ticketing, freight operations, train dispatching and control, crew management, e-procurement, etc.
 - ⌚ **NTES was developed by the CRIS.**

World Consumer Day

Why in News

The **Ministry of Consumer Affairs** observed the **World Consumer Day (15th March)** by organizing a webinar on, **'The Sustainable Consumer'**.

- ⌚ **Every year 15th March** is celebrated as World Consumer Rights Day.
- ⌚ However, **India** celebrates **24th December** as **National Consumer Day every year**.
 - ⌚ On this day, the **Consumer Protection Act, 1986** had received the assent of the President and came into effect.
- ⌚ The webinar was organized in place of a physical event to maintain social distancing in the wake of **Covid-19 pandemic**.

Key Points

- ⌚ **Theme: The Sustainable Consumer**
 - ⌚ It aims to focus on the need for sustainable consumption globally as well as highlighting the important role that consumer rights and protection can play.

🕒 **Objectives:**

- ⦿ It signifies solidarity in the international consumer movement, demanding that consumer rights are to be respected and protected.
- ⦿ The event also gives a chance to protest against the market abuses and social injustices which undermine those rights.

🕒 **Background:**

- ⦿ World Consumer Rights Day was inspired by **US President John F Kennedy**, who sent a special message to the US Congress on 15th March 1962, in which he formally addressed the issue of consumer rights. **He was the first world leader to do so.**
- ⦿ The consumer movement first marked that date in 1983 and now uses the day every year to mobilise action on important issues and campaigns.

UN World Happiness Report – 2020

Why in News

The **Sustainable Development Solutions Network** for the United Nations released the World Happiness Report on 20th March, 2020.

- 🕒 March 20 was designated as the **World Happiness Day by the UN General Assembly in 2012.**

Highlights From the Report

🕒 **Top Performers**

- ⦿ **Finland** is ranked as the world’s happiest nation for the third consecutive year.
- ⦿ **Nordic states dominated the top 10**, along with countries such as Switzerland, New Zealand and Austria.
- ⦿ Luxembourg edged into the 10th spot for the first time this year.

About the World Happiness Report

- 🕒 The World Happiness Report ranks **156 countries** by how happy their citizens perceive themselves to be.
- 🕒 The **rankings are based on polling** (Gallup World Poll) which looks at **six variables**: GDP per capita, social support, healthy life expectancy, freedom, generosity, and absence of corruption.
- 🕒 The 2020 Report **for the first time ranked cities** around the world by their subjective well-being and looked into how the social, urban and natural environments combine to affect happiness.

🕒 **Worst Performers**

- ⦿ The countries at the bottom are those afflicted by **violent conflicts and extreme poverty**, with Zimbabwe, South Sudan and Afghanistan classified as the world’s least happy nations.

🕒 **India’s Performance**

- ⦿ **India, previously ranked at 140 dropped to 144.**
- ⦿ Its rank is way lower than its neighbours. Nepal is ranked 92, Pakistan is at 66, Bangladesh at 107 and Sri Lanka at 130.
- ⦿ India is a **new entrant** to the bottom-fifteen group.

Sustainable Development Solutions Network

- 🕒 The SDSN, launched in 2012, mobilizes global scientific and technological expertise to promote practical problem solving for the **Sustainable Development Goals (SDGs) and the Paris Climate Agreement.**
- 🕒 It was established under the auspices of the **United Nations Secretary-General.**
- 🕒 The SDSN and the Bertelsmann Stiftung have been **publishing the annual SDG Index & Dashboards Global Report since 2016.**

OCS SELECTIONS OF 2018

1 SELECTION IN EVERY
2 SELECTION ARE FROM VANIK

7 IN TOP 10
11 IN TOP 20
24 IN TOP 50
47 IN TOP 100
48% SELECTION FROM VANIK



DEBASIS PANDA



RITUPARNA MOHAPATRA



AKASH KUMAR PANDA



SANTOSHINI DAS



NARAYANI P. PANDA



SHAKTI MOHAPATRA



SMARANIKA TULO



Sampat Ku. Dash



Sarada P. Panda



Sidhant Narayan



Akash Pattnaik



Priti R. Rath



Rajiv Das



Abhishek Sahu



Annanya Tripathy



Prasenjit Mishra



Debajyoti Panda



Avipsa Mohanty



Dillip Satapathy



Nibedita Parida



Rashmi Prava Das



Asima Padhi



Om Prasad



Jyotibikash Dash



Narayan Behera



Suvasnigdha



Subrat Ku. Swain



Biswa Tripathy



Upasana Padhi



Bibhuti Satapathy



Avilash Purshit



Birendra Tripathy



Himanshu B. Pale



Sambit Ku. Majhi



Subhadra



Byomakesh



Bishnu Govind



Tanmaya Nayak



Ashutosh Matarji



Anshuman Sarangi



Krishna Padhi



Madhusmita Nanda



Adarsh A. Tripathy



Sanishree Mallick



Om Prakash Parida



Md. Azharuddin Khan



Rajesh Ku. Samal



Tattwomasi



Amit Biswal



Agurba R. Aich



Trisandhya Patra



Bani Satabdi Dash



Harekrushna Sahu



Nirmal Ku. Bhouli



Ajit Ku. Uttaray



Manoja Ku. Behura



Ananda Ch. Palei



Sushree Supriya



Dhiren Ku. Nayak



Nivedita Nayak



Biranchi N. Jagat



Sridhar Ku. Sethi



Ananta Ku. Nayak



Abhijit S. Swain



Gyanaranjan Majhi



John Major Dalai



Jyoti P. Sethi



Arjun Majhi



Subha P. Kanungo



Deepak Ku. Jena



Rashmirani Senapati



Subha Kanta Naik



Madhusmita Samal



Gitu Behera



Madhusmita Singh



Manaranjan Suna



Prachi



Tapan Ku. Malik



Manoj Ku. Behera



Manaswee Sethi



Bhabani Pradhan



Upanjali Majhi



Satyabrata Naik



Sagar Palo



Prasanti Pradhan



D. Satyabhusan



Prem Chand Joni



Mrutunjaya Sabar



Gouranga Ghosh



Meera Naik



Deepak Bara



Debasish Patra



Bhabesh Majhi



Vikas Mundari



Sandeep Singh



Prafulla Muduli



Smrutiranjana Tudu



Lalit Ku. Naik



Phalguni Sabar



Sunita Panda

And Many More Selections