

CURRENT AFFAIRS

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PART-1



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Polity and Governance

Highlights

- * SC Refuses to Restore 4G Services in J&K
- * Epidemic Disease Act, 1897
- * Vizag Gas Leak
- * Strict vs Absolute Liability Principle
- * Liquor Revenue for States
- * Labour Laws Diluted
- * Annulment of Election of MLA
- * Ordinance to Check APJCs: Gujarat
- * Jharkhand Launches Employment Schemes
- * Report on Energy Efficiency Measures
- * Modifications in PMRF Scheme
- * Saras Collection
- * SAMARTH ERP

SC Refuses to Restore 4G Services in J&K

Why in News

Recently, the **Supreme Court refused to restore 4G services in Jammu and Kashmir** and ordered **setting up of a high-powered committee** to look into the contentions raised by petitioners against limited 2G services in the Union Territory.

- ⌚ In August 2019, the Central government had suspended all modes of communications in the wake of **revocation of Jammu and Kashmir's special status, granted under Article 370**. Eventually, services were partially restored, with internet speed restricted to 2G.
- ⌚ A plea was filed by 'Foundation for Media Professionals' for restoration of high-speed internet in Jammu and Kashmir in view of the **Covid-19** situation.

Key Points

- ⌚ **Balance of Human Rights and National Security:** The Court ruled that the special circumstances occur in the Union Territory which requires **delicate balancing of national security concerns and human rights**.
- ⌚ **Reference to the Previous Judgement:** The bench also referred to its earlier decision in the **Anuradha Bhasin case (2020)** wherein it ordered **review of restrictions placed in J&K** in the wake of abrogation of Article 370 of the Constitution.
- ⌚ **Constitution of Special Committee:**

- ⌚ The bench ordered the constitution of a Special Committee, headed by the Union Home Secretary, **to determine the necessity of the continuation of limiting mobile Internet to 2G speed in the region**.
- ⌚ The committee is expected to suggest the **alternatives regarding limiting the restrictions** to those areas where it is necessary and the **possible ways of allowing faster Internet (3G or 4G)** on a trial basis over certain geographical areas.

Need of 4G and National Security

- ⌚ **Need of 4G in the wake of Covid-19 pandemic:**
 - ⌚ **Health:** 4G services are necessary to provide access to the medical fraternity including patients to access latest information, advisories, and guidelines.
 - ⌚ **Education:** The petition also argued that the schools across the country have shifted to online classes in view of the lockdown but lack of the 4G internet puts J&K students at a disadvantage.
 - ⌚ **Trade and Business:** The lower internet service speed has also affected businesses dependent on the online mode.
- ⌚ **National Security Concerns:**
 - ⌚ An issue of infiltration of outside sources through the borders and destabilizing the integrity of the nation was raised during the hearing.
 - ⌚ Even the J&K administration stated that high-speed internet will enable the spread of fake news/ rumours and transfer of heavy data files (audio/ video files) will become prevalent and may be utilised by terror outfits for incitement as also in planning attacks.

Anuradha Bhasin vs Union of India, 2020

Fundamental Rights Under Article 19:

- ⊙ The judgement declared that the **freedom of speech and expression** and the **freedom to practice any profession** or carry on any trade, business or occupation **over the medium of Internet** enjoys **constitutional protection under Article 19(1)(a) and Article 19(1)(g)** respectively.
- ⊙ It also ruled that such freedom is **not absolute**, the restrictions imposed on it should be in consonance with the mandate under **Article 19(2) and Article 19(6) of the Constitution**.

Territorial Extent of Internet Suspensions:

- ⊙ It had also directed authorities to pass internet suspension orders with respect to **only those areas, where there is absolute necessity of such restrictions to be imposed**.

Constitution of Review Committee:

- ⊙ The Court also directed the government to **constitute a review committee** to review orders leading to suspension and shutting down of Internet, mobile and fixed line telecommunication services.
 - ⊗ All orders leading to suspension and shutting down of Internet, mobile and fixed line telecommunication services are issued under **Rule 2 (2) of the Temporary Suspension of Telecom Services [Public Emergency or Public Service] Rules, 2017**.
 - ⊗ These are the rules to be followed if the government intends to temporarily suspend telecom services in any part of the country.
 - ⊗ These rules have been framed by the government on the basis of the powers conferred by **section 7 of the Indian Telegraph Act, 1885**.
- ⊙ The Review Committee shall consist of **State as well as Central level officials** as the issue involved affects not only the UT of Jammu and Kashmir but also the whole country.

Epidemic Disease Act, 1897

Why in News

Recently, the Union government directed States and Union Territories to invoke the **Epidemic Disease Act, 1897** to fight the **Covid-19 outbreak**.

- ⊙ The colonial-era Act empowers the state governments to take special measures and prescribe regulations in an epidemic. It also defines penalties for disobedience of these regulations, and **provides for immunity for actions** taken under the Act **“in good faith”**.

Key Points

Aim:

- ⊙ The **Epidemic Diseases Act** aims to provide for the better prevention of the spread of dangerous epidemic diseases.
- ⊙ Under the act, temporary provisions or regulations can be made to be observed by the public to tackle or prevent the outbreak of a disease.

Powers to Central Government:

- ⊙ **Section 2A** of the Act empowers the central government to take steps to prevent the spread of an epidemic.
- ⊙ **Health is a State subject**, but by invoking **Section 2 of the Epidemic Diseases Act**, advisories and directions of the Ministry of Health & Family Welfare will be enforceable.
- ⊙ It allows the government to inspect any ship arriving or leaving any port and the power to detain any person intending to sail or arriving in the country.

Penalty for Disobedience:

- ⊙ **Section 3** provides penalties for disobeying any regulation or order made under the Act. These are according to section 188 of the Indian Penal Code (Disobedience to order duly promulgated by a public servant).

Legal Protection to Implementing Officers:

- ⊙ **Section 4** gives legal protection to the implementing officers acting under the Act.

Enforcement of the Act in the Recent Past:

- ⊙ The Epidemics Diseases Act is routinely enforced across the country for dealing with outbreaks of diseases such as Swine Flu, Dengue.
- ⊙ For Example, in 2009, to tackle the swine flu outbreak in Pune, Section 2 powers were used to open screening centres in civic hospitals across the city, and swine flu was declared a notifiable disease.

Background

- ⊙ **Context:** The Epidemic Diseases Bill was introduced in 1897, during an outbreak of bubonic plague.

Vizag Gas Leak

- ⌚ **Need:** Since the existing laws were insufficient to deal with various matters such as “overcrowded houses, neglected latrines and huts, accumulations of filth, insanitary cowsheds and stables, and the disposal of house refuse.
- ⌚ **Special Powers:** The Bill had called for **special powers for governments of Indian provinces and local bodies**, including to check passengers of trains and sea routes.
- ⌚ **Global Concern:** The government of the day was also concerned that several countries were alarmed by the situation in India. As **Russia** had speculated that the **whole subcontinent** might be infected due to plague.

Plague

- ⌚ Plague is caused by the **bacteria Yersinia pestis** usually found in small mammals and their fleas.
- ⌚ There are **two** main clinical forms of plague infection: **bubonic and pneumonic**.
 - ⊙ Bubonic plague is the most common form and is characterized by **painful swollen lymph nodes or ‘buboes’**.
 - ⊙ Pneumonic plague is a form of **severe lung infection**.
- ⌚ Plague is **transmitted between animals and humans** by the bite of infected fleas, direct contact with infected tissues, and inhalation of infected respiratory droplets.
- ⌚ **Antibiotic treatment is effective** against plague bacteria, so early diagnosis and early treatment can save lives.
- ⌚ Currently, the three most endemic countries are the Democratic Republic of the Congo, Madagascar, and Peru.

Recent Changes in the Epidemic Diseases Act, 1897

- ⌚ Recently, the **Cabinet amended the Act through an ordinance** stating that commission or abetment of **acts of violence against healthcare service personnel** shall be punished with imprisonment for a term of three months to five years, and with fine of Rs 50,000 to Rs 2 lakh.
- ⌚ In case of causing grievous hurt, imprisonment shall be for a term of six months to seven years and a fine of Rs 1 lakh to Rs 5 lakh.

Why in News

Recently, a gas leak has affected five villages in Visakhapatnam in Andhra Pradesh.

- ⌚ The source of the gas leak was a **styrene plant** owned by South Korean electronics giant LG located in the area.
- ⌚ The possible reason for gas leak is **stagnation and changes in temperature** inside the storage tank that could have resulted in **auto polymerization** (chemical reaction) and **vapourisation** of the styrene.

Styrene

⌚ Description:

- ⊙ Styrene is an **organic compound** with the formula C_8H_8 .
- ⊙ It is a **derivative of benzene (C_6H_6)**.
- ⊙ It is stored in factories as a liquid, but evaporates easily, and has to be kept at temperatures under 20°C.

⌚ Sources:

- ⊙ Styrene is found in vehicle exhaust, cigarette smoke, and in natural foods like fruits and vegetables.

⌚ Uses:

- ⊙ It is a flammable liquid that is used in the manufacturing of polystyrene plastics, fiberglass, rubber, and latex.

⌚ Risk of Exposure:

- ⊙ **Short Term Exposure:** It can result in respiratory problems, irritation in the eyes, irritation in the mucous membrane, and gastrointestinal issues.
- ⊙ **Long-Term Exposure:** It could drastically affect the central nervous system and lead to other related problems like peripheral neuropathy. It could also lead to cancer and depression in some cases.
 - ⌘ However, there is no sufficient evidence of an association between styrene exposure and an increased risk of leukemia and lymphoma.

State of Chemical Disaster Risk in India

- ⌚ According to the **National Disaster Management Authority (NDMA)**, in the recent past, over 130 significant chemical accidents have been reported in the country.

- ⌚ Further, there are thousands of registered hazardous factories and unorganised sectors dealing with numerous ranges of hazardous material posing serious and complex levels of disaster risks.
- ⌚ There are over 1861 **Major Accident Hazard (MAH) units** spread across 301 districts and 25 states and three Union Territories in all zones of the country.
 - ⊙ The Major Accident is defined as an incident involving loss of life inside or outside the site or ten or more injuries.
 - ⊙ Further it also involves the release of toxic chemical or explosion or fire of spillage of hazardous chemical resulting in 'on-site' or 'off-site' emergencies leading to adverse effects to the environment.

Laws to Protect

Against Chemical Disasters in India

- ⌚ **Laws Before and During Bhopal Gas Tragedy (1984):**
 - ⊙ At the time of the **Bhopal gas tragedy**, the **Indian Penal Code (IPC)** was the only relevant law specifying criminal liability for such incidents.
- ⌚ **Laws After Bhopal Gas Tragedy (1984):**
 - ⊙ **Bhopal Gas Leak (Processing of Claims) Act, 1985:** It gives powers to the central government to secure the claims arising out of or connected with the Bhopal gas tragedy.
 - ⌘ Under the provisions of this Act, such claims are dealt with speedily and equitably.
 - ⊙ **The Environment Protection Act, 1986:** It gives powers to the central government to undertake measures for improving the environment and set standards and inspect industrial units.
 - ⊙ **The Public Liability Insurance Act, 1991:** It is an insurance meant to provide relief to persons affected by accidents that occur while handling hazardous substances.
 - ⊙ **The National Environment Appellate Authority Act, 1997:** Under this Act, the National Environment Appellate Authority can hear appeals regarding the restriction of areas in which any industries, operations or processes or class of industries shall not be carried out or shall be carried out subject to certain safeguards under the Environment (Protection) Act, 1986.
 - ⊙ **National Green Tribunal, 2010 :** It provided for the establishment of the **National Green Tribunal** for effective and expeditious disposal of cases related

to environmental protection and conservation of forests.

- ⌘ According to PRS legislative, any incident similar to the Bhopal gas tragedy will be tried in the National Green Tribunal and most likely under the provisions of the Environment (Protection) Act, 1986.
- ⌘ If an offence is committed by a company then every person directly in charge and responsible will be deemed guilty, unless he proves that the offence was committed without his knowledge or that he had exercised all due diligence to prevent the commission of such an offence.

Bhopal Gas Tragedy

- ⌚ Post-midnight on December 3, 1984, **Methyl Isocyanate (MIC)** (Chemical formula- CH_3NCO or $\text{C}_2\text{H}_3\text{NO}$) leaked from the pesticide plant of Union Carbide (now Dow Chemicals), a Multinational Corporation (MNC), in Madhya Pradesh capital Bhopal.
 - ⊙ It is estimated that about 40 tonnes of gas and other chemicals leaked from the Union Carbide factory.
 - ⊙ Methyl Isocyanate is extremely toxic gas and if its concentration in the air touches 21ppm (parts per million), it can cause death within minutes of inhaling the gas.
- ⌚ It is one of the worst chemical disasters globally and still continues to have its ill effects on the people of the affected areas.

Strict vs Absolute Liability Principle

Why in News

Recently, the **National Green Tribunal (NGT)** found **LG Polymers** prima facie liable under the **strict liability principle** for the **Vizag gas leak**.

- ⌚ However, according to the lawyers, the term **absolute liability principle** should have been used instead.

Key Points

- ⌚ The NGT directed the company to deposit an initial amount of Rs.50 crore and formed a fact-finding committee.

- ⌚ The use of the term **strict liability** has been questioned by the lawyers because it was **made redundant in India by the Supreme Court in 1987**.
- ⌚ **Strict Liability Principle:**
 - ⊙ Under it, a party/company is **not liable** and **need not pay compensation** if a hazardous substance escapes its premises **by accident** or by an **'act of God' (Force Majeure)** among other circumstances.
- ⌚ **Absolute Liability Principle:**
 - ⊙ Under it, a party/company in a hazardous industry **cannot claim any exemption**. It has to **mandatorily pay compensation**, whether or not the disaster was caused by its negligence.
- ⌚ The **National Green Tribunal Act of 2010** incorporates the **absolute liability** principle.
 - ⊙ **Section 17** of the act mandates that the Tribunal should apply the absolute liability principle even if the disaster caused is an accident.
 - ⊙ A hazardous enterprise is liable **even if the disaster is an accident** and not caused by the negligence of the company.

Background

- ⌚ The Supreme Court, in the **M.C. Mehta vs Union of India 1987**, found **strict liability principle inadequate** to protect citizens' rights and **replaced it with the absolute liability principle**.
- ⌚ This judgement came on the **Oleum gas leak case of Delhi in 1986**.
 - ⊙ Oleum gas leaked from a fertiliser plant of **Shriram Food and Fertilisers Ltd.** complex at Delhi, causing damages to several people.
 - ⊙ **Oleum** or **fuming sulfuric acid** refers to solutions of various compositions of sulfur trioxide in sulfuric acid or sometimes more specifically to disulfuric acid (also known as pyrosulfuric acid).
- ⌚ The court found that strict liability which was evolved in an English case called **Rylands versus Fletcher, 1868**, **provided companies with several exemptions** from assuming liability.
- ⌚ Absolute liability, on the other hand, provides them with no defence or exemptions and is part of **Article 21 (Right to Life)**.
 - ⊙ **Article 21** declares that **no person shall be deprived of his life or personal liberty** except according to procedure established by law. This right is available to **both citizens and non-citizens**.

- ⌚ The court wanted **corporations** to be made **fully liable for future undeserved suffering of innocent citizens** and held that a hazardous enterprise has an **absolute non-delegable duty** to the community.
- ⌚ That time, India was still under the shock of the **Bhopal gas tragedy, 1984**.
 - ⊙ **Methyl Isocyanate (MIC)** leaked from the pesticide plant of **Union Carbide** in the capital city of **Madhya Pradesh**.

Liquor Revenue for States

Why in News

Recently, the central government eased restrictions in the third phase of the nationwide **lockdown** and **allowed the sale of liquor**. The **Delhi government** announced a **70% hike** as **'Special Corona Fee'** in the price of liquor across categories.

- ⌚ This shows the **importance of liquor to the economy of the states**.

Key Points

- ⌚ **State's Earnings from Liquor**
 - ⊙ Liquor contributes a **considerable amount to the exchequers** of all states and Union Territories (UTs) **except Gujarat and Bihar**, both of which have **enforced prohibition**.
 - ⊛ **Andhra Pradesh announced prohibition** in 2019, however, sale of the liquor has been allowed with **"prohibition tax"**.
 - ⊙ States levy excise duty on **manufacture and sale** of liquor.
 - ⊙ States also **charge special fees** on imported foreign liquor, **transport fee**, and **label & brand registration charges**.
 - ⊙ A few states like **Uttar Pradesh**, have imposed a **'special duty on liquor'** to collect funds for special purposes, such as maintenance of stray cattle.
- ⌚ The **Reserve Bank of India** published the report **'State Finances: A Study of Budgets of 2019-20'** in September 2019.
 - ⊙ It shows that **state excise duty** on alcohol accounts for around **10-15% of Own Tax Revenue** of a majority of states.
 - ⊙ In fact, state excise duties on liquor is the **second or third largest contributor** to the category State's

Own Tax revenue; **Goods and Services Tax-GST** is the largest. This is the reason states have always wanted liquor kept out of the purview of GST.

- ⊙ According to the report, in 2019-20, **state GST had the highest share, 43.5%, in states' Own Tax Revenue**, followed by **Sale Tax** at 23.5% (mainly on petroleum products which are out of GST), **state excise** at 12.5%, and **taxes on property and capital transactions** at 11.3%.

⊙ **State Excise**

- ⊙ Excise duty on production of few items including that on **liquor and other alcohol-based items** is imposed and collected by state governments and is called 'State Excise' duty.

- ⊗ **Excise duty** is basically a **production tax**. It is imposed on manufactured items in India that are meant for domestic consumption.

- ⊙ Revenue receipts from state excise come mainly from commodities such as Country Spirits; Liquor; Foreign Liquors and Spirits; Medicinal and Toilet Preparations containing Alcohol, Opium etc; Opium, Hemp and other Drugs; Sales to Canteen Stores Depots.

- ⊙ Apart from these, a substantial amount comes from **licences, fine and confiscation of alcohol products**.

⊙ **Sources of Revenue for States**

⊙ **Tax Revenue**

- ⊗ State's Own Tax Revenue

- Taxes on **Income** (agricultural income tax and taxes on professions, trades, callings and employment)
- Taxes on **Property and Capital Transactions** (land revenue, stamps and registration fees, urban immovable property tax)
- Taxes on **Commodities and Services** (sales tax, state sales tax/VAT, central sales tax, surcharge on sales tax, receipts of turnover tax, other receipts, state excise, taxes on vehicles, taxes on goods and passengers, taxes and duties on electricity, entertainment tax, state GST, and "other taxes and duties")

- ⊗ **Share in Central Taxes**

- **Article 280** of the Indian Constitution requires the composition of the **Finance Commission** in every five years so that the states can get a reasonable part in the tax revenue of the union government.

⊙ **Non-Tax Revenue**

- ⊗ These are collected by the governments for providing/facilitating any goods and service.

- ⊗ It is compulsory to pay a part of the income earned/generated and amount of goods and services consumed as tax. However, non-tax revenue becomes payable only when services offered by the government are availed.

- ⊗ Components:

- **Interest:** It comprises interest of loans given to states and union territories for reasons like non-plan schemes and planned schemes with a maturity period of 20 years and also interest on loans advanced to **Public Sector Enterprises (PSEs)**, Port Trusts and other statutory bodies etc.
- Dividends and profits, Petroleum license, Power supply fees, Fees for Communication Services, Broadcasting fees, Road, Bridges usage fees, Examination fees etc.

Labour Laws Diluted

Why in News

Amid the coronavirus-induced lockdown, an increasing number of states that include Uttar Pradesh, Madhya Pradesh, Rajasthan and Gujarat have pushed through **changes to their labour laws by way of ordinances or executive orders**.

- ⊙ Since labour is a **concurrent subject** under the Constitution of India, states can frame their own laws but need the approval of the Central government.

Key Points

- ⊙ The Uttar Pradesh government has approved an Ordinance **exempting businesses from the purview of all the labour laws** except few for the **next three years**.
- ⊙ The labour laws related to settling industrial disputes, occupational safety, health and working conditions of workers, and those related to trade unions, contract workers, and migrant labourers will become defunct.
- ⊙ However, laws related to bonded labour, deployment of women and children and timely payment of salaries will not be relaxed.

- ⌚ The changes in the labour laws will **apply to both** the **existing businesses** and the **new factories** being set up in the state.
- ⌚ Similarly, the Madhya Pradesh government has also suspended many labour laws **for the next 1000 days**. Few important amendments are:
 - ⊙ **Employers can increase working hours in factories** from 8 to 12 hours and are also allowed up to 72 hours a week in overtime, subject to the will of employees.
 - ⊙ The **factory registration now will be done in a day**, instead of 30 days. And the licence should be renewed after 10 years, instead of a year. There is also the provision of penalty on officials not complying with the deadline.
 - ⊙ Industrial Units will be exempted from majority of the provisions of the **Industrial Disputes Act, 1947**.
 - ⌘ Organisations will be able to keep workers in service at their convenience.
 - ⌘ The Labour Department or the labour court will not interfere in the action taken by industries.
 - ⊙ Contractors employing less than 50 workers will be able to work without registration under the **Contract Labour (Regulation and Abolition) Act, 1970**.
 - ⊙ **Major relaxations to new industrial units** are:
 - ⌘ Exempted from provisions on ‘**right of workers**’, which includes obtaining details of their health and safety at work, to get a better work environment which include drinking water, ventilation, crèches, weekly holidays and interval of rest, etc.
 - ⌘ Exempted from the requirement of keeping registers and inspections and can change shifts at their convenience.
 - ⌘ Employers are exempt from penalties in case of violation of labour laws.

Rationale Behind the Changes in Labour Laws

- ⌚ States have begun easing labour laws to **attract investment** and encourage industrial activity.
- ⌚ To protect the existing employment, and to provide employment to workers who have **migrated back** to their respective states.
- ⌚ Bring about **transparency** in the administrative procedures and convert the challenges of a distressed economy into opportunities.

- ⌚ To **increase the revenue of states** which have fallen due to closure of industrial units during Covid-19 lockdown.
- ⌚ Labour reform has been a **demand of industries** for a longtime. The changes became necessary as investors were stuck in a web of laws and red-tapism.

Issues Involved

- ⌚ The labour law changes will **allow more factories to operate** without following safety and health norms and give a free hand to new companies to “keep labourers in service as per their convenience”.
- ⌚ **Denying the rights of workers** is a violation of human and fundamental rights.
- ⌚ It may create **insecurity** among the workers.
- ⌚ The changes may lead to **desperate conditions** for workers.

Annulment of Election of MLA

Why in News

The **Gujarat High Court** has set aside the election of a BJP leader in 2017 on grounds of “**corrupt practice**” and “**manipulation of record**”.

Key Points

- ⌚ The order passed on a petition, filed by the opposing Congress candidate, alleged that the returning officer had illegally rejected 429 votes received via postal ballot.
- ⌚ The Court held election as void under Section 100(1) (d)(iv) of the **Representation of the People Act, 1951**.
- ⌚ The observation gains relevance since the number of rejected votes (429) was more than the victory margin (327).
- ⌚ The judgment also held that the **instructions of the Election Commission was not followed**, giving an unfair advantage to the winning candidate and thus materially affecting the election.

Election to the State Legislature

- ⌚ The **Constitution of India as well as the Parliament of India** has laid down qualifications and disqualifications for being elected as a member of State Legislative Assembly and State Legislative Council.

Qualifications	Disqualifications
<p>⌚ Constitutional Provisions</p> <ul style="list-style-type: none"> ⊙ Citizenship of India. ⊙ Subscription to an oath or affirmation before the person authorised by the Election Commission. ⊙ Age must be not less than 25 years for the legislative assembly and not less than 30 years for the legislative council. ⊙ Need to possess other qualifications prescribed by Parliament. <p>⌚ Parliamentary Provisions (RPA, 1951)</p> <ul style="list-style-type: none"> ⊙ A person to be elected to the legislative assembly must be an elector for an assembly constituency in the concerned state. ⊙ A person to be elected to the legislative council must be an elector for an assembly constituency in the concerned state and to be qualified for the governor's nomination, he must be a resident in the concerned state. ⊙ He must be a member of a scheduled caste or scheduled tribe if he wants to contest a seat reserved for them. However, a member of scheduled castes or scheduled tribes can also contest a seat not reserved for them. 	<p>⌚ Constitutional Provisions</p> <ul style="list-style-type: none"> ⊙ Any office of profit under the Union or State government (except that of a minister or any other office exempted by the state legislature). ⊙ Unsound mind and stands so declared by a court. ⊙ Undischarged insolvent. ⊙ Not a citizen of India or has voluntarily acquired the citizenship of a foreign state or is under any acknowledgement of allegiance to a foreign state. ⊙ Disqualified under any law made by Parliament. <p>⌚ Parliamentary Provisions through Representation of People Act (1951)</p> <ul style="list-style-type: none"> ⊙ Must not have been found guilty of certain election offences or corrupt practices in the elections. ⊙ Must not have been convicted for any offence resulting in imprisonment for two or more years. But, the detention of a person under a preventive detention law is not a disqualification. ⊙ Must not fail to lodge an account of election expenses within the time. ⊙ Must not have any interest in government contracts, works or services. ⊙ Must not be a director or managing agent nor hold an office of profit in a corporation in which the government has at least 25% share. ⊙ Must not have been dismissed from government service for corruption or disloyalty to the state. ⊙ Must not have been convicted for promoting enmity between different groups or for the offence of bribery. ⊙ Must not have been punished for preaching and practicing social crimes such as untouchability, dowry and sati.

Note: On the question of whether a member has become subject to any of the above disqualifications, the **governor's decision is final**. However, he should obtain the **opinion of the Election Commission and act accordingly**.

⌚ We can study about various provisions on the same in the table given below.

Election Petition

- ⌚ The **Constitution** lays down that no election to the Parliament or the state legislature is to be questioned except by an election petition presented to such authority and in such manner as provided by the appropriate legislature.
- ⌚ **Since 1966**, the election petitions are triable by **High Courts alone**. Whereas the **appellate jurisdiction** lies with the **Supreme Court alone**.

- ⌚ **Article 323 B** empowers the appropriate legislature (Parliament or a state legislature) to establish a tribunal for the adjudication of election disputes.
 - ⊙ It also provides for the exclusion of the jurisdiction of all courts (except the special leave appeal jurisdiction of the Supreme Court) in such disputes.
 - ⊙ So far, no such tribunal has been established.
- ⌚ In **Chandra Kumar case (1997)**, the clause of the **exclusion of the jurisdiction of all courts in election disputes** was declared **unconstitutional** by the Supreme Court.

- ⌚ Consequently, if at any time an election tribunal is established, an appeal from its decision lies to the high court.

Ordinance to Check APMCs: Gujarat

Why in News

Recently, Gujarat's state government has cleared the Gujarat Agricultural Produce Markets (Amendment) Ordinance 2020.

- ⌚ It has ended the monopoly of state-run Agricultural Produce Market Committees (APMCs) and has allowed private entities to set up their own market committees or sub-market yards.

Key Highlights of the Ordinance

- ⌚ **Restrictions on Jurisdiction:** The ordinance restricts the jurisdiction of APMCs to the **physical boundaries of their respective marketing yards** and they can **levy cess only on those transactions**, happening within the boundary walls of their marketing yard.
 - ⊙ Earlier, an APMC had **jurisdiction over an entire or more than one taluka**.
 - ⊙ Farmers and traders of a particular taluka had to **compulsorily sell their produce to their respective APMCs**.
 - ⊙ Apart from that, APMCs **levied a cess on any transaction** that happened **within the marketing yard of the APMC or outside it**.
- ⌚ **Opportunity to Private Markets:** The ordinance permits for setting up of private markets.
 - ⊙ **Privately-owned old storages or warehouses** can be **converted** into a sub-market yard or a private market that can compete with the APMCs.
 - ⊙ **Farmers can also set up** private markets themselves.
 - ⊙ To **save the smaller APMCs** from the negative competition from private markets and a fair play, the state government plans to bring a **rule that will not allow the setting up of a private market within a five-kilometre radius of an existing APMC**.
 - ⊙ Also to protect them, the government will **collect 20% cess from private players** and **reroute 14% of it back to the APMCs**.

- ⌚ **Unified Single Trading Licence:** The ordinance provides traders with one unified single trading licence through which they can **participate in trading activities anywhere in the state**.
 - ⊙ It will allow multiple traders to attract the farmers depending on the quality of their produce and offer competitive prices **without the restriction of place and area jurisdiction**.
 - ⊙ For that, amendments allow **setting up of portals for e-markets**.
- ⌚ **Expansion in Grievance Redressal:** The director of an APMC and the Gujarat State Agriculture marketing board will also start taking **care of the grievance redressal** which was solely managed by the APMC till now.
- ⌚ **Expected Benefits to the Farmers:** Permission to private entities will lead to **competition** and will **offer the best possible remuneration to farmers** for their produce.
 - ⊙ Till now, **APMCs used to form a cartel and decide on what prices to offer** to farmers.
 - ⊙ Farmers will not be bound to sell only to one particular APMC and can **choose the one with the best deal** in their favour.
- ⌚ **Viewpoint of APMCs**
 - ⊙ **APMCs have not welcomed** the decision because it **ends their monopoly** and **allows private players** to enter.
 - ⊙ The ordinance will also **affect revenues** because no cess will be collected on transactions outside the physical boundaries of marketing yards.
 - ⌘ For example, last year, of the Rs. 2.5 crore earned as market fees, Rs. 1.5 crore came from transactions that were conducted outside the marketing yard. With the new ordinance in place, this **revenue will be lost**.
- ⌚ The Ministry of Agriculture, formulated a **model law** on agricultural marketing, **State Agricultural Produce Marketing (Development and Regulation) Act, 2003** and requested the state governments to suitably amend their respective APMC Acts.
- ⌚ Union **Budgets** of 2014-15 and 2015-16 had **suggested the creation of a National Agricultural Market (NAM)** following which **e-NAM** was launched on 14th April 2016 as a **pan-India electronic trade portal to link APMCs across the States**.

Agricultural Produce Market Committee

- ⌚ It is a **statutory market committee** constituted by a **State Government** in respect of trade in certain notified **agricultural or horticultural or livestock products**, under the **Agricultural Produce Market Committee Act** issued by that state government.
 - ⦿ Agriculture is a state subject.
- ⌚ **Objectives:**
 - ⦿ Ensure transparency in pricing systems and transactions taking place in the market area.
 - ⦿ Provide market-led extension services to farmers.
 - ⦿ Ensure payment for agricultural produce sold by farmers on the same day.
 - ⦿ Promote agricultural processing including activities for value addition in agricultural produce.
 - ⦿ Setup and promote public private partnership in the management of agricultural markets, etc.

Jharkhand Launches Employment Schemes

Why in News

Recently, Jharkhand launched three employment schemes — **Birsa Harit Gram Yojana (BHGY)**, **Neelambar Pitambar JAL Sammridhi Yojana (NPJSY)** and **Veer Sahid Poto Ho Khel Vikas Scheme (VSPHKVS)** — to create wage employment for workers in rural areas.

- ⌚ Earlier, the Odisha government has announced a Rs 100-crore Urban Wage Employment Initiative to generate employment for the urban poor in 114 urban local bodies.

Key Points

- ⌚ These three schemes have been devised in convergence with the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**.
- ⌚ According to the Centre for Monitoring Indian Economy (CIME) data, the State is reeling under severe joblessness with unemployment rate pegged at 47.1% — double that of the national average (23.5%).
 - ⦿ The arrival of an estimated 5 lakh to 6 lakh stranded migrant workers (due to Covid-19 lockdown) from other states is likely to worsen the situation.
- ⌚ Through MGNREGA and these special schemes the state government plans to create 30 crore person days

and provide wage employment to the rural people in the coming 5 years.

- ⌚ **Birsa Harit Gram Yojana (BHGY):**
 - ⦿ The BHGY is envisaged at bringing over two lakh acres of unused government fallow land under the afforestation programme.
 - ⦿ About five lakh families will be provided 100 fruit-bearing plants.
 - ⦿ The initial plantation, maintenance, land work and afforestation will be taken up through MGNREGA.
 - ⦿ Each family is estimated to receive an annual income of Rs.50,000 from fruit harvest after three years while the ownership of land will remain with the government.
- ⌚ **Neelambar Pitambar Jal Sammridhi Yojna (NPJSY):**
 - ⦿ Under this, the government is aiming at creating agro-water storage units by arresting rainwater and runaway groundwater.
 - ⦿ Nearly 5 lakh acre of cultivable land can be irrigated through the initiative.
 - ⦿ An estimated 10 crore person days will be generated through the scheme in the next 4-5 years.
- ⌚ **Veer Sahid Poto Ho Khel Vikas Scheme (VSPHKVS):**
 - ⦿ Under VSPHKVS, the government is linking sports with rural job schemes for creation of assets in the rural areas in order to give a boost to sports.
 - ⦿ About 5,000 sports grounds are being planned to be set up, with one each in all the 4,300 panchayats.

Report on Energy Efficiency Measures

Why in News

Recently the Ministry of Power and New and Renewable Energy released a report on the **“Impact of energy efficiency measures for the year 2018-19”**.

Key Points

- ⌚ **Agency Involved:** The report was prepared by a third party **agency PWC Ltd**, who was engaged by **Bureau of Energy efficiency (BEE)**.
- ⌚ **Methodology:** Since 2017-18, every year **BEE** has been appointing a **third party expert agency** which compares the estimated and actual energy consumption due to various energy efficiency schemes.

- ⊙ The study assesses the **resultant impact of current schemes at national as well as state level** for the financial year and compares it with a situation where the same were not implemented.
- ⌚ **Objective:** To evaluate the performance and impact of all the key energy efficiency programmes in India, in terms of total energy saved and the related reduction in the CO₂ emissions.
- ⌚ **Key Findings:**
 - ⊙ **Electricity Saving: Implementation of various energy efficiency schemes** have led to total electricity savings to the tune of 113.16 Billion Units in 2018-19, which is **9.39% of the net electricity consumption**.
 - ⊙ **Energy Saving:** The total energy savings achieved in 2018-19 is 23.73 Mtoe (million Tonne of Oil Equivalent), which is 2.69% of the total primary energy supply (estimated to be 879.23 Mtoe in India).
 - ⊙ **Emission Reduction:** These efforts have also contributed in reducing 151.74 Million Tonnes of CO₂ emissions, whereas last year this number was 108 Million Tonnes of CO₂.
- ⌚ **Flagship Programmes:** This year the study has identified the following major programmes, viz. **Perform, Achieve and Trade Scheme, Standards & Labelling Programme, UJALA Programme, Municipal Demand Side Management Programme.**
- ⌚ **Perform, Achieve and Trade Scheme:**
 - ⊙ It is a **market-based mechanism** to further accelerate as well as incentivize energy efficiency in the large energy-intensive industries.
 - ⊙ The **Energy Savings Certificates (ESCerts)** were introduced in India in 2011 under the **Perform, Achieve Trade scheme (PAT)** by the Bureau of Energy Efficiency (BEE) under the National Mission of Energy Efficiency.
 - ⌘ NMEEE is one of the eight national missions under the **National Action Plan on Climate Change (NAPCC)** launched by the Government of India in the year 2008.
 - ⊙ This market- based mechanism is facilitated through the trading of **Energy Savings Certificates (ESCerts)** which are issued to those plants who have overachieved their targets.
 - ⊙ Those plants which under achieve their targets are entitled to purchase ESCerts through **two power**

exchanges, Indian Energy Exchange (IEX) and Power Exchange India Limited (PXIL).

- ⊙ The scheme is unique in many ways, particularly from a developing country's perspective since it creates a **market for energy efficiency** through tradable certificates ESCerts, by allowing them to be used for meeting energy reduction targets.
- ⌚ **Standards & Labelling Programme:**
 - ⊙ A key objective of this programme by BEE is to provide the consumer an **informed choice about the energy saving** and thereby **the cost saving potential of the relevant marketed product**.
 - ⊙ The programme targets display of energy performance labels on high energy end use equipment & appliances and lays down minimum energy performance standards.
- ⌚ **Unnat Jyoti by Affordable LEDs for All:**
 - ⊙ UJALA was launched in **2015** with a target of replacing 77 crore incandescent lamps with LED bulbs and to nullify the high-cost of LEDs that acted as a barrier previously in the adoption of energy-efficient systems.
 - ⊙ The scheme was implemented to set up a phase-wise LED distribution.
 - ⊙ The **objective** is to promote efficient lighting, enhance awareness on using efficient equipment that will reduce electricity bills and preserve the environment.
 - ⊙ It is the **world's largest domestic lighting project**.
- ⌚ **Municipal Demand Side Management Programme:**
 - ⊙ The Municipality Demand Side Management (Mu-DSM) programme of BEE was initiated during the Eleventh five year plan(2007-2012).
 - ⊙ The basic objective of the project is to improve the **overall energy efficiency** of the Urban Local Bodies (ULBs), which could lead to substantial savings in the electricity consumption, thereby resulting in cost reduction/savings for the ULBs.

Bureau of Energy Efficiency

- ⌚ The BEE is a **statutory body** established through **Energy Conservation Act, 2001** under the Ministry of Power, Government of India.
- ⌚ It assists in **developing policies and strategies** with the primary objective of **reducing the energy intensity** of the Indian economy.

- ⌚ BEE coordinates with designated consumers, designated agencies, and other organizations to identify and utilize the existing resources and infrastructure, in performing its functions.

Background

- ⌚ **Pledge:** India has pledged in the **Conference of the Parties (COP21)** of the **United Nations Framework Convention on Climate Change (UNFCCC)** to bring down the energy intensity of its economy by **33 to 35% compared to 2005 levels by 2030.**
 - ⦿ Energy intensity is the **amount of energy required** to produce one unit of **Gross Domestic Product (GDP).**
 - ⦿ High energy intensities indicate a high cost of converting energy into GDP. Whereas, low energy intensity indicates a lower cost of converting energy into GDP.
- ⌚ **Achievement:** With its energy efficiency initiatives India has already reduced the energy intensity of its economy by **20% compared to 2005 levels.**
- ⌚ **Significance:** Energy efficiency **reducing greenhouse gas emissions, reducing demand for energy imports, and lowering costs** on a household and economy-wide level.

Modifications in PMRF Scheme

Why in News

Recently, the Ministry of Human Resources and Development has carried out various amendments in the **Prime Minister’s Research Fellowship Scheme** to boost research in the country.

Key Amendments

- ⌚ Now, students from **any recognized university can apply for the fellowship.**
 - ⦿ **Earlier** the fellowship scheme was **open only for students from Central Universities, IITs, IISc, NITs, IISERs, IIST and IIITs.**
- ⌚ The requirement of **GATE score** has also been **reduced** from 750 to 600.
- ⌚ As per new guidelines there will be **two channels of entries** i.e direct entry and lateral entry.
 - ⦿ In **lateral entry**, the students, who are pursuing PhD in PMRF granting institutions, and have

completed 12 months or 24 months as per certain requirements, can also apply to become fellow under the scheme.

- ⌚ **National Institute of Technologies (NITs)** which appear in top 25 institutions in the **National Institute Ranking Framework (NIRF)** ranking can also become PMRF Granting institution.
- ⌚ To boost research a dedicated Division is being created in the MHRD with the name of **“Research and Innovation Division”.**
 - ⦿ This division will be headed by a director who will be coordinating research work of various institutions coming under MHRD.

Prime Minister’s Research Fellowship Scheme

- ⌚ In order **to attract meritorious students into research**, Government of India, in 2018 launched Prime Minister’s Research Fellows (PMRF) Scheme, which offers **direct admission to such students in the Ph.D programmes** in various higher educational institutions in the country.
- ⌚ The scheme is **aimed at attracting the talent pool of the country to doctoral (Ph.D.) programmes** for carrying out **research in cutting edge science and technology domains, with focus on national priorities.**
- ⌚ The institutes which can offer PMRF include all the **IITs, IISERs, Indian Institute of Science, Bengaluru and some of the top Central Universities/NITs** that offer science and/or technology degrees.
- ⌚ A fellowship of Rs. 70,000/- per month for the first two years, Rs. 75,000/- per month for the 3rd year, and Rs. 80,000/- per month in the 4th and 5th year is provided under the scheme.
- ⌚ Apart from this, a **research grant of Rs. 2 lakh per year** is provided to each of the Fellows for a period of 5 years to cover their academic contingency expenses and for foreign/national travel expenses.

Saras Collection

Why in News

- Recently, the Indian government launched the **Saras Collection** on the **Government e Marketplace (GeM)** portal.
- ⌚ It is a **unique initiative** by the **GeM, Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM)** and **Ministry of Rural Development.**

Key Points

- ⌚ The Saras Collection **showcases daily utility products made by rural Self-Help Groups (SHGs)** and aims to provide SHGs in rural areas with **market access** to Central and State Government buyers.
- ⌚ The Saras Collection will **provide SHGs with direct access to Government buyers** which will **do away with intermediaries** in the supply chain, thus ensuring **better prices** for SHGs and **spurring employment opportunities** at the local level.
- ⌚ **Mechanisms:**
 - ⊙ **For Functionaries:** They will be provided dashboards at the national, state, district and block level for real time information about the number of products uploaded, their value and volume of orders received and fulfilled.
 - ⊙ **Government buyers:** They will be sensitized through system generated messages/ alerts in the Marketplace about availability of SHG products on the portal.
- ⌚ GeM will **collaborate with State functionaries** to address the **capacity building and training needs** of SHGs and **build up their competencies** required for order packaging, catalogue management and logistics.
- ⌚ GeM will **develop online learning resources in vernacular content** for SHGs with inputs and assistance from the NRLM and the **State Rural Livelihoods Missions (SRLMs)**.

Government e-Marketplace

- ⌚ GeM is a one-stop **National Public Procurement Portal** to facilitate **online procurement of common use goods and services** required by various central and state government departments/organizations/ public sector undertakings (PSUs).
- ⌚ It was **launched in 2016** to bring transparency and efficiency in the government buying process.
- ⌚ It has been developed by **Directorate General of Supplies and Disposals** (Ministry of Commerce and Industry) with technical support of **National e-governance Division** (Ministry of Electronic and Information Technology).
- ⌚ It **functions under Directorate General of Supplies and Disposals** (DGS&D), Ministry of Commerce and Industry.
- ⌚ The procurement of goods and services by Ministries and the **Central Public Sector Enterprises (CPSEs)** is **mandatory** for goods and services available on GeM.

- ⌚ It also provides the tools of **e-bidding and reverse e-auction** to facilitate the government users achieve the best value for their money.
- ⌚ GeM is a **completely paperless, cashless and system driven e-market place** that enables procurement of common use goods and services with minimal human interface.

SAMARTH ERP

Why in News

The **Ministry of Human Resource Development (MHRD)** has developed an **e-governance platform ‘SAMARTH Enterprise Resource Planning (ERP)’** under the **National Mission of Education in Information and Communication Technology Scheme (NMEICT)**.

Key Points

- ⌚ SAMARTH ERP is an **open source, open standard enabled robust, secure, scalable, and evolutionary process automation engine** for Universities and Higher Educational Institutions.
 - ⊙ **Enterprise Resource Planning (ERP)** refers to a type of software used to manage day-to-day business activities such as **accounting, procurement, project management, risk management and compliance, and supply chain operations**.
 - ⊙ ERP in a University can improve management and administration.
- ⌚ The platform has been implemented at the **National Institute of Technology (NIT), Kurukshetra**, a participating unit under the World Bank-supported **Technical Education Quality Improvement Program (TEQIP)**.
- ⌚ It would **automate the processes of the enhancement of productivity through better information management** in the institute by seamless access to information and proper utilization of information.
- ⌚ It caters to faculty, students and staff at a University/ Higher Educational Institutions.

National Mission on Education through Information and Communication Technology

- ⌚ The Mission, **launched in 2009**, is a landmark initiative of the MHRD, with the **objective** of seamlessly providing quality educational content to all the eligible and willing learners in India.

⌚ It has been envisaged to leverage the potential of ICT, in the teaching and learning process for the benefit of all the learners in Higher Education Institutions.

⌚ **Initiatives under the Program:**

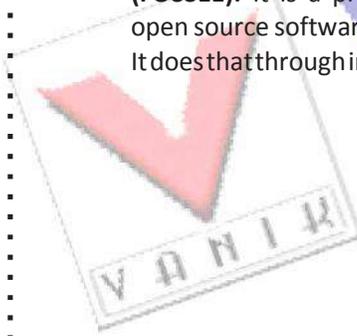
- ⦿ **SWAYAM: The Study Webs of Active Learning for Young Aspiring Minds (SWAYAM)** is an integrated platform for offering online courses, covering school (9th to 12th) to Postgraduate Level. The online courses are being used not only by the students but also by the teachers and non-student learners, in the form of lifelong learning.
- ⦿ **SWAYAM Prabha:** It is an initiative to provide 32 High Quality Educational Channels through DTH (Direct to Home) across the length and breadth of the country on a 24×7 basis.
- ⦿ **National Digital Library of India (NDL):** It is a project to develop a framework of virtual repository of learning resources with a single-window search facility. Presently, there are more than 3 crore digital resources available through the NDL.
- ⦿ **Spoken Tutorial:** They are 10-minute long, audio-video tutorials, on open source software, to improve employment potential of students. It is created for self learning, audio dubbed into 22 languages and with the availability of an online version.
- ⦿ **Free and Open Source Software for Education (FOSSEE):** It is a project promoting the use of open source software in educational institutions. It does that through instructional material, such as

spoken tutorials, documentation, such as textbook companions, awareness programmes, such as conferences, training workshops, and internships.

- ⦿ **Virtual Lab:** This is a project to develop a fully interactive simulation environment to perform experiments, collect data, and answer questions to assess the understanding of the knowledge acquired.
- ⦿ **E-Yantra:** It is a project for enabling effective education across engineering colleges in India on embedded systems and robotics.

Technical Education Quality Improvement Programme

- ⌚ It was started in **2002** by the **Ministry of Human Resources and Development** with the assistance of the **World Bank** and is being implemented in a phased manner.
- ⌚ It aims to upscale the quality of technical education and enhance capacities of institutions.
- ⌚ **The Technical Education Quality Improvement Programme III (TEQIP-III)** was started in 2017 and will be completed by 2021.
 - ⦿ It aims to develop technical education as a key component for improving the quality of Engineering Education.
 - ⦿ The objective is to improve quality and equity in engineering institutions in focus states such as in low income states.



Economic Scenario

Highlights

- ⌘ *Atmanirbhar Bharat and Economic Stimulus*
- ⌘ *Economic Stimulus-I*
- ⌘ *Economic Stimulus-II*
- ⌘ *Economic Stimulus-III*
- ⌘ *Economic Stimulus-IV*
- ⌘ *Economic Stimulus-V*
- ⌘ *Core Sector Shrinks by 6.5%*
- ⌘ *Forex Reserves*
- ⌘ *Drop in FPI Outflows*
- ⌘ *RBI Cancels Licence of CKP Co-op Bank*
- ⌘ *Co-operative Banks Under Sarfaesi Act*
- ⌘ *Manufacturing Hits Record Low*
- ⌘ *MSMEs and Covid-19*
- ⌘ *Helicopter Money*
- ⌘ *Relevance of the Consol Bonds amid Covid-19*
- ⌘ *RBI's Gold Reserve Increased*
- ⌘ *Manis Under e-NAM Increased*
- ⌘ *CHAMPIONS Portal for MSME*

Atmanirbhar Bharat and Economic Stimulus

Why in News

Recently, the Prime Minister has announced the 'Atmanirbhar Bharat Abhiyan (or Self-reliant India Mission)' with an economic stimulus package, worth Rs 20 lakh crores aimed towards achieving the mission.

- ⌚ The announced economic package is **10% of India's Gross Domestic Product (GDP) in 2019-20**.
- ⌚ The amount **includes** packages already announced at the beginning of the lockdown incorporating **measures from the RBI** and the **payouts under the Pradhan Mantri Garib Kalyan Yojana**.
- ⌚ The package is expected to focus on **land, labour, liquidity, and laws**.

Self-reliant India Mission

- ⌚ The Self-reliant India Mission aims towards **cutting down import dependence** by focussing on substitution while improving safety compliance and quality goods to gain global market share.
 - ⌚ The Self-reliance **neither signifies any exclusionary or isolationist strategies** but involves creation of a helping hand to the whole world.
- ⌚ The Mission focuses on the **importance of promoting "local" products**.

- ⌚ The Mission will be carried out in **two phases**:
 - ⌚ **Phase 1:** It will consider sectors like medical textiles, electronics, plastics and toys where local manufacturing and exports can be promoted.
 - ⌚ **Phase 2:** It will consider products like gems and jewellery, pharma and steel, etc.
- ⌚ The Mission would be based on **five pillars**, namely:
 - ⌚ Economy
 - ⌚ Infrastructure

Atmanirbhar Bharat The Road Ahead

5 Pillars of Self-Reliant India

- Economy**: Quantum jumps, not incremental changes
- Infra-structure**: One that represents modern India
- System**: Technology driven
- Demography**: Vibrant demography of the largest democracy
- Demand**: Full utilisation of power of demand and supply

Atmanirbhar Bharat Abhiyan

- Package of ₹ 20 lakh crores (about 10% of GDP*)
- Focus on Land, Labour, Liquidity and Laws
- To cater to labourers, middle class, cottage industry, MSMEs and industries among others

*Including recent economic measures and RBI announcements

Bold Reforms– Need of the Hour

- Supply Chain Reforms for Agriculture
- Rational Tax System
- Simple and Clear Laws
- Capable Human Resource
- Strong Financial System

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- ⊙ System
- ⊙ Vibrant Demography
- ⊙ Demand
- ⌚ The Mission is also expected to complement **'Make In India Initiative'** which intends to encourage manufacturing in India.

Analysis of the Economic Package

- ⌚ **Inclusion of RBIs' Expenditure in Fiscal Package:**
 - ⊙ The declared package is considered to be substantially less because **it includes the actions of RBI as part of the government's "fiscal" package, even though only the government controls the fiscal policy and not the RBI** (which controls the 'monetary' policy).
 - ⊙ Thus, the Government expenditure and RBI's actions are **neither the same nor can they be added** in this manner. And thus nowhere in the world fiscal packages are declared in this manner.
 - ⊙ For instance, when the US announced a relief package of \$3 trillion (Rs 225 lakh crore), it only refers to the money that will be spent by the government — and does not include the expenditure of the Federal Reserve (US central bank).
- ⌚ **Implication of Inclusion of RBIs' Expenditure:**
 - ⊙ If the government is including RBI's liquidity decisions in the calculation, then the **actual fresh spending by the government could be considerably lower.**
 - ⌘ That's because RBI has been coming out with **Long Term Repo Operation (LTRO)**, to infuse liquidity into the banking system worth Rs 1 lakh crore at a time. If RBI launches another LTRO of Rs 1 lakh crore, then the overall fiscal help falls by the same amount.
 - ⊙ The direct expenditure by a government usually includes wage subsidy or direct benefit transfer or payment of salaries, etc, **immediately and necessarily stimulates the economy.** In other words, that **money necessarily reaches the people**, either as **through salary or purchase.**
 - ⊙ But **measures from RBI include credit easing**, that is, making more money available to the banks so that they can lend to the broader economy, is not like government expenditure.
 - ⌘ In times of crisis, banks may take that money from RBI and, instead of lending it, may park it back with the RBI.

- ⌘ Recently, Indian banks have parked Rs 8.5 lakh crores with the central bank. So in terms of calculations, RBI has given a stimulus of Rs 6 lakh crore. But in reality, RBI has received an even bigger amount back from the banks.
- ⊙ Thus, the **declared amount is 10% of GDP, but less than 5% cash outgo is expected.**

Economic Stimulus-I

Why in News

Recently, the Union Finance Minister announced **liquidity measures for businesses, especially Micro, Small and Medium enterprises (MSMEs)**, as part of the **first tranche of Atmanirbhar Bharat Abhiyan.**

- ⌚ The announced measures also form a **part of the Rs. 20-lakh-crore economic stimulus package** to deal with the **Covid-19 pandemic.**
- ⌚ This economic stimulus includes both **liquidity financing measures and credit guarantees.**

Key Points

- ⌚ **Salaried Workers and Taxpayers:**
 - ⊙ The deadline for income tax returns for the financial year 2019-20 has been extended, with the due date now pushed to November 30, 2020.
 - ⊙ The rates of Tax Deduction at Source (TDS) and Tax Collection at Source (TCS) have been **cut by 25%** for the FY 2020-21.
 - ⊙ The statutory **Provident Fund (PF) payments have been reduced from 12% to 10% for both employers and employees** for the next three months.
- ⌚ **NBFCs, Housing Finance Companies and Microfinance Institutions:**
 - ⊙ Many of these institutions serve the MSME sector financially and will be supported through a Rs 30,000 crore investment scheme **fully guaranteed by the Centre.**
 - ⊙ Further, an expanded **partial credit guarantee scheme worth Rs 45,000 crores** also has been offered, of which the **first 20% of losses will be borne by the Centre.**
 - ⊙ For instance, if the government provides a 100% credit guarantee up to an amount of Rs 1 crore to a firm, it means that a bank can lend Rs 1 crore to that firm; in case the firm fails to pay back, the

government will repay all of Rs 1 crore. If this guarantee was for the first 20% of the loan, then the government would guarantee to pay back only Rs 20 lakh.

🕒 **Power Distribution Companies:**

- ⊙ As these companies are facing an unprecedented cash flow crisis and thus will receive Rs 90,000 crore liquidity injection.

🕒 **Real Estate and Contractors:**

- ⊙ Contractors (those dealing with the construction/works and goods and services contracts) will get a six month extension for completion of work from all Central agencies, and also get partial bank guarantees to ease their cash flows.

- ⊙ Registered real estate projects will get a six-month extension for registration and completion of Real Estate Projects under **Real Estate (Regulation and Development) Act (RERA)** with Covid-19 to be treated as a **“force majeure” event**.

⌘ A 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).

🕒 **Global Tenders to be Disallowed:**

- ⊙ Indian MSMEs and other companies have often faced unfair competition from foreign companies and would be difficult to compete in the future due to Covid-19 pandemic.
- ⊙ Therefore, **global tenders will be disallowed in government procurement tenders upto Rs 200 crores.**

Liquidity Measures for MSMEs

🕒 **New Definition of MSMEs:**

- ⊙ The definition of an **MSMEs** has been expanded to allow for higher investment limits and the introduction of turnover-based criteria.
- ⌘ Earlier MSMEs were defined on the basis of the limit of investment in machinery or equipment.
- ⌘ The ‘turnover’ is the more efficient way to identify an MSME as it allows a lot of firms, especially in the services sector like mid-sized hospitals, hotels and diagnostic centres to be eligible for benefits as an MSME.
- ⊙ There will be **no difference between a manufacturing MSME and a services MSMEs.**

Existing and Revised Definition of MSMEs

Existing MSME Classification			
Criteria: Investment in Plant & Machinery or Equipment			
Classification	Micro	Small	Medium
Mfg. Enterprises	Investment <Rs. 25 lac	Investment <Rs. 5cr.	Investment <Rs. 10cr.
Services Enterprise	Investment <Rs. 10 lac	Investment <Rs. 2cr.	Investment <Rs. 5cr.
Revised MSME Classification			
Composite Criteria: Investment and Annual Turnover			
Classification	Micro	Small	Medium
Manufacturing & Services	Investment <Rs. 1cr. and Turnover <Rs. 5cr.	Investment <Rs. 10cr. and Turnover <Rs. 50cr.	Investment <Rs. 20cr. and Turnover <Rs. 100cr.

🕒 **Infusion of Liquidity:**

- ⊙ Instead of directly infusing money into the economy or giving it directly to MSMEs, the government will offer **credit guarantees for MSMEs**.
- ⊙ **Emergency Credit Line:** The **collateral free loans** of worth **Rs. 3 lakh crores** will be available for MSMEs. It will ensure access to working capital to resume business activity and safeguard jobs for 45 lakh MSMEs.
- ⌘ The above measure is available for MSMEs that have an **already outstanding loan of Rs. 25 crore or those with a turnover less than Rs 100 crore.**
- ⌘ The loans will have a tenure of 4 years and they will have a **moratorium of 12 months** (that is, the payback starts only after 12 months).

Lockdown antidote

Finance Minister Nirmala Sitharaman announced the features for the first part of the Atmanirbhar Bharat Abhiyan

<p>For small businesses</p> <ul style="list-style-type: none"> • ₹3,00,000 crore emergency credit for Micro, Small and Medium Enterprises (MSMEs) • Only domestic firms can bid for govt. procurements up to ₹200 crore 	<p>For employees/ tax payers</p> <ul style="list-style-type: none"> • EPF deductions slashed for 3 months to 20% from 24% of salary; IT returns deadline extended • This will enhance take-home pay if employers pass it on, but dent retirement savings 	<p>companies</p> <ul style="list-style-type: none"> • Deadlines for realty projects and public infrastructure contracts extended <p>For financial sector</p> <ul style="list-style-type: none"> • Fresh ₹45,000 crore partial credit guarantees for non-banking finance companies (NBFCs) • ₹30,000 crore special liquidity for microfinance/ housing finance firms and NBFCs
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Relief at hand: Finance Minister Nirmala Sitharaman addressing a press conference to announce details of the economic stimulus package in New Delhi on Wednesday.

• SHIV KUMAR PUSHPAKAR

- ⌚ **Subordinate Debt Scheme** : The loans of amount Rs. 20,000 crore will be provided to MSMEs that were **already categorised as “stressed”, or struggling to pay back.**
 - ⌘ In this case, the **government provides partial guarantee.**
- ⌚ **Equity Infusion**: Fund of Funds with corpus of **Rs 10,000 crores** will be set up which will provide **equity funding for MSMEs** with growth potential and viability.

Credit Guarantees to MSMEs

- ⌚ **Description:**
 - ⌚ A Credit Guarantee Schemes (CGS) by the government assures the bank that its loan will be **repaid by the government in case the MSME falters.**
- ⌚ **Reasons for Introduction of CGS:**
 - ⌚ Though, there was an option to pump liquidity via the banks but banks suspect any new loans due to rising Non-Performing Assets (NPAs).
 - ⌚ Thus, the government faced a dual problem where banks had the money but were not willing to lend to the credit-starved sections of the economy, while the government itself did not have enough money to directly help the economy.
 - ⌚ The credit guarantees solve dual issues faced by the government.
- ⌚ **Implications:**
 - ⌚ Such CGS creates moral hazards as borrowers remain assured of paying back and the lender remains assured of receiving credit amounts. Subsequently, the government is forced to pay the amount.

Overall Implications of Economic Stimulus

- ⌚ The measures announced during the first tranche of the economic stimulus focuses **majorly on supply side measures**, aimed at activating businesses in the MSME, real estate, NBFC sectors.
- ⌚ In general, **stimulus measures are aimed at boosting demand** either by government spending on its own account or increasing disposable incomes of households through cash transfers or tax concessions.
- ⌚ Indian economy needs **both supply and demand side measures** for the revival.

Economic Stimulus-II

Why in News

This includes the short term and long-term measures for supporting the poor, including migrants, farmers, tiny businesses and street vendors as part of the second tranche of **Atmanirbhar Bharat Abhiyan.**

- ⌚ The **Economic Stimulus-I** was announced which includes both **liquidity financing** measures and **credit guarantees.**

Key Points

- ⌚ **Free Food Grains Supply**
 - ⌚ **Allocation of additional food grain** to all the States/UTs (5 kg per migrant labourer and 1 kg chana per family per month) for **two months** (May and June, 2020) **free of cost.**
 - ⌘ This move is an extension of the **Pradhan Mantri Gharib Kalyan Yojana.**
 - ⌚ **Eligibility:** Migrant labourers **not covered under National Food Security Act (NFSA), 2013 or without a ration card** in the State/UT in which they are stranded at present.
 - ⌘ There are an estimated 8 crore migrant workers, housed in government and privately run relief camps across the country since the lockdown.
 - ⌚ The entire **outlay of Rs.3500 crore** will be borne by the Government of India.
- ⌚ **One Nation One Ration Card**
 - ⌚ 67 crore beneficiaries covering 83% of **Public Distribution System (PDS)** population will be covered by National portability of Ration cards by August, 2020 and 100% National portability will be achieved by March, 2021.
 - ⌚ **One Nation One Ration Card** is part of **Technology Driven System Reforms** and will enable migrant workers and their family members to **access PDS benefits from any Fair Price Shop** in the country.
 - ⌘ This will ensure that the people in transit, especially migrant workers can also get the PDS benefit across the country.
- ⌚ **Scheme for Affordable Rental Housing Complexes for Migrant Workers and Urban Poor**
 - ⌚ This scheme will be launched soon and under this, the Central Government will **provide ease of living at affordable rent.**

⊙ Under this:

⌘ Government funded houses in the cities will be converted into **Affordable Rental Housing Complexes (ARHC)** under **PPP mode (Public Private Partnerships)** through concessionaires.

⌚ **Interest Subvention for Shishu MUDRA loanes**

⊙ Government of India will provide **Interest subvention of 2%** for prompt payees for a **period of 12 months** to **MUDRA Shishu** loanees, who have **loans below Rs. 50,000**.

⊙ The current portfolio of MUDRA Shishu loans is around Rs. 1.62 Lakh crore. This will provide **relief of about Rs. 1,500 crore** to Shishu MUDRA loanes.

⌚ **Credit Facility for Street Vendors**

⊙ A scheme will be launched to **facilitate easy access to credit to Street vendors** and **enable them to restart** their businesses.

⊙ It is expected that **50 lakh street vendors will be benefited** under this scheme and **credit of Rs. 5,000 crore would be provided**.

⊙ Bank credit facilities for initial working capital up to Rs. 10,000 for each enterprise will be extended.

⌚ **Extension of Credit Linked Subsidy Scheme**

⊙ The **Credit Linked Subsidy Scheme** for **Middle Income Group (MIG, annual income between Rs. 6 and Rs. 18 lakhs)** will be **extended up to March 2021**.

⌘ This subsidy scheme comes under the **Pradhan Mantri Awas Yojana (Urban)**.

⊙ This will **benefit 2.5 lakhs middle income families** during 2020-21 and will lead to **investment of over Rs. 70,000 crore** in housing sector.

⊙ This will create a significant number of jobs by giving a boost to the Housing sector and will stimulate demand for steel, cement, transport and other construction materials.

⌚ **Creating Employment using CAMPA Funds**

⊙ Approximately **Rs. 6,000 crore of funds** under **Compensatory Afforestation Management & Planning Authority (CAMPA)** will be used.

⊙ The funds will be **utilised in** afforestation and plantation works, artificial regeneration, forest management, soil & moisture conservation works, forest protection, forest and wildlife related infrastructure development, wildlife protection and management etc.

⊙ Government will **grant immediate approval** to these plans which will create job opportunities in urban, semi-urban and rural areas and also for Tribals.

⌚ **Additional Emergency Working Capital through NABARD**

⊙ **National Bank for Agriculture and Rural Development (NABARD)** will **extend additional re-finance support of Rs.30,000 crore** for meeting crop loan requirements of **Rural Cooperative Banks (RCBs)** and **Regional Rural Banks (RRBs)**.

⌘ This **refinance** will be **front-loaded** (uneven distribution with a greater proportion at one time and smaller ones at other time) and **available immediately**.

⊙ This is **over and above Rs. 90,000 crore** that will be provided by NABARD to this sector in the normal course.

⊙ This will **benefit around 3 crore farmers**, mostly small and marginal and will meet their post-harvest Rabi and current Kharif requirements.

⌚ **Credit Boost to Kisan Credit Card Scheme**

⊙ It is a special drive to provide concessional credit to **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)** beneficiaries through **Kisan Credit Cards**.

⊙ It will inject **additional liquidity of Rs. 2 lakh crore** in the farm sector.

⊙ **2.5 crore farmers will be covered** and fisherman and animal husbandry farmers will also be included in this drive.

Criticism

⌚ Economists say that this intervention was **too little, too late**, and that the free food grain provision **should have been universalised** to deal with widespread distress.

⌚ There are 50 crore people in the country without ration cards, of which 10 crore are legally entitled to PDS grain under NFSA. Of the rest, there are many people who were managing in normal times, vegetable vendors, gig economy workers, autorickshaw drivers, who are in dire straits now. **PDS needed to be extended to all these people** at this time.

⌚ Economists have asked the government for a **one-time cash transfer to vulnerable sections** like migrant labourers.

⌚ There were no step taken to extend **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** employment guarantee to at least 200 days.

- ⊙ **Currently, MGNREGA aims to provide at least 100 days of wage employment.**

Economic Stimulus-III

Why in News

This announcement includes the measures to strengthen Infrastructure Logistics, Capacity Building, Governance and Administrative Reforms for Agriculture, Fisheries and Food Processing Sectors as part of the third tranche of **Atmanirbhar Bharat Abhiyan**.

Key Points

⌚ **Agri Infrastructure Fund**

- ⊙ Financing facilities of ₹1,00,000 crore for funding Agriculture Infrastructure Projects at farm-gate and aggregation points (**Primary Agricultural Cooperative Societies, Farmers Producer Organizations (FPOs)**, Agriculture entrepreneurs, Start-ups, etc.). Funds will be created immediately.

Formalisation of Micro Food Enterprises

- ⊙ A ₹ 10,000 crore scheme promoting 'Vocal for Local with Global outreach' will be launched to help 2 lakh Micro Food Enterprises (MFEs) who need technical upgradation to attain **Food Safety and Standards Authority of India (FSSAI)** food standards, build brands and marketing.
- ⊙ Existing micro food enterprises, FPOs, **Self Help Groups (SHGs)** and Cooperatives will be supported.
- ⊙ The focus will be on women and SC/ST owned units and those in **Aspirational districts** and a Cluster based approach (e.g. Mango in Uttar Pradesh, Tomato in Karnataka, Chilli in Andhra Pradesh, Orange in Maharashtra etc.) will be followed.

⌚ **Pradhan Mantri Matsya Sampada Yojana**

- ⊙ The scheme will be launched for integrated, sustainable, inclusive **development of marine and inland fisheries**.
- ⊙ ₹11,000 crore for activities in Marine, Inland fisheries and Aquaculture and ₹ 9000 crore for Infrastructure (fishing harbours, cold chain, markets etc) shall be provided.
- ⊙ The focus will be on Islands, Himalayan States, North-east and Aspirational Districts.

⌚ **National Animal Disease Control Programme**

National Animal Disease Control Programme for **Foot and Mouth Disease (FMD)** and **Brucellosis** launched with a total outlay of ₹ 13,343 crore to ensure 100% vaccination of cattle, buffalo, sheep, goat and pig population.

⌚ **Animal Husbandry Infrastructure Development Fund**

- ⊙ Under it, a fund of ₹ 15,000 crore will be set up, with an aim to support private investment in Dairy Processing, value addition and cattle feed infrastructure.
 - ⌘ **Animal rearing** or husbandry is considered an associate business with agricultural activities in rural India and is an integral component of Indian agriculture, supporting the livelihood of the rural population.

⊙ **Incentives will be given for establishing plants for export of niche products.**

- ⌘ A niche product is a product targeting a specific section of a larger industry and market. Niche products are often (but not always) more expensive than more generic products.
- ⌘ Example: Organic foods, Speciality foodstuff like high-quality coffee, Customisable products, etc.

⌚ **Promotion of Herbal Cultivation**

- ⊙ 10,00,000 hectare will be covered under Herbal cultivation in next two years with an outlay of ₹4,000 crore which will lead to ₹5,000 crore income generation for farmers.
- ⊙ The **National Medicinal Plants Board (NMPB)** has supported 2.25 lakh hectare area under cultivation of medicinal plants and will bring 800-hectare area by developing a corridor of medicinal plants along the banks of **Ganga**.
 - ⌘ NMPB was set up by the Government of India on 24th November, 2000 to promote the medicinal plants sector.
 - ⌘ Currently, the board is located under the Ministry of **AYUSH**.

⌚ **Beekeeping Initiatives**

- ⊙ With an outlay of ₹ 500 crore, Government will implement a scheme for:
 - ⌘ Infrastructure development related to **Integrated Beekeeping Development Centres**, capacity building, collection, marketing and storage centres, postharvest & value addition facilities.

⌚ **Extension of Operation Greens**

- ⊙ **Operation Greens** run by the Ministry of Food Processing Industries will be extended from Tomatoes, Onion and Potatoes (TOP) to all fruit and vegetables, with an outlay of ₹ 500 crore.
- ⊙ It will provide 50% subsidy on transportation from surplus to deficit markets, 50% subsidy on storage, including cold storages and will be launched as pilot for the next 6 months and will be extended and expanded.
- ⊙ This will lead to better price realisation to farmers, reduced wastages and affordability of products for consumers.
- ⌚ **Amendments to Essential Commodities Act, 1955**
 - ⊙ Under the amendments to the **Essential Commodities Act (ESA)**, agriculture food stuffs including cereals, edible oils, oilseeds, pulses, onions and potatoes shall be deregulated.
 - ⊙ Stock limits will be imposed under very exceptional circumstances like national calamities, famine with surge in prices.
 - ⊙ Further, no such stock limit shall apply to processors or value chain participants, subject to their installed capacity or to any exporter subject to the export demand.
- ⌚ **Agriculture Marketing Reforms**
 - ⊙ A Central law will be formulated to provide:
 - ⌘ Adequate choices to the farmer to sell their produce at remunerative price.
 - ⌘ Barrier free Inter-State Trade.
 - ⌘ Framework for e-trading of agriculture produce.

Advantages from the Reforms

- ⌚ The two recent reforms of amendment in the ECA and the proposed formulation of a Central law that will not bind farmers to sell their crop only to licensed traders in the **Agricultural Produce Market Committee (APMC)** mandis of their respective talukas or districts will empower farmers.
 - ⊙ ECA will define clear triggers in terms of “price surges” for imposition of stocking limits.
 - ⊙ These provisions will be incorporated in the Act itself to remove any scope for administrative ambiguity.
 - ⊙ This will help in **inflation-targeting** within the ceiling of 6% as prescribed by the **Reserve Bank of India**.
- ⌚ While agriculture is a state subject and state governments have accordingly enacted their own APMC Acts, the new Central law apparently relies

on Article 301 (Freedom of trade, commerce and intercourse) of the Constitution along with entries in the **Seventh Schedule** (defines and specifies allocation of powers and functions between Union and States).

- ⊙ These give powers to the Centre to regulate all interstate and intrastate trade and commerce in foodstuffs, which can be used to create an integrated national market by removing restrictions placed by APMC laws.

Economic Stimulus-IV

Why in News

The fourth tranche of **Atmanirbhar Bharat Abhiyan** is targeted towards **fast track investments in the eight sectors**.

- ⌚ The fourth tranche focuses on eight sectors namely, coal, minerals, defence production, civil aviation, power distribution, social infrastructure, space and atomic energy.

Basis of Policy Reforms for Fast-track Investments

- ⌚ Fast tracking of investment clearance through the Empowered Group of Secretaries.
- ⌚ Establishment of Project Development Cell in each Ministry to prepare a list of investable projects and also to coordinate with investors and Central/State Governments.
- ⌚ Ranking of States on investment attractiveness to compete for new investment.
- ⌚ Incentive schemes for promotion of new champion sectors such as solar Photo Voltaic (PV) manufacturing; advanced cell battery storage etc.

Key Points

- ⌚ **Coal Sector:**
 - ⊙ **Commercial Mining:**
 - ⌘ The introduction of commercial mining will remove the government monopoly in coal mining. India has the third-largest coal availability within its untapped mines and yet India still imports coal.
 - ⌘ Commercial mining will be introduced on the basis of a revenue-sharing mechanism. The government will receive a share of the gross revenue from the sale of coal but will not be involved with the cost incurred.

⌚ **Coal Gasification/Liquefaction:**

- ✳ It will be incentivised through rebate (partial refund) in revenue share to lower the environmental impact. It is also expected to assist India in switching to a gas-based economy.

⌚ **Infrastructure Investment:**

- ✳ The infrastructure development worth of Rs. 50,000 crores will be done to achieve the Coal India Limited's (CIL) target of 1 billion tons coal production by 2023-24 plus coal production from private blocks.

⌚ **Coal Bed Methane (CBM) Extraction:**

- ✳ These extraction rights to be auctioned from Coal India Limited's (CIL) coal mines.

⌚ **Mining Plan Simplification:**

- ✳ Ease of Doing Business measures, such as Mining Plan simplification, will be considered. It is expected to increase annual production by 40%.

⌚ **Mineral Sector:**

- ⌚ **Exploration-cum-Mining-cum-Production Regime:**
 - ✳ 500 mining blocks would be offered through an open and transparent auction process under this composite regime.

- ⌚ **Joint Auction of Bauxite and Coal Mineral Blocks:**

- ✳ It aims to enhance the aluminium industry's competitiveness by reducing the cost of electricity generation.

- ⌚ **Captive and Non-captive Mines:**

- ✳ The government has decided to remove the distinction between captive and non-captive mines to allow the transfer of mining leases and the sale of surplus unused minerals, leading to better efficiency in mining and production.
- ✳ The captive mines are that produce minerals for use by the same company.

⌚ **Defence Sector:**

- ⌚ **Revision of FDI Limit:**

- ✳ The FDI limit in defence manufacturing under automatic route will be raised from 49% to 74%.

- ⌚ **Project Management Unit:**

- ✳ The government is expected to begin time-bound defence procurement and faster decision

Breaking down walls

Finance Minister Nirmala Sitharman announced a set of structural reforms across sectors as a part of the efforts to boost a sagging economy



COAL

Commercial mining on a revenue sharing basis to be introduced. Companies in the private sector will be allowed to carry out exploration



MINERALS

Composite exploration-cum-mining-cum-production regime for minerals to be announced. 500 mining blocks will be auctioned



DEFENCE

A list of weapons/platforms for ban on import will be notified. FDI limit in manufacturing under automatic route to be raised to 74%



CIVIL AVIATION

Restrictions on utilisation of the airspace will be eased so that flying becomes efficient. Now, only 60% of the airspace is freely available



POWER

Power departments/utilities and distribution companies in U.T.s to be privatised. It will be in line with the tariff policy which is to be announced



SPACE

Privatisation to be introduced. Planetary exploration, outer space travel to be opened to the private sector



ATOMIC ENERGY

Research reactor in PPP mode to be set up for the production of medical isotopes



making by setting up a Project Management Unit (PMU) to support contract management.

⌚ **Reduction in Defence Import Bill:**

- ✳ The government will notify a list of weapons/platforms banned for imports and thus such items can only be purchased from India.

⌚ **Civil Aviation:**

- ⌚ **Efficient Airspace Management:**

- ✳ The restrictions on the utilisation of Indian airspace will be eased so that the flying of civilian aircraft becomes more efficient. Such utilisation is expected to bring in benefits of nearly Rs 1,000 crore per year.
- ✳ It will also lead to optimal utilization of airspace, reduction in fuel use, time and will have positive environmental impact.
- ✳ Currently, only 60% of India's airspace is freely available and thus airplanes have been flying to most destinations through longer routes hence more fuel is used in the process and the customers end up paying more.

- ⌚ **Airports Development through PPP:**

- ✳ In addition to the existing ones, six more airports will be auctioned under the Public-Private-Partnership (PPP) model for its development.

- ⌚ **India-a global hub for Aircraft Maintenance, Repair and Overhaul (MRO):**

- ✳ The aircraft component repairs and airframe maintenance is intended to increase from Rs 800 crore to Rs 2,000 crore in three years.

⌘ The convergence between the Defence sector and the civil MROs will be established to bring down the maintenance cost of airlines.

⌚ **Power Distribution Sector:**

⊙ **Tariff Policy Reforms:**

⌘ The tariff policy reforms will be announced in the future. The reforms are expected to focus on the consumer rights, promotion of industry and sustainability of the sector.

⊙ **Privatization of Distribution in UTs:**

⌘ The power departments/utilities in Union Territories will be privatised.

⌘ It is expected to improve the operational and financial efficiency in Distribution.

⌚ **Social Infrastructure Projects:**

⊙ **Investments through Viability Gap Funding:**

⌘ The government is expected to invest Rs 8,100 crores through Viability Gap Funding (VGF).

⌘ Currently, most of the projects are supported by centre/states/statutory bodies with 20% as VGF. But the Centre will be increasing its share in VGF to 30% in the future.

⌘ The above benefits will be provided if the projects will be proposed by Central Ministries/ State Government/ Statutory entities.

⌘ Viability Gap Funding (VGF) signifies a grant, one-time or deferred, provided to support infrastructure projects that are economically justified but fall short of financial viability. The lack of financial viability usually arises from long gestation periods and the inability to increase user charges to commercial levels.

⌚ **Space Sector:**

⊙ **Participation of the Private Sector:**

⌘ The government will be providing a level playing field for private companies in satellites, planetary exploration, outer space travel, launches and space-based services.

⌘ Such private players will also be allowed to use ISRO's facilities and other relevant assets to improve their capabilities.

⊙ **Liberal Geo-spatial Data Policy:**

⌘ There will also be a liberal geo-spatial data policy for providing remote-sensing data to tech-entrepreneurs.

⌚ **Atomic Energy:**

⊙ **Research Reactor in PPP Mode:**

⌘ It will help to produce medical isotopes for affordable treatment of cancer and other diseases.

⌘ It will also generate facilities to use irradiation technology for food preservation. This will complement agricultural reforms and assist farmers.

⊙ **Technology Development cum Incubation Centres:**

⌘ These centres will be set up to act as a link between India's robust start-up ecosystem to the nuclear sector.

Criticism

⌚ It is considered to be less of a stimulus and more of industrial reforms, which could have been announced at any time.

⌚ It has been also observed that the only direct budgetary cost in this tranche was the Rs. 8,100 crore to be provided as a raised 30% viability gap funding to boost private investment in social sector infrastructure.

⌚ The fourth tranche covered sectors of strategic importance but these policies will be rolled out over a 3-6 month period, and any implication for supporting or reviving the economy as it comes out of lockdown is missing.

Economic Stimulus-V

Why in News

Recently, the Union Finance Minister announced the measures for **providing employment and support to businesses, state governments as well sectors such as education and health** as part of the fifth and final tranche of **Atmanirbhar Bharat Abhiyan**.

Key Points

⌚ **Increase in Allocation for MGNREGA**

⊙ The Government will allocate an additional Rs.40,000 crore under **Mahatma Gandhi National Rural Employment Guarantee Act, 2005 (MGNREGA)**.

⌘ It will help generate nearly 300 crore person days in total, addressing the need for more work by the migrants who are returning to their hometowns due to the pandemic and **lockdown**.

Final dose

The fifth tranche of the economic package under the Atmanirbhar Bharat Abhiyan was announced on Sunday

<p>Health</p> <ul style="list-style-type: none"> Public spending to be increased; more health and wellness centres Infectious diseases hospitals and public health labs to be set up in all districts <p>Disinvestment</p> <ul style="list-style-type: none"> Public sector firms in non-strategic sectors to be privatised No more than four public sector undertakings to remain in 'strategic' sectors; to be notified soon 	<p>States</p> <ul style="list-style-type: none"> Borrowing ceiling raised from ₹6.41 lakh crore (3% of GSDP) to ₹10.69 lakh crore Only a quarter of this hike is unconditional; rest are linked to reforms in specified areas <p>Unemployment</p> <ul style="list-style-type: none"> MGNREGS allocation hiked by ₹40,000 crore to fund 300 crore person days Aimed at giving migrants who have returned home an income option <p>Industry</p> <ul style="list-style-type: none"> Fresh insolvency proceedings suspended for a year, eligible loan size to be hiked from ₹1 lakh to ₹1 crore COVID-19 related debt not to trigger defaults; firms can list abroad directly
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- Creation of a larger number of durable and livelihood assets including water conservation assets which will boost the rural economy through higher production.

Health Reforms and Initiatives

- Public expenditure on health will be increased by investing in grass root health institutions and ramping up health and wellness centres in rural and urban areas.
- Preparing India for future pandemics:**
 - Setting up of Infectious Diseases Hospital Blocks in all districts.
 - Strengthening of lab networks and surveillance (Integrated Public Health Labs in all districts and blocks).
 - The National Institutional Platform for One Health by Indian Council of Medical Research (ICMR) will encourage research.
 - Implementation of National Digital Health Blueprint under the National Digital Health Mission (NDHM).
 - NDHM was recommended to be established as a purely government organization with complete functional autonomy on the lines of Unique Identification Authority of India (UIDAI) and Goods and Services Network GSTN.

Technology Driven Education with Equity

- Government will launch PM eVIDYA, a programme for multi-mode access to digital/online education with immediate effect. It consists of:
 - DIKSHA for school education in States/UTs: e-content and QR coded Energized Textbooks for all grades (one nation, one digital platform)
 - One earmarked TV channel per class from 1 to 12 (One class, One channel)
 - Extensive use of Radio, Community radio and Podcasts.
 - Special e-content for visually and hearing impaired.
 - Top 100 universities will be permitted to automatically start online courses by 30th May, 2020.
- Manodarpan, an initiative for psycho-social support for students, teachers and families for mental health and emotional well-being will be launched.
- New National Curriculum and Pedagogical framework for school, early childhood and teachers will be launched.
- National Foundational Literacy and Numeracy Mission for ensuring that every child attains learning levels and outcomes in grade 5 by 2025 will be launched by December 2020.

Measures Related to IBC

- Minimum threshold to initiate insolvency proceedings has been raised to Rs.1 crore (from Rs.1 lakh, which largely insulates Micro, Small and Medium Enterprises-MSMEs).
- Special insolvency resolution framework for MSMEs under Section 240A of the Insolvency and Bankruptcy Code (IBC) will be notified.
- Suspension of fresh initiation of insolvency proceedings up to one year, depending upon the pandemic.
- Empowering the Central Government to exclude Covid-19 related debt from the definition of "default" under the IBC for the purpose of triggering insolvency proceedings.

Measures Related to the Companies Act

- Decriminalisation of Companies Act, 2013 violations involving minor technical and procedural defaults (shortcomings in Corporate Social Responsibility (CSR) reporting, inadequacies in Board report, filing defaults, etc).

- ⊙ Majority of the compoundable offences sections to be shifted to Internal Adjudication Mechanism (IAM).
- ⊙ The amendments will de-clog the **criminal courts** and **National Company Law Tribunal (NCLT)**.
- 🕒 **Ease of Doing Business for Corporates**
 - ⊙ **Key reforms include:**
 - ⌘ Direct listing of securities by Indian public companies in permissible foreign jurisdictions.
 - ⌘ Private companies which list **Non-Convertible Debentures (NCDs)** on stock exchanges not to be regarded as listed companies.
 - ⌘ Including the provisions of Part IXA (Producer Companies) of Companies Act, 1956 in **Companies Act, 2013**.
 - ⌘ Power to create additional/specialized benches for **National Company Law Appellate Tribunal (NCLAT)**.
 - ⌘ Lower penalties for all defaults for Small Companies, One-person Companies, Producer Companies and StartUps.
- 🕒 **Public Sector Enterprise Policy for a New, Self-reliant India**
 - ⊙ **Government will announce a new policy where by:**
 - ⌘ List of strategic sectors requiring the presence of Public Sector Enterprises (PSEs) in public interest will be notified.
 - ⌘ In strategic sectors, at least one enterprise will remain in the public sector but private sector will also be allowed.
 - ⌘ In other sectors, **PSEs will be privatized** (timing to be based on feasibility etc.).
- 🕒 **Support to State Governments**
 - ⊙ The Centre has decided to increase borrowing limits of States from 3% to 5% for 2020-21 only which will give States extra resources of Rs.4.28 lakh crore.
 - ⊙ Part of the borrowing will be linked to specific reforms (including recommendations of the **Finance Commission**).
 - ⊙ Reform linkage will be in four areas:
 - ⌘ Universalisation of 'One Nation One Ration card'.
 - ⌘ **Ease of Doing Business**.
 - ⌘ Power distribution.
 - ⌘ Urban Local Body revenues.

- ⊙ States can borrow more in the following pattern, notified by the Department of Expenditure:
 - ⌘ The first 0.5% will be an unconditional increase.
 - ⌘ Next 1% in 4 tranches of 0.25%, with each tranche linked to clearly specified, measurable and feasible reform actions.
 - ⌘ The last 0.50% if milestones are achieved in at least three out of four reform areas.

Analysis

- 🕒 **On Increase in Allocation for MGNREGA**
 - ⊙ The step to allocate more resources to MGNREGA was widely welcomed as it will support rural livelihoods in the time of crisis.
 - ⊙ However, given that States account for 40% of MGNREGA expenditure, including most upfront costs, they will also have to spend on the scheme.
 - ⊙ Demand for work under MGNREGA had surged to a nine-year high in 2019-20 as 5.47 crore households availed of the scheme, the highest since 2010-11.
- 🕒 **On Support to State Governments**
 - ⊙ The expansion of the fiscal deficit has been welcomed by the states because GSDPs (Gross State Domestic Product) are likely to contract and further shrink the possible borrowing at a time when States are at the frontline of containment and relief operations.
 - ⊙ However, the conditions on additional loans have been criticised on the grounds that in future, severe conditions may be imposed on even normal loans.
 - ⊙ The utilisation of additional 2% borrowing by states can be lower because states may settle on borrowing less to avoid undertaking politically difficult reforms.
 - ⊙ A likely increase in borrowing cost due to the emerging gap between total **Public Sector Borrowing Requirement (PSBR)** and available resources will also lead to states not opting for the increased borrowing.
- 🕒 **On Public Sector Enterprise Policy**
 - ⊙ It was criticised on the grounds that privatising PSUs would find fewer buyers at a time of global recession, while any potential buyer would be spending money which could have gone into fresh investment on a financial transfer instead, effectively contracting demand.

Core Sector Shrinks by 6.5%

Why in News

The eight core sector industries contracted by 6.5% in March, 2020.

- ⌚ The cumulative growth of eight core sector industries during 2019-20 was 0.6%.
- ⌚ In February, 2020, the eight core sector industries recorded a growth of 5.5%.

Key Points

- ⌚ Seven out of eight core sectors contracted in the month of March.
 - ⊙ The contraction was led by steel production, electricity, cement production, natural gas production, fertiliser production, crude oil production and petroleum & refinery production.
 - ⊙ Coal was the only core sector which saw growth.
- ⌚ The contraction in the core sector has occurred despite the fact that several of the core sector industries were given exemptions under the lockdown. E.g electricity and steel which are continuous processes and were not stopped.
- ⌚ However, the movement of goods faced major restrictions due the **nationwide lockdown**, resulting in **reduced demand which led to reduced production**.
 - ⊙ The Government of India has imposed an unprecedented **21-day national lockdown**, as part of a series of steps to reduce the transmission of the **Covid-19**.
- ⌚ The March core sector data also reflected the cut in capital expenditure by both state and central governments in order to make up for falling tax revenues.
 - ⊙ The capital expenditure is defined as the money spent on the acquisition of assets like land, buildings, machinery, equipment, as well as investment in shares.
 - ⊙ High capital expenditure usually means more investment by the government towards the creation of infrastructure and other assets that are crucial for rapid economic growth.

Core Sector Industries

- ⌚ The eight core sector industries include coal, crude oil, natural gas, refinery products, fertiliser, steel, cement and electricity
- ⌚ The eight core industries comprise 40.27% of the weight of items included in the Index of Industrial Production (IIP).
- ⌚ The eight Core Industries in decreasing order of their weightage: Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement>Fertilizers.

Industry	Weight (In %)
Petroleum & Refinery production	28.04
Electricity generation	19.85
Steel production	17.92
Coal production	10.33
Crude Oil production	8.98
Natural Gas production	6.88
Cement production	5.37
Fertilizers production	2.63

Index of Industrial Production

- ⌚ The Index of Industrial Production (IIP) is an indicator that measures the changes in the volume of production of industrial products during a given period.
- ⌚ It is compiled and published monthly by the National Statistical Office (NSO), Ministry of Statistics and Programme Implementation.
- ⌚ IIP is a composite indicator that measures the growth rate of industry groups classified under:
 - ⊙ Broad sectors, namely, Mining, Manufacturing, and Electricity.
 - ⊙ Use-based sectors, namely Basic Goods, Capital Goods, and Intermediate Goods.
- ⌚ Base Year for IIP is 2011-2012.
- ⌚ The eight core industries of India represent about 40% of the weight of items that are included in the IIP.
- ⌚ Significance of IIP :
 - ⊙ It is used by government agencies including the Ministry of Finance, the Reserve Bank of India, etc, for policy-making purposes.
 - ⊙ IIP remains extremely relevant for the calculation of the quarterly and advance GDP estimates.

Forex Reserves

Why in News

According to the recent data from the [Reserve Bank of India](#), India's Foreign Exchange (Forex) reserves declined by \$113 million to \$479.45 billion in the week to 24 April, 2020 due to a fall in foreign currency assets.

Key Points

- ⌚ Changes in forex reserves holdings.
 - ⊙ The foreign currency assets (FCAs) decreased by \$321 million to \$441.56 billion.
 - ⊙ Gold reserves rose by \$221 million to \$32.901 billion.

Foreign Currency Assets (FCA)

- ⌚ FCAs are assets that are valued based on a currency other than the country's own currency.
- ⌚ FCA is the largest component of the forex reserve. It is expressed in dollar terms.
- ⌚ The FCAs include the effect of appreciation or depreciation of non-US units like the euro, pound and yen held in the foreign exchange reserves.

Special Drawing Rights (SDR)

- ⌚ The SDR is an international reserve asset, created by the IMF in 1969 to supplement its member countries' official reserves.
- ⌚ The SDR is neither a currency nor a claim on the IMF. Rather, it is a potential claim on the freely usable currencies of IMF members. SDRs can be exchanged for these currencies.
- ⌚ The value of the SDR is calculated from a weighted basket of major currencies, including the U.S. dollar, the euro, Japanese yen, Chinese yuan, and British pound.
- ⌚ The interest rate on SDRs or (SDRi) is the interest paid to members on their SDR holdings.

Reserve Position in the International Monetary Fund

- ⌚ A reserve tranche position implies a portion of the required quota of currency each member country must provide to the International Monetary Fund (IMF) that can be utilized for its own purposes.
- ⌚ The reserve tranche is basically an emergency account that IMF members can access at any time without agreeing to conditions or paying a service fee.

- ⊙ The special drawing rights with the International Monetary Fund (IMF) fell by \$6 million to \$1.42 billion.
- ⊙ The country's reserve position with the IMF also was down by \$8 million to \$3.57 billion.
- ⌚ Earlier, the reserve had touched a life-time high of \$487.23 billion in the week ended by 6 March, 2020.
- ⌚ During 2019-20, the country's foreign exchange reserves rose by almost \$62 billion.

Foreign Exchange Reserves

- ⌚ Foreign exchange reserves are assets held on reserve by a central bank in foreign currencies, which can include bonds, treasury bills and other government securities.
 - ⊙ It needs to be noted that most foreign exchange reserves are held in U.S. dollars.
- ⌚ These assets serve many purposes but are most significantly held to ensure that the central bank has backup funds if the national currency rapidly devalues or becomes altogether insolvent.
- ⌚ India's Forex Reserve include:
 - ⊙ Foreign Currency Assets
 - ⊙ Gold reserves
 - ⊙ Special Drawing Rights
 - ⊙ Reserve position with the [International Monetary Fund \(IMF\)](#)

Drop in FPI Outflows

Why in News

According to recent data from **Central Depository Services Limited (CDSL)**, the **Foreign Portfolio Investors (FPIs)** have significantly reduced the pace of outflows from the **equity and debt market** in April, 2020, after a record net outflow of Rs 1,18,203 crore in March 2020.

Key Points

- ⌚ FPIs sold a net of Rs 6,883 crore from the **equities market** and net holdings worth Rs 12,551 crore from the **debt market** in April.
 - ⊙ In **equity market shares are issued and traded**, either through exchanges or over-the-counter markets (i.e directly). It is also known as the stock market.

- ⊙ The **debt market** is the market where **debt instruments are traded**.
- ⊙ Debt instruments are instruments that require a fixed payment to the holder, usually with interest. E.g. **bonds** (government or corporate) and **mortgages**.
- ⌚ However, they invested a net of Rs 4,032 crore in debt **Voluntary Retention Route (VRR) scheme**.
- ⊙ VRR scheme allows FPIs to participate in **repo transactions** and also invest in **exchange traded funds** that invest in debt instruments.
- ⌚ Outflows have continued **due to uncertainty surrounding economic conditions** caused by Covid-19 lockdown and investors are cautious. However, the **pessimism** also continues to grip the markets.
- ⌚ So far, India has been able to contain the Covid-19 pandemic from spreading aggressively. The measures announced by the government and the **Reserve Bank of India (RBI)** periodically to revitalize the sagging economy have also resonated well with investors.
- ⌚ With selective relaxation in the lockdown and gradual opening up of economic activity in the country, foreign investors will be closely watching the developments on this front.
- ⌚ A success on developing medicine and vaccines will lead to a **V-shaped recovery** in the economy and markets.

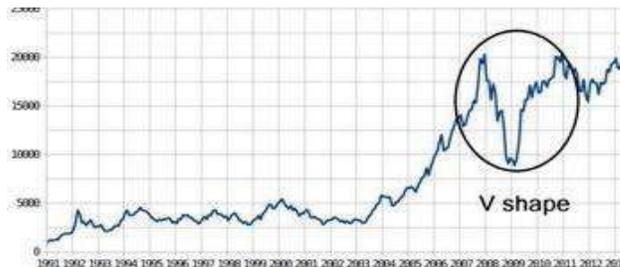
Voluntary Retention Route Scheme

- ⌚ The VRR scheme is **aimed at attracting long-term and stable FPI** investments into debt markets.
- ⌚ Investments through the route will be **free of the regulatory norms** applicable to FPI investments in debt markets, provided investors maintain a minimum share of their investments for a fixed period.
- ⌚ VRR Scheme has a minimum retention period of **three years** and investors need to **maintain a minimum of 75% of their investments** in India.
- ⌚ FPIs registered with **Securities and Exchange Board of India (SEBI)** are eligible to voluntarily invest through the route in government and corporate bonds.

V-Shaped Recovery

- ⌚ A V-shaped recovery is characterized by a **sharp economic decline followed by a quick and sustained recovery**.
- ⌚ The **recession of 1953** is an example of a V-shaped recovery.

- ⌚ A V-shaped recovery is different from an L-shaped recovery, in which the economy stays in a slump for a prolonged period of time.



Foreign Portfolio Investment

- ⌚ It consists of securities and other financial assets **passively held by foreign investors**.
 - ⊙ It does **not provide the investor with direct ownership** of financial assets and is relatively liquid depending on the volatility of the market.
 - ⊙ Foreign portfolio investment is **part of a country's capital account** and is **shown on its Balance of Payments (BOP)**.
 - ⊙ The BOP measures the **amount of money flowing from one country to other** countries over one monetary year.
- ⌚ The investor **does not actively manage** the investments through FPIs, he **does not have control over the securities or the business**.
- ⌚ The investor's goal is to create a quick return on his money.
- ⌚ FPI is more liquid and **less risky than Foreign Direct Investment (FDI)**.
 - ⊙ FDI is an investment made by a firm or individual in one country into business interests located in another country. FDI lets an investor **purchase a direct business interest** in a foreign country.
- ⌚ FPI is often referred to as "**hot money**" because of its tendency to flee at the first signs of trouble in an economy.
- ⌚ FPI and FDI are both important sources of funding for most economies. Foreign capital can be used to develop infrastructure, set up manufacturing facilities and service hubs, and invest in other productive assets such as machinery and equipment, which contributes to economic growth and stimulates employment.

RBI Cancels Licence of CKP Co-op Bank

Why in News

Recently, the **Reserve Bank of India (RBI)** has cancelled the licence of Mumbai-based CKP Co-operative Bank.

Key Points

- ⌚ RBI has cancelled the licence of the bank as the financial position of the bank was highly adverse and unsustainable.
 - ⦿ The bank failed to meet the regulatory requirement of maintaining a **minimum capital adequacy ratio** of 9 % and reserves.
- ⌚ RBI has asked the **Registrar of Co-operative Societies, Maharashtra** to start the process of winding up operations of CKP Co-operative bank and appoint a liquidator.
 - ⦿ On liquidation, every depositor of the bank is entitled to get up to Rs 5 lakh from the **Deposit Insurance and Credit Guarantee Corporation**.
- ⌚ In September last year, **RBI had imposed restrictions on Punjab and Maharashtra Co-operative (PMC) Bank** not to do any business for six months after it found major irregularities, which included financial irregularities, complete failure of internal control and systems, and wrongdoing and under-reporting of its lending exposure.

Capital Adequacy Ratio

- ⌚ Capital Adequacy Ratio (CAR) is the **ratio of a bank's capital in relation to its risk weighted assets and current liabilities**. It is also known as **Capital-to-Risk Weighted Asset Ratio (CRAR)**.
- ⌚ It is decided by central banks 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 CAR of 9%.

Deposit Insurance and Credit Guarantee Corporation

- ⌚ DICGC came into existence in 1978 after the merger of Deposit Insurance Corporation (DIC) and Credit

Guarantee Corporation of India Ltd. (CGCI) under the **Deposit Insurance and Credit Guarantee Corporation Act, 1961**.

- ⦿ It serves as a **deposit insurance and credit guarantee** for banks in India.
- ⦿ It is a fully owned subsidiary of and is governed by the **Reserve Bank of India**.
- ⌚ DICGC charges 10 paise per Rs. 100 of deposits held by a bank. The premium paid by the insured banks to the Corporation is paid by the banks and is not to be passed on to depositors.
- ⌚ DICGC last revised the deposit insurance cover to Rs. 5 lakh in Feb, 2020, raising it from Rs. 1 lakh since 1993. The protection cover of deposits in Indian banks through insurance is among the lowest in the world.
 - ⦿ The **Damodaran Committee on 'Customer Services in Banks' (2011)** had recommended a five-time increase in the cap to Rs.5 lakh due to rising income levels and increasing size of individual bank deposits.
- ⌚ Banks, including regional rural banks, local area banks, foreign banks with branches in India, and cooperative banks, are mandated to take deposit insurance cover with the DICGC.

Co-operative Banking

- ⌚ A **Co-operative bank** is a financial entity which belongs to its members, who are at the same time the owners and the customers of their bank. It is **distinct from commercial banks**.
- ⌚ Co-operative banks in India are registered under the **States Cooperative Societies Act**. The Co-operative banks are regulated by both **Registrar of Co-operative Societies** and **Reserve Bank of India (RBI)** and **governed by the**
 - ⦿ Banking Regulations Act 1949.
 - ⦿ Banking Laws (Co-operative Societies) Act, 1955.
- ⌚ **Features of Cooperative Banks:**
 - ⦿ **Customer Owned Entities:** Co-operative bank members are both customer and owner of the bank.
 - ⦿ **Democratic Member Control:** Co-operative banks are owned and controlled by the members, who democratically elect a board of directors. Members usually have equal voting rights, according to the cooperative principle of "one person, one vote".

⊙ **Profit Allocation:** A significant part of the yearly profit, benefits or surplus is usually allocated to constitute reserves and a part of this profit can also be distributed to the co-operative members, with legal and statutory limitations.

- **Financial Inclusion:** They have played a significant role in the financial inclusion of unbanked rural masses.

⌚ Co-operative Banks are broadly **classified into Urban and Rural co-operative banks** based on their region of operation.

Difference between UCBs and Commercial Banks

⌚ **Regulation:** Unlike commercial banks, UCBs are **only partly regulated by the RBI**. Their banking operations are regulated by the RBI, which lays down their capital adequacy, risk control and lending norms. However, their management and resolution in the case of distress is regulated by the **Registrar of Co-operative Societies** either under the State or Central government.

⌚ **Borrower can be a Shareholder:** In general for a commercial bank, there is a clear distinction between its shareholders and its borrowers whereas in a UCB, borrowers can even double up as shareholders.

Co-operative Banks Under Sarfaesi Act

Why in News

Recently, the Supreme Court held that **Co-operative banks** established under a State law and multi-State level co-operative societies come within the ambit of the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (Sarfaesi) Act of 2002.

Key Points

- ⌚ **Conflicting decisions by high courts:** The judgment came in view of several conflicting decisions by high courts on the issues of
 - ⊙ Whether the Co-operative banks can be called 'Banks (financial Institution)' under the Banking Regulation Act of 1949 or,
 - ⊙ Whether the Parliament has legislative competence to regulate financial assets of cooperative banks formed under state law.

⌘ The argument was that under Lists I and II of the 7th Schedule, the Constitution provides for distinct fields of legislative entries for the state legislature and Parliament and once there is already a valid law made by the state referring to its own field, there should not be a parallel parliamentary law on the same topic.

Supreme Court verdict:

⊙ Upholding the central government notification of January 28, 2003 which brought co-operative societies within the purview of the Sarfaesi Act, the Supreme court said **Co-operative banks come within the definition of "Banks" under the Banking Regulation Act, 1949** for the purposes of the Sarfaesi Act.

⌘ **The recovery procedure under the Sarfaesi Act is also applicable to co-operative banks** and there is no clash with the Banking Regulation Act, 1949.

⊙ The court also ruled that the Parliament has legislative competence to provide procedures for recovery of loans under the Sarfaesi Act with respect to cooperative banks.

⊙ The court was of the opinion that recovery of dues would be an essential function of any financial institution and co-operative banks cannot carry on any activity without compliance of provisions of the banking Act and any other legislation applicable to such banks and the RBI Act.

Sarfaesi Act

- ⌚ Banks utilize Sarfaesi Act as an effective tool for **bad loans (Non Performing Asset) recovery**.
- ⌚ The Sarfaesi Act is effective **only against secured loans** where banks can enforce the underlying security.
- ⌚ Following are the main objectives of the Sarfaesi Act.
 - ⊙ Provides the legal framework for securitization activities in India.
 - ⊙ It gives the procedures for the transfer of NPAs to asset reconstruction companies for the reconstruction of the assets.
 - ⊙ Enforces the security interest without Court's intervention.
 - ⊙ Gives powers to banks and financial institutions to take over the immovable property that is pledged to enforce the recovery of debt.

- ⌚ Major feature of Sarfaesi is that it promotes the setting up of asset reconstruction companies (ARCs) and asset securitization companies (SCs) to deal with NPAs accumulated with the banks and financial institutions.
- ⌚ The Act provides three alternative methods for recovery of non-performing assets, namely:
 - ⊙ Securitisation
 - ⌘ Securitization is the practice of pooling together various types of debt instruments (assets) such as mortgages and other consumer loans and selling them as bonds to investors.
 - ⊙ **Asset Reconstruction**
 - ⌘ Asset reconstruction is the activity of converting a bad or non-performing asset into performing asset with the help of Asset reconstruction companies.
 - ⊙ Enforcement of Security without the intervention of the Court.
 - ⌘ If the borrower defaults, the bank may enforce security interests by:
 - Take possession of the security;
 - Sale or lease or assign the right over the security;
 - Appoint Manager to manage the security;
 - Ask any debtors of the borrower to pay any sum due to the borrower.

Manufacturing Hits Record Low

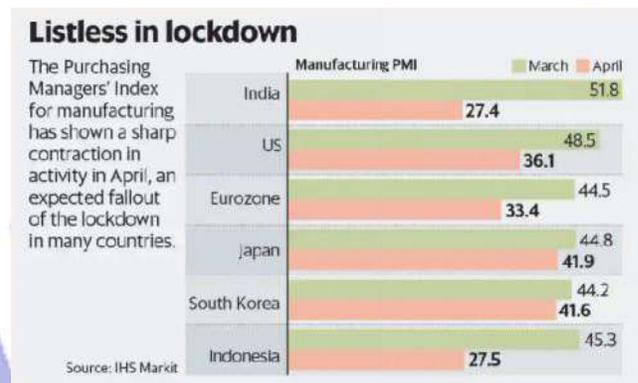
Why in News

According to a recent IHS Markit India monthly survey, Manufacturing Purchasing Managers' Index (PMI) fell to 27.4 in April, 2020 from 51.8 in March, 2020.

Key Points

- ⌚ India's **manufacturing sector activity** has witnessed **contraction** in April, 2020 due to national lockdown restrictions.
 - ⊙ The new **business orders have collapsed** at a record pace **severely hampering the demand**.
 - ⊙ This is the **sharpest deterioration** in business conditions across the manufacturing sector since data collection began over 15 years ago.
 - ⌚ The deteriorating demand conditions has led the **manufacturers to drastically cut back staff numbers**.

- ⌚ **Export orders** have also witnessed a sharp decline.
- ⌚ There was also **evidence of supply-side disruption** due to the lockdown.
- ⌚ The **PMI slipped into contraction mode**, after remaining in the growth territory for 32 consecutive months.
 - ⊙ In PMI's language, a reading above 50 means expansion, while a score below that denotes contraction.
- ⌚ According to the **12-month outlook for production** the demand will rebound once the Covid-19 threat is diminished and lockdown restrictions are eased.
- ⌚ The **Index (PMI)** is compiled by **IHS Markit** for more than 40 economies worldwide. IHS Markit is a global leader in information, analytics and solutions for the major industries and markets that drive economies worldwide.



Purchasing Managers' Index

- ⌚ Purchasing Managers' Index (PMI) is an indicator of business activity - both in the manufacturing and services sectors.
 - ⊙ It is **calculated separately** for the manufacturing and services sectors and then a **composite index** is also constructed.
 - ⊙ The PMI summarizes whether **market conditions as viewed by purchasing managers** are expanding, neutral, or contracting.
- ⌚ The purpose of the PMI is to provide information about **current and future business conditions to company decision makers, analysts, and investors**.
- ⌚ The PMI is a number from 0 to 100.
 - ⊙ **PMI above 50 represents an expansion** when compared to the previous month;
 - ⊙ **PMI under 50 represents a contraction**, and
 - ⊙ A reading at 50 indicates no change.

- ⌚ The PMI is usually released at the start of every month. It is, therefore, considered a good leading indicator of economic activity.
- ⌚ It is **different from the Index of Industrial Production (IIP)**, which also gauges the level of activity in the economy.

Index of Industrial Production

- ⌚ The Index of Industrial Production (IIP) is an index which details out the growth of various sectors in an economy such as mineral mining, electricity, manufacturing, etc.
- ⌚ It is compiled and published monthly by the **National Statistical Organisation (NSO), Ministry of Statistics and Programme Implementation.**
- ⌚ The **Base Year of the Index of Eight Core Industries** has been revised from the year 2004-05 to 2011-12 from April, 2017.
 - ⊙ The eight core industries comprise 40.27% of the weight of items included in the Index of Industrial Production (IIP).
 - ⊙ The eight Core Industries in decreasing order of their weightage: Refinery Products > Electricity > Steel > Coal > Crude Oil > Natural Gas > Cement > Fertilizers.

Difference between PMI and IIP

- ⌚ IIP covers the **broader industrial sector compared to PMI.**
 - ⊙ IIP shows the **change in production volume** in major industrial sub sectors like manufacturing, mining and electricity.
 - ⊙ Similarly, the IIP also gives **use based (capital goods, consumer goods etc) trends in industrial production.**
- ⌚ **PMI is more dynamic compared to a standard industrial production index.**
 - ⊙ The PMI senses dynamic trends because of the variable it uses for the construction of the index compared to **volume based production indicators like the IIP.**
 - ⊙ For example, new orders under PMI show growth oriented positive trends and not just volume of past production that can be traced in an ordinary Index of Industrial Production.

MSMEs and Covid-19

Why in News

The **Covid-19** pandemic has left its impact on all sectors of the economy including the **Medium, Small and Micro Enterprises (MSMEs)** sector.

- ⌚ Earlier the government had declared the relief package namely, the **PM Garib Kalyan Yojana** for the poor to help them fight the battle against **Coronavirus (Covid-19)**, the second package is expected to primarily focus on the MSME sector.

NEW LOOK MSMEs

CURRENT: LINKED TO INVESTMENT		
	Manufacturing	Services
Micro	Up to ₹25 lakh	Up to ₹10 lakh
Small	Over ₹25 lakh to ₹5 crore	Over ₹10 lakh to ₹2 crore
Medium	Over ₹5 crore to ₹10 crore	Over ₹2 crore to ₹5 crore



MANUFACTURING: Plant & machinery investment
Source: Ministry of MSME



SERVICES: Investment in equipment

PROPOSED: LINKED TO TURNOVER		
Micro:	Small:	Medium:
Up to ₹5cr	Over ₹5cr to ₹75cr	Over ₹75cr to ₹250cr

MSMEs in India

- ⌚ **Definition of MSMEs:**
 - ⊙ In February 2018, the Union Cabinet decided the **criterion of an annual turnover (in line with the imposition of GST)** for defining MSMEs.
 - ⊗ Formally, **MSMEs were defined in terms of investment in plant and machinery/equipment.** But this criterion for the definition was criticized because credible and precise details of investments were not easily available by authorities.
 - ⊙ According to the proposed definition (which is yet to be formally accepted), the categorisation would be:
 - ⊗ **Micro Enterprise** : An annual turnover **less than Rs 5 crores.**
 - ⊗ **Small Enterprise** : An annual turnover **between Rs 5 crores and Rs 75 crores.**
 - ⊗ **Medium Enterprise:** An annual turnover **less than Rs 250 crores.**

🕒 **Statistical Data about MSMEs in India:**

- 🕒 **Total Number of MSMEs:** According to the Annual Report of the Department of MSMEs (2018-19), there are **6.34 crore** MSMEs in the country.
- 🕒 **Rural-Urban Distribution:** Around 51% of these are situated in rural India and 49% of them are situated in urban India.
- 🕒 **Employment:** Both rural and urban MSMEs together employ over 11 crore people but 55 % of the employment happens in the urban MSMEs.
- 🕒 **Category-wise Distribution:** 99.5% of all MSMEs fall in the micro category. While micro enterprises are equally distributed over rural and urban India, small and medium ones are predominantly in urban India.
- 🕒 **Social Distribution of MSMEs:** About 66 % of all MSMEs are owned by people belonging to the Scheduled Castes (12.5%), the Scheduled Tribes (4.1%) and Other Backward Classes (49.7%).
- 🕒 **Gender Ratio in MSMEs:** The gender ratio among employees is largely consistent across the board at roughly 80% male and 20% female.
- 🕒 **Geographical Distribution:** Seven Indian states account for 50 % of all MSMEs. These are Uttar Pradesh (14%), West Bengal (14%), Tamil Nadu (8%), Maharashtra (8%), Karnataka (6%), Bihar (5%) and Andhra Pradesh (5%).

Problems Faced by MSMEs in India

- 🕒 **Too Small to get Registered:**
 - 🕒 Being out of the formal network, these MSMEs do not have to maintain accounts, pay taxes or adhere to regulatory norms etc., which brings down their costs. But in a time of crisis, it also constrains a government's ability to help them.
- 🕒 **Lack of Financing:**
 - 🕒 Most of the MSME funding comes from **informal sources** and it explains why the **Reserve Bank of India's** efforts to push more liquidity towards the MSMEs have had a **limited impact**. Also, the **government has launched schemes** in this regard.
 - 🕒 Further, banks dither from extending loans to MSMEs due to the **high ratio of bad loans**.
 - 🕒 According to a 2018 report by the **International Finance Corporation (part of the World Bank)**, the formal banking system supplies less than one-third

(or about Rs 11 lakh crore) of the MSME credit need that it can potentially fund.

🕒 **Delays in Payments to MSMEs:**

- 🕒 It is one of the biggest reasons for financial turmoil in the MSME sector.
- 🕒 MSMEs face delays in payment from their buyers which also includes the government. It also faces delays in GST refunds.

Problem Aggravated due to Covid-19

- 🕒 **Declining Revenues:** **MSMEs are already struggling**, in terms of declining revenues and capacity utilisation, in the lead-up to the Covid-19 crisis.
- 🕒 **Unavailability of Cash:** The total lockdown has raised an issue of the **existence of MSMEs** primarily due to **unavailability of cash** which subsequently will result in the **job losses**.
- 🕒 **Lack of Labour Availability:** The return of migrant labourers will create an issue of **lack of labour availability**.
- 🕒 **Loan Against Collateral :** Loans to MSMEs are mostly given against property (as collateral) but in times of crisis, property values fall and that inhibits the extension of new loans.
- 🕒 **Steps Taken:** To ease the firms' financial distress during this period, the Reserve bank of India has announced several measures such as a moratorium on term loans, and easier working capital financing. Some public sector banks have also opened up emergency credit lines for businesses.

Way Forward

- 🕒 The government can provide tax relief (GST and **corporate tax**), give swifter refunds, and provide liquidity to rural India (may be through **PM-Kisan**) to boost demand for MSME products.
- 🕒 A credit guarantee by the government can help as it assures the bank that its loan will be repaid by the government in case the MSME falters. If such defaults happen, credit guarantees are shown as a departmental expense in the Budget.

Helicopter Money

Why in News

Recently, the Telangana Chief Minister suggested

that the **helicopter money** can help states to come out of the economic chaos created by **Covid-19 pandemic**.

Key Points

- ⌚ **Helicopter money:**
 - ⊙ It is an unconventional **monetary policy tool**, which involves **printing large sums of money and distributing it to the public**, to stimulate the economy during a recession (decline in general economic activity) or when interest rates fall to zero.
 - ⊙ Under such a policy, a central bank “directly increases the money supply and, via the government, distributes the new cash to the population **with the aim of boosting demand and inflation**”.
 - ⊙ The term was coined by **American economist Milton Friedman**. It basically denotes a helicopter dropping money from the sky.
- ⌚ **Difference between helicopter money and quantitative easing:**
 - ⊙ Helicopter money should **not be confused with quantitative easing**, because both aim to boost consumer spending and increase inflation.
 - ⊙ In case of **helicopter money**, currency is distributed to the public and there is **no repayment liability**.
 - ⊙ Whereas in case of **quantitative easing**, it involves the use of printed money by central banks to buy government bonds. Here the **government has to pay back for the assets that the central bank buys**.
- ⌚ **Benefits of helicopter money:**
 - ⊙ It does not rely on increased borrowing to fuel the economy, which means that it doesn't create more debt.
 - ⊙ It boosts spending and economic growth more effectively than quantitative easing because it increases aggregate demand – the demand for goods and services – immediately.
- ⌚ **Issues with helicopter money:**
 - ⊙ It does not involve repayment liability, therefore many people argue that it's not a feasible solution to revive the economy.
 - ⊙ It may lead to over-inflation.
 - ⊙ It may devalue the currency in the foreign exchange market.

Relevance of the Consol Bonds amid Covid-19

Why in News

The **Covid-19 pandemic** and consequential national lockdown in the country has laid a grave impact on the Indian economy.

- ⌚ Considering the above scenario, the **large stimulus needs to be introduced** by the government to pull back the economy where the required stimulus will exceed the current revenue receipts of the government.
 - ⊙ The **stimulus** refers to attempts to use monetary or fiscal policy (or stabilization policy in general) to stimulate the economy.
- ⌚ Thus, an introduction of a **Consol Bond** is one of the solutions for the government to fund the stimulus.

Background

- ⌚ In the **Budget (2020)** before the pandemic, India projected a **deficit of Rs.7.96-lakh crore**.
- ⌚ Further, the financial deficit is expected to **increase** by a wide margin due to **revenue shrinkage** from the coming depression accompanied by a **lack of disinvestment**.
- ⌚ Though, **the government and RBI have announced various economic measures** to deal with the economic impact of nationwide lockdown but these measures are considered to be inadequate.
 - ⊙ In addition to the planned expenditure, the government needs to spend nearly Rs. 5 lakh crore and Rs. 6 lakh crore as stimulus.

Consol Bonds

- ⌚ **Description:**
 - ⊙ Consol bond (also known as **perpetual bond**) is a **fixed income security with no maturity date**.
 - ⊙ It is often considered a **type of equity, rather than debt**.
 - ⊙ The major benefit of these bonds is that they **pay a steady stream of interest** payments forever. However, **these bonds can be redeemed at issuer's discretion**.
- ⌚ **Notable Existence of Consol Bonds in the History:**
 - ⊙ The console bonds were majorly used by the British government during **World War-I**.

- ⌚ The bonds were issued in **1917** as the British government sought to raise more money to finance the ongoing cost of World War-I.
- ⌚ In 2014, the British government, a century after the start of World War-I, paid out 10% of the total outstanding Consol bond debt.

Consol Bonds and Current Indian Economic Scenario

⌚ **Consol Bonds Instead of PM-CARES:**

- ⌚ The introduction of the Consol bonds would have been a better solution for the government if people would have invested in consol bonds instead of making donations to the **Prime Minister's Citizen Assistance and Relief in Emergency Situations (PM-CARES Fund)**. It could have made **citizens as active participants** in handling the economic scenario of the country.
- ⌚ Unlike PM-CARES, the proceeds of the bonds could have been used to **fulfil the various essential medical as well as economic requirements** of the country.

⌚ **One of the Available Solutions:**

- ⌚ The fall of real estate and given the lack of safe havens outside of gold, the bond would offer a dual benefit as a **risk free investment for retail investors**.
- ⌚ An **attractive coupon rate for the bond or tax rebates** can also be an incentive for investors.
- ⌚ The government can consider a phased redemption of these bonds after the economy is put back on a path of high growth.

RBI's Gold Reserve Increased

Why in News

According to the '**Report on Management of Foreign Exchange Reserves**', the **Reserve Bank of India's** total holdings of gold reached 653.01 tonnes in the financial year 2019-20.

- ⌚ The Reserve Bank of India publishes **half-yearly reports** on management of foreign exchange reserves as part of its efforts towards enhanced transparency and levels of disclosure.
- ⌚ These reports are prepared half yearly with reference to the position as at end-March and end-September each year.

Key Points

- ⌚ The RBI's total gold reserves were 612.56 tonnes in the preceding fiscal ended March 2019.
- ⌚ The addition of 40.45 tonnes of gold has raised the value of gold reserves to \$30.57 billion by March 2020 from \$23.07 billion in March 2019.
- ⌚ The **share of gold in the total foreign exchange (forex) reserves** rose from about 5.59% as of March 2019 to about 6.40% by March 2020.
 - ⌚ India's Forex Reserve include: **Foreign Currency Assets, Gold reserves, Special Drawing Rights and Reserve position** with the **International Monetary Fund (IMF)**
- ⌚ Around 360.71 tonnes of gold is held overseas in safe custody with the Bank of England and the Bank for International Settlements, while the remaining gold is held domestically.
- ⌚ The gold reserves will help the central banks around the globe to focus on the measures needed to contain the economic impact of Covid-19.
- ⌚ Gains or losses on valuation of **foreign currency assets** and **gold** due to movements in the exchange rates and/or price of gold are booked under a **balance sheet** head named the **Currency and Gold Revaluation Account (CGRA)**.
 - ⌚ CGRA represents the value of the gold and foreign currency that the **RBI holds on behalf of India**.
 - ⌚ It **shows funds that are available to compensate RBI's loss** in the value of gold and foreign exchange reserve holdings.
 - ⌚ The balances in CGRA provide a **buffer** against exchange rate/gold price fluctuations.

Gold & Economy

- ⌚ **As Currency:**
 - ⌚ Gold was used as the world reserve currency up through most of the 20th century. The United States used the gold standard until 1971.
 - ⌚ The paper money had to be backed up by equal amounts of gold in their reserves.
 - ⌚ Although the gold standard has been discontinued, some economists feel that we should return to it due to the volatility of the U.S. dollar and other currencies.
- ⌚ **As a hedge against inflation:**
 - ⌚ The demand for gold increases during inflationary

times due to its inherent value and limited supply. As it cannot be diluted, gold is able to retain value much better than other forms of currency.

🕒 **Strength of Currency:**

- ⊙ When a country imports more than it exports, the value of its currency will decline.
- ⊙ On the other hand, the value of its currency will increase when a country is a net exporter.
- ⊙ Thus, a country that exports gold or has access to gold reserves will see an increase in the strength of its currency when gold prices increase, since this increases the value of the country's total exports.
 - ⊗ Since, the central banks rely on printing more money to buy gold, they create an excess supply of the currency. This increases the supply and thereby reduces the value of the currency used to purchase it.

Mandis Under e-NAM Increased

Why in News

According to the recent data, the number of connected **mandis, or wholesale markets** under e-NAM has **increased upto 65%**.

- 🕒 This increase is because of transport disruptions and social distancing requirements which have made physical mandi trade more difficult in recent times.

Key Points

- 🕒 After the launch of e-NAM in 2016, its progress was slow, due to:
 - ⊙ Many States did not amend their **Agricultural Produce Market Committee (APMC) Acts**.
 - ⊙ Most **farmers were not part of the cooperatives** that would help aggregate the bulk quantity of produce needed to attract online buyers.
 - ⊙ Most **mandis did not possess the infrastructure** to make the most of the platform.
- 🕒 The Central Government recognised the potential of e-NAM in overcoming some of the hurdles of the lockdown, and **introduced some important new features in April, 2020:**
 - ⊙ A trading module allowing **Farmer Producer Organisations (FPOs)** to trade produce directly

from their collection centres without bringing it to mandis.

- ⊙ A **warehouse-based trading module**.
- ⊙ A **logistics module** offering users trackable transport facilities through aggregators with access to 11 lakh trucks.
- 🕒 On 1st May 2020, Agriculture Ministry had launched **integration of 200 e-NAM mandis from 7 States** including 1 new state of Karnataka being added on e-NAM.
- 🕒 Now the total mandis under e-NAM has reached a total of around 950 across India from about 550 before lockdown.

e-NAM

- 🕒 It is a pan-India electronic trading portal.
- 🕒 It was launched in April 2016 with the **objective of integrating the existing Mandis to “One Nation One Market”** for agricultural commodities in India.
- 🕒 It **networks the existing APMC mandis** to create a unified national market for agricultural commodities and has a **vision:**
 - ⊙ To promote uniformity in agriculture marketing by streamlining procedures across the integrated markets.
 - ⊙ Removing information asymmetry between buyers and sellers and promoting real time price discovery based on actual demand and supply.
- 🕒 It provides for contactless remote bidding and mobile-based anytime payment for which traders do not need to either visit mandis or banks for the same.
- 🕒 **Small Farmers Agribusiness Consortium (SFAC)** is the lead agency for implementing e-NAM.
 - ⊙ It functions under the aegis of the Ministry of Agriculture and Farmers' Welfare.

CHAMPIONS Portal for MSME

Why in News

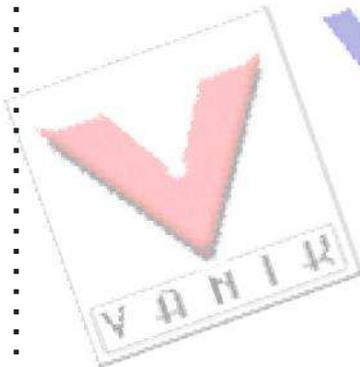
Recently, the Ministry of **Micro, Small and Medium Enterprises (MSME)** has launched CHAMPIONS portal.

Key Points

- 🕒 The CHAMPIONS stands here for **Creation and Harmonious Application of Modern Processes for Increasing the Output and National Strength**.

- ⌚ **Aim:** To assist Indian MSMEs march into the big league as National and Global CHAMPIONS by solving their grievances and encouraging, supporting, helping and hand holding them.
- ⌚ Three basic **objectives:**
 - ⊙ **Support:** To help the MSMEs in this difficult situation in terms of finance, raw materials, labour, permissions, etc.
 - ⊙ **Explore:** To help them capture new opportunities like manufacturing of medical accessories and products like Personal Protection Equipments (PPEs), masks, etc.
 - ⊙ **Promote:** To identify the sparks, i.e., the bright MSMEs who can not only withstand but can also become national and international champions.
- ⌚ It is a **technology driven Control Room-Cum-Management Information System** which utilises modern information and communication technology (ICT) tools.
 - ⊙ In addition to ICT tools including telephone, internet and video conference, the system is enabled by **Artificial Intelligence**, Data Analytics and Machine Learning.
 - ⊙ It is also fully integrated on a real time basis with the Government of India's main grievances portal **Centralized Public Grievances Redress and Monitoring System** (CPGRAMS) and the Ministry's other web based mechanisms.
 - ⊙ The entire ICT architecture is created in house with the help of the **National Informatics Centre**.
- ⌚ A network of control rooms is created in the **Hub & Spoke Model**.
 - ⊙ The Hub is situated in New Delhi in the Secretary MSME's office.
 - ⊙ The spokes will be in the States in various offices and institutions of the Ministry.

■■■



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International Relations

Highlights

- ⌘ Permanent Mission to UN
- ⌘ Virtual NAM Summit
- ⌘ New Road to Kailash Mansarovar
- ⌘ India-Nepal on Kailash Mansarovar Link Road
- ⌘ Face-off Between India and China
- ⌘ Currency Change in Iran
- ⌘ Mission Sagar
- ⌘ Financial Help by AIIB to India

Permanent Mission to UN

Why in News

India has appointed **T S Tirumurti** as its **Permanent Representative** to the **United Nations (UN)**.

Key Points

- 🕒 **Permanent Mission to the United Nations**
 - ⊙ It is the diplomatic mission that every member state deputed to the UN.
 - ⊙ It is headed by a Permanent Representative who is also referred to as the UN ambassador.
 - ⊙ According to **Article 1(7) of the Vienna Convention on the Representation of States** in their Relations with International Organizations of a Universal Character, 1975 it is a mission of permanent character, representing the State, sent by a State member of an international organization to the organization.
 - ⌘ Other important Vienna Conventions are the **Vienna Convention on Diplomatic Relations, 1961** and the **Vienna Convention on Consular Relations of 1963**.
 - ⊙ According to the UN General Assembly resolution 257(III) of 3rd December, 1948, permanent missions assist in the realization of the purposes and principles of the UN.
 - ⌘ They keep the necessary liaison between the Member States and the Secretariat in periods between sessions of the different organs of the UN.
 - ⊙ UN Permanent Representatives are assigned to the UN headquarters in New York City, and at other offices in Geneva, Vienna and Nairobi as well.

🕒 Indian Permanent Mission at the United Nations

- ⊙ There are currently eight Indians in senior leadership positions at the UN at the levels of Under Secretary General and Assistant Secretary General.
- ⊙ The first Indian delegates at the UN included statesman Arcot Ramasamy Mudaliar and freedom fighters Hansa Mehta, Lakshmi N. Menon and Vijayalakshmi Pandit
 - ⌘ Mehta and Pandit were among the 15 women members of the Indian Constituent Assembly.
- ⊙ India was among the select members of the UN that signed the United Nations Declaration at Washington on 1st January, 1942.
- ⊙ India also participated in the historic UN Conference of International Organization at San Francisco from 25th April to 26th June, 1945.
- ⊙ As a founding member of the United Nations, India strongly supports the purposes and principles of the UN and has made significant contributions to implementing the goals of the Charter, and the evolution of the UN's specialized programmes and agencies.

Arcot Ramasamy Mudaliar (1887-1976)

- 🕒 One of the prominent lawyers of his time and joined the Justice Party in 1917.
- 🕒 He was India's delegate to the San Francisco Conference.
- 🕒 In 1946 he was elected the first President of the United Nations' Economic and Social Council (ECOSOC).
- 🕒 He also served as the chair of the executive boards of the **World Health Organisation (WHO)** and **United Nations Educational, Scientific and Cultural Organization (UNESCO)**.

Hansa Mehta (1897-1995)

- ⌚ After studying Journalism and Sociology from England, she returned to India and served as the President of the Bhagini Samaj and played a crucial role during the campaign against the **Simon Commission**.
- ⌚ She was the first woman to be elected to the Bombay Legislative Council in 1931.
- ⌚ She represented India on the Nuclear Sub-Committee on the status of women in 1946.
- ⌚ As the Indian delegate on the UN Human Rights Commission (now known as the **UN Human Rights Council**) in 1947-48, she was responsible for changing the language Justice Party of the Universal Declaration of Human Rights from “all men are created equal” to “all human beings”, highlighting the need for gender equality.

Lakshmi Menon (1899-1994)

- ⌚ She was one of the founder members of the All India Women’s Conference.
- ⌚ She was India’s delegate to the Third Committee in 1948 and argued forcefully in favour of non-discrimination based on sex and “the equal rights of men and women” in the **Universal Declaration of Human Rights**.
- ⌚ In 1949-1950, she headed the UN Section on the Status of Women and Children.

Vijaya Lakshmi Pandit (1900-1990)

- ⌚ She led the Indian delegation to the UN (1946-48 and 1952-53).
- ⌚ In 1953, she became the first woman to be elected president of the UN General Assembly.
- ⌚ In 1978, she was appointed the Indian representative to the UN Human Rights Commission.

Virtual NAM Summit

Why in News

The virtual **Non-Aligned Movement (NAM)** Contact Group Summit on “**United against Covid-19**” through video conferencing was held recently.

- ⌚ The meeting was **convened at the initiative of President Ilham Aliyev of Azerbaijan, in his capacity as chair** of the Non Aligned Movement.
- ⌚ Moreover 30 Heads of State and other leaders had joined the Summit. The Summit was also addressed

by the UN General Assembly president and **World Health Organisation (WHO)** chief.

- ⌚ It was the first time that Prime Minister Narendra Modi participated in a NAM Summit since he assumed the office in 2014.
 - ⌚ Prime Minister Narendra Modi **became the first Indian Prime Minister to skip the NAM Summit in 2016 and in 2019.**

Key Points

⌚ **Adoption of the Declaration:**

- ⌚ The Summit adopted a Declaration underlining the **importance of international solidarity in the fight against Covid-19.**

⌚ **Creation of Task Force:**

- ⌚ It also announced the creation of a ‘Task Force’ to identify needs and requirements of member States.
- ⌚ A common database reflecting countries’ basic medical, social and humanitarian needs in the fight against Covid-19 will be created.

India’s Stand at the Summit

⌚ **India’s Role in Fight Against Covid-19:**

- ⌚ India is regarded as the pharmacy of the world especially for affordable medicines.
- ⌚ Despite its own needs during Covid-19 pandemic, it has ensured supply of medicines to 123 partner countries including 59 NAM members.
- ⌚ India is also active in global efforts to develop remedies and vaccines for Covid-19.

⌚ **Need for the New Template of Globalisation:**

- ⌚ India stated that Covid-19 has shown limitations of the existing international system. The world needs more representative international institutions and thus world order should be more representative.
- ⌚ Thus, in the post-Covid world, a new template of globalisation, based on fairness, equality, and humanity is needed.

⌚ **International Cooperation:**

- ⌚ NAM should call upon the international community and the WHO to focus on building health-capacity in developing countries.
- ⌚ World needs to ensure equitable, affordable and timely access to health products and technologies for all.

🕒 **Other Issues:**

- ⦿ India also flagged the issues of “terrorism” and “fake news”, calling them “deadly viruses” at a time when the world fights the novel coronavirus.
- ⦿ The above issues divide communities and countries creating difficult situations.

Non-Aligned Movement

- 🕒 The Non-Aligned Movement was formed **during the Cold War** as an organization of States that did not seek to formally align themselves with either the United States or the Soviet Union, but sought **to remain independent or neutral**.
- 🕒 The basic concept for the group originated in **1955** during discussions that took place at the **Asia-Africa Bandung Conference held in Indonesia**.
- 🕒 The Non-Aligned Movement was founded and held its **first conference (the Belgrade Conference) in 1961** under the leadership of **Josip Broz Tito of Yugoslavia, Gamal Abdel Nasser of Egypt, Jawaharlal Nehru of India, Kwame Nkrumah of Ghana, and Sukarno of Indonesia**.
- ⦿ **NAM does not have a formal constitution or permanent secretariat**, and its administration is non-hierarchical and rotational. Decisions are made by consensus, which requires substantial agreement, but not unanimity.
- 🕒 It has 120 members as of April 2018 comprising 53 countries from Africa, 39 from Asia, 26 from Latin America and the Caribbean and 2 from Europe (Belarus and Azerbaijan). There are 17 countries and 10 international organizations that are Observers at NAM.
- 🕒 The purpose of the organization was enumerated in the **Havana Declaration of 1979** to ensure “the national independence, sovereignty, territorial integrity and security of non-aligned countries” in their struggle against imperialism, colonialism, neo-colonialism, racism, and all forms of foreign subjugation.

**New Road to Kailash
 Mansarovar**

Why in News

Recently, the **Defence Minister of India** has inaugurated a new **80-km road in Uttarakhand** connecting the **Line of**

Actual Control (LAC) and opening a new route for **Kailash Mansarovar yatra via Lipulekh Pass (China border)**.

- 🕒 It is scheduled to be completed by **December 2022** and will significantly reduce the travel time for pilgrims.

Key Points

- 🕒 The Link Road is named as the **Kailash-Mansarovar Yatra Route** under which the **Border Roads Organisation (BRO)** achieved road connectivity from **Dharchula (Pithoragarh, Uttarakhand) to Lipulekh**.
- ⦿ Lipulekh Pass also known as **Lipu-Lekh Pass/ Qiangla or Tri-Corner** is a high altitude mountain pass situated in the **western Himalayas** with a height of 5,334 metre or 17,500 feet.
- ⦿ It is an **International mountain pass** between **India, China and Nepal**.
- 🕒 The road was made under directions of the **China Study Group (CSG)** and is funded by **Indo-China Border Road (ICBR)**.
- 🕒 It was approved by the **Cabinet Committee on Security (CCS)** in **2005**.
- 🕒 The last 5-km of the road could not be finished due to a **temporary ban** placed on the **last-mile connectivity** in 2016 by the **Director General Military Operations**, which is yet to be lifted.
- 🕒 **Advantages:**
 - ⦿ It is the **shortest and cheapest route** with just **one-fifth distance** of road travel as compared to other old routes. The other route is via Sikkim.
 - ⦿ There is **no air travel involved** and the **majority of the travel (84%) is in India** and only 16% in

Kailash Mansarovar

- 🕒 To Hindus it is the **earthly embodiment** of the dominant mountain of heaven, Meru, and the residence of **Lord Shiva** and his consort Goddess Parvati.
- 🕒 The Kailash range’s supreme peak lies in the **Chinese-occupied Tibet** at the height of **6,675 meters**.
- 🕒 The pilgrimage to **Kailash** and to the sacred **Mansarovar** lake that lies 30 km to its south, is run exclusively by a government organization, the **Kumaon Mandal Vikas Nigam (KMVN)**.
 - ⦿ The organization works in collaboration with the Government of India’s Ministry of External Affairs and the Government of China.

China compared to other routes where 80% road travel is in China.

- ⊙ Except for a 5-km trek, **whole travel will be on vehicles** reducing the 5-day trek to 2- days road travel.

India-Nepal on Kailash Mansarovar Link Road

Why in News

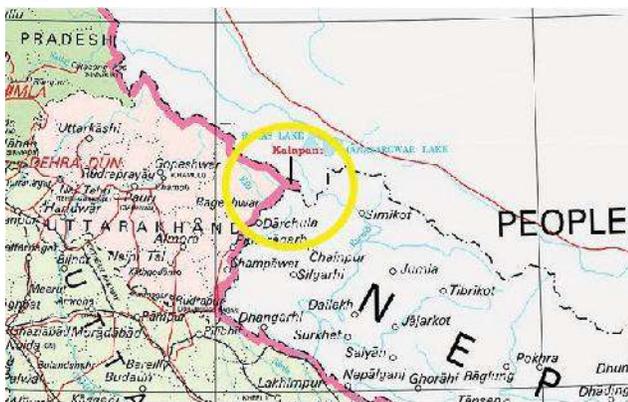
Nepal has strongly objected to the **newly inaugurated link road** which connects Pithoragarh (Uttarakhand) to Lipulekh pass (China border) significantly reducing the time of Kailash Mansarovar Yatra.

- ⌚ Nepal claims the territory at the **Lipulekh pass around 400 sq km area east of Kali river in the tri-junction of Nepal, Tibet and India**, through which the road passes as its own.

Key Points

⌚ Nepal's Stand

- ⊙ Nepal referred to the 2014 agreement between Prime Ministers of both countries, for Foreign Secretaries to work out the “**outstanding boundary issues**” on Kalapani (where Lipulekh lies) and Susta (bordering Bihar).
- ⌘ According to Nepal's Foreign Ministry, the unilateral decision to build a road there, is a breach of the 2014 agreement.
- ⊙ For evidence, Nepal has the maps during the 1816 Sugauli treaty and other complementing treaties that followed, fixing that Limpiadhura, Kalapani and Lipulekh were shown east of Kali river and part of Nepal.



⌘ These arrangements were made following Nepal's war with the British due to which Nepal had to cede a large part of territory which currently forms the present Uttarakhand.

- ⊙ Nepal seeks to question China as well because China and India had signed an agreement in May 2015 to develop Lipulekh as a commercial passage without consulting Nepal which majorly affected the **triangulation** of the countries.
- ⊙ The government of Nepal remains committed to seek diplomatic solutions to the boundary issues on the basis of historical treaty, documents, facts and maps in keeping with the spirit of close and friendly **bilateral ties between the two countries**.

Kali River

- ⌚ It is also known as Sharda river or Kali Ganga in Uttarakhand.
- ⌚ It joins Ghagra river in Uttar Pradesh, which is a tributary of Ganga.
- ⌚ River Projects: Tanakpur hydro-electric project, Chameliya hydro-electric project, Sharda Barrage.

Lipulekh Pass

- ⌚ It is also known as Lipu-Lekh Pass/Qiangla or Tri-Corner is a high altitude mountain pass situated in the western Himalayas with a height of 5,334 metre or 17,500 feet.
- ⌚ It is an International mountain pass between India, China and Nepal.

⌚ India's Response

- ⊙ According to India's Ministry of External Affairs, the road going through Pithoragarh lies completely within the territory of India.
- ⊙ The road follows the pre-existing route used by the pilgrims of the Kailash Mansarovar Yatra which has been made pliable for the ease and convenience of pilgrims, locals and traders, under the present project.
- ⊙ India held that the boundary delineation exercise with Nepal is in process and it is committed to resolving outstanding boundary issues through diplomatic dialogue.

⌚ Other Issues

- ⊙ In November 2019, Nepal protested against the publication of **Indian maps that included the Kalapani area**.

- ⊙ However, India rejected Nepal’s contention, asserting that the map accurately depicts the sovereign territory of India.
- ⌚ Both nations are in the process of scheduling foreign secretary-level talks, which will be held once dates are finalised after the two governments have successfully dealt with the challenge of **Covid-19**.

Face-off Between India and China

Why in News

Recently, Indian and Chinese troops engaged in a **temporary and short duration face-off** along the **Line of Actual Control (LAC)** at **Naku La (Sikkim)** and **near Pangong Tso Lake (Eastern Ladakh)**.

Naku La

- ⌚ Naku La sector is a pass at a height of more than 5,000 metres above Mean Sea Level (MSL) in the state of Sikkim.
 - ⊙ It is located ahead of Muguthang or **Cho Lhamu (source of River Teesta)**.
- ⌚ At Muguthang, the road on the Chinese side is motorable, and on the Indian side, it is a remote area.
- ⌚ The other passes located in the state of Sikkim are **Nathu La Pass and Jelep La Pass**.

Pangong Tso Lake

- ⌚ Pangong Lake is located in the **Union Territory of Ladakh**.
- ⌚ It is situated at a height of almost 4,350m, and is the **world’s highest saltwater lake**.
- ⌚ Extending to almost 160km, **one-third** of the Pangong Lake lies in **India** and the other **two-thirds in China**.

Key Points

- ⌚ The temporary and brief face-offs occur because the **unresolved and undemarcated boundary issues**.
 - ⊙ The **India-China border** shares the **3,488-km-long Line of Actual Control**.
- ⌚ Both countries have differing perceptions owing to the **undemarcated boundary**, which lead to transgressions and face-offs as each side patrols up to the areas.
- ⌚ Any such issue is resolved through the **mutually established protocols** to maintain peace and tranquillity

on the border. The resolving mechanism also involves the local **Border Personnel Meeting (BPM)**.

- ⊙ These protocols with China have been established to resolve issues amicably at the local formation commander level.
- ⌚ The recent clash happened three years after the **Doklam stand-off between India and China (2017)**, which was also experienced across the border in Sikkim.
 - ⊙ Doklam, or Donglang in Chinese, is an area spread over less than a **100 sq km** comprising a plateau and a valley at the **trijunction** between **India, Bhutan and China**.
 - ⊙ The Doklam issue was discussed in the **Wuhan Summit (2018)** and two nations decided to issue “**strategic guidance**” to their militaries to **strengthen communications** so that they can build trust and understanding.

McMahon Line	Line of Actual Control
The 890-km McMahon Line separating British India and Tibet was drawn by Sir Henry McMahon at the China-Tibet-Britain Simla Convention (1914) .	The Line of Actual Control (LAC) is the effective border between India and China.
The line marked out previously unclaimed/undefined borders between Britain and Tibet. Also the Line put Tawang (a region of the present Arunachal Pradesh) in the British empire.	LAC was supposed to divide areas under Indian and Chinese control since the end of the Sino-Indian War of 1962 .
The line was forgotten until the British government published the documents in 1937 . Subsequently, China refused to accept the line .	Unlike the LoC (between India and Pakistan), the LAC was not mutually agreed upon . This was because the war ended with a unilateral ceasefire by China .

Global Examples of Aggressive Diplomacy by China

- ⌚ **Covid-19 Origin:**
 - ⊙ China has been engaged in **aggressive diplomacy** with western countries, which have sought clarity on the origins of the **Covid-19 pandemic**

that has crippled the world economy, and led to almost four million people across the globe falling ill.

🕒 **South China Sea:**

- ⊙ It has also reported that China has established new administrative districts for the **Spratly and Parcel archipelagos** in the South China Sea.
- ⊙ China has also named 80 islands and other geographical features in the sea, claiming sovereignty over underwater features in the contested region.

Currency Change in Iran

Why in News

Iran's parliament has passed a bill allowing the government to **slash four zeros from the rial** and authorizing its **replacement** with another basic unit of currency called the **toman (redenomination)**.

- 🕒 Under the bill, Iran's national currency will be changed from the rial to the **Toman, which is equal to 10,000 rials**.
- 🕒 **Redenomination:**
 - ⊙ It is the process whereby a country's **currency is revalued due to significant inflation and currency devaluation**, or when a country **adopts a new currency** and needs to **exchange the old currency for a new one at a fixed rate**.
 - ⊙ In simpler words, it is exchanging old currency for new currency, or changing the face value of existing notes in circulation.

Key Points

- 🕒 Eliminating the four zeros was a **necessary action to simplify financial transactions**.
 - ⊙ It would vastly simplify financial calculations by eliminating the need for Iranian shoppers to carry loads of rials to make purchases, which they have to do because of **inflation**.
- 🕒 According to the **Iran's Students News Agency (ISNA)**, the bill needs to be approved by the



Guardian Council, a body of conservative clerics that supervises the Parliament.

- 🕒 After its approval, the **Central Bank of Iran** will have **two years to implement** the change for removing rial from circulation and issuing toman instead.

Background

- 🕒 This move comes after a **sharp fall in the value** of the currency as a result of **crippling US sanctions**.
- 🕒 The currency has been **devalued 3,500 times since 1971**. It declined steadily since the **Iranian Revolution, 1979** brought the religious government to power.
- 🕒 The idea of removing four zeros has been floated since 2008 but gained strength after **2018** when the **US exited Iran's 2015 nuclear deal and reimposed sanctions** and the rial lost more than 60% of its value.

Chronology of US-Iran Relations

- 🕒 **1953: Overthrow of Mossadeq**
 - ⊙ The US and British intelligence agencies planned a coup to oust Iran's democratically elected Prime Minister, Mohammad Mossadeq.
 - ⊙ He sought to nationalise Iran's oil industry, which was against the US's capitalist interests.
- 🕒 **1979: Iranian Revolution**
 - ⊙ The **US-backed Shah of Iran**, Mohammed Reza Pahlevi was **forced to leave the country** in 1979, following months of demonstrations and strikes against his rule by secular and religious opponents.
 - ⊙ This led to the return of Islamic religious leader Ayatollah Khomeini from exile and following a referendum, the **Islamic Republic of Iran** was proclaimed on 1st April 1979.
- 🕒 **1979-81: US Embassy Hostage Crisis**
 - ⊙ The US embassy in Tehran was seized by protesters in November 1979 and American hostages were held inside for 444 days.
 - ⊙ The final 52 hostages were freed in January 1981, the day of US President Ronald Reagan's **inauguration** (ceremony to mark the commencement of a new 4-year presidential term).
- 🕒 **2002-13: Nuclear Fears and Sanctions**
 - ⊙ In 2002 an Iranian opposition group revealed that Iran was **developing nuclear facilities including a uranium enrichment plant**.

- ⊙ In pursuance of this, several sanctions are imposed by the **United Nations (UN)**, the **US** and the **European Union (EU)** against Iran.
 - ⌘ US President George Bush denounces Iran as part of an **“axis of evil”** with **Iraq** and **North Korea**.
- ⊙ This causes Iran’s **currency to lose two-thirds of its value** in two years.
- ⌚ **2013-16: Closer ties and a nuclear deal**
 - ⊙ In September 2013, Iran’s new moderate President Hassan Rouhani took office.
 - ⊙ In 2015, after a flurry of diplomatic activity, Iran agreed on a long-term deal on its nuclear programme- **Joint Comprehensive Plan of Action (JCPOA)** with a group of world powers known as the **P5+1** - the **US, UK, France, China, Russia** and **Germany**.
 - ⊙ Under the accord, Iran **agreed to limit its sensitive nuclear activities** and allow in international inspectors in return for the lifting of crippling economic sanctions.
- ⌚ **2018-19: US-Iran Tensions in current times**
 - ⊙ **Policy of maximum pressure:** In May 2018, the US abandoned the nuclear deal and reinstated economic sanctions against Iran.
 - ⊙ **Policy of strategic patience:** Iran acted with restraint, with thinking that by abiding by the nuclear deal it could get economic favour from the EU. However, this policy failed to work for Iran and thereby it began a counter-pressure campaign.
 - ⊙ In June 2019, **Iranian forces shot down a US military drone over the Strait of Hormuz** and then began the cycle of response and escalation between the two countries.

Mission Sagar

Why in News

India has sent **Indian Naval Ship (INS) Kesari**, carrying food items and medical assistance teams, to countries in the southern Indian Ocean to deal with **Covid-19 pandemic** as part of a **“Mission Sagar”** initiative.

Key Points

- ⌚ The countries including **Maldives, Mauritius, Madagascar, Comoros and Seychelles** had requested India for assistance in dealing with the Covid-19 pandemic.

- ⊙ **Mauritius, Madagascar, Comoros and Seychelles** along with **La Réunion** are part of **Indian Ocean Commission**. India has recently become an **observer** to the Commission.
- ⌚ This is the **first time that a single assistance mission is covering all island countries of the western Indian Ocean** in one go — **except Sri Lanka**, for which set of medicines have been airlifted.
- ⌚ The assistance is **in line with India’s role as the first responder in the Indian Ocean region**.
 - ⊙ It highlights the importance accorded by India to relations with her neighbouring countries and further strengthens the existing bond.
- ⌚ The deployment is also in consonance with the Prime Minister’s vision of **Security and Growth for All in the Region (SAGAR)**.
- ⌚ Under the Mission, India will
 - ⊙ Deploy **Medical Assistance Teams** in Mauritius and Comoros, helping their Governments deal with Covid emergency and in case of Comoros, with **dengue fever** also.
 - ⊙ Deliver **consignments of Covid related essential medicines** to Mauritius, Madagascar, Comoros and Seychelles and about 600 tonnes of food items to Maldives.
 - ⌘ In addition, in case of Mauritius, a **special consignment of Ayurvedic medicines** is also being sent.
 - ⊙ The consignments also include **Hydroxychloroquine tablets**.

SAGAR

- ⌚ **Security and Growth for All in the Region (SAGAR)** was launched in 2015. It is India’s strategic vision for the Indian Ocean Region (IOR).
- ⌚ Through SAGAR, India seeks to deepen **economic and security cooperation** with its maritime neighbours and assist in building their **maritime security capabilities**.
- ⌚ Further, India seeks to safeguard its **national interests** and ensure Indian Ocean region to become **inclusive, collaborative and respect international law**.
- ⌚ The key relevance of SAGAR emerges when seen in conjunction with India’s other policies impacting the maritime domain like **Act East Policy, Project Sagarmala, Project Mausam, India as ‘net security provider’, focus on Blue Economy** etc.

Financial Help by AIIB to India

Why in News

Recently, the **Asian Infrastructure Investment Bank (AIIB)** has approved **USD 500 million** for 'Covid-19 Emergency Response and Health Systems Preparedness Project' initiated by India.

- ⌚ The project is expected to help India to respond to the Covid-19 pandemic and strengthen its public health preparedness.

Key Points

⌚ Aim:

- ⊙ The project intends to **slow down and limit the spread** of Covid-19 in India.
- ⊙ It includes an immediate support for enhancement of disease detection capacities, oxygen delivery systems and medicines among others.
- ⊙ The project also strives to strengthen India's **Integrated Disease Surveillance Program (IDSP)** and the capacity to effectively **manage future disease outbreaks**.
 - ⌘ IDSP aims to strengthen/maintain decentralized laboratory based and IT enabled disease surveillance systems for epidemic prone diseases to monitor disease trends.
- ⊙ It also aims to develop capacity and systems **to detect existing and emerging zoonoses** and upgrade viral research and diagnostic laboratories for testing and research.
 - ⌘ As around **75% of new infectious diseases** begin with **human-to-animal contacts**.

⌚ Beneficiaries:

- ⊙ The project will cover all States and Union Territories across India and address the needs of infected people, at-risk populations, medical and emergency personnel and service providers, medical and testing facilities, and national and animal health agencies.

⌚ Finances:

- ⊙ The project is being financed by the World Bank and AIIB in the amount of \$1.5 billion, of which \$1.0 billion will be provided by the World Bank and \$500 million will be provided by AIIB.

⌚ Implementation:

- ⊙ It will be implemented by the **National Health Mission (NHM)**, the **National Centre for Disease Control (NCDC)** and the **Indian Council of Medical Research (ICMR)**.
 - ⌘ NHM was launched by the government of India in 2013 subsuming the National Rural Health Mission and the National Urban Health Mission.
 - ⌘ NCDC functions as the nodal agency in the country for disease surveillance facilitating prevention and control of communicable diseases under the Ministry of Health and Family Welfare.
 - ⌘ ICMR is the apex body in India for the formulation, coordination and promotion of biomedical research.

Asian Infrastructure Investment Bank

- ⌚ It is a **multilateral development bank** with a mission to improve **social and economic** outcomes in **Asia**.
- ⌚ It is established by the **AIIB Articles of Agreement** (entered into force Dec. 25, 2015) which is a multilateral treaty. The Parties (57 founding members) to agreement comprise the Membership of the Bank.
- ⌚ It is **headquartered** in **Beijing** and began its operations in January 2016.
- ⌚ **India** joined AIIB in **2016** as a **regional member** of the Bank.
- ⌚ The members of the Bank have now grown to 102 approved members worldwide.
 - ⊙ Further, fourteen of the **G-20 nations** are AIIB members including France, Germany, Italy and the United Kingdom.
- ⌚ By investing in sustainable infrastructure and other productive sectors in Asia and beyond, it connects people, services and markets that over time will impact the lives of billions and build a better future.

Science and Technology

Highlights

- * *Luhman 16: Binary Brown Dwarf System*
- * *Demo-2 Mission*
- * *African Swine Fever in Assam*
- * *1-D Simulation Code to Study Earth's Magnetosphere*
- * *Development of the Nanomaterials Based Supercapacitors*
- * *Long March 5B' Rocket by China*
- * *Comparison of Measures Against Covid-19*
- * *Covid-19 in States with High Swine Flu Rates*
- * *Coronavirus Causes Blood Clots*
- * *Silent Hypoxia*
- * *Mathematical and Simulation Aspects of Covid-19*
- * *UV Blaster*
- * *COBAS 6800 Testing Machine*
- * *Feluda Test for Covid-19*
- * *ELISA Antibody Kits*
- * *Ultraviolet Light and Viruses*
- * *Automated UV Systems*
- * *BiPAP Ventilator "SwasthVayu"*
- * *Use of TB Drugs on Crops*
- * *Aarogya Setu Data Access and Knowledge Sharing Protocol*

Luhman 16: Binary Brown Dwarf System

Why in News

Recently, a group of astrophysicists have found that the **closest brown dwarf, Luhman 16A** shows signs of **cloud bands** similar to those seen on Jupiter and Saturn.

- ⌚ They used the **technique of polarimetry** to determine the properties of atmospheric clouds outside of the solar system.

Polarimetry

- ⌚ The concept of polarimetry technique was put forth by Indian astrophysicist Sujan Sengupta, that the **light emitted by a cloudy brown dwarf, or reflected off an extrasolar planet, will be polarised.**
- ⌚ Polarimetry is the study of polarization. Polarization is a property of light that represents the direction that the light wave oscillates.
- ⌚ When light is reflected off of particles it can favor a certain angle of polarization. By **measuring the preferred polarization of light** from a distant system, astronomers can deduce the **presence of clouds.**
 - ⦿ However, in case of Luhman 16A, the researchers

have found the actual structure of the clouds (not only their presence).

- ⌚ The polarimetry technique isn't limited to brown dwarfs. It can also be applied to exoplanets orbiting distant stars, or even stars. However, light from brown dwarfs is ideal for the study.

Luhman 16

- ⌚ **Luhman 16A** is part of a **binary system (Luhman 16)** containing a second brown dwarf, **Luhman 16B**. This pair of brown dwarfs Luhman 16A and Luhman 16B **orbit each other.**
- ⌚ It is situated at a distance of about **6.5 light years** from the Sun and the **third closest system to the Sun after Alpha Centauri and Barnard's star.**
- ⌚ Despite the fact that Luhman 16A and 16B have similar masses and temperatures and presumably formed at the same time, **they show markedly different weather.**
- ⌚ Luhman 16B shows **no sign of stationary cloud bands**, instead showing evidence of more **irregular, patchy clouds.**
 - ⦿ Luhman 16B, therefore, has **noticeable brightness variations** as a result of its cloudy features, unlike Luhman 16A which has less brightness variation due to a band of clouds.
- ⌚ Understanding the cloud system over a brown dwarf **can shed light on the pressure, temperature and climate** on the surface of the celestial body.

Brown Dwarfs

- ⌚ Brown dwarfs are also called **failed stars**, because **their masses are heavier than planets but lighter than stars**.
- ⌚ Due to their small masses, they are unable to **sustain fusion of their hydrogen** to produce energy.
- ⌚ It is believed that some of the more massive brown dwarfs **fuse deuterium or lithium and glow faintly**.

Binary Stars System

- ⌚ Binary stars are two stars orbiting a **common center of mass**.
- ⌚ The brighter star is officially classified as the **primary star**, while the dimmer of the two is the **secondary star**. In cases where the stars are of equal brightness, the designation given by the discoverer is respected.
- ⌚ They are very important in astrophysics because **calculations of their orbits allow the masses of their component stars to be directly determined**, which in turn allows other stellar parameters, such as radius and density, to be indirectly estimated.

Demo-2 Mission

Why in News

National Aeronautics and Space Administration (NASA) and SpaceX are set for the **Demo-2 mission** from the Kennedy Space Center in Cape Canaveral, Florida, USA.

- ⌚ Demo-2 Mission will send astronauts to the **International Space Station (ISS)**.

Key Points

- ⌚ Under the Mission, astronauts Robert Behnken and Douglas Hurley will dock with ISS and then remain there for between one to four months, depending on the time of next mission.
- ⌚ It is a part of **NASA’s Commercial Crew Program**, which is a partnership to develop and fly human space transportation systems.
- ⌚ SpaceX spacecraft named **Crew Dragon** will be used to take them into space.
 - ⦿ It will be only the fifth class of US spacecraft to take human beings into orbit, after the Mercury, Gemini, Apollo and Space Shuttle programs.
- ⌚ It is a high priority mission for the US which is clear by the fact that the mission is being carried out amidst **Covid-19 pandemic**.

Project Mercury (1958-63)

- ⌚ It was the first US man-in-space program.
- ⌚ It was intended to orbit a manned spacecraft around Earth and to investigate man’s ability to function in space.

Gemini Program (1962-66)

- ⌚ Designed as a bridge between the Mercury and Apollo programs, it primarily tested equipment and mission procedures and trained astronauts and ground crews for future Apollo missions.

Apollo Program (1963-72)

- ⌚ It was designed to land humans on the Moon and bring them safely back to Earth.
- ⌚ Apollo 8 was the first manned mission to go to the moon. This mission did not land on the moon. It orbited the moon, then came back to Earth.
- ⌚ Apollo 11 was the first moon landing mission. It landed on 20th July, 1969. The crew of Apollo 11 was Neil Armstrong, Michael Collins and Buzz Aldrin.

Space Shuttle Program (1981-2011)

- ⌚ NASA’s space shuttle fleet, Columbia, Challenger, Discovery, Atlantis and Endeavour, flew 135 missions and helped construct the ISS.
- ⌚ The spacecraft carried people into orbit repeatedly, launched, recovered and repaired satellites, conducted cutting-edge research and built the largest structure in space.

- ⌚ The mission is a major milestone for SpaceX, which is a private company founded by Elon Musk, who is the founder of Tesla.
 - ⦿ It has established itself as the leader in the private space sector mainly due to its reusable rocket, the Falcon 9.

African Swine Fever in Assam

Why in News

The Centre has advised the Assam state government to go for culling of pigs affected by the **African Swine Fever (ASF)**.

Key Points

- ⌚ A few organised piggeries in Assam have been affected and the possible carrier could be humans.

- ⊙ However, there is no confirmation on humans being the carrier of the virus.
- ⌚ Earlier in April, there were reported deaths of pigs due to the [Classical Swine Fever](#) (CSF).
- ⊙ Classical Swine Fever is also known as hog cholera and is a contagious viral disease of domestic and wild swine.
- ⊙ Unlike Swine Flu (H1N1) that attacks humans, classical swine fever is a viral disease that affects pigs only. It can be controlled by proper vaccination of pigs in time.

African Swine Fever

- ⌚ It is a highly contagious and fatal animal disease that infects and leads to an acute form of hemorrhagic fever in domestic and wild pigs.
- ⌚ It was first detected in Africa in the 1920s.
- ⌚ The mortality is close to 100% and since the fever has no cure, the only way to stop its spread is by culling the animals.
- ⌚ ASF is not a threat to human beings since it only spreads from animals to other animals.
- ⌚ ASF is a disease listed in the World Organisation for Animal Health (OIE) Terrestrial Animal Health Code and thus, reported to the OIE.

World Organisation for Animal Health

- ⌚ OIE is an intergovernmental organisation responsible for improving animal health worldwide.
- ⌚ In 2018, it had a total of 182 Member Countries. India is one of the member countries.
- ⌚ OIE standards are recognised by the [World Trade Organization](#) as reference international sanitary rules.
- ⌚ It is headquartered in Paris, France.

1-D Simulation Code to Study Earth's Magnetosphere

Why in News

Scientists at the **Indian Institute of Geomagnetism (IIG)** have developed a generalized **one-dimensional fluid simulation code** capable of studying a wide spectrum of coherent **electric field structures in near-earth plasma environments or earth's magnetosphere**.

- ⌚ The developed simulation code is expected to help in planning of future space missions.

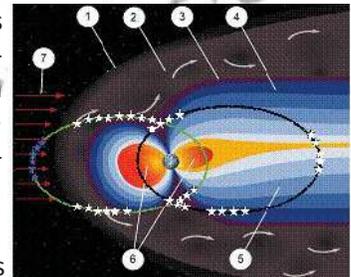
Key Points

⌚ **Formation of Earth's Magnetosphere:**

- ⊙ Sun is the major source of plasma deposition in space around the Earth. Thus, the **Sun forces some of its plasma towards the earth in the form of the solar wind**.
- ⌘ Plasma is the most common state of matter in the universe as a whole. It consists of a gas of ions and free electrons.
- ⊙ The speed of solar wind varies between 300 to 1500 km/s, which carries with it a solar magnetic field, called the Interplanetary Magnetic Field (IMF).
- ⊙ The **interaction of the IMF with the earth's magnetic field creates the magnetosphere** of the earth.
- ⊙ The magnetosphere shields our home planet from solar and cosmic particle radiation, as well as erosion of the atmosphere by the solar wind - the constant flow of charged particles streaming off the sun.

⌚ **Regions of the Earth's Magnetosphere:** The schematic diagram of Earth's magnetosphere shown consists of different regions namely,

1. **Bow shock:** It occurs when the magnetosphere of an Earth interacts with the nearby flowing ambient plasma such as the solar wind.
2. **Magnetosheath:** It is the region of space between the magnetopause and the bow shock of a planet's magnetosphere.
3. **Magnetopause:** It is the boundary between the planet's magnetic field and the solar wind.
4. **Northern tail lobe:** The magnetosphere of the earth contains two lobes, referred to as the northern and southern tail lobes. Magnetic field lines in the northern tail lobe point towards the earth.
5. **Southern tail lobe:** The magnetic field lines in the southern tail lobes point away from the earth. Usually, the tail lobes are almost empty, with few charged particles opposing the flow of the solar wind.
6. **Plasmasphere:** The plasmasphere, or inner magnetosphere, is a region of the Earth's magnetosphere consisting of low energy (cool) plasma.
7. **Solar winds:** It is a stream of charged particles released from the upper atmosphere of the Sun, called the corona.



🕒 **Significance of Study of Plasma Processes:**

- ⦿ The plasma processes have the ability to hamper the working of a number of satellites that have been placed in orbit in the magnetospheric region.
 - ⌘ However, the morphology of these plasma processes changes over space and time. These changes can be ideally deciphered only through computer simulations.
- ⦿ The study will help advance the knowledge of plasma waves, instabilities, and coherent effects associated with wave-particle interactions that are useful in planning future space missions.
- ⦿ It can also lead to precisely controlled fusion laboratory experiments for ever-expanding energy needs of humanity.

Indian Institute of Geomagnetism

- 🕒 Indian Institute of Geomagnetism (IIG) is an autonomous institution functioning directly under the **Department of Science and Technology**.
- 🕒 It has its main Campus at Panvel, **Navi Mumbai (Maharashtra)**.
- 🕒 It conducts basic and applied research in Geomagnetism (study of dynamics of earth's magnetic field) and allied fields like Solid Earth Geomagnetism/ Geophysics, Magnetosphere, Space and Atmospheric Sciences.
- 🕒 The Institute also **supports the World Data Centre for Geomagnetism (WDC, Mumbai)**, which is the only International centre for Geomagnetic data in South Asia and caters to the needs of Space and Earth Scientists and researchers from various universities and research institutions.

Development of the Nanomaterials Based Supercapacitors

Why in News

Recently, a group of researchers (including a recipient of the **INSPIRE Faculty Award**) have made significant achievements in **developing nanomaterials based supercapacitors to achieve high energy density and power density of supercapacitors.**

🕒 **Energy density** is the amount of energy that can be

stored in a given mass of a substance or system, i.e. a measure of storage of energy.

- 🕒 **Power density** is the amount of power (time rate of energy transfer) per unit volume, i.e. a measure of release of energy.

Energy: Batteries, Capacitors and Supercapacitors

- 🕒 Like batteries, Capacitors are also used to **store energy**. While batteries rely on chemical reactions, capacitors use static electricity (electrostatics) to store energy.
- 🕒 **Capacitors have many advantages over batteries:** they weigh less, generally don't contain harmful chemicals or toxic metals, and they can be charged and discharged many times. However, they cannot store the same amount of electrical energy as batteries.
- 🕒 Supercapacitors, also known as EDLC (electric double-layer capacitor) or Ultracapacitors, differ from regular capacitors in that they **can store a huge amount of energy**.
- 🕒 Batteries have a **higher energy density (they store more energy per unit mass)** but supercapacitors have a **higher power density (they can release energy more quickly)**. This property makes supercapacitors particularly suitable for **storing and releasing large amounts of power relatively quickly**.
- 🕒 Supercapacitors deliver **quick bursts of energy during peak power demands** and then quickly store energy and capture excess power that's otherwise lost. In the example of an electric car, a supercapacitor can provide needed power for acceleration, while a battery provides range and recharges the supercapacitor between surges.

Key Points

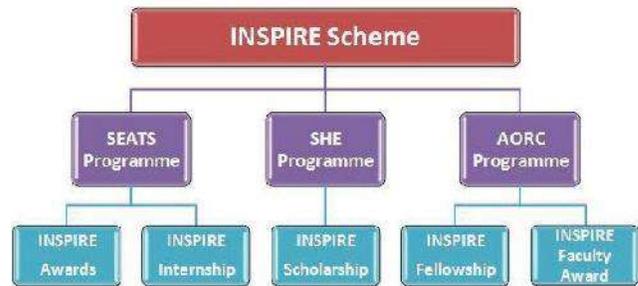
- 🕒 **Nanomaterials Based Supercapacitors:**
 - ⦿ The researchers have been working on **carbon (Carbon Nanotubes, Graphene) nanomaterials** based supercapacitors to achieve **high energy density and power density of supercapacitors**.
 - ⦿ High energy density of supercapacitors suggests that constant current can be withdrawn for a longer duration without recharging. Hence automobiles can run longer distances without charging.
 - ⦿ Thus, researchers have developed a **reduced graphene oxide (rGO)** at a moderate temperature of 100°C with high capacitance performance. It is cost-effective and suitable for commercial purposes.

- ⊙ The focus on energy devices paves the way for the development of **cost-effective and efficient devices, which can be used for energy storage application.**
- ⌚ **Optoelectronic Applications of Nanomaterials:**
 - ⊙ Optoelectronics is the study and application of electronic devices and systems that source, detect and control light, usually considered a sub-field of photonics.
 - ⊙ The researchers are developing novel nanostructures of carbon for Surface-Enhanced Raman spectroscopy (SERS).
 - ⌘ Surface-Enhanced Raman spectroscopy or surface-enhanced Raman scattering (SERS) is a surface-sensitive technique that **enhances Raman scattering by molecules adsorbed on rough metal surfaces** or by nanostructures such as plasmonic-magnetic silica nanotubes.
 - ⌘ The enhancement factor can be as much as 10¹⁰ to 10¹¹, which means the technique may even detect a single molecule.
 - ⊙ The SERS can help detect harmful molecules present in water at ultra-low concentrations.
 - ⊙ The findings make way for materials which can be used as **advanced photodetectors** and also be used as **optical sensors for water pollution control.**

Innovation in Science Pursuit for Inspired Research

- ⌚ **Innovation in Science Pursuit for Inspired Research (INSPIRE)** intends to attract talent to study science at an early age, and to help the country build the required critical resource pool for strengthening and expanding the Science and Technology base with long term foresight.
- ⌚ It is an India specific model for attracting talent with an aptitude for research and innovation, for a career in Basic & Natural sciences.
- ⌚ The scheme has been developed by the **Department of Science & Technology (DST), Ministry of Science and Technology** and **approved in 2008.**
- ⌚ INSPIRE Scheme has included three programs and five components. The three programmes are:
 - ⊙ **Scheme for Early Attraction of Talent (SEATS):** It aims to attract talented youth to study science by providing INSPIRE Award of Rs 5000 to one million young learners of the age group 10-15 years.

- ⊙ **Scholarship for Higher Education (SHE):** It aims to enhance rates of attachment of talented youth to undertake higher education in science intensive programmes, by providing scholarships and mentorship.
- ⊙ **Assured Opportunity for Research Careers (AORC):** It aims to attract, attach, retain and nourish talented young scientific Human Resource for strengthening the R&D foundation and base.



Long March 5B' Rocket by China

Why in News

- ⊙ Recently, China has successfully launched the **Long March 5B' rocket** and prototype spacecraft.
- ⌚ It is being considered as China's successful step to operate a permanent space station and send astronauts to the Moon.
- ⌚ India is also planning to launch its own space station.
 - ⊙ A space station is a spacecraft capable of supporting crew members, designed to remain in space for an extended period of time and for other spacecraft to dock.
 - ⊙ One fully functional space station in the Earth's lower orbit is the International Space Station and astronauts conduct different experiments in it.

Key Points

- ⌚ **Long March 5B' Rocket:**
 - ⊙ It was launched from the Wenchang launch site in the southern island of Hainan.
 - ⊙ It weighs 849 tonnes.
- ⌚ **Unmanned Prototype Spaceship:**
 - ⊙ It is expected to transport astronauts to a space station that China plans to complete by 2022 —



and eventually to the Moon. It will have capacity for a crew of six.

🕒 **Future Missions by China:**

- ⦿ The assembly of the Tiangong space station is expected to begin in 2020 and finish in 2022.
- ⦿ China plans to send an astronaut to the Moon in about a decade and then build a base there.
 - ⌘ The United States is so far the only country to have successfully sent humans to the Moon.

International Space Station (ISS)

- 🕒 ISS is a habitable artificial satellite - the single largest man-made structure in low earth orbit. Its first component was launched into orbit in 1998.
- 🕒 It circles the Earth in roughly 92 minutes and completes 15.5 orbits per day.
- 🕒 The ISS programme is a joint project between **five** participating space agencies: **NASA (United States), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada)** but its ownership and use has been established by intergovernmental treaties and agreements.
- 🕒 It serves as a microgravity and space environment research laboratory in which crew members conduct experiments in biology, human biology, physics, astronomy, meteorology, and other fields.
- 🕒 Continuous presence at ISS has resulted in the longest continuous human presence in the low earth orbit.
- 🕒 It is expected to operate **until 2030**.

Comparison of Measures Against Covid-19

Why in News

The **Oxford University** has created a **Stringency Index** which shows how strict a country's measures were and at what stage of the **Covid-19** spread, it enforced these.

- 🕒 India enforced **one of the strongest lockdowns** at an early phase of case growth.

Stringency Index

- 🕒 The Government Response Stringency Index is a composite measure based on various response indicators including school and workplace closures, stay-at-home policies and travel bans, rescaled to a **value from 0 to 100**.
 - ⦿ A **higher index score** indicates a **higher level of stringency (100 = strictest response)**.
- 🕒 It is among the metrics used by the Oxford Coronavirus Government Response Tracker (OxCGRT).
- 🕒 The Tracker has a team of 100 Oxford community members who update a database of 17 indicators of government response.

Key Points

- 🕒 The Index has found that India has one of the strongest lockdown measures in the world, at a 100 score since 22nd March, when the **nationwide lockdown** was first imposed.
 - ⦿ It was **slightly relaxed** on 20th April after the government eased norms for certain workplaces in regions outside the red zones (zones with increasing rate of active cases).
- 🕒 Other countries with a 100 score are Honduras, Argentina, Jordan, Libya, Sri Lanka, Serbia and Rwanda.
- 🕒 **Death Curve and Stringency Score:**
 - ⦿ The Index also provides an overlay of countries' death curve and their stringency score.
 - ⦿ Eighteen countries were compared for the highest death count at the strongest measures.
 - ⌘ Italy, Spain or France saw their deaths just begin to flatten as they reached their highest stringency.
 - ⌘ China's death curve saw a little or no change after it put stronger measures.

⌘ In the UK, the US and India, the death curve has not flattened even after imposition of the strictest measures.

🕒 **India's Comparison:**

- ⊙ India called its strict lockdown at a much earlier point on its case and death curves when compared to other countries with similar or higher case load.
 - ⌘ While imposing lockdown, India had around 320 cases while others had more than 500 cases.
- ⊙ Spain called for its strictest measures later in its case and death count than all others.
- ⊙ Sweden has had the most liberal measures in this set and Iran the second most liberal.

🕒 **Response on WHO's Recommendations**

- ⊙ The researchers also examined if countries meet four of the six **World Health Organization's** (WHO) recommendations for relaxing physical distancing measures. The four of them are:
 - ⌘ Control transmission to a level the healthcare system can manage.
 - ⌘ The healthcare system can detect and isolate all cases (not just serious ones).
 - ⌘ Manage transfer to and from high-risk transmission zones.
 - ⌘ Community engagement.
- ⊙ It was found that **no countries meet the four measured recommendations**, but 20 are close.
 - ⌘ India scored 0.7 (below Australia, Thailand, Taiwan and South Korea) because it scored 0 for controlling its cases.
 - ⌘ The highest scorers on this index, at 0.9, were Iceland, Hong Kong, Croatia and Trinidad & Tobago.

Covid-19 in States with High Swine Flu Rates

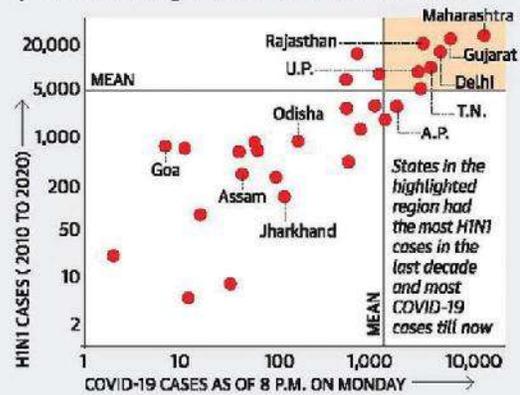
Why in News

Maharashtra, Gujarat, Rajasthan, Delhi and Tamil Nadu account for about **70%** of India's confirmed **Covid-19** cases till now.

- 🕒 Data from the Health Ministry's **National Centre for Disease Control** (NCDC), show that these are **also the states** which consistently accounted for the **majority of Swine Flu (H1N1) cases**, since 2015.

Viral connection

Maharashtra, Gujarat, Rajasthan, Delhi and T.N., together account for about **68%** of all **COVID-19** cases and **63%** of all the **H1N1** cases recorded in the last decade. The chart plots **H1N1** cases against **COVID-19** cases for all States



- 🕒 The NCDC recorded Swine Flu cases this year as well as part of India's **Integrated Disease Surveillance Programme**.

Key Points

- 🕒 **Data History of Swine Flu**
 - ⊙ **2019:** Rajasthan, Gujarat, Delhi and Maharashtra accounted for 54%.
 - ⊙ **2018:** Tamil Nadu, Maharashtra, Rajasthan and Gujarat accounted for 65%.
 - ⊙ Uttar Pradesh and Bihar are among India's most populous states and see intense **migration** to other states for work still they have not been in the top list always.
- 🕒 **Parallels between Covid-19 and Swine Flu**
 - ⊙ Both are **caused due to pathogens** that trace their **origins to viruses from non-human hosts** even though they **belong to different families**.
 - ⌘ Both **respiratory** viruses that **spread through contact**.
 - ⊙ Both **infiltrate the lungs** and cause characteristic **pulmonary infections** but they have varying lethality.
 - ⌘ **Swine flu** infections have a **higher case fatality rate** (deaths per confirmed cases) and can cause significant **deaths in children as well as those less than 60**.
 - ⊙ Covid-19 is relatively **more dangerous** to those **above 60** and **almost harmless in children**.
 - However, due to lack of sufficient research, it cannot be said which age group is safer or not.

- ⊙ High number of Covid-19 and Swine Flu cases have been observed in Gujarat and Maharashtra.
- ✳ The **relative dominance** of these diseases can be attributed to the **migration for work**.

🕒 **Observations**

- ⊙ **February-March** are typical months for influenza (viral infection of upper or lower respiratory tract) in India.
- ⊙ Most influenza activity in **northern India** has been seen during the **summer** months but in **southern and western India**, cases occurred mostly during **winter** months.
- ⊙ According to scientists, due to the novel nature of Covid-19, the **possibility of another spike later in the year cannot be ruled out**.
- ⊙ For Swine flu, this year there is an **exceptional rise in testing and active surveillance** across states otherwise only few states have the infrastructure and system to actively report cases.
 - ✳ Maharashtra and Tamil Nadu have 50 testing laboratories each for Covid-19 many of which are also deployed for Swine flu.

Swine Flu

- 🕒 It is caused by the **swine flu virus**, the **H1N1**.
- 🕒 It is an **infection of the respiratory tract** characterized by the usual **symptoms of flu** like cough, nasal secretions, fever, loss of appetite, fatigue and headache.
- 🕒 It is called swine flu because in the past it was known to occur in people who had been in the **vicinity of pigs**.
- 🕒 The virus is **transmitted by short-distance airborne transmission**, particularly in crowded enclosed spaces. **Hand contamination** and **direct contact** are other possible sources of transmission.

Coronavirus **Causes Blood Clots**

Why in News

Recently, doctors around the world have noticed a raft of clotting-related disorders in **Covid-19** patients, which causes **benign skin lesions on the feet (Covid toe) to strokes** and blood-vessel blockages.

- 🕒 Thus, Covid-19 is being seen as less of a typical respiratory disease and more of one that involves dangerous clotting.

Key Points

🕒 **Misconception of Only Lung Damage:**

- ⊙ Initially, it was considered that the vast **majority of lung damage in Covid-19 patients was due to viral pneumonia**.
- ⊙ But the **autopsies** of the Covid-19 patients shows that **clumps of platelets inside blood vessels, or microthrombi**, to be the reason for rapid and dramatic deterioration of condition of patients.

🕒 **Development of Thrombi:**

- ⊙ Usually these blood clots are called **thrombi**— that form in patients’ arterial catheters and filters used to support failing kidneys.
- ⊙ The clots impede blood flow in the lungs, which develop severe blood-oxygen deficiency, causing difficulty in breathing.

🕒 **Pulmonary Embolism:**

- ⊙ Studies have found that as many as **30% of severely ill Covid-19 patients** suffered a so-called **pulmonary embolism** — a potentially deadly blockage in one of the arteries of the lungs.
- ⊙ **Pulmonary embolism** often occurs when bits of **blood clots** from veins deep in the legs travel to the lungs.
- ⊙ According to a study, the prevalence of pulmonary embolism was 1.3% in critically ill patients without Covid-19.

🕒 **Detection of Blood Clots:**

- ⊙ The D-dimer blood test is being used around the world to monitor clot formation in patients, including those with Covid-19, and patients are also being dosened with heparin and other anticoagulant medications.

🕒 **History of Blood Clotting Diseases:**

- ⊙ The 1918 **Spanish flu** pandemic, caused by a novel strain of influenza, was also linked to downstream damage from clots that could end lives dramatically.

Viruses including HIV, dengue and **Ebola** are all known to make blood cells prone to clumping.

- ⊙ The pro-clotting effect may be even more pronounced in patients with the coronavirus.

Issues Involved

- ⌚ **Lung damage:** If untreated, **large arterial lung clots can put overwhelming strain on the heart**, causing cardiac arrest.
 - ⊙ Even **tiny clots in the capillaries of lung tissue** may interrupt blood flow, undermining attempts to help oxygenate patients with ventilators.
- ⌚ **Vital organ damage:** Clots may form in other parts of the body, potentially damaging vital organs including the heart, kidneys, liver, bowel, and other tissues.
- ⌚ **Mistaken of Covid-19 recurrence:** Covid-19 survivors who have subsequent difficulty breathing, might mistakenly believe it's a recurrence of coronavirus infection, when it may actually be a reactivation of the whole clotting problem.
- ⌚ **Subsequent disease:** Pulmonary embolism also causes **pulmonary hypertension**, another dangerous complication that can cause fatigue and shortness of breath.
- ⌚ **Risk:** Patients and doctors alike may not be aware of the risks or the potential need for treatment.

Silent Hypoxia

Why in News

Amidst the ongoing **Covid-19 pandemic**, medical practitioners have reported a condition called **silent or happy hypoxia**, in which patients have **extremely low blood oxygen levels**, yet they do not show signs of breathlessness.

- ⌚ It has left medical practitioners confused and many of them are now advocating for its early detection as a means to avoid a fatal illness called **Covid pneumonia**.

Key Points

- ⌚ **Hypoxia**
 - ⊙ It is a condition wherein there is **not enough oxygen available to the blood and body tissues**.
 - ⊙ Hypoxia can either be **generalised**, affecting the whole body, or **local**, affecting a region of the body.
 - ⌘ **Normal arterial oxygen** is approximately **75 to 100 millimetres of mercury (mm Hg)** and **normal pulse oximeter readings** usually range from **95 to 100%**.

⌘ Values under 90% are considered low.

- ⊙ When levels fall below 90%, patients could begin experiencing lethargy, confusion or mental disruptions because of insufficient quantities of oxygen reaching the brain.
 - ⌘ Levels below 80% can result in damage to vital organs.
- ⌚ **Silent Hypoxia**
 - ⊙ It is a form of oxygen deprivation that is **harder to detect** than regular hypoxia because **patients appear to be less in distress**.
 - ⊙ **Covid pneumonia**, a serious medical condition found in severe Covid-19 patients, is **preceded by silent hypoxia**.
 - ⊙ Many Covid-19 patients with oxygen levels below 80% look at ease and alert. There have been a few cases of oxygen levels below 50% as well.
 - ⌘ Those with such low levels of oxygen would normally appear extremely ill but not in silent hypoxia cases.
 - ⊙ In many cases, Covid-19 patients with silent hypoxia **did not exhibit symptoms such as shortness of breath or coughing until their oxygen fell to acutely low levels**, at which point there was a risk of **acute respiratory distress (ARDS)** and **organ failure**.
 - ⊙ **Reasons:**
 - ⌘ The reason why people are left feeling breathless is **not because of the fall in oxygen levels** itself but **due to the rise in carbon dioxide levels** that occur at the same time, when lungs are not able to expel this gas efficiently.
 - ⌘ In some Covid-19 cases, this was not the response and patients did not feel breathless.
 - ⌘ It happened because in patients with Covid pneumonia, the **virus causes air sacs to fall**, leading to a **reduction in levels of oxygen**. However, the **lungs initially do not become stiff or heavy with fluid and remain compliant** meaning they are **able to expel carbon dioxide** and avoid its buildup. Thus, **patients do not feel short of breath**.
 - ⌚ A medical device called a **pulse oximeter** can be used in the early detection of silent hypoxia.
 - ⊙ Active Covid-19 or suspected cases can check their oxygen levels early on by using the device.

- ⌚ A fall in oxygen levels can serve as a signal for seeking additional treatment immediately.
- ⌚ Concerns have been raised against it arguing that the frequent use of the device would lead to increased anxiety.

Pulse Oximeter

- ⌚ It is a **test used to measure the oxygen level** (oxygen saturation) of the **blood**.
- ⌚ The device measures the saturation of oxygen in **red blood cells** (RBCs) and can be attached to a **person's fingers, toes, nose, feet, ears or forehead**.
- ⌚ The method is **easy and painless** and the device can be reused or disposed of after use.
- ⌚ It is generally used to check the health of patients with known conditions that affect blood oxygen levels like heart and lung conditions.

Covid Pneumonia

- ⌚ It is a **potentially deadly condition** in Covid-19 patients which affects the **lungs' ability to transfer oxygen** and **causes breathing difficulties**.
- ⌚ When a person cannot inhale enough oxygen and exhale enough carbon dioxide, the pneumonia can lead to death.
- ⌚ Covid pneumonia is **especially severe because it is viral** and it **completely affects the lungs instead of small parts**.
 - ⌚ **Other kinds of pneumonia** which are **caused mainly by bacteria** and can be treated using antibiotics are **less severe** than Covid pneumonia.
- ⌚ Patients are required to be **put on ventilator support** in such severe cases to ensure adequate circulation of oxygen in the body.

Mathematical and Simulation Aspects of Covid-19

Why in News

The Science and Engineering Research Board (SERB) has approved funding for 11 projects under the MATRICS scheme for studying mathematical modelling and computational aspects to tackle the Covid-19 pandemic.

- ⌚ SERB is a statutory body under the Department of Science and Technology (DST), Government of India.

Key Points

- ⌚ These studies attempt to propose mathematical/simulation models to account for various factors relevant to Covid-19 by modifying the basic SIR (Susceptible-Infected-Recovered) models.
 - ⌚ An SIR model is an epidemiological model that computes the theoretical number of people infected with a contagious illness in a closed population over time.
 - ⌚ The name of this class of models derives from the fact that they involve coupled equations relating the number of susceptible people, number of people infected, and number of people who have recovered.
- ⌚ Some of such factors are heterogeneity of population, the role of asymptomatic (showing no symptoms) population, migration and quarantine, effect of social distancing and lockdown, socioeconomic factors and so on.
- ⌚ **Aim**
 - ⌚ To study Indian conditions and provide an estimate of Basic Reproduction Number (R0)- the qualitative indicator of the degree of contagiousness of the disease.
 - ⌘ R0 tells the average number of people who will catch the disease from one contagious person.
 - ⌘ The larger this number, the more contagious is the disease caused by the virus and the faster it will spread in the community.
 - ⌚ It also aims to identify the maximum likelihood infection tree when infection reports and contact network structure are known to the administration.
 - ⌚ To identify possible cures of Covid-19 through the study of DNA (DeoxyriboNucleic Acid) structures by creating patterns of DNA of different viruses.

MATRICES Scheme

- ⌚ It was launched in 2017 by the Science and Engineering Research Board (SERB).
- ⌚ It aims to provide fixed grant support to active researchers with good credentials in Mathematical Sciences, Theoretical Sciences and Quantitative Social Sciences.
- ⌚ The support is provided in the form of research grant of Rs. 2 lakh per annum plus overheads for a period of three years.

UV Blaster

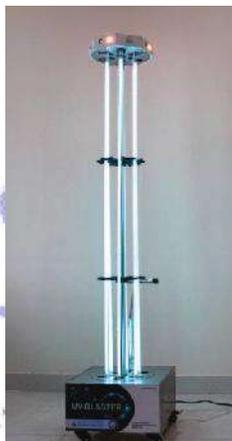
Why in News

Recently, the **Defence Research and Development Organisation (DRDO)** has developed an **Ultra Violet (UV) Disinfection Tower** for rapid and chemical free disinfection of high infection prone areas.

- ⌚ The equipment named “**UV blaster**” is designed and developed by Laser Science & Technology Centre (LASTEC) with the help of M/s New Age Instruments and Materials Private Limited, Gurugram.
 - ⊙ LASTEC is the Delhi based premier laboratory of DRDO.

Key Points

- ⌚ The UV blaster is a UV based area sanitiser useful for **high tech surfaces** like electronic equipment, computers and other gadgets in laboratories and offices that are not suitable for disinfection with chemical methods.
- ⌚ The product is also **effective for areas with large flow of people** such as airports, shopping malls, metros, hotels, factories, offices, etc.
- ⌚ The UV based area sanitiser may be used by remote operation through laptop/mobile phone using wifi link.
- ⌚ The sanitiser switches off on accidental opening of room or human intervention.
- ⌚ It is also being considered as the key to arm operation.



Corona-Killer 100

- ⌚ **Corona-Killer 100** is an automated disinfecting **Unmanned Aerial Vehicle (UAV)** developed by **Garuda Aerospace** - an ISO- 9001 company.
- ⌚ These drones will aid in the sanitation of public places, hospitals and tall buildings up to 450 feet amid Covid-19 outbreak.
- ⌚ It is equipped with fuel efficient motors that enable the drone to be deployed for 12 hours a day.
- ⌚ Drone operations are faster, longer & safer than manual spraying by workers who can become potential carriers of Covid-19.

Drone as a Service

- ⌚ Historically, many UAV applications were developed in the military as spy or reconnaissance vehicles used during wartime.
- ⌚ However, the development of this type of aircraft has evolved towards commercial, civil and consumer spaces, including professional videography, surveying, construction, inspection, traffic management and last mile delivery.
- ⌚ Commercial drone services are developing UAV services, sometimes called Drones as a Service (DaaS), to help industries, such as agriculture, construction, search and rescue, package delivery, industrial inspection, insurance and videography, with tasks like collecting imagery and measurements and managing or broadcasting events.
- ⌚ Drone services seem cost-effective, portable, and – in extreme emergencies like Covid-19 can – provide the first take, including visuals, assessment and extent of damage.
- ⌚ It also consists of patented autopilot technology, advanced flight controller systems.

COBAS 6800 Testing Machine

Why in News

The Union Health Minister inaugurated the first automated **coronavirus testing device** named ‘**COBAS 6800**’.

- ⌚ This is the first such testing machine that has been procured by the Government for testing of Covid-19 cases and is installed at the **National Centre for Disease Control (NCDC)**.

Key Points

- ⌚ COBAS 6800 is a **fully automated**, high end machine for performing **Real Time Polymerase Chain Reaction (RT-PCR) testing for Covid-19**.
- ⌚ It will provide **quality, high-volume testing** as it can test around 1200 samples in 24 hours.
 - ⊙ This will largely increase the testing capacity in the country.
- ⌚ It is a sophisticated machine **enabled with robotics that minimizes the chance of contamination** as well as the risk of infection to the health care workers.

- ⌚ The machine requires a minimum **Biosafety Level 2** (BSL2+) containment level for testing, thus it was placed at the NCDC.
 - ⊙ BSL2+ covers laboratories that work with agents associated with human diseases (i.e. pathogenic or infectious organisms) that pose a moderate health hazard.
- ⌚ The device **can also detect other pathogens** like Viral Hepatitis B & C, **HIV (Human Immunodeficiency Virus)**, **Mycobacterium Tuberculosis**, Papilloma, Cytomegalovirus (CMV) infection, Chlamydia (a bacterial infection), Neisseria (bacteria) etc.

National Centre for Disease Control

- ⌚ It was formerly known as the **National Institute of Communicable Diseases (NICD)** and had its origin as the **Central Malaria Bureau**, established at **Kasauli** (Himachal Pradesh) in **1909**.
- ⌚ NICD was transformed into NCDC with a larger mandate of controlling emerging and re-emerging diseases in **2009**.
- ⌚ It functions as the **nodal agency** in the country for **disease surveillance, facilitating prevention and control of communicable diseases**.
- ⌚ It is also a national level institute for **training specialized manpower** for public health, laboratory sciences and entomological services and is involved in various applied research activities.
- ⌚ The Institute is under **administrative control of the Director General of Health Services**, Ministry of Health and Family Welfare.
- ⌚ Headquarter: **New Delhi**.

Feluda Test for Covid-19

Why in News

Recently, the **Council of Scientific and Industrial Research's Institute of Genomics and Integrative Biology (CSIR-IGIB)** has developed **India's first paper strip test for Covid-19** namely, 'Feluda'.

Key Points

- ⌚ **Description:**
 - ⊙ The Feluda is a paper strip test that detects the coronavirus in an hour.
 - ⊙ Feluda is an acronym for **FNCAS9 Editor Linked Uniform Detection**.

- ⊙ It is expected to help to fulfil an urgent need of the rapid testing in India.
- ⊙ It is the **first such indigenous test kit to be developed in India based on Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) technology**.
 - ⊗ **CRISPR** is a **gene editing technology**, which replicates natural defence mechanisms in bacteria to fight virus attacks, using a **special protein called Cas9**.
 - ⊗ CRISPR-Cas9 technology behaves like a cut-and-paste mechanism on DNA strands that contain genetic information. The specific location of the genetic codes that need to be changed, or edited, is identified on the DNA strand, and then, using the Cas9 protein, which acts like a pair of scissors, that location is cut off from the strand.
 - ⊗ A DNA strand, when broken, has a natural tendency to repair itself. Scientists intervene during this auto-repair process, supplying the desired sequence of genetic codes that binds itself with the broken DNA strand.

⌚ **Comparison to the RT-PCR Test:**

- ⊙ **Working Principle:** The Feluda test uses the gene-editing tool-Crispr-Cas9 to target and identify genomic sequences of the novel coronavirus in suspected individual samples.
- ⊗ **RT-PCR test (Reverse Transcription Polymerase Chain Reaction)** detects the virus genetic material, which is the Ribonucleic acid (RNA).
- ⊙ **Cost:** The Feluda test will cost less than Rs.500 compared to Rs. 4500 for the real-time PCR test which is currently being used for Covid-19 diagnosis in India.
- ⊙ **Required Medical Machinery:** The Feluda test also does not rely on expensive real-time PCR machines for RNA isolation, DNA conversion, and amplification which are already in limited supply in the country.

ELISA Antibody Kits

Why in News

Recently, the Indian Council of Medical Research (ICMR) has approved the first batch of antibody testing kits called "**Covid KAVACH ELISA**" manufactured by Zydus-Cadila to be used in sero-survey.

Key Points

- ⌚ Covid KAVACH ELISA has been developed at the National Institute of Virology, Pune, by isolating the virus from patients in India.
 - ⦿ Enzyme-Linked Immunosorbent Assay (ELISA) is a test that detects and measures antibodies in blood.
 - ⦿ The test can be used to determine antibodies related to certain infectious conditions.
 - ⦿ It can be used to diagnose HIV, which causes AIDS, Zika virus etc.
- ⌚ The ELISA kits will be used in the new nationwide “sero-survey” of the Ministry of Health.
 - ⦿ Sero-survey is meant to detect the **prevalence of antibodies** that **appear after a patient has recovered**.
- ⌚ According to the ICMR, real-time Reverse Transcription Polymerase Chain Reaction (RT-PCR) is still the frontline test for clinical diagnosis of Covid-19, but the antibody tests are **critical for surveillance to understand the proportion of population exposed to infection**.
 - ⦿ The antibody test for Covid-19 acts as a screening process that gives 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.
- ⌚ ELISA antibody tests are different from the rapid antibody tests previously used by Indian authorities.
 - ⦿ ELISA kits are more reliable and cheaper than rapid antibody testing kits.
 - ⦿ The ELISA kit has a sensitivity of 98.7% and a specificity of 100%.
 - ⌘ Sensitivity signifies accurate positive test results, whereas specificity signifies accurate negative test results.
 - ⦿ According to the World Health Organisation (WHO) the kits are suitable for “for testing large numbers of samples per day, as well as in blood banks or for surveillance studies”.
- ⌚ ELISA has **minimal biosafety and biosecurity requirements** as compared to the real-time RT-PCR test.
- ⌚ Moreover, ELISA-based testing is easily possible even at the district level as the test kit has inactivated virus.

Antibody

- ⌚ Antibody, also called immunoglobulin is a protective protein produced by the immune system in response to the presence of a foreign substance, called an antigen.
 - ⦿ A wide range of substances are regarded by the body as antigens, including disease-causing organisms and toxic materials.
- ⌚ Antibodies recognize and attack onto antigens in order to remove them from the body.

PCR Test

- ⌚ Kary Mullis, the American biochemist invented the PCR technique. He was awarded the Nobel Prize for Chemistry in 1993.
- ⌚ Under this, copies of a segment of DNA (deoxyribonucleic acid) are created using an enzyme called Polymerase.
 - ⦿ The ‘chain reaction’ signifies how the DNA fragments are copied, exponentially — one is copied into two, the two are copied into four, and so on.
- ⌚ A fluorescent DNA binding dye called the “probe” is added to DNA, which shows the presence of the virus on a **fluorometer**.
- ⌚ However, coronavirus is made of RNA (ribonucleic acid).
- ⌚ Therefore to detect coronavirus, RNA is converted into DNA using a technique called reverse transcription.
 - ⦿ A ‘reverse transcriptase’ enzyme converts the RNA into DNA.
- ⌚ Copies of the DNA are then made and amplified.
- ⌚ Generally, the entire process of PCR test takes 24 hours to deliver the result.

Ultraviolet Light and Viruses

Why in News

As nations begin relaxing restrictions, scientists are studying the use of **ultraviolet germicidal irradiation (UVGI)** to detect the virus in public places and disinfect contaminated public spaces to stop the transmission of the virus.

Key Points

🕒 **Ultraviolet Light:**

- ⊙ UV light from the sun has **shorter wavelengths** than visible light so it is **not visible to the naked eye**.
- ⊙ UV radiation's full spectrum is **sourced from the sun** and can be **classified into UV-A, UV-B and UV-C** rays according to their wavelength.
- ⊙ They differ in their biological activity and the extent to which they can penetrate the skin.
 - ✳ The **shorter the wavelength**, the **more harmful** the UV radiation.
 - ✳ However, **shorter wavelength** UV radiation is **less able to penetrate** the skin.
- ⊙ Research shows that UV light kills cells and increased exposure can cause cells to become **carcinogenic** (cancerous) and increases the risk of getting **cancer**.

Classification of UV Radiation

🕒 **UV-C:**

- ⊙ **Short-wavelength.**
- ⊙ Most harmful but are completely absorbed by the Earth's atmosphere and does not reach the Earth's surface.

🕒 **UV-B:**

- ⊙ **Medium-wavelength.**
- ⊙ Biologically active but cannot penetrate beyond the superficial skin layers.
- ⊙ Responsible for delayed tanning and burning.
- ⊙ Enhances skin ageing and significantly promotes the development of skin cancer.
- ⊙ Exposure to UV-B rays can cause DNA and cellular damage in living organisms.
- ⊙ Most solar UVB is filtered by the atmosphere.

🕒 **UV-A:**

- ⊙ Relatively **long-wavelength.**
- ⊙ Accounts for approximately 95% of the UV radiation reaching the Earth's surface.
- ⊙ Penetrate into the deeper layers of the skin and is responsible for the immediate tanning.
- ⊙ Enhances the development of skin cancers.

🕒 **UVGI Working Method:**

- ⊙ **UVGI replicates UV wavelengths** and uses its **destructive properties to target pathogens**.

- ⊙ It disinfects contaminated spaces, air and water and helps in preventing certain infectious diseases from spreading.

- ⊙ According to the **US Centers for Disease Prevention and Control (CDC)**, UVGI is a **promising method for disinfection**.

- ✳ In 2005, the CDC revised its guidelines for using UVGI with regards to the spread of **tuberculosis (TB)** in hospital settings.
- ✳ The guidelines intended to eliminate the spread of infection to healthcare workers from patients or others with unsuspected or undiagnosed infection.

- ⊙ Scientists advise that **fixtures containing UVGI lamps** can be mounted on the walls or suspended from the ceilings.

- ✳ Such fixtures will shine light on the upper interior surface of a room and trap pathogens.
- ✳ Installing a fan in such spaces can further draw the air upward, which will increase the speed with which the UVGI can destroy pathogens.

- ⊙ UVGI lamps can also be installed in **room corners**, in **air ducts of ventilation systems** or portable or fixed **air cleaners**.

- ⊙ UVGI fixtures are and should be installed above people's heads because their **short wavelengths can irritate the skin and eyes**.

🕒 **Effectiveness:**

- ⊙ According to research papers, UVGI is **most effective in preventing infections** which are mainly spread through **smaller droplets** and **not by direct contact or larger respiratory droplets**.

- ⊙ The **efficacy** of UVGI depends on several factors, such as:

- ✳ Sensitivity of microorganisms to UVGI.
- ✳ Dose/intensity of UVGI required to kill pathogens.
- ✳ Humidity and weather conditions.
- ✳ Air circulation in a room.

- It should be such that the air from below the room, where the pathogen is generated reaches the upper-portions of the room, where the UVGI can trap and kill the pathogen.

- ⊙ However, using **UVGI on a mass-scale** in public spaces like schools, universities, restaurants and cinema halls is **not a very cost-effective way** for disease prevention.

- ⌚ **DRDO's Latest UV Developments:** The **Defence Research and Development Organisation (DRDO)** has recently developed **automated contactless UV-C devices** namely DRUVS (Defence Research Ultraviolet Sanitiser) and NOTESCLEAN.

Other Measures

- ⌚ Apart from using modern technology to combat viruses, it has been suggested to bring **behavioural changes** like **social distancing** and **wearing masks**.
- ⌚ Few countries have considered issuing **immunity passports** or **risk-free certificates**.
 - ⊙ Such certificates are based on the idea that the **natural immunity** a person develops to any infection will protect them from contracting the disease again.
 - ⌘ **Once infected** with a viral pathogen, the **body's innate immune response kicks in** and **slows the spread** of the virus.
 - ⌘ This response is **followed by an adaptive response**, wherein the **body makes antibodies**, which bind to the virus and **help eliminate it**.
 - ⌘ If this response is strong enough, it might prevent reinfection from the same pathogen.
 - ⊙ However, the **World Health Organisation (WHO)** has warned against using immunity passports because there is, yet, no proof of immunity from the reinfection of **Covid-19**.
 - ⌘ Even if there is an immunity, its **duration is not known**

Automated UV Systems

Why in News

Recently, the **Research Centre Imarat (RCI)**, has developed an automated contactless UVC (short-wavelength ultraviolet light with wavelengths between 200-280 nanometers) sanitisation cabinet, called **Defence Research UltraViolet Sanitiser (DRUVS)** and an automated UVC currency sanitising device, called **NOTESCLEAN**.

- ⌚ RCI is a Hyderabad based **Defence Research and Development Organisation (DRDO)** premier lab.



- ⌚ Earlier, DRDO had developed **UV Blaster** (ultraviolet disinfection tower) for rapid and chemical free disinfection of high infection prone areas.

Defence Research Ultraviolet Sanitiser

- ⌚ It has been designed to sanitise mobile phones, iPads, laptops, currency notes, cheque leaves, challans, passbooks, paper, envelopes, etc.
- ⌚ The DRUVS cabinet has a contactless operation which becomes crucial to contain the spread of **Covid-19** and other viruses.
- ⌚ It has proximity sensor switches, clubbed with drawer opening and closing mechanism which makes its operation automatic and contactless.
- ⌚ It provides 360 degree exposure of UVC to the objects placed inside the cabinet and it automatically goes into sleep mode after the sanitation process.

NOTESCLEAN

- ⌚ The device picks the note inserted from the input slot and makes them pass through a series of UVC lamps for complete disinfection.
- ⌚ It will save a lot of time because disinfection of each currency note by DRUVS or any other sanitising process is a time consuming process.



Defence Research and Development Organisation

- ⌚ It works under the administrative control of the Ministry of Defence.
- ⌚ Objective: 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).

BiPAP Ventilator "SwasthVayu"

Why in News

Recently, the **National Aerospace Laboratories (NAL)**, **Bangalore**, has developed **BiPAP ventilator** named

SwasthVayu, a non-invasive (involves use of masks or similar device) breathing support device, for the use of non-critical non-ICU cases of **Covid-19**.

- ⌚ BiPAP stands for **Bilevel Positive Airway Pressure**. It is a type of positive pressure ventilator.
- ⌚ While using BiPAP, positive air pressure is received during breathing in and breathing out. But higher air pressure is received during breathing in.

Key Points

- ⌚ SwasthVayu is connected with an oxygen concentrator, and will be ideal to treat moderate or mid-stage severe Covid-19 patients who do not require intubation and invasive ventilation.
- ⌚ The ventilator is ideal for treating Covid-19 patients in wards, makeshift hospitals, dispensaries and homes in the current Indian Covid-19 scenario.
- ⌚ The major advantage of this machine is that it is simple to use without any specialized nursing, cost effective, compact and configured with majority of indigenous components.
- ⌚ The system has been certified for safety and performance by the **National Accreditation Board for Testing and Calibration Laboratories (NABL)**.

National Aerospace Laboratories

- ⌚ National Aerospace Laboratories (NAL) is a constituent of the **Council of Scientific and Industrial Research (CSIR)**, India, established in 1959.
- ⌚ It is the only government aerospace Research & Development laboratory in the country's civilian sector.

Use of TB Drugs on Crops

Why in News

Recently, the Registration Committee (RC) under the **Central Insecticides Board and Registration Committee (CIBRC)** has recommended to ban the use of **antibiotics streptomycin and tetracycline**.

Key Points

- ⌚ The RC recommended to **ban antibiotics streptomycin and tetracycline with immediate effect** on crops where **other options are available** for bacterial disease control.

- ⌚ Where **no alternatives** are available, use of these antibiotics should be **phased out by 2022-end**. Till then, the antibiotics could be used on crops strictly as per the label claim i.e. streptomycin sulphate (9%) and tetracycline hydrochloride (1%).
- ⌚ The RC acknowledged that diseases in crops can be managed by using **integrated pest management** and other practices.
- ⌚ Issues Involved:
 - ⊙ **Rampant Misuse:** Although streptomycin use is allowed for eight crops by the CIBRC, it was found to be used on many more crops in practice.
 - ⊙ **Antibiotic Resistance:** Exposure to antibiotics can lead to development of **antibiotic resistance** in humans and animals.
 - ⊙ **Benefits of Streptomycin:**
 - ⌘ It has important use for previously treated **tuberculosis (TB)** patients.
 - ⌘ It is also used in multidrug-resistant TB patients and in certain cases of TB meningitis (brain TB).
 - ⌘ The **World Health Organization (WHO)** recognises streptomycin as a critically important medicine for human use.

Integrated Pest Management

- ⌚ It is an **ecosystem-based strategy** that focuses on **long-term prevention of pests or their damage** through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties.
- ⌚ Pesticides are used only after monitoring and according to established guidelines. **Treatments are made with the goal of removing only the target organism.**
- ⌚ Pest control materials are selected and applied in a manner **that minimizes risks to human health, beneficial and nontarget organisms, and the environment.**

Central Insecticides Board & Registration Committee

- ⌚ The Central Insecticides Board & Registration Committee (CIBRC) was set up by the **Ministry of Agriculture and Farmers Welfare** in the year 1970 to regulate the import, manufacture, sale, transport, distribution and use of **insecticides**.
- ⌚ The insecticides are regulated under **Insecticides Act, 1968** and **Insecticides Rules, 1971**.

- ⌚ The **Central Insecticides Board (CIB)** advises the Central Government and State Governments on technical matters arising out of the administration of Insecticides Act and to carry out the other functions assigned to the Board by or under Insecticides rules.
- ⌚ To **import or manufacture** any insecticide, registration is required at the **Registration Committee**.

Aarogya Setu Data Access and Knowledge Sharing Protocol

Why in News

Recently, the **Ministry of Electronics and Information Technology (MeitY)** has issued '**Aarogya Setu Data Access and Knowledge Sharing Protocol, 2020**' laying down guidelines for sharing such data with government agencies and third parties amid **Covid-19 pandemic**.

- ⌚ The executive order issued came amid **concerns and privacy issues expressed by a number of experts** over the efficacy and safety of the app.

Aarogya Setu App

- ⌚ It has been launched by the Ministry of Electronics and Information Technology.
- ⌚ It will help people in identifying the risk of getting affected by the Coronavirus.
- ⌚ It will also help to calculate risk based on the user's interaction with others, using cutting edge Bluetooth technology, algorithms and **artificial intelligence**.
 - ⌚ Once installed in a smartphone, the app detects other nearby devices with Aarogya Setu installed.
- ⌚ The app will help the Government take necessary timely steps for assessing risk of spread of Covid-19 infection and ensuring isolation where required.

Key Points

- ⌚ **Description:**
 - ⌚ The issued Protocol intends to ensure that data collected from the app is gathered, processed and shared in an **appropriate way**.
 - ⌚ The **violation of the protocol** will lead to the penalties under the **Disaster Management Act, 2005**.
 - ⌚ **MeitY** is designated as the agency **responsible for the implementation** of this Protocol. Further, the

app's developer, **National Informatics Centre (NIC)** shall be responsible for collection, processing and managing response data collected by the Aarogya Setu app under this Protocol.

- ⌚ Further, it also calls for the **Empowered Group on Technology and Data Management** to review the protocol after six months; unless extended. It will be in **force only for six months** from the date of its issue.
 - ⌚ **Empowered Group of Ministers (EGoM)** is a Group of Ministers (GoM) of the Union Government appointed by the Cabinet or the Prime Minister for investigating and reporting on such matters as may be specified.
 - ⌚ These EGoMs are also authorised to take decisions in such matters after investigation.
- ⌚ **Definition of Individual:**
 - ⌚ The order states that the data pertaining to individuals is urgently required in order to formulate appropriate health responses for addressing the Covid-19 pandemic.
 - ⌚ The Protocol clarifies that individuals means persons who are infected or are at high risk of being infected or who have come in contact with infected individuals.
- ⌚ **Categorisation of Data:**
 - ⌚ The data collected by the Aarogya Setu app is broadly divided into **four categories** —
 - ⌚ **Demographic Data:** It includes information such as name, mobile number, age, gender, profession and travel history.
 - ⌚ **Contact Data:** It is about any other individual that a given individual has come in close proximity with, including the duration of the contact, the proximate distance between the individuals and the geographical location at which the contact occurred.
 - ⌚ **Self-assessment Data:** It includes the responses provided by that individual to the self-assessment test administered within the app.
 - ⌚ **Location data:** It comprises the geographical position of an individual in latitude and longitude.
 - ⌚ The demographic data, contact data, self-assessment data and location data are collectively called as **response data**.
- ⌚ **Ground for Data Sharing:**

⊙ The data can be shared only if it is strictly necessary to directly formulate or implement an **appropriate health response**.

⊙ It can also be shared for **appropriate research work**.

⌚ **Allowed Entities to Access Data:**

⊙ The **response data containing personal data** may be shared by the app's developer with the Health Ministry, Health Departments of State/Union Territory governments/local governments, National and State Disaster Management Authorities, other ministries and departments of the central and state governments, and other public health institutions of the central, state and local governments.

⊙ It can also be shared further with any **third parties** that include the Indian universities or research institutions and research entities registered in India.

⌘ Further, the Protocol also empowers above mentioned universities and research entities to share the data with other such institutions.

⌚ **Checks and Balances:**

⊙ **De-identified Form:** Except for demographic data, the response data must be stripped of information that may make it possible to identify the individual personally. **De-identification is the process used to prevent someone's personal identity from being revealed.**

⌘ Stripped information must be **assigned a randomly generated ID**.

⌘ The Protocol also discourages reversal of de-identification and imposes penalties under applicable laws for the time being in force.

⊙ **Maintenance of the List:** The NIC needs to maintain a list of, the agencies with the time at which data sharing was initiated, the categories of such data and the purpose of sharing the data.

⊙ **Data Retention:** Any entity with which the data has been shared shall not retain the data **beyond 180 days** from the day it was collected.

⌚ **Concerns:**

⊙ There is a **need for a Personal data protection law** to back the government's decision to make the app mandatory for everyone.

⌘ The **Personal Data Protection Bill 2019** is in the process of being approved by Parliament.

⊙ The **clause for data sharing with third parties is open ended** and has a highest possibility of being misused. The stated list of the third parties with which the data can be shared would have been helpful.

⊙ Further, the **process of de-identifying the data should have been detailed**, given that reversing de-identification was not difficult.

■■■



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Environment and Ecology

Highlights

- ⌘ *Locusts Appeared Early in Rajasthan*
- ⌘ *Tiger Population in Sunderbans Rises*
- ⌘ *Black Panther in Netravali Sanctuary*
- ⌘ *Sariska Tiger Reserve*
- ⌘ *Olive Ridley Turtles*
- ⌘ *A Study on Sal Forest Tortoise*
- ⌘ *Energy Needs in the Context of Climate Crisis*
- ⌘ *Energy Transition Index: WEF*
- ⌘ *Deforestation Rate Declined*
- ⌘ *River Nila*

Locusts Appeared Early in Rajasthan

Why in News

Recently, scientists at the **Locust Warning Organisation (LWO)** observed groups of **desert locusts** at Sri Ganganagar and Jaisalmer districts of Rajasthan.

- ⌚ This has raised the alarm-bell for the authorities as they caused huge damage to the growing rabi crops along western Rajasthan and parts of northern Gujarat during December, 2019-January, 2020.
- ⌚ The **desert locust** (*Schistocerca gregaria*) is a short-horned grasshopper. These winged insects differ from normal hoppers.
- ⌚ The **genesis of present desert locust upsurge** lies in the Mekunu and Luban cyclonic storms that struck Oman and Yemen, respectively in 2018.
 - ⌚ These storms turned large desert areas in remote parts of the southern Arabian Peninsula into lakes, which allowed the insects to breed undetected across multiple generations.

Locust

- ⌚ A locust is a large, **mainly tropical grasshopper** with strong powers of flight. They **differ from ordinary grasshoppers** in their ability to change behaviour (gregarize) and form swarms that can migrate over large distances.
 - ⌚ Gregarization means transformation of solitary insects etc. into a swarm due to rapid growth in population.

- ⌚ Locusts are generally seen during the **months of June and July** as the insects are active from summer to the rainy season.
- ⌚ **Locusts have a high capacity to multiply, form groups, migrate over** relatively large distances (they can fly up to 150 km per day) and, if good rains fall and ecological conditions become favourable, rapidly reproduce and increase some 20-fold in three months.
- ⌚ **Threat to Vegetation:** Locust adults can eat their own weight every day, i.e. about two grams of fresh vegetation per day. A very **small swarm eats as much in one day as about 35,000 people**, posing a devastating threat to crops and food security.
- ⌚ **If infestations are not detected and controlled, devastating plagues can develop** that often take several years and hundreds of millions of dollars to bring under control with severe consequences on food security and livelihoods.
- ⌚ **Locust Control measures** include destroying egg masses laid by invading swarms, digging trenches to trap nymphs, using hopperdozers (wheeled screens that cause locusts to fall into troughs containing water and kerosene), using insecticidal baits, and applying insecticides to both swarms and breeding grounds from aircraft.
 - ⌚ Organophosphate insecticides such as **Malathion** are effective against locusts.
- ⌚ The **Food and Agriculture Organisation (FAO)** provides information on the general locust situation to the global community and gives **timely warnings and forecasts** to those countries in danger of invasion.
 - ⌚ The FAO raised alarm over the locust outbreak in northeast Africa and Saudi Arabia in February, 2019.

Locusts in India

- ⌚ **Four species** viz. Desert locust (*Schistocerca gregaria*), Migratory locust (*Locusta migratoria*), Bombay Locust (*Nomadacris succincta*) and Tree locust (*Anacridium sp.*) are found in India.
- ⌚ The existing series of locust swarms that have entered India via Pakistan had originated in Iran. Movement of locusts is facilitated by summer dusty winds, which flow from the Arabian Sea, taking along these creatures from Sindh in Pakistan to western Rajasthan.
- ⌚ **The last major locust outbreak that was reported in Rajasthan was in 1993.**
- ⌚ **Locust Warning Organisation (LWO), Ministry of Agriculture and Farmers Welfare**, is responsible for monitoring, survey and control of Desert Locust in Scheduled Desert Areas mainly in the States of Rajasthan and Gujarat.

Tiger Population in Sunderbans Rises

Why in News

As per the latest census conducted by the **West Bengal Forest Department**, the **tiger count** has increased to **96 from 88 in Sunderbans**.

- ⌚ It is the highest annual jump reported from the Sunderbans.

Sundarbans

- ⌚ Sundarbans is a vast contiguous **mangrove forest ecosystem** in the coastal region of Bay of Bengal spread over India and Bangladesh on the delta of the Ganges, Brahmaputra and Meghna rivers.
- ⌚ The Sunderbans Delta is the **only mangrove forest in the world inhabited by tigers**.
- ⌚ Indian Sundarbans constitute over 60% of the country's total mangrove forest area.
- ⌚ Indian Sundarbans has been recognised as **UNESCO World Heritage Site in 1987** and **'Wetland of International Importance'** under the **Ramsar Convention** in January, **2019**.
- ⌚ It is home to rare and globally threatened species, such as the Northern River Terrapin, Royal Bengal Tiger, Irrawaddy Dolphin, and the Fishing Cat.

- ⌚ Estimation of the number of tigers in the Sunderbans has always been a challenge because of the difficult terrain that comprises dense mangrove forests, with creeks and rivulets, and floods twice a day during the high tides.

Black Panther in Netravali Sanctuary

Why in News

A **black panther** was spotted in **Goa's Netravali Sanctuary**.

- ⌚ While the area is a known habitat of tigers, this is for the first time a black panther has been captured on camera in the sanctuary.

Black Panther

- ⌚ A black panther is the **melanistic colour variant of any Panthera**, particularly of the leopard in Asia and Africa, and the jaguar in the Americas.



- ⌚ Melanism is the **increased development of the dark-colored pigment melanin** in the skin or hair.
- ⌚ It is as shy as a normal leopard and very difficult to detect. It is mostly found in densely forested areas of southern India.
- ⌚ **Areas where black panther has been spotted earlier:**
 - ⌚ Periyar Tiger Reserve (Kerala)
 - ⌚ Bhadra Tiger Reserve, Dandeli-Anshi Tiger Reserve and Kabini Wildlife Sanctuary (Karnataka)
 - ⌚ Achanakmar Tiger Reserve (Chhattisgarh)
 - ⌚ Mhadei Wildlife Sanctuary (Goa)
 - ⌚ Mudumalai Tiger Reserve (Tamil Nadu)

Netravali Wildlife Sanctuary

- ⌚ Netravali Wildlife Sanctuary is located in **South Eastern Goa** and constitutes one of the vital corridors of the Western Ghats.
- ⌚ It is bounded by **Cotigao wildlife sanctuary** on the eastern side and **Bhagwan Mahaveer Sanctuary and Mollem National Park** on the northern side.

- ⌚ **Netravali or Neturli** is an important tributary of **River Zuari**, which originates in the sanctuary.
- ⌚ It has two important waterfalls namely, **Savari** and **Mainapi**.
- ⌚ Forests mostly consist of **moist deciduous vegetation** interspersed with evergreen and semi-evergreen habitat.
- ⌚ **Fauna:** Leopard, Giant Squirrel, Mouse Deer, Nilgiri Wood Pigeon and Ceylon Frogmouth.
- ⌚ **Other Protected Areas in Goa:**
 - ⊙ Cotigao Wildlife Sanctuary
 - ⊙ Mhadei Wildlife Sanctuary
 - ⊙ Bhagwan Mahaveer Sanctuary
 - ⊙ Bondla Wildlife Sanctuary
 - ⊙ Mollem National Park
 - ⊙ Dr Salim Ali Bird Sanctuary

Sariska Tiger Reserve

Why in News

The 13th session of the Ministry of Tourism's **Dekho Apna Desh** webinar titled, '**Destination- Sariska Tiger reserve**' was held recently.

- ⌚ The objective of the Ministry of Tourism's webinar series is to create awareness about and promote various tourism destinations of India, including the lesser known destinations and lesser known facets of popular destinations.

Key Points

- ⌚ Sariska Tiger Reserve is located in Aravali hills and forms a part of the Alwar District of **Rajasthan**.
- ⌚ The Reserve is immensely rich in flora and fauna and is famous for Royal Bengal Tiger.
 - ⊙ The park has populations of leopards, Nilgai, Sambar, chital etc. It also shelters a large population of Indian peafowl, crested serpent eagles, sand grouse, golden backed woodpeckers, great Indian horned owls, tree pies, vultures, etc.
- ⌚ Sariska was declared a wildlife sanctuary in 1955 and was declared the **tiger reserve later in 1978**, making it a part of India's **Project Tiger**.
- ⌚ The Sanctuary houses ruined temples, forts, pavilions and a palace.

- ⊙ **Kankarwadi fort** is located in the center of the Reserve and it is said that Mughal emperor Aurangzeb had imprisoned his brother Dara Shikoh at this fort in struggle for succession to the throne.
- ⊙ The Reserve also houses a famous **temple of lord Hanuman at Pandupole** related to **Pandavas**.

Project Tiger

- ⌚ Project Tiger is an ongoing **Centrally Sponsored Scheme** of the Ministry of Environment, Forests and Climate Change providing central assistance to the tiger States for tiger conservation in designated tiger reserves.
- ⌚ The **National Tiger Conservation Authority (NTCA)** is a statutory body of the Ministry, with an overarching supervisory/coordination role, performing functions as provided in the Wildlife (Protection) Act, 1972.
 - ⊙ The NTCA was launched in 2005, following the recommendations of the Tiger Task Force. It was given statutory status by the 2006 amendment of Wildlife (Protection) Act, 1972.
- ⌚ India now has as many as 2,967 tigers in the wild, with **more than half of them in Madhya Pradesh and Karnataka**, according to the latest tiger estimation report for 2018.
- ⌚ The population of tigers have **increased by 33%** since the last census in 2014 when the total estimate was 2,226.
- ⌚ **Sariska is the first tiger reserve** to have successfully **relocated Royal Bengal tigers in India** and at present there are around 20 tigers in the reserve.

Dekho Apna Desh

- ⌚ Dekho Apna Desh is one of the three components of the Paryatan Parv. The other two are Tourism for All and Tourism and Governance.
- ⌚ It intends to encourage Indians to travel their own country.

Olive Ridley Turtles

Why in News

- Mass hatching of **Olive Ridley turtles** has begun at **Odisha's Rushikulya rookery** (near Ganjam district).
- ⌚ 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:**

- ⦿ **IUCN Red List: Vulnerable**
- ⦿ **CITES: Appendix I**
- ⦿ **Indian Wildlife (Protection) Act, 1972: Schedule I**

🕒 **Step Taken for Conservation:** To reduce accidental killing in India, the Odisha 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.

A Study on Sal Forest Tortoise

Why in News

A recent study by ecologists in the **Wildlife Institute**

of India (Dehradun), finds that over **90% of the potential distribution of the Sal forest tortoise falls outside the current protected area's network.**

Key Points

- 🕒 The study covers parts of India with Bangladesh, Bhutan and Nepal.
- 🕒 The study found that in northeast India, the representation of the sal forest tortoise in protected areas (such as reserves, sanctuaries, etc.) is least.
- 🕒 The study also found that **29% of the predicted distribution of the species falls within high occurrence fire zones.**
 - ⦿ The species experience **jhum fire** in northeast India, which is a suitable habitat for the species.
 - ⦿ Such an intervention may not only directly kill the animals but result in loss of habitat.
- 🕒 According to the IUCN, the **population of the species may have fallen by about 80% in the last three generations (90 years).**

Sal Forest Tortoise

- 🕒 Sal Forest Tortoise is also known as the **elongated tortoise (Indotestudo elongata).**



- 🕒 **Habitat:** It is widely distributed over eastern as well as northern India and Southeast Asia.
- 🕒 **IUCN Red List:** Critically Endangered.
- 🕒 **CITES:** Appendix II
- 🕒 **Wildlife (Protection) Act of 1972:** Schedule IV
- 🕒 **Threat:** Hunted for food, local use such as decorative masks and international wildlife trade.

Wildlife Institute of India

- 🕒 Wildlife Institute of India (WII) is an autonomous institution under the **Ministry of Environment, Forest and Climate Change.**
- 🕒 It was established in 1982.
- 🕒 It is based in Dehradun, Uttarakhand.
- 🕒 It offers training programs, academic courses, and advisory in wildlife research and management.

Energy Needs in the Context of Climate Crisis

Why in News

Recently, on the occasion of the **National Technology Day, Padma Vibhushan Dr. Anil Kakodkar** conveyed a message to the people of India about ‘**Dealing with energy needs in the Context of Climate Crisis**’.

- ⌚ National technology day marks the **anniversary of the Pokhran Nuclear Tests of 1998** that strengthened Indian national security.
 - ⊙ India successfully test-fired its Shakti-1 nuclear missile in operation called Pokhran-II, also codenamed as **Operation Shakti**.
- ⌚ After the tests, India has entered into many **international agreements to promote nuclear commerce for peaceful purposes and to secure energy security** through nuclear energy.
 - ⊙ **Nuclear commerce** in general refers to a worldwide trade centered on nuclear energy.

Key Points

- ⌚ **HDI and Energy Consumption:**
 - ⊙ Dr. Kakodkar highlighted the correlation between **Human Development Index (HDI)** and **Per Capita Energy Consumption** all over the world.
 - ⊙ As per the statistics, countries with higher HDI have higher per capita consumption of energy.
 - ⊙ HDI emphasizes that **people and their capabilities should be the ultimate criteria for assessing the development** of a country, not economic growth alone.
- ⌚ **Energy and Climate Security:**
 - ⊙ However, **developing countries** like India, on the other hand, face the **challenge of choosing between energy security and climate security**. It is important to strike a balance between enhancing the quality of human life as well as keeping a control over the climate crisis.
- ⌚ **Emission Targets:**
 - ⊙ Various studies have been conducted on how to control **carbon dioxide (CO₂)** emissions, which is a **serious threat** to the environment.
 - ⊙ As per the report of the **Intergovernmental Panel on Climate Change (IPCC)**, “staying below **1.5 degree**

increase in 2100 will require cuts in **Greenhouse Gases (GHGs)** emissions of 45% below 2010 levels by 2030 and to net zero by 2050”.

- ⌚ **Decarbonisation:**
 - ⊙ **Zero emission targets** can be easily met by the use of **nuclear energy**. It can also **reduce the cost of deep decarbonisation**.
 - ⊙ Decarbonising means **reducing carbon intensity**, i.e. reducing the emissions per unit of electricity generated (often given in grams of carbon dioxide per kilowatt-hour).
 - ⊙ Decarbonisation is **essential** since the demand for electric power from industries/commercial sectors is high.
 - ⊙ It is possible by **increasing the share of low-carbon energy sources**, particularly **renewables** like **solar, hydro** and biomass (**Biofuels**) together with nuclear which can greatly contribute in achieving zero emissions.
- ⌚ **Comparison:**
 - ⊙ **Japan** saw the **negative effects of nuclear energy** (bombing at Hiroshima and Nagasaki) yet it has drafted an energy plan, to **generate 20% to 22%** of their total energy consumption as **nuclear energy** and to reduce CO₂ emissions by 2030.
 - ⊙ **Germany** had also planned to **cut GHG emissions by 2020** which has allotted huge amounts of production of renewable energy.
 - ⊙ **India**, in order to decarbonise the energy consumption, needs a **30-fold increase in renewable energy, 30-fold increase in nuclear energy** and **doubling of thermal energy** which would make **70% of energy carbon free**.
- ⌚ **Actions Required:**
 - ⊙ **Different levels of consumption strategy** need to be observed by different countries **based on their HDI** so that they can actively contribute towards low/zero emissions. **For example:**
 - ⌘ Countries with **high HDI**, should reduce their energy consumption since it may not affect their HDI, much. They should also decarbonise their electricity generation.
 - ⌘ Countries with **moderate HDI** should focus on non-fossil electricity consumption.
 - ⌘ Countries with **low HDI** should be able to provide subsidised sources of cleaner energy to their citizens.

🕒 **Concerns and Solutions:**

- ⦿ **Management of nuclear waste**, that is produced during energy generation, is a major **concern**.
- ⦿ To **tackle** the problem, India adopts the policy of '**Nuclear Recycle Technology**'.
 - ⌘ Under it, the **nuclear fuel**-Uranium, Plutonium etc, once used for generation of energy, is **reused as a resource** material by the commercial industries to be recycled.
 - ⌘ **More than 99% of nuclear waste is reused** as the waste management program in India prioritises recycling.

Energy Transition Index: WEF

Why in News

Recently, the **World Economic Forum** (WEF) has released the **annual rankings of the global Energy Transition Index**.

- 🕒 The index benchmarks **115 economies** on the current performance of their energy systems across economic development and growth, environmental sustainability and energy security and access indicators and their readiness for transition to secure, sustainable, affordable and inclusive energy systems.

Key Points

🕒 **Data Analysis:**

- ⦿ **Sweden has topped** the Index for the third consecutive year and is followed by Switzerland and Finland in the top three.
- ⦿ France (8th) and the UK (7th) are the only **G20** countries in the top ten.
- ⦿ Only 11 out of 115 countries have made steady improvements in ETI scores since 2015. Argentina, China, India and Italy are among the major countries with consistent annual improvements.
 - ⌘ In China (78th), problems of air pollution have resulted in policies to control emissions, electrify vehicles and develop the world's largest capacity for **solar photovoltaic** (SPV) and onshore **wind power** plants.

🕒 **Performance Analysis:**

- ⦿ The results for 2020 show that 75% of countries have improved their **environmental sustainability**.

- ⌘ It is a result of multifaceted, incremental approaches, including pricing carbon, retiring coal plants ahead of schedule and redesigning electricity markets to integrate renewable energy sources.

- ⦿ Its study measuring readiness for clean energy transition in 115 economies showed that 94 have made progress since 2015.
- ⦿ The greatest overall progress is observed among emerging economies.

🕒 **India's Ranking and Reasons:**

- ⦿ India has moved up two positions to rank 74th with improvements in all three dimensions of the energy triangle namely:
 - ⌘ Economic development and growth.
 - ⌘ Energy access and security.
 - ⌘ Environmental sustainability.
- ⦿ For India, gains have come from a government-mandated renewable energy expansion programme i.e. to add 275 GW by 2027.
- ⦿ India has also made significant strides in energy efficiency through bulk procurement of LED bulbs, smart meters and programs for labelling of appliances. Similar measures are being experimented to drive down the costs of **electric vehicles** (EVs).
- ⦿ It indicates a strong positive trajectory, driven by strong political commitment and an enabling policy environment.

🕒 **Impact of Covid-19**

- ⦿ **Covid-19** risks cancelling out recent progress in transitioning to clean energy, with unprecedented falls in demand, price volatility and pressure to quickly mitigate socioeconomic costs placing the near-term trajectory of the transition in doubt.

🕒 **Suggestions**

- ⦿ Policies, roadmaps and governance frameworks for energy transition at national, regional and global levels need to be more robust and resilient against external shocks.
- ⦿ The pandemic offers an opportunity to consider unorthodox intervention in the energy markets and global collaboration to support a recovery that accelerates the energy transition once the crisis subsides.
- ⦿ The economic recovery packages (like the announcement of the **Pradhan Mantri Gareeb Kalyan**

Yojana by India), introduced by the governments can accelerate the transition to clean energy, by helping countries scale their efforts towards sustainable and inclusive energy systems, if implemented with long-term strategies.

World Economic Forum

- ⌚ It is a Swiss nonprofit foundation established in 1971, based in **Geneva, Switzerland**.
- ⌚ Recognized by the Swiss authorities as the international institution for public-private cooperation, its mission is cited as, “committed to improving the state of the world by engaging business, political, academic, and other leaders of society to shape global, regional, and industry agendas”.
- ⌚ Major reports published by WEF:
 - ⌚ [Global Competitiveness Report](#)
 - ⌚ [Global IT Report](#)
 - ⌚ [Global Gender Gap Report](#)
 - ⌚ [Global Risk Report](#)
 - ⌚ [Global Travel and Tourism Report](#)

Deforestation Rate Declined

Why in News

According to the **Global Forest Resources Assessment 2020 (FRA 2020) report**, the rate of forest loss has declined in the period of 1990-2020.

- ⌚ The FRA is released by the **United Nations Food and Agriculture Organization (FAO)**.
- ⌚ The FRA 2020 is **based on the assessment** of more than **60 forest-related variables in 236 countries** and territories in the period of 1990–2020.

Key Points

- ⌚ **Total forest area:** The world’s total forest area is 4.06 billion hectares (bha), which is 31% of the total land area. This area is equivalent to 0.52 hectares per person.
- ⌚ **Top countries in forest cover** — the **Russian Federation, Brazil, Canada, the United States of America and China** constituted more than 54% of the world’s forests.
- ⌚ **Forest loss:** According to the report, the **world has lost 178 million hectares (mha) of forest since 1990**, an area the size of Libya.

- ⌚ **Decline in rate of forest loss:** The rate of net forest loss decreased substantially during the period of 1990–2020.
 - ⌚ It was 7.8 mha per year in the decade 1990–2000, 5.2 mha per year in 2000–2010 and 4.7 mha per year in 2010–2020.
 - ⌚ This is due to a **reduction in deforestation in some countries**, plus **increases in forest area in others** through afforestation and the **natural expansion of forests**.
- ⌚ **Areas that witnessed forest loss:** **Africa** had the **largest annual rate of net forest loss** in 2010–2020, at 3.9 mha, **followed by South America**, at 2.6 mha.
- ⌚ **Area that witnessed forest gain:** **Asia** had the **highest net gain of forest area** in 2010–2020, **followed by Oceania and Europe**.
 - ⌚ However, Oceania experienced net losses of forest area in the decades 1990–2000 and 2000–2010.
- ⌚ **Types of forest loss:** The largest proportion of the world’s forests are **tropical** (45%), followed by **boreal, temperate and subtropical**.
 - ⌚ **Naturally regenerating forest areas** worldwide **decreased** since 1990, but the area of **planted forests** has increased.
- ⌚ **Plantation forest** cover is 131 mha, about 3% of the global forest area.
 - ⌚ The **highest percent** of plantation forests are in **South America** while the **lowest are in Europe**.
- ⌚ **Protected forest areas** worldwide estimate around 726 mha.
 - ⌚ **South America** has the highest share of forests in protected areas, at 31%.
 - ⌚ The protected forest areas increased by 191 mha since 1990.

Global Forest Resources Assessment

- ⌚ The FRA presents a comprehensive view of the world’s forests and the ways in which the resource is changing.
- ⌚ It supports the development of sound policies, practices and investments affecting forests and forestry.

Food and Agriculture Organization (FAO)

- ⌚ The Food and Agriculture Organization is an **agency of the United Nations** that leads international efforts to defeat hunger.

⌚ FAO is also a source of knowledge and information and helps developing countries and countries in transition to modernize and **improve agriculture, forestry and fisheries practices and ensure good nutrition and food security** for all.

⌚ **Formation:** 16th October 1945

⌚ **Headquarters:** Rome, Italy

River Nila

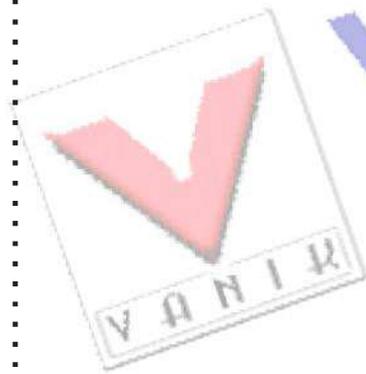
Why in News

Recently, the **Ministry of Tourism** organised a **webinar- 'Exploring River Nila'** as a part of the **Dekho Apna Desh Webinar series**.

Key Points

- ⌚ River Nila is also known as **Bharathapuzha and Ponnani**.
- ⌚ **Origin:** Amaravathipuzha originating from **Thrimoorthy Hills of Anamalais** in Tamil Nadu **joins** with Kalpathipuzha at **Parali** in Palakkad District and forms Nila.
- ⌚ **Drainage Area:** Kerala and Tamil Nadu.
 - ⌚ It flows westward through Palakkad Gap (most prominent discontinuity in the western ghats) and drains into the Arabian Sea.
- ⌚ **Main Tributaries:** Kannadipuzha (Chitturpuzha), Kalpathipuzha (Korapuzha), Gayathripuzha and Thuthapuzha
- ⌚ **Malampuzha dam** is the **largest** among the reservoirs built across Bharathapuzha.

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History

Highlights

⌘ *Rabindranath Tagore*
⌘ *Gandhi Peace Prize*

⌘ *480th Birth Anniversary of Maharana Pratap*
⌘ *Gopal Krishna Gokhale*

Rabindranath Tagore

Why in News

The Prime Minister of India paid tributes to **Rabindranath Tagore** on his **159th Jayanti** on **7th May, 2020**.

Key Points

- ⌚ Rabindranath Tagore was born in Calcutta on May 7, 1861. He was also referred to as '**Gurudev**', '**Kabiguru**', and '**Biswakabi**'.
- ⌚ Regarded as the outstanding creative artist of modern India and hailed by **W.B Yeats**, Rabindranath Tagore was a Bengali poet, novelist, and painter, who was highly influential in introducing Indian culture to the west.
- ⌚ Rabindranath was an exceptional literary figure and a renowned polymath who singlehandedly reshaped the region's literature and music.
- ⌚ In **1913** Rabindranath Tagore was awarded the **Nobel Prize in Literature** for his work on **Gitanjali**.
 - ⦿ He was the **first non-European to receive the Nobel Prize**.
- ⌚ In **1915** Tagore was awarded **knighthood by the British King George V**. In 1919, following the **Jallianwalla Bagh massacre** he renounced his Knighthood.
- ⌚ Besides all his literary achievements he was also a philosopher and educationist who in 1921 established the **Vishwa-Bharati University**, a university that challenged conventional education.
- ⌚ Rabindranath Tagore was a good friend of Mahatma Gandhi and is said to have given him the title of Mahatma.
- ⌚ Tagore had always stressed that unity in diversity is the only possible way for India's national integration.
- ⌚ He not only gave the **national anthems for two countries, India and Bangladesh**, but also inspired

a Ceylonese student of his, to pen and compose the national anthem of Sri Lanka.

Gandhi Peace Prize

Why in News

Recently, the **Ministry of Culture** extended the **nomination period for the Gandhi Peace Prize** from 30th April to 15th June 2020, due to the **lockdown** in the wake of the **Covid-19**.

Key Points

- ⌚ The **annual award** was instituted by the Government of India in **1995** during the commemoration of the **125th Birth anniversary of Mahatma Gandhi** for those involved in **social, economic and political transformation** through **non-violence**.
- ⌚ The award carries an amount of **Rs.1 crore**, a **Citation in a scroll**, a **plaque** as well as an **exquisite traditional handicraft/handloom item**.
- ⌚ The prize can be given to individuals, associations, institutions or organizations.
 - ⦿ It can be **divided between two persons/institutions** who are considered by the Jury to be equally deserving of recognition in a given year
 - ⦿ It is **open to all persons** regardless of nationality, creed, race or sex.
- ⌚ The prize is **not awarded posthumously**.
- ⌚ In **January 2019**, Gandhi Peace Prize was **awarded for the years 2015, 2016, 2017 and 2018**.

Mahatma Gandhi

- ⌚ **Mohandas Karamchand Gandhi** was born on **2nd October, 1869**, at **Porbandar in Gujarat** and died on **30th January, 1948**, at **Gandhi Smriti, New Delhi**.

- ⌚ He was **assassinated by Nathuram Godse** in the Birla House during his evening prayers.
- ⌚ He was a **lawyer, politician, social activist, writer** and became the **leader of the nationalist movement** against the British rule of India.
- ⌚ He is considered the **Father of the Nation**.
- ⌚ **Rabindranath Tagore** is said to have given him the title of **Mahatma**.
- ⌚ **Gandhi and his ideologies** played an important role in liberating India from the British.
- ⌚ **Gandhi's Works:**
 - ⊙ **Journals:** Young India, Navajivan, Harijan, Harijan Bandhu, Indian Opinion I and II, etc.
 - ⊙ **Books:** Hind Swaraj, Satyagraha in South Africa, The Story of My Experiments with Truth (**autobiography**), etc.
 - ⊙ **Foundations:** Natal Indian Congress (South Africa, 1894), Phoenix Settlement (South Africa, 1904), Satyagraha Ashram (Ahmedabad, 1915), Harijan Sevak Sangh (1932), Sevagram Ashram (Wardha, 1936), etc.

480th Birth Anniversary of Maharana Pratap

Why in News

Recently, the Prime Minister and Vice President of India paid tributes to **Maharana Pratap** on his **480th birth anniversary**.

Maharana Pratap

- ⌚ **Description:**
 - ⊙ Rana Pratap Singh also known as Maharana Pratap was born on May 9th 1540 in Kumbhalgarh, Rajasthan.
 - ⊙ He was the **13th King of Mewar** and was the **eldest son of Udai Singh II**
 - ⌘ Maharana Udai Singh II ruled the **kingdom of Mewar**, with his **capital at Chittor**.
 - ⌘ Udai Singh II was also a **founder of the city of Udaipur** (Rajasthan).
- ⌚ **Battle of Haldighati:**
 - ⊙ The **Battle of Haldighati** was fought in **1576** between **Rana Pratap Singh of Mewar and Raja**

Man Singh of Amber who was the **general of the Mughal emperor Akbar**.

- ⊙ Maharana Pratap fought a brave war, but was **defeated by Mughal forces**.
- ⊙ It is said that Maharana Pratap's loyal horse named **Chetak**, gave up his life as the Maharana was leaving the battlefield.
- ⌚ **Reconquest:**
 - ⊙ After 1579, the Mughal pressure relaxed over Mewar and Pratap recovered Western Mewar including Kumbhalgarh, Udaipur and Gogunda.
 - ⊙ During this period, he also built a **new capital, Chavand, near modern Dungarpur**.

Gopal Krishna Gokhale

Why in News

The Prime Minister paid tribute to **Gopal Krishna Gokhale** on his 154th birth anniversary.

- ⌚ Gopal Krishna Gokhale was a **great social reformer** and **educationist** who provided exemplary leadership to India's freedom movement.

Key Points

- ⌚ **Birth:** Gopal Krishna Gokhale was born on **9th May 1866** in **Kotluk** village in present-day **Maharashtra** (then part of the **Bombay Presidency**) in a Brahmin family.
- ⌚ **Ideology:**
 - ⊙ Gokhale worked towards social empowerment, expansion of education, struggle for freedom in India for three decades and rejected the use of reactionary or revolutionary ways.
- ⌚ **Role in Colonial Legislatures:**
 - ⊙ Between 1899 and 1902, he was a member of the Bombay Legislative Council followed by work at the Imperial Legislative Council from 1902 till his death (1915).
 - ⊙ At the Imperial legislature, Gokhale played a key role in framing the **Morley-Minto reforms of 1909**.
- ⌚ **Role in INC:**
 - ⊙ He was associated with the **Moderate Group** of **Indian National Congress (INC)** (joined in 1889).

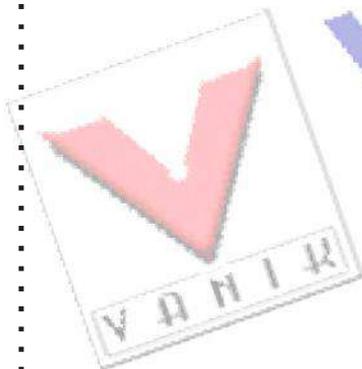


- ⌚ He became **president of INC in 1905 in Banaras session.**
- ⌘ This was the time when bitter differences had arisen between his group of '**Moderates**' and the '**Extremists**' led by **Lala Lajpat Rai** and **Bal Gangadhar Tilak** among others. The two factions split at the Surat session of 1907.
- ⌘ Despite the ideological difference, in 1907, he intensely campaigned for the release of **Lala Lajpat Rai**, who was imprisoned that year by the **British at Mandalay in present-day Myanmar.**

⌚ **Related Societies and Other Works:**

- ⌚ He established the **Servants of India Society** in 1905 for the expansion of Indian education.
- ⌚ He was also associated with the **Sarvajanik sabha journal** started by Govind Ranade.
- ⌚ In 1908, Gokhale founded the **Ranade Institute of Economics.**
- ⌚ He started english weekly newspaper, **The Hitavada** (The people's paper).
- ⌚ **Mentor to Gandhi:**
- ⌚ As a liberal nationalist, he is regarded by Mahatma Gandhi as his political guru.
- ⌚ Gandhi wrote a book in Gujarati dedicated to the leader titled '**Dharmatma Gokhale**'.

■■■



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Geography

Highlights

- ⌘ Erosion in Ladakh and Zaskar
- ⌘ Surge-type Glaciers

- ⌘ Diamer-Bhasha Dam

Erosion in Ladakh and Zaskar

Why in News

The scientists and students from the **Wadia Institute of Himalayan Geology (WIHG)** have explored the **Zaskar catchment area**.

- ⌚ The study was conducted to understand the landform evolution in transitional climatic zones, using **morphostratigraphy, Optically Stimulated Luminescence (OSL) dating and provenance analysis** of landforms like **valley fill terraces** and **alluvial fans**.
 - ⊙ **Valley Fill Terrace:** The **fill terrace** is created either a stream or river starts to incise into the material that it deposited in the valley. Once this occurs benches composed completely of alluvium form on the sides of the valley. The upper most benches are the fill terraces.
 - ⊙ **Alluvial Fans:** Triangle-shaped deposit of gravel, sand and even smaller pieces of sediment, such as silt.
- ⌚ WHIG is an **autonomous institute** under the **Department of Science & Technology**, Government of India.

Zaskar River

- ⌚ It is **one of the largest tributaries** of the **upper Indus catchment**.
- ⌚ It drains **transversely northward from the Higher Himalaya, dominated by the Indian summer monsoon, to flow through** the arid, westerlies-dominated, highly folded and thrust **Zaskar ranges in Ladakh**.
- ⌚ The **Doda** and the **Tsarap Lingti Chu confluence** at Padam to form the Zaskar, which in turn **joins the Indus at Nimu**.

- ⌚ Zaskar valley can be divided into **upper and lower divisions, separated by a gorge of nearly 60 km in length**.

Morphostratigraphy: The organization of rock or sediment strata into units based on their surface **morphology (landforms)**.

Optically-Stimulated Luminescence: It is a late Quaternary dating technique **used to date the last time a quartz sediment was exposed to light**. As sediment is transported by wind, water or ice, it is exposed to sunlight and zeroed of any previous luminescence signal.

Provenance Analysis: It aims to **determine the source region (provenance) of a sediment sample**. It is aimed to reconstruct the parent rock or rocks of sand bodies, the time of deposition of the sand and, if possible, the climate conditions during the formation of the sediments.

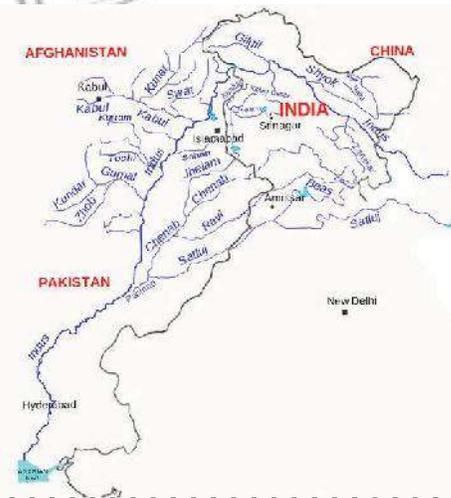
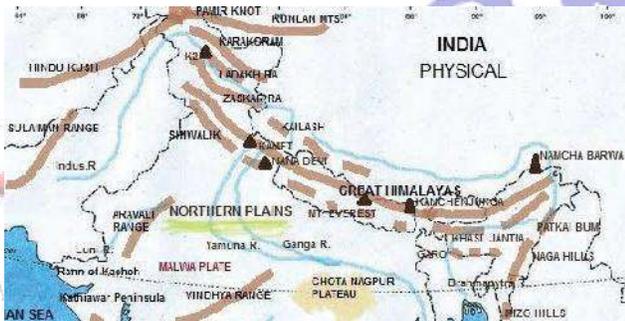
Key Findings

- ⌚ Scientists traced where the rivers draining Himalaya and its foreland erode the most and identified the zones which receive these eroded sediments and fill up.
- ⌚ The study suggested that the **wide valley of Padam in the upper Zaskar is a hotspot of sediment buffering** and has stored a vast amount of sediments.
 - ⊙ The sediment contribution from such transient basins is significant when compared to the sediment reportedly eroded from the entire **Indus system in Ladakh**.
- ⌚ Most of the sediments in the Padam valley were **derived from Higher Himalayan crystalline** that lie in the **headwater region of Zaskar**.
- ⌚ The dominant **factors responsible** for sediment erosion were **deglaciation and Indian Summer Monsoon derived precipitation** in the headwaters.

- ⌚ The provenance analysis suggested that **despite the presence of the deep narrow gorge and a low gradient**, the upper and lower Zaskar valleys remained **connected throughout their aggradational history**.

Significance

- ⌚ The study will help to **understand river-borne erosion and sedimentation**, which are the main drivers that make large riverine plains, terraces and deltas that eventually become the evolving grounds for civilizations.
- ⌚ The study brought forwards the **35 thousand-year history of river erosion and identified hotspots of erosion and wide valleys** that act as buffer zones.
- ⌚ It showed **how rivers in drier Ladakh Himalaya operated on longer time scales** and how they responded to **varying climates**.
 - ⊙ The Ladakh Himalaya forms a **high altitude desert between Greater Himalayan ranges and Karakoram Ranges** and the Indus and its tributaries are major rivers flowing through the terrain.
- ⌚ Understanding of **water and sediment routing becomes crucial** while developing infrastructure and for other development works in the river catchment area.



Surge-type Glaciers

Why in News

Scientists from the Wadia Institute of Himalayan Geology (WIHG), Dehradun have found a **seasonal advancement in 220 surging or surge-type glaciers in the Karakoram Range of Ladakh**.

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

Key Points

- ⌚ Surging or Surge-type glaciers are a certain type of glaciers that have shown **advancement in volume and length over a period of time**.
 - ⊙ Such glaciers go against the normal trend of considerable reduction in volume and length of most glaciers in the Himalaya in recent decades.
- ⌚ Surging glaciers represent **40% of the total glaciated area** of the **Karakoram range**.

Glaciers

- ⌚ Masses of ice moving as sheets over the land (continental glacier or piedmont glacier if a vast sheet of ice is spread over the plains at the foot of mountains) or as linear flows down the slopes of mountains in broad trough-like valleys (mountain and valley glaciers) are called glaciers.
- ⌚ The movement of glaciers is slow unlike water flow ranging from a few centimetres to a few meters per day. Glaciers move basically because of the force of gravity.
- ⌚ Erosion by glaciers is tremendous because of friction caused by sheer weight of the ice.
 - ⊙ The material plucked from the land by glaciers (usually large-sized angular blocks and fragments) get dragged along the floors or sides of the valleys and cause great damage through abrasion and plucking.
 - ⊙ Glaciers can cause significant damage to even unweathered rocks and can reduce high mountains into low hills and plains.
- ⌚ As glaciers continue to move, debris gets removed, divides get lowered and eventually the slope is reduced to such an extent that glaciers stop moving, leaving only a mass of low hills and vast outwash plains along with other depositional features.

- ⌚ Surging glaciers **do not flow at a constant speed**, rather are subjected to cyclical flow instabilities.
- ⌚ The oscillation of such glaciers have been broadly classified into two phases:
 - ⊙ **Active (Surge) Phase**- brief (months to years) rapid flow.
 - ⊙ **Quiescent Phase**- lengthy (tens to hundreds of years) slow flow or stagnation.
- ⌚ It was inferred that surge during winter is more controlled because there is low amount of meltwater which flows unsteadily underneath the glaciers.
- ⌚ The surging stops in summer because of the channelised flow of the melted water.

Significance of Studying Surging Glaciers

- ⌚ Surging glaciers can lead to the destruction of villages, roads and bridges.
- ⌚ They can also advance across a river valley and form an ice-dammed lake. These lakes can form catastrophic outburst floods.
- ⌚ Therefore, monitoring of glacier surges, ice-dammed lake formation and drainage is of paramount importance.

Diamer-Bhasha Dam

Why in News

Recently, Pakistan signed a contract with a joint venture of a China Power (Chinese state-run firm) and the Frontier Works Organisation (FWO-a commercial arm of Pakistan's military) for the **construction of the Diamer-Bhasha dam**.

- ⌚ The contract covers construction of a diversion system, main dam, access bridge and the 21MW Tangir hydropower project.

Key Points

- ⌚ The Diamer-Bhasha Dam is **located on the Indus River** in northern Pakistan between Kohistan district

in Khyber Pakhtunkhwa and Diamer district in Gilgit Baltistan.

- ⌚ The dam will have a gross storage capacity of 8.1 Million Acre Feet (MAF) and power generation capacity of 4500 MW.
- ⌚ With the height of 272 meters, it will be the tallest Roller Compact Concrete (RCC) dam in the world.
- ⌚ The dam project with a total financial outlay of about 1,406.5 billion Pakistani rupees would be completed in 2028.

Purpose:

- ⊙ Fulfil the increasing water and electricity requirements of the country.
- ⊙ Serve as the main storage dam of the country, besides Mangla and Tarbela dams.
- ⊙ Help alleviate acute irrigation shortage in the Indus basin irrigation system.
- ⊙ Reduce intensity, quantum and duration of floods and reduce magnitude and frequency of floods in the River Indus downstream.
- ⊙ Accelerate development and create job opportunities, besides improving availability of water and clean energy.

- ⌚ The project was approved in 2010, but it suffered delays because international lending agencies backtracked due to the opposition from India as a major part of the dam is located in Gilgit-Baltistan (one of the **disputed territories** of India) and it will cause unrest in the region.

India's Stand:

- ⊙ India has opposed the move on the grounds that Gilgit-Baltistan region is part of the erstwhile state of Jammu and Kashmir that was illegally occupied by Pakistan.
- ⊙ India has consistently conveyed her protest and shared concerns with both China and Pakistan on all such projects in the Indian territories under Pakistan's illegal occupation.
- ⊙ In the past too, India has opposed projects jointly taken up by Pakistan and China in Pakistan-occupied Kashmir (POK) as part of the **China-Pakistan Economic Corridor**.



Art & Culture

Highlights

⌘ GI Tags

⌘ Buddha Purnima

⌘ Construction of Rath Yatra Chariots Allowed

GI Tags

Why in News

Recently, Chak-Hao, the black rice of Manipur, terracotta of the Gorakhpur (Uttar Pradesh) and Kashmir saffron have received the Geographical Indication (GI) tag.

Chak-Hao Rice

- ⌚ Chak-Hao is a scented glutinous (sticky) rice which has been in cultivation in **Manipur** over centuries, and is characterised by its **special aroma**.
- ⌚ The rice is **black in colour** and takes the **longest cooking time of 40-45 minutes** due to the presence of a fibrous bran layer and higher crude fibre content.
- ⌚ It is normally eaten during community feasts and is served as Chak-Hao kheer.
- ⌚ Chak-Hao has also been used by traditional medical practitioners as part of traditional medicine.



Gorakhpur Terracotta

- ⌚ The terracotta work of Gorakhpur is a centuries-old traditional art form.
- ⌚ The entire work is done with bare hands.
- ⌚ The clay used in the terracotta products is '**Kabis**' clay which is found in the ponds of Aurangabad, Bharwalia and Budhadih village areas.



- ⌚ Also, such clay is found only in the months of May and June, as for the rest of the year, the ponds are filled with water.
- ⌚ The potters **do not use any colour**, they only dip the clay structure in a mixture of soda and mango tree barks, and bake it.
- ⌚ The red colour of terracotta does not fade for years.
- ⌚ Major products of craftsmanship include the Hauda elephants, Mahawatdar horse, deer, camel, five-faced Ganesha, single-faced Ganesha, elephant table, chandeliers, hanging bells etc.

Kashmir Saffron

- ⌚ Saffron cultivation is believed to have been introduced in Kashmir by Central Asian immigrants around the 1st Century BCE.
- ⌚ It has been associated with traditional Kashmiri cuisine and represents the rich cultural heritage of the region.
- ⌚ It is a very precious and costly product.
- ⌚ In ancient Sanskrit literature, saffron is referred to as 'bahukam'.
- ⌚ It is cultivated and harvested in the Karewa (highlands) of Jammu and Kashmir.
- ⌚ The features which differentiates it from other saffron varieties available the world over are:
 - ⌚ It is the only saffron that is grown at an altitude of 1,600 m to 1,800 m above mean sea level.
 - ⌚ It has longer and thicker stigmas, natural deep-red colour, high aroma, bitter flavour, chemical-free processing.
 - ⌚ It also has a high quantity of crocin (colouring strength), safranal (flavour) and picrocrocin (bitterness).
- ⌚ There are three types of saffron available in Kashmir — Lachha Saffron, Mongra Saffron and Guchhi Saffron.

🕒 **Uses:**

- ⦿ Kashmir saffron is used globally as a spice. It also helps in revitalizing health.
- ⦿ It is used in cosmetics and for medicinal purposes.
- 🕒 **Benefit of tag:** With the GI tag, Kashmir saffron would gain more prominence in the export market.
- ⦿ Iran is the largest producer of saffron and India is a close competitor.

Sohrai Khovar Paintings

- 🕒 The Sohrai Khovar painting is a **traditional and ritualistic mural art**.
- ⦿ A **mural** is any piece of artwork painted or applied directly on a wall, ceiling or other permanent surfaces.
- 🕒 It is being practised by local tribal women during local harvest and marriage seasons using **local, naturally available soils of different** colours in the area of **Hazaribagh district of Jharkhand**.
- 🕒 Style features a **profusion of lines, dots, animal figures and plants**, often representing religious iconography i.e. visual image and symbols.
- 🕒 It has been **painted on the walls of important public places** in Jharkhand, such as the Birsa Munda Airport in Ranchi.



Telia Rumal

- 🕒 **Telangana's Telia Rumal** cloth involves intricate handmade work with cotton loom displaying a variety of designs and motifs in three particular colors—red, black and white.
- 🕒 It is an art of Ikat tradition using **natural vegetable dyes**.
 - ⦿ **Ikkat** is a dyeing technique used to pattern textiles.
- 🕒 **Uniqueness:** Telia Rumal can only be **created using the traditional handloom process** and not by any other mechanical means as otherwise, the very quality of the Rumal would be lost.
- 🕒 The telia fabrics were **used by nobles** (Nizam's dynasty) in **Hyderabad**. The fabric was exported to Persian Gulf, Middle East, Aden, East Africa, Singapore and Burma.



Geographical Indication (GI)

- 🕒 It is an insignia on products having a unique geographical origin and evolution over centuries with regard to its special quality or reputed attributes.
- 🕒 It is a mark of authenticity and ensures that registered authorized users or at least those residing inside the geographic territory are allowed to use the popular product names.
- 🕒 GI tag in India is governed by Geographical Indications of Goods (Registration & Protection) Act, 1999. It is issued by the Geographical Indications Registry (Chennai).
- 🕒 **Benefits of GI Tag:**
 - ⦿ It provides legal protection to Indian Geographical Indications thus preventing unauthorized use of the registered GIs by others.
 - ⦿ It promotes economic prosperity of producers of goods produced in a geographical territory.
 - ⦿ The GI protection in India leads to recognition of the product in other countries thus boosting exports.

Buddha Purnima

Why in News

In 2020, Buddha Purnima is being celebrated on 7th May.

Gautam Buddha

- 🕒 He was **born** as Siddhartha Gautama in circa **563 BCE**, in a royal family in **Lumbini** which is situated near the Indo-Nepal border.
- 🕒 His family belonged to the **Sakya clan** which ruled from **Kapilvastu, Lumbini**.
- 🕒 At the age of 29, Gautama left home and rejected his life of riches and embraced a lifestyle of asceticism or extreme self-discipline.
- 🕒 After 49 consecutive days of meditation, Gautam attained **Bodhi (enlightenment)** under a pipal tree at Bodhgaya, Bihar.
- 🕒 Buddha gave his **first sermon in the village of Sarnath**, near Varanasi in **Uttar Pradesh**. This event is known as **Dharma Chakra Pravartana (turning of the wheel of law)**.

- ⌚ He died at the age of 80 in 483 BCE at Kushinagara, Uttar Pradesh. The event is known as Mahaparinibban or Mahaparinirvana.

Construction of Rath Yatra Chariots Allowed

Why in News

The Ministry of Home Affairs (MHA) has allowed the construction of chariots for the annual Rath Yatra at Jagannath Puri in Odisha.

- ⌚ It has also said that the complete segregation of the construction site should be ensured and **social-distancing norms be followed**.
- ⌚ The Rath Yatra is expected to be held on 23rd June 2020.

Key Points

- ⌚ Ratha Jatra, also called as **Chariot Festival**, is a Hindu festival associated with **Lord Jagannath** held at **Puri, Odisha**.
- ⌚ The festival is celebrated on the **2nd day of Shukla Paksha of Ashadh**, the third month, according to the traditional Oriya calendar.
- ⌚ It is a **9 day-long event** and marks the **return of Lord Krishna to Vrindavan** with his brother **Balabhadra** and sister **Subhadra** to **Gundicha Temple** via **Mausi Maa Temple** (maternal aunt's home) near Saradha Bali, Puri.

- ⌚ During the festival, the three holy chariots carrying idols of Lord Jagannath, his brother Balaram (Balabhadra) and sister Subhadra are pulled by thousands of devotees from India and abroad.

Jagannath Temple

- ⌚ The temple is believed to be constructed in the 12th century by **King Anatavarman Chodaganga Deva**



- of the **Eastern Ganga Dynasty**.
- ⌚ Jagannath Puri temple is called '**Yamanika Tirtha**' where, according to the Hindu beliefs, the power of 'Yama', the god of death has been nullified in Puri due to the presence of Lord Jagannath.
- ⌚ This temple was called the "**White Pagoda**" and is a **part of Char Dham** pilgrimages (Badrinath, Dwaraka, Puri, Rameswaram).
- ⌚ There are four gates to the temple- Eastern 'Singhdwara' which is the main gate with two crouching lions, Southern 'Ashwadwara', Western 'Vyaghra Dwara' and Northern 'Hastidwara'. There is a carving of each form at each gate.
- ⌚ In front of the entrance stands the Aruna stambha or sun pillar, which was originally at the **Sun Temple in Konark**.



Social Issues

Highlights

- ⌘ *International Workers' Day*
- ⌘ *Opposition to Permanent Bru Settlement in Tripura*
- ⌘ *Global Nutrition Report 2020*
- ⌘ *Devices for Disabled and Elderly*
- ⌘ *Data Related to Birth Rate and Death Rate*

International Workers' Day

Why in News

Every year, **1st May** is celebrated as the **International Workers' Day and as Labour Day** in different parts of the world to commemorate the contributions of workers and the historic labour movements.

- 🕒 It is a day when the **International Labour Organisation (ILO)**, nations, employers and workers from all over the world commit themselves towards the collective efforts of **promoting decent work for all**.
- 🕒 In 1889, the Second International, an organisation created by socialist and labour parties, declared that 1st May would be commemorated as International Workers' Day from then on.
- 🕒 On 1st May 1904, the International Socialist Congress at Amsterdam, the Netherlands called for the legal establishment of the 8-hour day for the class demands of the proletariat and made it mandatory upon the proletarian organisations of all countries to stop work on this day.

Historical Perspective

- 🕒 **USA**
 - ⊙ The USA celebrates Labor day on the **first Monday of September, every year**. The USA recognised the day as a federal holiday in 1894.
 - ⌘ Canada also celebrates the Labour day on the same day as the US.
 - ⊙ Labor day was designated as a day in support of workers by trade unions and socialist groups in the memory of the Haymarket affair of 1886 in Chicago, USA. It gave the workers' movement a great impetus.

- ⌘ Haymarket Affair was a peaceful rally in support of workers which led to a violent clash with the police, leading to severe casualties. Those who died were hailed as "Haymarket Martyrs".
- ⌘ Workers' rights violations, straining work hours, poor working conditions, low wages and child labour were the issues highlighted in the protest.

🕒 USSR

- ⊙ The Soviet Union and the Eastern bloc nations started celebrating the Labor day after the Russian Revolution, 1917.
- ⌘ Impact of Russian Revolution: New ideologies such as Marxism and Socialism inspired many socialist and communist groups and they attracted peasants and workers and made them an integral part of national movement.
- ⊙ It became a national holiday during the **Cold War**.

🕒 India

- ⊙ In India, Labor day was first celebrated in **1923**, after the **Labour Kisan Party of Hindustan** initiated the celebrations and Comrade Singaravelar (Singaravelu Chettiar) continued the celebrations.
- ⊙ Comrade Singaravelar was one of the leaders of the **Self Respect movement** in the Madras Presidency and passed a resolution stating the government should allow everybody a national holiday on Labour Day.

Opposition to Permanent Bru Settlement in Tripura

Why in News

In the middle of the **Covid-19 lockdown**, two community-specific groups have renewed their opposition

to the permanent settlement of Bru refugees from Mizoram in Tripura.

- ⌚ The two groups namely, Nagarik Suraksha Mancha (mostly representing Bengali people displaced from erstwhile East Pakistan post-partition in 1947) and the Mizo Convention have submitted a memorandum protesting against the proposed settlement of the displaced Brus in Tripura.

Background

- ⌚ **Bru or Reang** is a community indigenous to Northeast India, living mostly in **Tripura, Mizoram and Assam**. In **Tripura**, they are recognised as a **Particularly Vulnerable Tribal Group**.
- ⌚ In Mizoram, they have been targeted by groups that do not consider them indigenous to the state. In 1997, following ethnic clashes, nearly 37,000 Brus fled Mamit, Kolasib and Lunglei districts of Mizoram and were accommodated in relief camps in Tripura.
- ⌚ Since then, 5,000 have returned to Mizoram in eight phases of repatriation, while 32,000 still live in six relief camps in North Tripura.
 - ⦿ In June 2018, community leaders from the Bru camps signed an agreement with the Centre and the two state governments, providing for repatriation in Mizoram. But most camp residents rejected the terms of the agreement.
 - ⦿ The camp residents say that the agreement doesn't guarantee their safety in Mizoram.

Particularly Vulnerable Tribal Groups

- ⌚ In India, tribal population makes up for 8.6% of the total population.
- ⌚ Particularly Vulnerable Tribal Groups (PVTGs) are more vulnerable among the tribal groups.
- ⌚ In **1973**, the **Dhebar Commission** created Primitive Tribal Groups (PTGs) as a separate category, who are less developed among the tribal groups. In 2006, the Government of India renamed the PTGs as PVTGs.
- ⌚ PVTGs have some basic characteristics - they are mostly homogenous, with a small population, relatively physically isolated, absence of written language, relatively simple technology and a slower rate of change etc.
- ⌚ Among the **75** listed PVTG's the **highest number** are found in **Odisha**.

- ⌚ **The Centre, the governments of Mizoram and Tripura and leaders of Bru organisations signed a quadripartite agreement in January (2020)** to let the remaining 35,000 refugees who have stayed back to be resettled in Tripura.
 - ⦿ The rehabilitation package included financial assistance of Rs. 4 lakh and land for constructing a house for each family.

Global Nutrition Report 2020

Why in News

The **Global Nutrition Report 2020** stated that **India is among 88 countries that are likely to miss global nutrition targets by 2025**.

- ⌚ It also identified the country as one with the **highest rates of domestic inequalities in malnutrition**.

Global Nutrition Targets

- ⌚ In 2012, the World Health Assembly (the decision-making body of the World Health Organisation) identified six nutrition targets to be met by 2025. These are:
 - ⦿ Reduce stunting by 40% in children under 5.
 - ⦿ Reduce the prevalence of anaemia by 50% among women in the age group of 19-49 years.
 - ⦿ Ensure 30% reduction in low-birth weight.
 - ⦿ Ensure no increase in childhood overweight.
 - ⦿ Increase the rate of exclusive breastfeeding in the first six months up to at least 50%
 - ⦿ Reduce and maintain childhood wasting to less than 5%.

India's Status

- ⌚ India will **miss targets for all four nutritional indicators** for which there is data available, i.e.
 - ⦿ Stunting among under-5 children,
 - ⦿ Anaemia among women of reproductive age,
 - ⦿ Childhood overweight and
 - ⦿ Exclusive breastfeeding.
- ⌚ **Stunting and wasting among children**
 - ⦿ **Data:** 37.9% of children under 5 years are stunted and 20.8% are wasted, compared to the Asia average of 22.7% and 9.4% respectively.
 - ⦿ **Inequity:**

- ⊗ India is identified as **among the three worst countries**, along with Nigeria and Indonesia, steep within-country disparities in stunting, where the levels varied four-fold across communities.
- ⊗ **For example**, Stunting level in Uttar Pradesh is over 40% and their rate among individuals in the lowest income group is more than double those in the highest income group at 22.0% and 50.7%, respectively.
- ⊗ In addition, stunting prevalence is 10.1% higher in rural areas compared to urban areas.

⌚ **Overweight and Obesity**

- ⊗ **Data:** Rate of overweight and obesity continues to rise, affecting almost a fifth of the adults, at 21.6% of women and 17.8% of men.
- ⊗ **Inequity:** There are nearly double as many obese adult females than there are males (5.1% compared to 2.7%).

⌚ **Anaemia**

- ⊗ One in two women of reproductive age is anaemic.

⌚ **Underweight children**

- ⊗ Between 2000 and 2016, rates of underweight have **decreased** from 66.0% to 58.1% for boys and 54.2% to 50.1% in girls.
- ⊗ However, this is **still high compared to the average of 35.6% for boys and 31.8% for girls in Asia**.

Link Between Malnutrition and Inequity

- ⌚ The report emphasises on the link between malnutrition and **different forms of inequity, such as those based on geographic location, age, gender, ethnicity, education and wealth in all its forms**.
- ⌚ **Inequities in food and health systems increase inequalities in nutrition outcomes** that in turn can lead to more inequity, perpetuating a vicious cycle.
- ⌚ Coming at a time the world is battling Covid-19, which has exposed different forms of socio-economic inequities, the report calls for **promoting equity to address malnutrition**.

Malnutrition

- ⌚ Malnutrition refers to **deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients**.
- ⌚ The term malnutrition covers two broad groups of conditions.

- ⊗ One is '**undernutrition**'—which includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals).
- ⊗ The other is **overweight**, obesity and diet-related noncommunicable diseases (such as heart disease, stroke, diabetes and cancer).
- ⌚ In April 2016, the United Nations General Assembly adopted a resolution proclaiming the **UN Decade of Action on Nutrition from 2016 to 2025**.
- ⌚ The **Sustainable Development Goal (SD Goal 2: Zero hunger)** aims to end all forms of hunger and malnutrition by 2030, making sure all people – especially children – have access to sufficient and nutritious food all year round.

Global Nutrition Report

- ⌚ The Global Nutrition Report was **conceived following the first Nutrition for Growth Initiative Summit (N4G) in 2013**.
- ⊗ The first report was published in 2014.
- ⌚ It acts as a report card on the world's nutrition—globally, regionally, and country by country—and on efforts to improve it.
- ⌚ It is a multi-stakeholder initiative, consisting of a Stakeholder Group, Independent Expert Group and Report Secretariat.

Devices for Disabled and Elderly

Why in News

The Department of Science and Technology has helped in developing various assistive tools, devices and technological solutions to mitigate the impact of **Covid-19** among **Divyangjan** and **Elderly** through a programme on **Technology Interventions for Disabled and Elderly (TIDE)**.

Key Points

- ⊗ **Technology interventions for Disabled and Elderly (TIDE):**
 - ⊗ It is the Department of Science and Technology's (DST) focused initiative on **Science and Technology (S&T) interventions for the benefit of elderly and also the differently-abled Divyangjan persons** in the country.

- ⊙ In addition to **improving the quality-of-life** of the target population with appropriate and/or innovative scientific technological interventions, TIDE also aims at giving them autonomy, and independence through holistic development by creating requisite enabling environments for their empowerment.
- ⊙ Proposals on Research and Development for technological solutions with multidisciplinary approach to improve the quality of life of Elderly population and Divyangjan and in making them self sufficient are considered for financial assistance under this programme.
- 🕒 **Latest Tools and Devices to tackle Covid-19:**
 - ⊙ **e-Tool:**
 - ⌘ It aims to create awareness and impart health and hygiene related information along with education and entertainment through tablets and mobiles.
 - ⌘ It is expected to overcome loneliness of the persons with intellectual disabilities, due to Covid-19 pandemic.
 - ⊙ **Wearable sensor device:**
 - ⌘ It is a band to remotely monitor the activities of Elderly and Divyangjan staying alone or those who happen to be under quarantine or isolation wards.
 - ⌘ The device will help the elderly to get outcomes regarding the improvement in muscle strength, flexibility and endurance without physical interventions from doctors and physiotherapists.

Data Related to Birth Rate and Death Rate

Why in News

Recently, the **Registrar General of India** released data related to birth rate, death rate and infant mortality rate in its **Sample Registration System (SRS)** bulletin for 2018.

- 🕒 The rates are calculated **per one thousand of the population**.

Key Points

- 🕒 **Birth Rate:**
 - ⊙ India's birth rate has declined drastically over

the last four decades from 36.9 in 1971 to 20.0 in 2018.

- ⊙ The rural-urban differential has also narrowed. However, the birth rate has continued to be higher in rural areas compared to urban areas.
- ⊙ **Bihar (26.2)** continues to remain at the top of list in birth rate while **Andaman and Nicobar (11.2)** is at the bottom.
- ⊙ Birth rate is a **crude measure of fertility of a population** and a **crucial determinant of population growth**.
- 🕒 **Death Rate:**
 - ⊙ The death rate of India has witnessed a significant decline over the last four decades from 14.9 in 1971 to 6.2 in 2018.
 - ⊙ In the last decade, death rate at an all-India level has declined from 7.3 to 6.2.
 - ⊙ The decline has been steeper in rural areas.
 - ⊙ **Chhattisgarh has the highest death rate** at 8 and **Delhi**, an almost entirely urban state, **has a lowest death rate** of 3.3.

Sample Registration System

- 🕒 It is a **demographic survey** for providing reliable annual estimates of infant mortality rate, birth rate, death rate, and other fertility and mortality indicators at the national and sub-national levels.
- 🕒 It was initiated on a pilot basis by the **Registrar General of India** in a few states in 1964-65, it became fully operational during 1969-70.
- 🕒 The **field investigation** consists of continuous enumeration of births and deaths in selected sample units by resident part time enumerators, generally anganwadi workers & teachers, and an independent survey every six months by SRS supervisors. The data obtained by these two independent functionaries are matched.

Registrar General of India

- 🕒 Registrar General of India was founded in **1961** by the Government of India under the **Ministry of Home Affairs**.
- 🕒 It arranges, conducts and analyses the results of the **demographic surveys** of India including **Census of India** and **Linguistic Survey** of India.
- 🕒 The **position of Registrar** is usually held by a **civil servant holding the rank of Joint Secretary**.

- ⊙ Mortality is one of the **basic components of population change**. The data related to it is essential for demographic studies and public health administration.
- ⌚ **Infant Mortality Rate:**
 - ⊙ IMR has decreased to 32 about one-fourth as compared to 1971 (129).

- ⊙ The IMR at an all-India level has declined from 50 to 32 in the last decade.
- ⊙ **Madhya Pradesh has the highest** IMR of 48 and **Nagaland has the lowest** IMR of 4.
- ⊙ **Infant mortality** is the number of deaths of children under one year of age per 1000 live births.



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Security

Highlights

⌘ *Combating Bioterrorism*

⌘ *Army's Proposal of 3 Year Tenure for Civilians*

⌘ *Abolition of Posts in MES*

Combating Bioterrorism

Why in News

The **Covid-19** pandemic has exposed the vulnerability of several world powers in the event of use of **biological weapons** against them by rogue states and terrorist groups.

- ⌚ The **United States, Britain and the Soviet Union** were involved in developing complex biological weapons programs **after World War II** and several nations continue to do so currently as well.

Key Points

- ⌚ **Bioterrorism or Biological Attack:**
 - ⦿ It is the intentional release of viruses, bacteria, or other germs that can sicken or kill people, livestock or crops.
- ⌚ **Biological Weapons:**
 - ⦿ They use microorganisms and natural toxins to produce disease in humans, animals, or plants.
 - ⦿ Biological weapons can be **derived from: bacteria, viruses, rickettsia, biological toxins and fungi.**
 - ⦿ These agents can be **deployed as biological weapons** when **paired with a delivery system**, such as a **missile or aerosol device.**
 - ⦿ **Bacillus anthracis**, the bacteria that causes **anthrax**, is one of the most likely agents to be used in a biological attack.
 - ⦿ The most destructive bioterrorism scenario is the **airborne dispersion of pathogens** over a major population region.
 - ⦿ **Tropical agricultural pathogens or pests** can be used as anticrop agents to hamper the food security worldwide.

- ⌚ It is a **substantial threat** because small amounts of biotic agents can be **effortlessly hidden, transported and discharged** into vulnerable populations.
- ⌚ It can **impact and expose military and civilian susceptibilities** to biological weapons and to the complexity of offering ample safeguards.
- ⌚ Bioweapons experts believe that **currently bioterrorists probably lack the biotechnological capability** to produce-super pathogens or super pests.

Covid-19: Bioweapon or Not

- ⌚ **Novel-coronavirus** is **alleged** to have **originated in bats.**
- ⌚ Some intelligence agencies initially proclaimed that coronavirus **occurred naturally** but later on, they **claimed that the pandemic might have begun from the Wuhan lab in China** after the researchers were probably able to figure out how bat coronaviruses could mutate to attack humans.
- ⌚ However, there is **no proof that the pandemic virus was engineered or manipulated**, yet.
- ⌚ In the **Indian context**, with the existence of **hostile neighbours** like Pakistan and China, the **threat of biological warfare becomes important** and cannot be ruled out entirely.

Combating Bioterrorism

- ⌚ The **European Union (EU), Russia and China** are finding ways to deter bioterrorism and biowarfare. The aim is to make it **harder for terrorists to obtain the resources** for designing biological weapons.
- ⌚ These efforts should include:
 - ⦿ **Intelligence Sharing & Rapid Detection**
 - ⌘ Global intelligence agencies should operate together and share credible intelligence.
 - ⌘ Combining human resources, laboratory resources and information supervision in novel,

legal and satisfactory ways that allow for timely detection and categorization of hazards.

- ⌘ Rapid detection and surveillance are important for an efficient response to a bioterror strike.

⓪ **Pathogen Analysis**

- ⌘ Speedy, uniform techniques that allow for the discovery of an extensive range of pathogens used as biological weapons in a measurable fashion.
- ⌘ Pathogens are a usual part of the environment and can complicate detection attempts.

⓪ **Strengthening the Biological and Toxin Weapons Convention**

- ⌘ The **Biological and Toxin Weapons Convention (BTWC) of 1972** prohibits signatory nations to develop, produce, stockpile or otherwise, acquire or retain:

- **Microbial or other biological agents** or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes.

- Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.

- ⌘ However, there is no exact authentication method that can ensure compliance with the BTWC. Therefore, efforts must be made to strengthen the BTWC so that it helps to uncover and successfully prevent biological weapons programs.

- ⌘ **India ratified and pledged to abide by its obligations in 2015.**

⓪ **Biodefense Systems**

- ⌘ Upgrading and installing biodefense systems in major urban conglomerates to protect against deadly disease outbreaks initiated by bioterrorism.

- During the **Cold War**, Soviet Union had set up several Biodefense systems across the country.

- ⌘ Developing and stockpiling vaccines and antimicrobial medicines that can be used to defend the people against infections triggered by biological weapons.

- ⌘ Coaching first responders on how to deal with a biological weapons attack.

- ⌘ Refining diagnostic laboratory capability and epidemiological capabilities.

Way Forward

- ⌚ The **studies** conducted to assess the actual efficiency of counter bioterrorism measures are **insufficient** which needs to be changed.
- ⌚ It becomes important that **engaged and methodical efforts in studying** the efficiency of counter bioterrorism measures are **applied in a meticulous way**.
- ⌚ It should be taken into account that the implementation of some specific counter bioterrorism practices can **possibly have consequences** with respect to human rights, institutional liberties, fundamental democratic values and the Rule of Law.

Army's Proposal of 3 Year Tenure for Civilians

Why in News

Recently, the Army has proposed 3 years of voluntary **Tour of Duty (ToD)** for civilians on a trial basis.

Key Points

- ⌚ **Proposal:**
 - ⓪ The Army plans to take civilians on a three- year **'Tour of Duty' (ToD) or 'Three-year Short Service' on a trial basis** to serve in the force as both officers and Other Ranks (ORs).
 - ⓪ The proposal suggests **several measures to incentivise** this scheme like a tax-free income for three years and a token lump sum at the end of three years of about Rs.5-6 lakh for officers and Rs.2-3 lakh for ORs.
 - ⓪ However, there will be no severance packages, resettlement courses, professional encashment training leave, ex-Servicemen status, ex-Servicemen Contributory Health Scheme (ECHS) for the ToD officers and other ranks.
 - ⓪ The proposal is a shift from the **concept of permanent service/job** in the Armed Forces, towards **internship/temporary experience for three years**.
 - ⓪ If approved it will be a **voluntary engagement** and there will be no dilution in selection criteria.

- ⌚ The Army hopes that this would attract individuals from the best colleges, including the Indian Institute of Technology.
- ⌚ **Rationale behind the Proposal:**
 - ⌚ There is a “resurgence of nationalism and patriotism” in the country and the proposal attempts to tap the feeling of the youths who do not want to join the Army as a profession but wish to experience military life for a temporary duration.
- ⌚ **Expected Benefits to the Army:**
 - ⌚ **Reduction of Financial Burden:** The cost of a three-year service per officer will be a fraction of the cost incurred on Short Service Commission (SSC) officers, which includes cost of pre-commission training, pay, allowances, gratuity, leave encashment among others.
 - ⌚ **Modernisation of Army:** The reduced financial burden will shift the focus towards modernisation of the army in terms of training, arms and equipment.
- ⌚ **Expected Benefits to the Youth:**
 - ⌚ It will not only provide a job with higher salary but also ensures a placement in corporate sectors after retirement as the corporate sector will prefer to hire such youths rather than fresh graduates.
 - ⌚ It has been seen that corporates favour individuals who have been trained by the military at 26 or 27 years of age.
- ⌚ **Benefits to the Nation:**
 - ⌚ It will help to channelise the youth energy into positive utilisation of their potential.
 - ⌚ Rigorous military training and habits inculcation will lead to healthy citizenry.
 - ⌚ The entire nation will benefit from trained, disciplined, confident, diligent and committed young men or women who have done the three-year service.

Abolition of Posts in MES

Why in News

Recently, the **Defence Minister of India** has approved a proposal for the **abolition of a number of posts in the Military Engineering Service (MES)**.

- ⌚ This move is in lines with the recommendations of the **Lt. Gen. D.B. Shekatkar (Retd.) Committee**.

- ⌚ MES is the infrastructure development agency for the armed forces and defence establishments.

Key Points

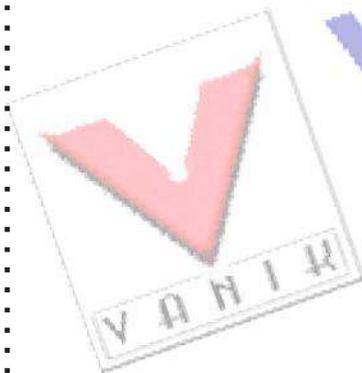
- ⌚ **Optimum Utilisation of Resources:** This step of abolition of around 9000 posts of basic and industrial staff will lead to significant savings.
 - ⌚ Almost 70% of the budget is used for payment of salaries and allowances and leaves very little money for actual infrastructural development.
- ⌚ **Restructuring of Workforce:** The committee also recommended to restructure the civilian workforce in a manner that the work of the MES could be partly done by departmentally employed staff and other works could be outsourced.
- ⌚ **Projected Savings:** The recommendations can save up to Rs.25,000 crore in defence expenditure, if implemented over the next five years.
 - ⌚ According to [Stockholm International Peace Research Institute \(SIPRI\)](#), India was among the top three top military spenders in the world in 2019 after the US and China.

Shekatkar Committee

- ⌚ It was a 11-member committee, appointed by the erstwhile Defence Minister in mid-2016.
- ⌚ It was headed by Lt. Gen. D.B. Shekatkar (Retd).
- ⌚ It had the mandate to suggest measures to enhance combat capability and rebalance defence expenditure of the armed forces.
- ⌚ It submitted its report in December 2016.
- ⌚ **Recommendations:**
 - ⌚ It made about 99 recommendations from optimising defence budget to the need for a Chief of the Defence Staff.
 - ⌘ Of these, the first batch of 65 recommendations pertaining to the Army were approved in August 2017.
 - ⌚ It recommended that **India's defence budget** should be in the range of **2.5-3% of GDP (Gross Domestic Product)**, in view of current and future threats.
 - ⌚ It had also suggested the establishment of a **Joint Services War College for training of middle-level officers**, with three separate war colleges at Mhow (Madhya Pradesh), Secunderabad (Telangana) and Goa, focusing on training younger officers.

- ① The committee had also mooted for the **Military Intelligence School** at Pune to be converted to a tri-service intelligence training establishment.
- ① The recommendations on the creation of the **Chief of Defence Staff** post and a **Department of Military Affairs** have been already implemented.
- ① Restructuring of Army headquarters
 - ⌘ The Army headquarters had instituted 4 studies with an overall aim to **enhance the operational and functional efficiency** of the force, optimize budget expenditure, facilitate modernization and address aspirations.
 - ⌘ These studies are Re-organisation and right-sizing of the Indian Army, Re-organisation of the Army Headquarters, Cadre review of officers and Review of terms of engagement of rank and file.
- ① Government Owned Contractor Operated (GOCO) Model
 - ⌘ In the model, the assets owned by the government are **operated by the private industries**.
 - ⌘ The main advantage of the model is that it is efficient and will boost competitiveness among the private entities.
- ① Closure of Military Farms and Army Postal Establishments in peace locations.
- ① Other recommendations which have been implemented include, optimisation of signals establishments, restructuring of repair units, redeployment of ordnance echelons, better utilisation of supply and transportation units and animal transport entities, etc.

■ ■ ■



Miscellaneous

Highlights

- ⌘ Indian Photojournalists Won Pulitzer Prize
- ⌘ National Centre for Polar and Ocean Research and Covid-19
- ⌘ Vande Bharat Mission
- ⌘ National Technology Day
- ⌘ Parkinson's Disease
- ⌘ World Red Cross Day
- ⌘ National Biomedical Resource Indigenization Consortium

Indian Photojournalists Won Pulitzer Prize

Why in News

Recently, five Indian photojournalists won the 2020 Pulitzer Prize for feature photography.

Key Points

- ⌚ Pulitzer Prize is awarded for **outstanding public service and achievement in American journalism, letters, and music.**
- ⌚ It is awarded in the name of **Joseph Pulitzer**, a newspaper publisher who gave money in his will to Columbia University to launch a journalism school and establish the Prize.
- ⌚ It was established in **1917** and is administered by Columbia University and Pulitzer Prize Board.
- ⌚ Each winner receives a certificate and a US\$15,000 cash award. The winner in the public service category is awarded a gold medal.

National Centre for Polar and Ocean Research and Covid-19

Why in News

National Centre for Polar and Ocean Research, Goa has contributed in the fight against **Covid-19 pandemic** through significant analytical work in the different laboratories for research work.

- ⌚ It also actively participated in the various webinars and sessions organized by the Ministry of Earth Sciences during the lockdown.

National Centre for Polar and Ocean Research

- ⌚ National Centre for Polar and Ocean Research (NCPOR) was established as an autonomous Research and Development Institution of the **Ministry of Earth Sciences** in **1998**.
- ⌚ It is located in **Goa**.
- ⌚ It is the nodal agency for planning, promotion, coordination and execution of the entire gamut of **polar and southern ocean scientific research** in the country as well as for the associated logistics activities.
- ⌚ Its responsibilities include:
 - ⌚ Management and upkeep of the Indian **Antarctic Research Bases "Maitri" and "Bharati"**, and the **Indian Arctic base "Himadri"**.
 - ⌚ Management of the **Ministry's research vessel ORV Sagar Kanya** as well as the **other research vessels** chartered by the Ministry.
 - ⌚ **Scientific research activities** being undertaken by several national institutions and organizations in Antarctica, the Arctic and in the Indian Ocean sector of the Southern Ocean.
 - ⌚ Geoscientific surveys of the country's **Exclusive Economic Zone (EEZ)** and its extended continental shelf beyond 200m, deep-sea drilling in the Arabian Sea basin through the **International Ocean Discovery Program (IODP)**, exploration for ocean non-living resources such as **gas hydrates** and multi-metal sulphides in mid-ocean ridges.
- ⌘ IODP is an international marine research collaboration that explores Earth's history and dynamics using ocean-going research platforms to recover data recorded in seafloor sediments and rocks and to monitor seafloor environments.

Vande Bharat Mission

Why in News

The Indian nationals stranded overseas due to the global **coronavirus lockdown** are expected to return under the **Vande Bharat Mission**.

- Further, the Indian Navy has also launched **Operation “Samudra Setu”** (sea bridge) to repatriate Indian citizens from overseas.

Key Points

- Vande Bharat Mission is the biggest evacuation exercise to bring back Indian citizens stranded abroad amidst the **coronavirus**-induced travel restrictions.
 - It is also considered as the largest exercise to bring back Indian citizens since the evacuation of 177,000 from the Gulf region in the early 1990s at the start of hostilities between Iraq and Kuwait during the first Gulf War.
- The mission has given **priority to Indian citizens** with **“compelling reasons to return”** – like those whose employment have been terminated, those whose visas have expired and not expected to be renewed under the present circumstances and those who have lost family members in recent times.
- Under the repatriation plan, the government will be facilitating the return of Indian nationals stranded abroad on compelling grounds in a **phased manner**.
- Air India and its subsidiary Air India Express will operate **64 flights** to bring back **stranded Indians** from **12 countries**.
- The entire **cost of travel** will be borne by the passengers under the mission.

Operation Samudra Setu

- The program named **Samudra Setu by Indian navy** entails to bring back around two thousand Indians in two ships during the first phase of evacuation.
- INS Jalashwa and INS Magar** are being operated as part of efforts to repatriate Indian nationals from foreign shores.

National Technology Day

Why in News

India observes its National Technology Day on **11th May** every year.

Key Points

- The day which was **first observed on 11 May, 1999**, aims to commemorate the scientific and technological achievements of Indian scientists, engineers. The day was **named by the former Prime Minister Atal Bihari Vajpayee**.
- Every year, the **Technology Development Board of India** (a statutory body under the Ministry of Science and Technology) celebrates the day by awarding individuals with National Award for their contribution to science and technology in India.
- The focus this year is **‘Rebooting the economy through Science and Technology.’**

Significance

- It is the day India successfully tested **nuclear bombs in Pokhran on May 11, 1998**.
 - India successfully test-fired its Shakti-1 nuclear missile in operation called Pokhran-II, also codenamed as **Operation Shakti**.
 - The nuclear missile was tested at the Indian Army’s Pokhran Test Range in Rajasthan. This was the second test which was **conducted after Pokhran-I** codenamed **Operation Smiling Buddha**, in May 1974.
- On the same day, India performed a successful test firing of the **Trishul Missile** (surface to air short range missile) and had test flown the first indigenous aircraft – **‘Hansa – 3’**.

Parkinson’s Disease

- Parkinson’s disease is a **chronic, degenerative neurological disorder** that affects the central nervous system.
- It damages nerve cells in the brain **dropping the levels of dopamine**. Dopamine is a chemical that sends behavioural signals from the brain to the body.
- The disease causes a variety of **“motor” symptoms** (symptoms related to movement of the muscles), including rigidity, delayed movement, poor balance, and tremors.

- ⌚ Medication can help control the symptoms of the disease but it **can't be cured**.
- ⌚ It affects the age group from 6 to 60 years. Worldwide, about 10 million people have been affected by this disease.

World Red Cross Day

Why in News

Recently, the World Red Cross Day was celebrated by the **Indian Red Cross Society (IRCS)**.

Key Points

- ⌚ World Red Cross Day is observed on **8th May**, on the **birth anniversary** of **Henry Dunant**, who was the **founder** of the **International Committee of the Red Cross**.
 - ⊙ Henry Dunant was also the **recipient of the first Nobel Peace Prize**.

Indian Red Cross Society

- ⌚ IRCS is a **voluntary humanitarian organization** to protect human life and health with the help of its network of over 1100 branches throughout India.
- ⌚ It was **established in 1920** and has completed its 100 years of existence.
- ⌚ It is a **part of** the largest independent humanitarian organisation in the world, the **International Red Cross and Red Crescent Movement**.
- ⌚ Its **mission** is to provide relief at the time of disasters/emergencies and also promotes healthcare facilities among vulnerable people and communities.
- ⌚ The **President of India** is the President and the **Union Health Minister** is the Chairman of the Society.
- ⌚ **Aim:** To inspire, initiate and encourage all kinds of humanitarian activities under all times and circumstances.
- ⌚ **Programmes:** Promotion of humanitarian principles and values, disaster response, disaster preparedness and health and care.

- ⌚ The Red Cross Society is **based on 7 principles** namely, humanity, impartiality, neutrality, independence, voluntary, unity and universality.

National Biomedical Resource Indigenization Consortium

Why in News

Recently, the Department of Biotechnology (DBT) has launched a **National Biomedical Resource Indigenization Consortium (NBRIC)** to drive **indigenous innovation** focused on developing reagents (used in chemical reactions), diagnostics, vaccines and therapeutics for **Covid-19**.

- ⌚ It is a **Public Private Partnership (PPP)** hosted and led by the **Centre for Cellular and Molecular Platforms (C-CAMP)**.

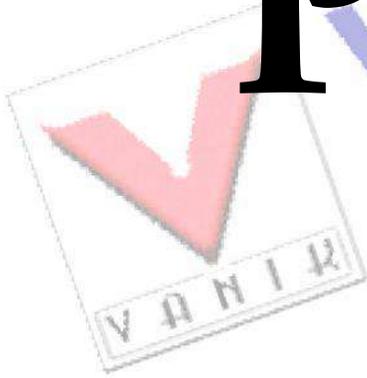
Key Points

- ⌚ It is a **'Make in India' initiative** for biomedical research and innovative products, towards promoting import substitution and exports.
- ⌚ It aims to establish a **nation-wide collaborative platform** for convergence of research, product resources and services towards developing reagents, diagnostics, vaccines, and therapeutics across India.
- ⌚ It **identifies providers/manufacturing enterprises** of crucial bio-medical resources and **connects** them with policy makers as well as with other stakeholders from public and private sectors.

Centre for Cellular and Molecular Platforms

- ⌚ It is one of the centers for technology-based **innovation and entrepreneurship in the field of life sciences** under the **DBT**.
- ⌚ It intends to develop state-of-the-art technologies and to provide training on these technologies to academia and industry.

PART-2



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Polity and Governance

Highlights

- ⌘ NHRC's Notice to Government on Migrant Deaths
- ⌘ Domicile Certificates in J&K
- ⌘ Associate Members to Delimitation Commission
- ⌘ Hindi as Official Court Language in Haryana
- ⌘ Misuse of Criminal Defamation Law: Madras HC
- ⌘ Antitrust Case Against Google
- ⌘ Social Protection Response Programme
- ⌘ National Migrant Information System
- ⌘ Star Rating of Garbage Free Cities
- ⌘ Pradhan Mantri Vaya Vandana Yojana Extended
- ⌘ Rajiv Gandhi Kisan Nyay Yojana
- ⌘ TRAI Recommends New Numbering Plan
- ⌘ CoAST India

NHRC's Notice to Government on Migrant Deaths

Why in News

The **National Human Rights Commission (NHRC)** has issued notices to the Union Home Ministry, the Railway Board and the Bihar and Gujarat governments in connection with the reported deaths of some migrant workers on Shramik Special trains and the lack of food and water for the passengers on these trains.

Key Points

- ⌚ The government had **started Shramik Special trains from 1st May, 2020** to ferry migrant workers back to their home States after they were stranded in different parts of the country due the **Covid-19** induced lockdown
- ⌚ Most of these poor migrants were daily wage workers who lost their work and livelihood as businesses and establishments shut down. In the absence of money and jobs, and bereft of any food, savings, or shelter in large cities, they started moving back to their villages.
- ⌚ The **NHRC took suo motu (on its own) cognisance of media reports** about the trains not only starting late, but also taking many more days to reach their destinations.
 - ⌚ Many migrant labourers lost their lives during their journey due to the longer duration and

the absence of arrangements for drinking water and food.

- ⌚ The Commission observed that the contents of the media reports, if true, amount to **gross violation of human rights**. The State has failed to protect the lives of the poor labourers on board the trains.
- ⌚ The NHRC has issued notices to the Chief Secretaries of Bihar and Gujarat governments, the chairman of the Railway Board and the Union Home Secretary, **seeking their reports within four weeks**.
- ⌚ Also, recently, **the Supreme Court directed that the State from** where workers started their journey and the State where they were headed should pool their travel expenses between them.
 - ⌚ During the train journey, railways would be in charge of providing migrant workers drinking water and meals. In case of bus journeys, the State where they started from had to take care of their food and water.

Way Forward

- ⌚ The Centre **does not seem to have a nationwide action plan** to tally the exact number of labourers stranded in various parts of the country. The government should work with the grass roots administrative mechanism, including the district and panchayats, to create lists accurately identifying the stranded workers.
- ⌚ Preparing a **comprehensive database of the migrant workers' source** and destination, demography, employment patterns and skill sets.

Note:

National Human Rights Commission

- 🕒 **Statutory Body:** NHRC was established on 12th October, 1993. The statute under which it is established is the Protection of Human Rights Act (PHRA), 1993 as amended by the Protection of Human Rights (Amendment) Act, 2006.
 - ⦿ The **PHRA Act** also provides for the creation of a State Human Rights Commission at the state level.
- 🕒 **In Line with Paris Principles:** Paris Principles were adopted for the promotion and protection of human rights in October 1991, and were endorsed by the General Assembly of the United Nations in 1993.
- 🕒 **Watchdog of Human Rights in the Country:** The NHRC is an embodiment of India’s concern for the promotion and protection of human rights.
 - ⦿ **Section 2(1)(d) of the PHRA** defines Human Rights as the rights relating to life, liberty, equality and dignity of the individual guaranteed by the Constitution or embodied in the International Covenants and enforceable by courts in India.
- 🕒 **Composition:** The commission is a **multi-member body** consisting of a **chairman and five members**. The chairperson should be a retired chief justice of India or a judge of the Supreme Court.
- 🕒 **Appointment:** The chairman and members are appointed by the President on the recommendations of a six-member committee consisting of the Prime Minister as its head, the Speaker of the Lok Sabha, the Deputy Chairman of the Rajya Sabha, leaders of the Opposition in both the Houses of Parliament and the Union Home Minister.
- 🕒 **Tenure:** The chairman and members hold office for a term of three years or until they attain the age of 70 years, whichever is earlier.
 - ⦿ The President can remove the chairman or any member from the office under some circumstances.
- ⦿ It will help in **skill development**, providing social security benefits, planning for mass transit of migrant labour and preparing for any contingency plan in emergency situations.
- 🕒 Migrant workers related issues have complex Centre-State and inter-State dimensions. There is a need to empower the **Inter-State Council**, set up under Article 263 of the Constitution to effectively and comprehensively deal with larger issues related to migrant workers.

Domicile Certificates in J&K

Why in News

- Recently, the Jammu and Kashmir administration notified the J&K Grant of Domicile Certificate (Procedure) Rules 2020.
- 🕒 It **amended the rules for issuing domicile certificates** in the Union territory.
 - 🕒 The new rules provide a **simple time-bound and transparent procedure** for issuance of domicile certificates.

Key Points

- 🕒 **J&K Grant of Domicile Certificate (Procedure) Rules 2020:**
 - ⦿ It would provide the basis for issuing domicile certificates to those who meet the **conditions as stated in the Centre’s gazette notification** that introduced the **domicile clause** through an **amendment to the Jammu and Kashmir Civil Services (Decentralisation and Recruitment) Act, 2010**.
 - ⦿ **Domicile certificates** have now been made a **basic eligibility condition for appointment to any post** under the Union Territory of J&K.
 - ⦿ Under the amended rules, **eligible non-locals** can also apply for the certificate. The new process will allow **West Pakistan refugees, safai karamcharis and children of women who married non-locals** to apply for jobs.
- 🕒 **Domicile:**
 - ⦿ Under **Jammu and Kashmir Reorganisation (Adaptation of State Laws) Order 2020**, **domicile** is defined as **any person who has resided for a period of 15 years in the UT of J&K or has studied for a period of seven years and appeared in class 10th and 12th examination in an educational institution located in the UT of J&K**.
- 🕒 **Time Stipulated under the Rules:**
 - ⦿ It sets a fast track process in motion to **issue the certificates within a stipulated time of 15 days**.
 - ⦿ If the application is processed within 15 days, the appellate authority will direct **tehsildars** to issue the **certificate within seven days**.
 - ⦿ Any officer not able to issue the certificate within the stipulated time would be **penalised Rs 50,000**, to be recovered from his salary.

Note:

🕒 **Eligibility:**

- ⊙ **Permanent Residents:** All Permanent Resident Certificate (PRC) holders and their children living outside J&K can apply for the certificates.
- ⊙ **Migrants:** Kashmiri migrants living in or outside J&K can get domicile certificates by producing their PRC, ration card copy, voter card or any other valid document.
- ⊙ **Government Officials:** Central government officials, All India Service officers, officials of Public Sector Undertakings, autonomous bodies of the Central Government, Public Sector Banks, Statutory bodies, Central Universities and recognised research institutes of the Central Government, who have served in the **UT of J&K for a total period of ten years**, are eligible for the certificate.

Associate Members to Delimitation Commission

Why in News

Recently, the Lok Sabha Speaker has nominated 15 MPs from **Jammu and Kashmir, Assam, Manipur, Nagaland and Arunachal Pradesh** to assist the **Delimitation Commission** in **redrawing the Lok Sabha and the Assembly constituencies** of the northeastern States and the Union Territory of Ladakh.

- 🕒 The appointments were made **after the Delimitation Commission's request** to the **presiding officers of Lok Sabha and the Assemblies** to nominate associate members.

Key Points

🕒 **Description:**

- ⊙ The government has constituted a Delimitation Commission to **redraw Lok Sabha and assembly constituencies of the Union Territory Jammu and Kashmir** and the northeastern states of Assam, Arunachal Pradesh, Manipur and Nagaland.
- ⊙ It is headed by the **former Supreme Court judge Ranjana Prakash Desai**.
- 🕒 **Delimitation in Jammu and Kashmir:**
 - ⊙ The Commission intends to delimit the constituencies of Jammu and Kashmir (J&K) in **accordance with the provisions of the Jammu and Kashmir Reorganisation Act (2019)**.

- ⊙ According to Jammu and Kashmir Reorganisation Act, 2019, the number of seats in the Legislative Assembly are to increase with due reservations for SC and STs. It also includes few seats reserved for Pakistan occupied Jammu and Kashmir.

- ⊙ The J&K experienced the **last delimitation exercise in 1995**.

- ⊙ It has often been argued that the delimitation exercise was held back deliberately to ensure greater representation of Kashmir in the legislative assembly and Parliament rather than Jammu area.

🕒 **Delimitation in Northeastern States:**

- ⊙ The delimitation in Assam, Arunachal Pradesh, Manipur and Nagaland will be carried out in accordance with the provisions of the **Delimitation Act, 2002**.
- ⊙ The delimitation exercise in **Assam** will be **resumed after 12 years** which was **put on hold in 2008** after situation in the state was reported not to be conducive because of **serious threat to the peace and public order**.

Delimitation Commission

🕒 **Establishment:**

- ⊙ The Delimitation Commission is **appointed by the President of India** and works in **collaboration with the Election Commission of India**.
- ⊙ Delimitation literally means the act or process of fixing limits or boundaries of territorial constituencies in a country to represent changes in population.

🕒 **Constitutional Basis:**

- ⊙ **Article 82** provides the Parliament enacts a Delimitation Act after every Census.
 - ⊙ The **Census Act (1948)** provides for the permanent scheme of conducting population Census. It is carried out in a **ten years interval**.
- ⊙ **Article 170** provides division of State into territorial constituencies as per Delimitation Act after every Census.
- ⊙ Once the Act enacted by the Parliament is in force, the Union government sets up a Delimitation Commission.
- ⊙ The **first delimitation exercise** was carried out by the President (with the help of the Election Commission) in 1950-51.
 - ⊙ The **Delimitation Commission Act** was enacted in **1952**.

Note:

⌚ **Composition:**

- ⊙ It is usually composed of the retired Supreme Court judge, Chief Election Commissioner and Respective State Election Commissioners.

⌚ **Objectives:**

- ⊙ To provide **equal representation** to equal segments of a population.
- ⊙ **Fair division of geographical areas** so that one political party doesn't have an advantage over others in an election.
- ⊙ To follow the principle of **"One Vote One Value"**.

⌚ **Functions:**

- ⊙ It determines the **number and boundaries of constituencies** to make the population of all constituencies nearly equal.
- ⊙ It also identifies the **seats reserved for Scheduled Castes and Scheduled Tribes**, wherever their population is relatively large.
- ⊙ In case of difference of opinion among members of the Commission, the **opinion of the majority** prevails.
- ⊙ The Delimitation Commission in India is a **high power body** whose orders have the force of law and **cannot be called in question before any court**.

⌚ **Current Status:**

- ⊙ The **42nd Amendment Act of 1976** froze the allocation of seats in the Lok Sabha to the states and the division of each State into territorial constituencies till the year 2000 at the 1971 level.
- ⊙ Further, the **84th Amendment Act of 2001** extended this ban on readjustment for another **25 years (i.e., upto year 2026)**, without affecting the total number of seats based on the 1971 census.
 - ⌘ The 84th Amendment Act of 2001 also empowered the government to undertake readjustment and rationalisation of territorial constituencies in the states on the basis of the **population figures of 1991 census**.
 - ⌘ Later, the **87th Amendment Act of 2003** provided for the delimitation of constituencies on the **basis of the 2001 census** and not 1991 census.

Way Forward

- ⌚ The appointment of associated members from the respective States will help the delimitation commission **to resolve grievances of these States** as stated above.

- ⌚ The involvement of associate members from Lok Sabha and Assemblies will also help to **maintain transparency and integrity of the delimitation commission** which strives for equal representation to equal segments of the population in the country.

Hindi as Official Court Language in Haryana

Why in News

Recently, the Haryana government's decision to **enforce use of Hindi** in all **courts and tribunals** across the state has been challenged in the **Supreme Court**.

- ⌚ A petition has been filed to challenge the **new Section 3A** incorporated into the Haryana Official Language (Amendment) Act, 2020.
- ⌚ Petitioners argue that the amendment was made with the assumption that everyone practising law in Haryana not only knows Hindi but is also fluent in it.

Key Points

- ⌚ **The Haryana Official Language (Amendment) Act, 2020:**
 - ⊙ The amendment has been made to the **Haryana Official Languages Act, 1969**, by introducing a **new section 3A**, designating **Hindi as the sole official language** to be used for conducting work in all **Civil Courts** and **Criminal Courts** in Haryana subordinate to the High Court of Punjab and Haryana, all **revenue Courts** and **rent tribunals** or any other court or tribunal constituted by the State Government.
 - ⊙ The amendment also states that the state government shall provide the requisite infrastructure, translators and training of staff within six months of the commencement of the amended Act.
- ⌚ **Arguments against the Amendment:**
 - ⊙ **Unconstitutional and Arbitrary:**
 - ⌘ Imposition of Hindi as the sole official language to be used in lower courts across the State would create an unreasonable classification between Hindi and non-Hindi speaking advocates.
 - ⌘ The amendment is a violation of the **fundamental right** to equality (**Article 14**), freedom to practice a profession of choice (**Article 19**), dignity and livelihood and personal liberty (**Article 21**) as guaranteed under the Constitution.

Note:

⊙ **Use of English in the Courts:**

- ⊗ English is widely used by advocates in the subordinate judiciary and the lower courts.
- ⊗ Imposing Hindi will create problems for practising lawyers since the level of fluency and expertise needed to argue and represent a matter in Hindi is much more than a simple understanding of the language.

⊙ **The State as an Industrial Hub:**

- ⊗ There are a significant number of lawyers who would not be able to argue their cases to the fullest in Hindi as most cases are related to industry sectors.

⊙ **Government's Stand:**

- ⊙ The government pointed out that **Haryana was separated from the erstwhile state of Punjab in 1966 on linguistic basis** as Hindi is the predominantly spoken language in the area.
 - ⊗ In 1969, Hindi was declared the official language of Haryana.
 - ⊗ Also, Punjab had then introduced Punjabi in all civil courts and criminal courts.
- ⊙ Different regional languages are rapidly replacing English as a medium of instructions and of official work in the states. It is but natural that the predominant languages should secure their rightful place.
 - ⊗ Hindi being the predominantly spoken language in the state of Haryana, use of the same for the purposes of working in courts and tribunals subordinate to the High Court of Punjab and Haryana has thus become a matter of practical necessity.
- ⊙ The State has argued that many times the witnesses don't know what has been recorded in his or her statement in the court if the same is recorded in English. Hence, Hindi is practically necessary.
 - ⊗ In a democracy, every citizen should get **justice** quickly in his **own language** and should not remain speechless during the proceedings.
 - ⊗ Earlier, many MLAs of Haryana, Advocate General and hundreds of advocates, had supported Hindi language use in the courts so that the **citizens of Haryana can understand the entire justice process in their own language** and can easily put their views before the Courts.

Hindi as an Official Language

- ⊙ Hindi language is the single largest spoken language (43.63% of people in India).
- ⊙ The Constituent Assembly of India **adopted Hindi** written in Devnagari Script along with English as the official language of the country **on 14th September, 1949**, under the **Article 343 (1)**.

Background

- ⊙ Imposition of Hindi was contested in many non-Hindi states, especially in the southern state of Tamil Nadu. Violent protests broke out in southern India leading the then Prime Minister Jawaharlal Nehru, to **introduce the 'Official Languages Act' in 1963**, which assured the **continuation of English along with Hindi** as the official language of the Union of India.
- ⊙ Anti-Hindi protests of 1965 marked an important turn in India's official language policy.
- ⊙ The **'Official Languages Act'** was amended in 1967 guaranteeing the **"virtual indefinite policy of bilingualism"** for all official purposes of the Union.
- ⊙ Given the linguistic diversity of India, **there is no national language** as all the states are free to decide their own official languages.

Constitutional Provisions

- ⊙ Part **XVII** of the Indian Constitution deals with the official languages in **Articles 343 to 351**.
 - ⊙ **Article 343 (1)** states that the Official Language of the Union government shall be Hindi in Devanagari script.
 - ⊙ **Article 351** gives power to the Union Government to issue a directive for the development of the Hindi language.
 - ⊙ **Article 348 (1)** provides that all proceedings in the Supreme Court and in every High court shall be in English Language until Parliament by law otherwise provides.
 - ⊙ Under **Article 348 (2)**, the Governor of the State may, with the previous consent of the President, authorize the use of the Hindi language or any other language used for any official purpose of the State, in the proceedings of the High Court having its principal seat in that State provided that decrees, judgments or orders passed by such High Courts shall be in English.
- ⊙ The Hindi language is one of the 22 languages of the **Eighth Schedule** of the Constitution of India.

Note:

Way Forward

- ⌚ There is a need for wide consultation and formation of committees, regarding the use of languages in the states especially in relation to the judiciary. So that the justice system does not get delayed due to the medium and use of languages.
- ⌚ The provision of use of Hindi can be supplemented with the use of English as well. The provision of optional use of Hindi in proceedings has already been made in the High Courts of **Rajasthan, Uttar Pradesh, Madhya Pradesh and Bihar.**

Misuse of Criminal Defamation Law: Madras HC

Why in News

Recently, the **Madras High Court** has held that public servants and constitutional functionaries cannot be allowed to **misuse the law of criminal defamation** by using the State as a tool to initiate defamation proceedings against adversaries.

Key Points

- ⌚ **Quashed Cases:**
 - ⦿ The HC **quashed criminal defamation proceedings** launched by the **Madras state government against a host of media houses and journalists**, during Jayalithaa's tenure as Chief Minister in 2012 and 2013.
 - ⦿ It was cleared out that the publications in the newspapers were **factual news** and the **quoted statements** of the politicians.
 - ⦿ There was **no criminal defamation** in the case as the newspapers had not made any personal imputation against anyone.
 - ⦿ However, some media houses **can be prosecuted** by the aggrieved, in their **individual capacity**, before a **Judicial Magistrate under Section 199 (6) of Code of Criminal Procedure** but **not before a Sessions Court** since no defamation against the State had been made out.
- ⌚ **Observations of the Judgement:**
 - ⦿ **For States:**
 - ⌘ They cannot use criminal defamation cases to **throttle democracy.**

- ⌘ Public servants and constitutional functionaries **must be able to face criticism** since they owed a solemn duty to the people.
- ⌘ States should **act as a parent of all its citizens** when it comes to the invocation of the law of defamation and **laws cannot be misused** by **using the State as a tool** to settle personal adversaries.
- ⌘ An individual or a public servant/constitutional functionary can be impulsive but not the **State which will have to show utmost restraint and maturity** in filing criminal defamation cases.

⦿ For Public Prosecutors:

- ⌘ They should **apply their mind independently** before filing criminal defamation cases on behalf of the State and launching prosecutions.
- ⌘ They should **not exhibit blind eagerness to grasp a conviction** and should conduct a case with utmost fairness.

⦿ For Trial Courts:

- ⌘ They should **rely on materials available on record** and issue summons to the accused only if they were satisfied that the ingredients required for taking cognisance of a criminal defamation complaint against the State had been made out.

⦿ For Newspapers and Media Houses:

- ⌘ The role of a newspaper is **only to publish news as it had happened.**
- ⌘ If political personalities or constitutional functionaries disagree with the information provided, they **can refute** the allegations by a counter-press statement.

Defamation

- ⌚ In India, **defamation** can both be a **civil wrong** and a **criminal offence.**
- ⦿ The **difference** between the two lies in the **objects they seek to achieve.**
- ⦿ A civil wrong tends to provide for a **redressal of wrongs by awarding compensation** and a criminal law seeks to **punish a wrongdoer and send a message** to others not to commit such acts.
- ⌚ In Indian laws, **criminal defamation** has been specifically defined as an offence under the **section 499 of the Indian Penal Code (IPC)** whereas the **civil defamation is based on tort law** (an area of law which does not

Note:

rely on statutes to define wrongs but takes from ever-increasing body of case laws to define what would constitute a wrong).

- ⌚ Section 499 states defamation could be **through words**, spoken or intended to be read, **through signs**, and also **through visible representations**.
 - ⊙ These can either be published or spoken about a person with the intention of damaging the reputation of that person, or with the knowledge or reason to believe that the imputation will harm his reputation.
- ⌚ **Section 499 also cites exceptions.** These include “**imputation of truth**” which is required for the “public good” and thus has to be published, on the public conduct of government officials, the conduct of any person touching any public question and merits of the public performance.
- ⌚ **Section 500 of IPC**, which is on **punishment for defamation**, reads, “Whoever defames another shall be punished with simple imprisonment for a term which may extend to two years, or with fine, or with both.”
- ⌚ Moreover, in a **criminal case**, defamation has to be **established beyond reasonable doubt** but in a **civil defamation suit**, damages can be awarded **based on probabilities**.
- ⌚ The **Supreme Court of India**, in the *Subramanian Swamy vs Union of India, 2014*, upheld the constitutional validity of the criminal defamation law.

Antitrust Case Against Google

Why in News

Recently, the **Competition Commission of India (CCI)** has started looking into **allegations against the Alphabet Inc’s Google**.

- ⌚ According to the allegations, Google is abusing its market position to unfairly promote its **mobile payments app (Google Pay) in the country**.

Key Points

- ⌚ The **complaint alleges the USA tech giant more prominently showcases its Google Pay app inside its Android app store** in India, giving it an unfair advantage over apps of competitors.
 - ⊙ Google Pay allows users to do **digital transactions**, inter-bank fund transfers and bill payments.

- ⊙ It competes with Softbank-backed Paytm and Walmart’s PhonePe, both of which are prominently used in India.
- ⊙ Facebook’s WhatsApp is also planning a similar service in the near future.
- ⌚ Google has not responded to the allegations yet and is expected to respond in due course.
- ⌚ The **CCI can direct its investigations unit to conduct a wider probe into the allegations** or dismiss the case if it finds no merit in it. Google will appear before the CCI, which will then decide on the way forward.
- ⌚ This is **Google’s third major antitrust challenge in India**.
 - ⊙ In 2018, the **CCI fined Google \$21 million for ‘search bias’**.
 - ⌘ It was alleged that Google was indulging in abuse of a dominant position in the market for online search through practices leading to search bias and search manipulation, among others.
 - ⊙ In 2019, the **CCI started probing Google** for allegedly misusing its dominant position to reduce the ability of smartphone manufacturers to opt for alternate versions of its Android mobile operating system.

Antitrust Law

- ⌚ Antitrust law, also referred to as Competition law, aims to protect trade and commerce from unfair restraints, monopolies and price-fixing.
- ⌚ It ensures that fair competition exists in an open-market economy.
- ⌚ The Competition Act, 2002 is India’s antitrust law. It repealed and replaced the Monopolies and Restrictive Trade Practices Act, 1969 (MRTP Act) on the recommendations of the Raghavan committee.

The Competition Act, 2002

- ⌚ It was passed in 2002 and was amended by the Competition (Amendment) Act, 2007. It follows the philosophy of modern competition laws.
- ⌚ The Act prohibits anti-competitive agreements, abuse of dominant position by enterprises and regulates combinations, which causes or likely to cause an appreciable adverse effect on competition within India.
- ⌚ In accordance with the provisions of the Amendment Act, the Competition Commission of India and the **Competition Appellate Tribunal (COMPAT)** were established.

Note:

- ⌚ The government replaced COMPAT with the **National Company Law Appellate Tribunal (NCLAT)** in 2017.

Competition Commission of India

- ⌚ It is a **statutory body** responsible for enforcing the objectives of the **Competition Act, 2002**.
- ⌚ **Composition:** A Chairperson and 6 Members appointed by the Central Government.
- ⌚ **Objectives:**
 - ⊙ 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.

Social Protection Response Programme

Why in News

Recently, the **World Bank** has approved **USD 1 billion** for accelerating India's **Covid-19 Social Protection Response Programme**.

- ⌚ With this announcement, **commitment from the World Bank** towards emergency Covid-19 response in India has reached to **USD 2 billion**.
- ⌚ Earlier, a **USD 1 billion support** was announced in April to support **India's health sector**.

Key Points

- ⌚ **Social Protection Response Programme:**
 - ⊙ It is pivoted towards **migrants, unorganised workers, informal sector**, and creating an **integration of the existing infrastructure of safety nets like the Public distribution system, Jan Dhan, Aadhar & mobile**.
 - ⊙ It will expand the coverage of India's social protection system by helping **vulnerable groups access to more social benefits directly and across the country**.

⌚ **Geographic portability** would be introduced to ensure that social protection benefits could be accessed from anywhere in the country, providing relief to inter-State migrant workers.

- ⌚ It will support the Government of India's efforts towards a **more consolidated delivery platform** accessible to both rural and urban populations across state boundaries.
- ⌚ Such a system will also **strengthen India's federalism** by enabling and supporting states to respond quickly and effectively.
- ⌚ **Phased Implementation:** This new support will be funded and operated in two phases:
 - ⊙ Immediate allocation of **\$750 million** for the fiscal year 2020.
 - ⊙ A **\$250 million** second tranche that will be made available for the fiscal year 2021.
- ⌚ **First Phase:** It will be implemented countrywide through the **Pradhan Mantri Garib Kalyan Yojana (PMGKY)** to benefit vulnerable groups, particularly migrants and informal workers.
- ⌚ **Second phase:** It would deepen the social protection package, whereby additional cash and in-kind benefits based on local needs will be extended through state governments and portable social protection delivery systems.

Need

- ⌚ Unprecedented **introduction of social distancing and lock downs** due to Covid-19, to slow down the spread of the virus, have impacted economies and jobs especially in the informal sector.
- ⌚ **Over 90% of India's workforce** is employed in the **informal sector**, without access to significant savings or workplace based social protection benefits such as **paid sick leave or social insurance**.
- ⌚ **Over 9 million migrants**, who cross state borders to work each year, are also at greater risk as social assistance programmes in India largely provide benefits to residents.
- ⌚ In an urbanising India, **cities and towns need targeted support** as its social protection programmes are focused on rural populations.
- ⌚ **Social protection is critical** when **half of India's population earns less than \$3 a day** and are close to the poverty line.

Note:

National Migrant Information System

Why in News

Recently, the **National Disaster Management Authority** (NDMA) has developed an online dashboard called '**National Migrant Information System (NMIS)**'.

Key Points

- ⌚ The online portal (NMIS) would maintain a central repository of migrant workers and help in speedy inter-state communication to facilitate the smooth movement of migrant workers to their native places.
- ⌚ The key data pertaining to the persons migrating has been standardized for uploading such as name, age, mobile no., originating and destination district, date of travel etc.
- ⌚ States will be able to visualize how many people are going out from where and how many are reaching their destination States.
- ⌚ It has additional advantages like contact tracing, which may be useful in overall Covid-19 response work.
 - ⊙ Contact tracing is the process of identification of persons who may have come into contact with an infected person and subsequent collection of further information about these contacts.

National Disaster Management Authority

- ⌚ The National Disaster Management Authority (NDMA) is the apex **statutory body for disaster management in India**.
- ⌚ It was constituted in accordance with the **Disaster Management Act, 2005** with the **Prime Minister** as its **Chairperson** and nine other members, and one such member to be designated as Vice-Chairperson.
- ⌚ Its primary purpose is to coordinate response to natural or man-made disasters and for capacity-building in disaster resiliency and crisis response.
 - ⊙ It is also the apex body to lay down policies, plans and guidelines for Disaster Management to ensure timely and effective response to disasters.

Star Rating of Garbage Free Cities

Why in News

Recently, the **Ministry of Housing & Urban Affairs (MOHUA)** has announced the results of the Star Rating of Garbage Free Cities for the assessment year 2019-2020.

- ⌚ A total of **six cities** have been certified as **5-Star**, **65 cities** as **3-Star** and **70 cities** as **1-Star**.
- ⌚ The 5-Star cities include **Ambikapur (Chattisgarh), Surat and Rajkot (Gujarat), Indore (Madhya Pradesh) and Navi Mumbai (Maharashtra)**.

Key Points

- ⌚ **Aim:**
 - ⊙ The Star Rating Protocol was launched by the Ministry in 2018 to institutionalize a mechanism for cities to achieve Garbage Free status, and to motivate cities to achieve higher degrees of sustainable cleanliness.
 - ⊙ It is one of the various initiatives which intends to make **Swachh Bharat Mission-Urban (SBM-U)** as a successful project.
- ⌚ **Basis:**
 - ⊙ It is based on 12 parameters which follow a **SMART framework** – Single metric, Measurable, Achievable, Rigorous verification mechanism and Targeted towards outcomes.
 - ⊙ It is a comprehensive framework that assesses cities across 24 different components of **Solid Waste Management (SWM)** and is graded based on overall marks received.
- ⌚ **Procedure:**
 - ⊙ The Star Rating is supported by self-assessment and self-verification for achieving a certain star rating. It also ensures the involvement of citizen groups for a transparent system of self-declaration.
 - ⊙ Further, the self-declaration is further verified through an independent third party agency appointed by MoHUA.
- ⌚ **Significance:**
 - ⊙ The performance of cities under the Star Rating Protocol is crucial as it carries significant weightage for their final assessment in **Swachh Survekshan**.

Note:

- ⌘ Swachh Survekshan is the **annual urban cleanliness survey** conducted by the government.
- ⊙ It also ensures certain **minimum standards of sanitation** through a set of prerequisites defined in the framework.
- ⊙ Since the rating is conducted at a city level, it makes the process easier to implement and helps the cities incrementally improve their overall cleanliness.
- ⊙ The rating protocol is an **outcome-based tool** that helps MoHUA and other stakeholders to evaluate cities on the basis of this single rating.

Pradhan Mantri Vaya Vandana Yojana Extended

Why in News

The Union Cabinet has extended **Pradhan Mantri Vaya Vandana Yojana (PMVVY)** for a period of three years. This social security scheme for senior citizens will **now be valid till March 2023**.

- ⌚ Earlier, the scheme was open till 31st March, 2020.
- ⌚ Initially an **assured rate of return of 7.40% per annum** for the year 2020-21 per annum will be provided and thereafter to be reset every year in line with the Senior Citizen Savings Scheme (SCSS).
- ⌚ The **Finance Minister will approve an annual reset rate of return at the beginning of every financial year**.

Key Points

- ⌚ The **Pradhan Mantri Vaya Vandana Yojana** was **launched in 2017 by the Ministry of Finance** to offer a guaranteed payout of pension to senior citizens every month.
- ⌚ The Scheme can be purchased offline as well as online through the **Life Insurance Corporation (LIC)** which has been given the sole privilege to operate this scheme.
- ⌚ **Eligibility:**
 - ⊙ Minimum Entry Age: 60 years (completed).
 - ⊙ Maximum Entry Age: No limit.
- ⌚ **Components:**
 - ⊙ One can **invest a maximum amount of Rs 15 lakh** under PMVVY scheme. The tenure of policy is set at 10 years.
 - ⊙ Senior citizens can draw a **minimum pension of Rs 1,000 per month** depending on the amount

invested in the scheme. The **maximum pension amount is limited at Rs 10,000 per month**.

- ⊙ Pension will be payable as per the frequency of monthly, quarterly, half-yearly, yearly as chosen by the pensioner at the time of purchase.
- ⊙ **Aadhar has been made mandatory** to avail the benefit of the scheme.
- ⌚ **Role of the Government:**
 - ⊙ The Government's financial liability is limited to the extent of the difference between the market return generated by LIC and the assured rate of return (7.4% for 2020-21).
 - ⊙ The **pension is based on the assured rate of return**.
 - ⊙ This protects elderly persons aged 60 years and above against a future fall in their interest income due to uncertain market conditions.
- ⌚ **Other Benefits:**
 - ⊙ Loan upto 75% of Purchase Price shall be allowed after 3 policy years.
 - ⊙ The scheme is **exempted from Goods & Services Tax (GST)**.

Rajiv Gandhi Kisan Nyay Yojana

Why in News

Chhattisgarh is set to launch the **Rajiv Gandhi Kisan Nyay Yojana to encourage farmers to produce more crops** and help them get the right price.

- ⌚ The scheme will formally be launched in the state on May 21, the death anniversary of former prime minister Rajiv Gandhi.

Key Points

- ⌚ Under the scheme, based on registered area and area under cultivation during **Kharif crop season 2019, Rs. 10,000 per acre** will be deposited in the bank accounts of farmers as agriculture assistance grant for sowing crops such as paddy, maize and sugarcane.
- ⌚ According to the government, at least **19 lakh farmers** will benefit from the scheme, for which the state government had allocated Rs 5,756 crore in the budget 2020-21.
- ⌚ The money will be given to the farmers in **four instalments**.

Note:

TRAI Recommends New Numbering Plan

Why in News

Recently, the **Telecom Regulatory Authority of India (TRAI)** has given few recommendations for the development of the **new National Numbering Plan for the fixed as well as mobile telecommunication services** in the country to ensure availability of the **uniquely identifiable numbers to every subscriber in India**.

Background

🕒 Current Scenario:

- ⊙ Currently, the Department of Telecommunications (DoT) administers the numbers for **fixed and the mobile networks** on the basis of the **National Numbering Plan (NNP), 2003**.
 - ⌘ NNP (2003) provides a set of rules and guidelines for the use and assignment of numbers to telephone services delivered over the public networks.
 - ⌘ It also describes the assignment of numbers to international services, trunk service, emergency services and special services such as voicemail and Intelligent Network (IN) services.
- ⊙ Thus, the **management of numbering resources** is governed by the NNP.

- ⊙ NNP is based on the **International Telecommunication Union's (ITU)** standardization sector recommendations.

🕒 Challenges:

- ⊙ The availability of numbering resources is threatened due to an **increase in the range of services** and **massive growth** in the **number of connections**, especially in the mobile segment.
 - ⌘ The total number of telephone subscribers in India stands at **1,177.02 million** with a **tele-density of 87.45%** at the end of January 2020.
 - ⌘ Telephone density or teledensity is the number of telephone connections for every hundred individuals living within an area.

Key Points

🕒 Recommendations:

- ⊙ **Switching to a 11-digit mobile number** instead of existing 10-digit mobile number.

- ⊙ **Reallocation** of mobile numbering resources **surrendered by operators** who have closed the telecommunication business.
- ⊙ **Prefixing zero** for all mobile calls made from a fixed line to create **sufficient numbering space**.
 - ⌘ The numbering space includes numbers that cannot be preceded by a prefix.
- ⊙ All the SIM-based M2M (Machine to Machine) connections using 10-digit mobile numbering series to be **shifted to the 13-digit numbering series** allocated by DoT.
 - ⌘ Machine-to-Machine SIM (or M2M SIM) refers to technologies that enable devices and sensors to communicate with one other, along with other Internet-enabled devices and systems. It is used for receiving and sending data.
- ⊙ **Enlistment of all newly allocated numbering resources** for fixed line as well as mobile services **every year**.
- ⊙ **Automated allocation of numbering resources** using number management system software to speed up the process of allocation in an efficient and transparent manner.

🕒 Possible Future Challenges:

- ⊙ The migration to 11 digits mobile numbers would require **modifications in the configuration of switches** involving cost.
- ⊙ It would also cause **inconvenience to the customers** in the form of dialing extra digits and updating phone memory.
- ⊙ It may lead to **more dialing errors, infructuous traffic**, and subsequently **loss of revenue** to the Telecom Service Providers (TSP).
- ⊙ Further, the telephone numbers are also associated with the **digital identity of individuals**, and, hence, changes will be required in the databases of all services requiring telephone numbers for identity like financial banking services, e-commerce, and government welfare schemes.

Way Forward

- 🕒 The mobile users in the country has increased massively due to **increasing digitisation**. This increasing digitisation would pave the way towards the **dream of digital India and mobile economy**.
- 🕒 Thus, it has become necessary to **review the utilisation of the numbering resources** in the country.

Note:

Considering the above scenario the implementation of the TRAI's recommendation with solutions to possible issues would help for **sustainable growth of the telecommunication services.**

CoAST India

Why in News

Recently, India Observatory has come up with a **Geographic Information System (GIS)-enabled dashboard** called **Collaboration/Covid Action Support Group (CoAST India)** to monitor the movements of migrants.

Key Points

- ⌚ The CoAST India dashboard includes an **India map**, which **reflects the movement of migrants in real time**, often on foot, **along with facilities and relief organisations on their routes.**
- ⌚ It **draws information from 55 organisations** on the ground, mostly in villages.
- ⌚ The dashboard **aims to make such data available to governments and small local civil society groups** to be used for planning and providing assistance to migrants.
- ⌚ The dashboard has been made in collaboration with **Foundation for Ecological Security (FES).**
- ⌚ India Observatory was set up in December 2019, with FES. It focused on ecological issues about forests, water bodies, conservation, etc.
 - ⊙ However, after **Covid-19** broke out, it has decided to focus on the movements of people.
- ⌚ The National Disaster Management Authority has also developed '**National Migrant Information System (NMIS)**' to maintain a central repository of migrant workers.

Geographic Information System

- ⌚ A GIS is a **computer system for capturing, storing,**

checking, and displaying data related to positions on Earth's surface.

- ⌚ By relating seemingly unrelated data, GIS can help individuals and organizations better understand spatial patterns and relationships.
- ⌚ GIS can use **any information that includes location.** The location can be expressed in many different ways, such as latitude and longitude, address, or ZIP code.
- ⌚ GIS can include **data about people, such as population, income, or education level.**
 - ⊙ It can also include **information about the sites of factories, farms, and schools, or storm drains, roads, and electric power lines etc.**

India Observatory

- ⌚ It is **India's first socio, economic and ecological open-source** integrated Geospatial data platform.
- ⌚ The observatory is **designed to supplement local level decision** making by village communities, Panchayats, NGOs and government officials.
- ⌚ It has the '**India Data Platform**' at its core, which is built on open source and brings together data on over 1,600 parameters, ranging from village to national level in the form of maps, graphs, tables and infographics.
- ⌚ It is freely available for civil society organizations, students, government departments and citizens.

Foundation for Ecological Security

- ⌚ The Foundation for Ecological Security (FES) is a registered **non-profit organisation** based in Anand, Gujarat.
- ⌚ It works towards the **ecological restoration and conservation of land and water resources** in ecologically fragile, degraded and marginalised regions of the country.
- ⌚ It works with the concentrated and collective efforts of village communities.



Economic Scenario

Highlights

- ⌘ RBI Cuts Repo Rate
- ⌘ 22nd Meeting of FSDC
- ⌘ Rise in Foreign Direct Investment
- ⌘ Steps to Boost Ease of Doing Business
- ⌘ GDP Decreases to 11-year Low
- ⌘ Banks Board Bureau
- ⌘ MSMEs Loans to Get 'Risk-Free' Tag
- ⌘ ReStart Programme for MSMEs
- ⌘ Relaxation for Limited Category of OCIs
- ⌘ States' Share in PMVSY and FME

RBI Cuts Repo Rate

Why in News

The **Reserve Bank of India** has **extended the moratorium on loan repayments by three more months** in view of **Covid-19**. Further, a **40 basis points (bps) cut to both the repo and reverse repo rates** has been announced.

- ⌚ The decision has been taken by the **RBI's Monetary Policy Committee** which met ahead of its scheduled meeting in early June.
- ⌚ The latest moves are expected to ease the financial burden on businesses due to the extended lockdown.

Key Points

- ⌚ **Repo Rate and Reverse Repo Rate:**
 - ⌘ **Decision:** The **repo rate** is presently at **4%**, while the **reverse repo rate** stands at **3.35%**.
 - ⌘ **Impact:** This will make funds cheaper for banks, thus aiding them to bring down loan lending rates. **Repo rate** is the rate at which a country's central bank (RBI) lends money to commercial banks.
 - ⌘ The cut in reverse repo rate will prompt banks to lend more rather than keeping their funds with the RBI. **Reverse repo** rate is the rate at which the central bank of a country borrows money from commercial banks within the country.
- ⌚ **Extension of Moratorium on Loan Repayments by Another 3 Months:**
 - ⌘ **Decision:** The lending institutions have been permitted to extend the moratorium (suspension)

on term loan instalments by **another three months**, i.e., from 1st June, 2020 to 31st August, 2020.

⌘ A **term loan** is a loan from a bank for a specific amount that has a specified repayment schedule and either a fixed or floating interest rate.

- ⌚ **Impact:** This is expected to help borrowers, especially companies, which have halted production and are facing cash flow problems, to get more time to restart their units.

- ⌚ Earlier, the **RBI announced the moratorium for a three-month period**, 1st March to 25th May 2020.

- ⌚ **All Conditions Unchanged:** All conditions related to the extension remain unchanged, that is, the loan will not be classified by the lender as a **'non-performing asset'** and there will not be any impact on the creditworthiness of any individual/firm.

⌘ A **Non Performing Asset (NPA)** is a loan or advance for which the principal or interest payment remained overdue for a period of 90 days.

- ⌚ **Conversion of Interest Charges into a Term Loan:**

- ⌘ The RBI has allowed borrowers and banks to convert the interest charges during the moratorium period (from 1st March to 31st August) into a term loan which can be repaid by March 2021.

- ⌘ This is expected to reduce the burden on borrowers who have gone for moratorium.

- ⌚ **Group Exposure Limit Raised:**

- ⌘ The group exposure limit of banks has been **increased from 25% to 30% of the capital base** for a temporary period till 30th June, 2021.

- ⌘ Group exposure limit determines the maximum amount a bank can lend to one business house.

Note:

Under the existing guidelines on the Large Exposures Framework, the exposure of a bank to a group of connected counterparties should not be higher than 25% of its capital base.

- ⊙ The decision was taken to facilitate flow of resources to the companies as many of them were unable to raise funds from capital markets and are predominantly dependent on funding from banks.
- ⌚ **For Boosting Foreign Trade:**
 - ⊙ **A Rs.15,000 crore line of credit for a period of 90 days would be extended to the Exim Bank** to boost the foreign trade. Export-Import (Exim) Bank is the premier export finance institution of the country.
 - ⊙ The **maximum permissible period of pre-shipment and post-shipment export credit sanctioned by banks has been increased from the existing one year to 15 months** (for loan disbursements made up to 31st July, 2020).
 - ⌘ This was done to help exporters support their production and realisation cycles. Simply put, any exporter who has taken credit from a bank can repay it in 15 months instead of one year.
- ⌚ **Views on GDP and Inflation:**
 - ⊙ The **RBI refrained from providing a Gross Domestic Product (GDP)** growth forecast for the year, or likely trajectory for inflation.
 - ⊙ GDP growth will **slip into negative territory** this year, blaming it on the collapse in demand due to a fall in private consumption following the Covid-19 lockdown.
 - ⊙ The central bank has, however, pointed to the likelihood of **some pick-up in growth impulses beginning the second half of 2020-21.**

Criticism

- ⌚ Some believe that the latest cut **may be no more than a sentiment booster** as economic activity is at its nadir (worst) and there are not many investment proposals that may benefit from the lower interest rate. Existing borrowers may be the only beneficiaries of the rate cut at this point in time.
- ⌚ The smaller **Non-Banking Financial Companies (NBFCs) and corporates** may remain stressed, despite liquidity being provided.
- ⌚ Bankers **expect a spurt in Non-Performing Assets** down the road as nearly six months of non-payment of debt would likely affect credit culture.

Way Forward

- ⌚ The stress in the economy will continue. The government can provide subvention on existing loans.
- ⌚ The banks are unwilling to take risks in the current scenario. Thus, there is a need to remove risk averseness in the financial system.

22nd Meeting of FSDC

Why in News

Recently, the **22nd meeting** of the **Financial Stability and Development Council (FSDC)** chaired by the Finance Minister was held through a video conference.

- ⌚ The meeting reviewed issues relating to market volatility, domestic resource mobilisation and capital flows in the country in the wake of **Covid-19 pandemic** and the **nation-wide lockdown** imposed to contain it.

Financial Stability and Development Council

⌚ Establishment:

- ⊙ The Financial Stability and Development Council (FSDC) is a **non-statutory apex council under the Ministry of Finance** constituted by the Executive Order in 2010.
- ⊙ The **Raghuram Rajan committee (2008)** on financial sector reforms first proposed the creation of FSDC.

⌚ Composition:

- ⊙ It is chaired by the **Finance Minister** and its members include the heads of all Financial Sector Regulators (RBI, SEBI, PFRDA & IRDA), Finance Secretary, Secretary of Department of Economic Affairs (DEA), Secretary of Department of Financial Services (DFS), and Chief Economic Adviser.
 - ⌘ In 2018, the government reconstituted FSDC to include the Minister of State responsible for the Department of Economic Affairs (DEA), Secretary of Department of Electronics and Information Technology, Chairperson of the **Insolvency and Bankruptcy Board of India (IBBI)** and the Revenue Secretary.

- ⊙ FSDC sub-committee is headed by the Governor of RBI.
- ⊙ The Council can invite experts to its meeting if required.

🕒 **Functions:**

- ⊙ The objective of **FSDC is to strengthen and institutionalize** the mechanism for maintaining financial stability, enhancing inter-regulatory coordination and promoting financial sector development.
- ⊙ It also **intends to monitor macro-prudential supervision** of the economy. It will assess the functioning of the large financial conglomerates.

Key Points

🕒 **Covid-19 as a Threat to Global Economy:**

- ⊙ The Council has noted that the **Covid-19 pandemic poses a serious threat to the stability of the global financial system**, as the ultimate impact of the crisis and the timing of recovery remains uncertain.
- ⊙ The pandemic has thrown the global economy into its worst recession since the Great Depression in the 1930s, and India is no exception.

🕒 **Projected Domestic Economic Growth:**

- ⊙ Domestic economic growth is expected to contract for the first time in forty years in FY21 (April 2020 to March 2021).
- ⊙ Crisil, Goldman Sachs and Fitch Ratings have projected the Indian economy to contract 5% during the current financial year.

🕒 **Announced Measures and its Impact:**

- ⊙ The Council quoted the various short term **fiscal measures taken by the government** and **monetary measures taken by the Reserve Bank of India (RBI)** to address the liquidity and capital requirements of the financial institutions to manage the economic scenario due to global pandemic.
- ⊙ It also reviewed the liquidity and solvency position of the **Non-Banking Financial Companies (NBFCs), housing finance companies** and **micro-finance institutions**.
- ⊙ Moratoriums on loan payments due to pandemic induced lockdowns have put a pressure on inflows of these companies while banks have turned resistant to lend them in the wake of possible defaults. NBFCs have also sought moratorium on their dues to banks.

🕒 **Role of Government and Regulators:**

- ⊙ It **highlighted the need for the government** and regulator to remain vigilant on financial conditions that could expose systemic vulnerabilities in the medium and long-term.
- ⊙ The Council stressed that the government and regulators would continue to provide liquidity and capital support to domestic financial institutions.
 - ⌘ It is expected to provide comfort to the markets, which are disturbed by the extreme volatility due to pandemic.

Way Forward

- 🕒 The **financial system resilience, fiscal support, regulatory flexibility and liquidity** provision announced till date have ensured that the financial system is supportive of economic recovery but more protracted slowdown may present new risks to the financial system.
- 🕒 There is a possibility that the current crisis may **transform from a “liquidity phase” into a “solvency phase”**. Thus, governments need to consider a range of policy tools, including efficient bankruptcy and restructuring systems, government guarantees for private investments, programmes for sector-specific government equity injections, and establishing asset management companies.
- 🕒 Thus, **FSDC is expected to take further appropriate measures to bolster the liquidity and capital base of domestic financial institutions** which would stabilize financial sectors for long term.

Rise in Foreign Direct Investment

Why in News

According to data released by the **Department for Promotion of Industry and Internal Trade (DPIIT)**, total **Foreign Direct Investment (FDI)** in India increased by **18% to \$73.46 billion** in the 2019-20 financial year.

- 🕒 DPIIT is under the Ministry of Commerce and Industry.

Key Points

- 🕒 Total FDI has **doubled** from the year **2013-14** when it was only \$36 billion.
- 🕒 The total investment by Foreign Institutional Investors was \$247 million.

Note:

- ⌚ The sectors that attracted the most foreign inflows during 2019-20 included **services, computer software and hardware, telecommunications, trading and automobiles**.
- ⌚ Singapore emerged as the largest equity FDI source, contributing to inflows of \$14.67.
- ⌚ The inflows have been attributed to the government's **Make in India** programme.

Foreign Direct Investment

- ⌚ FDI is an investment made by a firm or individual in one country into business interests located in another country.
- ⌚ Generally, FDI takes place when an investor establishes foreign business operations or acquires foreign business assets, including establishing ownership or controlling interest in a foreign company.
- ⌚ It is different from Foreign Portfolio Investment where the foreign entity merely buys equity shares of a company. FPI does not provide the investor with control over the business.
- ⌚ **Routes through which India gets FDI:**
 - ⊙ Automatic Route: In this, the foreign entity does not require the prior approval of the government or the RBI.
 - ⊙ Government route: In this, the foreign entity has to take the approval of the government.
 - ⌘ The **Foreign Investment Facilitation Portal (FIFP)** facilitates the single window clearance of applications which are through approval route.
 - ⌘ This portal is administered by the Department for Promotion of Industry and Internal Trade (DPIIT).

Steps to Boost Ease of Doing Business

Why in News

Recently, the Government of India has decided to bring various amendments to **Insolvency and Bankruptcy Code (IBC) and Companies Act, 2013** to enhance ease of doing business in the country.

- ⌚ The amendments to these laws are a part of the government's **economic stimulus** package announced under **Atmanirbhar Bharat Abhiyan**.

- ⌚ India was placed at 63rd position in the World Bank's **ease of doing business report, 2020** out of 190 countries.

Key Points

- ⌚ **Changes in Insolvency and Bankruptcy Code (IBC):**
 - ⊙ Minimum threshold to initiate insolvency proceedings has been raised to Rs.1 crore (from Rs1 lakh, which largely insulates **Micro, Small and Medium Enterprises-MSMEs**).
 - ⊙ Suspension of fresh initiation of insolvency proceedings up to one year, depending upon the pandemic.
 - ⊙ Empowering the Central Government to exclude Covid-19 related debt from the **definition of "default"** under the IBC for the purpose of triggering insolvency proceedings.
- ⌚ **Decriminalisation under Companies Act, 2013:**
 - ⊙ The move seeks to remove criminal penalties from all provisions of the Companies Act, except provisions dealing with fraudulent conduct.
 - ⌘ The decriminalised offences include administrative offences such as delays in filing **Corporate Social Responsibility (CSR)** reports, or failure to rectify the register of members in compliance with orders from the **National Company Law Tribunal (NCLT)**.
 - ⊙ A number of offences under the Act previously classified as compoundable offences will not have imprisonment penalty now.
 - ⌘ Compoundable offences are those offences that have either imprisonment or fines as punishments.
 - ⊙ Some of the offences under the Act have been omitted altogether while others have been shifted from the purview of the NCLT to an in-house adjudication mechanism.
 - ⌘ Under the in-house adjudication mechanism the matter will be dealt by the Registrar of Companies (RoC).
 - ⌘ The RoC is empowered to decide penalties for the offences under the Act.
- ⌚ **Other changes to raise funds for companies:**
 - ⊙ Direct listing of securities by Indian public companies in permissible foreign jurisdictions.
 - ⊙ Private companies which just want to list **Non-Convertible Debentures (NCDs)** on stock exchanges not to be regarded as listed companies.

Note:

⌘ This will bring additional sources of funding to companies who do not wish to comply with the regulations applicable to listed companies.

🕒 **Rationale behind the Amendment:**

- ⊙ The decriminalisation efforts are to pull back on regulations introduced in 2014 aimed at boosting corporate compliance.
 - ⊙ As compliance levels have improved, the government now felt a need to boost ease of doing business and therefore, it has started to relax criminal provisions.
 - ⊙ These moves will bring great relief to companies as they can focus on business revival rather than worry about defaults and compliance.
 - ⊙ These measures will prove to be instrumental in easing the financial situation of firms especially, MSMEs who have been one of the biggest victims of this pandemic crisis.
 - ⊙ These amendments are admirable steps towards the three-pronged goal of:
 - ⌘ Reducing the burden on company courts,
 - ⌘ Ensuring investor interests, and
 - ⌘ Facilitating the ease of doing business.
 - ⊙ This could well be the step towards showing intent to incentivize domestic and global investments, especially post Covid-19.
- 🕒 **Issues involved:**
- ⊙ The move will hamper the recovery proceedings of financial institutions and lead to an increase in the non-performing asset.
 - ⊙ Suspension of insolvency initiation for up to a year may protect promoters from losing control of their companies but will not prevent creditors from seeking recoveries through other means.
 - ⊙ Decriminalisation of provisions in Companies Act are unrelated to Covid-19 and had been announced before the lockdown as part of previously planned reforms.

GDP Decreases to 11-year Low

Why in News

According to the provisional data released by the **National Statistical Office (NSO)**, economic growth slowed to an **11-year low of 4.2% in 2019-20**.

Key Points

🕒 **Growth in Fiscal Year 2019-20:**

- ⊙ The provisional growth estimate for the year 2019-20 is at 4.2%.
 - ⌘ The budget estimate for **Gross Domestic Product (GDP)** growth in 2019-2020 was stated at 8.5%, the NSO's previous estimates had pushed the projection down to 5%.
 - ⌘ The Indian economy grew at 6.1% in 2018-19.
- ⊙ Growth rate in terms of **Gross Value Added (GVA)**, slowed to 3.9% in 2019-20 from 6% growth in the previous year.
 - ⌘ GVA is GDP minus net product taxes and reflects supply-side growth.
- ⊙ The **nominal GDP growth rate**, which accounts for inflation, is estimated to have grown at 7.2% in 2019-20, sharply lower than 11% in the previous year.

🕒 **Growth in Final Quarter of 2019-20:**

- ⊙ In the final quarter of the year, that is, January 2020 - March 2020, the growth rate of GDP fell to 3.1%. This is the lowest growth rate in the last 44 quarters.
- ⊙ Agriculture and mining sectors grew in the fourth quarter at rates of 5.9% and 5.2% respectively.
- ⊙ Public administration, defence and other services grew at 10.1%.
- ⊙ The manufacturing sector contracted to a negative growth of 1.4%.
- ⊙ The **three components of demand** have also fallen i.e. **consumption** demand has slowed, while **investments** and **exports** are both in negative territory.

🕒 **Analysis of the Growth Data:**

- ⊙ **Nominal GDP growth:** There are two reasons why the sharp deceleration in the nominal GDP matters.
 - ⌘ First, the nominal GDP growth rate is the **base of all fiscal calculations** (revenue and spending) in the country.
 - A sharp divergence in nominal GDP growth rate basically upsets all other calculations in the economy.
 - For instance, a sharp fall means the government does not get the revenues it had hoped for and, as such, it can't spend as much as it wanted to.

Note:

- ⌘ Second, this substantial deceleration reflects poorly on the government’s **fiscal marksmanship**.
 - In other words, it shows that the government was **not able to assess the magnitude of economic growth deceleration** that was underway.
 - Poor fiscal marksmanship, in turn, leads to inaccurate policy making because a government could end up making policies for an economy that doesn’t actually exist on the ground.
- ⌘ This sharp deceleration also shows the continued weakening of India’s growth momentum even before it was hit by the **Covid-19** lockdown in the last week of March.
- ⌘ **Negative Growth of Manufacturing:**
 - ⌘ It has been argued in the past, that for India to grow and create jobs for the millions that enter its workforce each year, **manufacturing growth has to rise**.
 - ⌘ But 2019 paints a dismal picture in this regard. Manufacturing contracted for three of the four quarters.

Indian manufacturing has lost its way				
Quarterly GDP growth rate (in %)	Q1	Q2	Q3	Q4
Agriculturing	3	3.5	3.6	5.9
Manufacturing	3	-0.6	-0.8	-1.4
Construction	5.2	2.6	-0.4	-2.2

Source: Mospi

Key Terms

- ⌚ **Gross Domestic Product (GDP):**
 - ⌘ It is a **measure of economic activity in a country**. It is the total value of a country’s annual output of goods and services. It gives the economic output from the consumers’ side.
 - ⌘ **GDP = Private consumption + Gross investment + Government investment + Government spending + (exports-imports)**
- ⌚ **Gross Value Added (GVA):**
 - ⌘ It is the **sum of a country’s GDP and net of subsidies and taxes in the economy**. It provides the rupee value for the amount of goods and services produced in an economy after deducting the cost of inputs and raw materials that have gone into the production of those goods and services.

- ⌘ **Gross Value Added = GDP + subsidies on products - taxes on products**
- ⌚ **Nominal GDP:**
 - ⌘ It is GDP **evaluated at current market prices**. It includes all of the changes in market prices that have occurred during the current year due to **inflation or deflation**.
 - ⌘ It is **different from the Real GDP** which is calculated in a way such that **goods and services are evaluated at some constant set of prices**.

The National Statistical Office

- ⌚ NSO is the **central statistical agency of the Government** mandated under the **Statistical Services Act, 1980** under the **Ministry of Statistics and Programme Implementation**.
- ⌚ It is responsible for the development of arrangements for **providing statistical information services** to meet the needs of the Government and other users for information on which to base policy, planning, monitoring and management decisions.

Conclusion

- ⌚ Economists have highlighted that GDP is headed for a contraction in 2020-21 due to the impact of Covid-19. Therefore, government expenditure will be the growth engine in the year 2020-21. Weak commodity prices and import demand may also provide some support to growth.

Banks Board Bureau

Why in News

- The **Banks Board Bureau (BBB)** has selected SN Rajeswari as the Chairman and Managing Director (CMD) of the Delhi-based Oriental Insurance Company (OIC).
- ⌚ The Ministry of Finance will now start the process of appointing Rajeswari as the CMD of OIC.
- ⌚ This will be followed by the Finance Ministry’s nod and a further approval from the **Appointments Committee of the Cabinet** and the Prime Minister’s Office.

Key Points

- ⌚ **Background:** The Banks Board Bureau (BBB) has its genesis in the recommendations of **‘The Committee to Review Governance of Boards of Banks in India, May 2014 (Chairman - P. J. Nayak)’**.

- ⌚ **Formation:** The government, in 2016, approved the constitution of the BBB as a body of eminent professionals and officials to **make recommendations for appointment of whole-time directors as well as non-executive chairpersons of Public Sector Banks (PSBs)** and state-owned financial institutions.
 - ⊙ It is an **autonomous recommendatory body**.
 - ⊙ The Ministry of Finance takes the final decision on the appointments in consultation with the Prime Minister's Office.
- ⌚ **Functions:**
 - ⊙ Apart from recommending personnel for the PSBs, the Bureau has also been assigned with the task of recommending **personnel for appointment as directors in government-owned insurance companies**.
 - ⊙ It engages with the board of directors of all the public sector banks to formulate appropriate strategies for their growth and development.
 - ⊙ It is tasked with improving corporate governance at public sector banks, building capacities, etc.
- ⌚ The Banks Board Bureau is a **public authority as defined in the Right to Information Act, 2005**.

MSMEs Loans to Get 'Risk-Free' Tag

Why in News

The **Reserve Bank of India (RBI)** is likely to allow banks to assign zero risk weight for loans that will be extended to the **Micro, Medium and Small Enterprises (MSMEs)** under the **Rs 20 lakh crore economic package** announced by the Union government.

Key Points

- ⌚ As a part of the package, a **Rs.3 lakh crore loan for the MSME sector** was announced.
- ⌚ However, such loans would attract a risk weight of a minimum 20% since these loans did not come with direct government guarantee.
 - ⊙ The claims will not be settled unconditionally. The government will ask questions and see the loan appraisal process once a claim is made when the borrower defaults.
 - ⊙ And, if the claim is not settled, banks have to make provision in line with the age of default.

- ⌚ This **facility is similar** to the loans that are guaranteed by the **Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)**.
- ⌚ The government has made available a corpus of Rs. 41,600 crore for the Rs. 3 lakh crore scheme. **The government is factoring in less than 15% non-performing assets**, as of now.
- ⌚ After **banks highlighted the issue of risk weight associated** with the loan with the government, the government has asked the RBI to waive the requirement of assigning a risk weight to the loans.
- ⌚ **Benefit:**
 - ⊙ Zero risk would mean that banks will not have to set aside additional capital for these loans.
 - ⊙ The move will encourage lenders to extend credit, as banks have turned risk averse and have been reluctant to lend.
- ⌚ **Rs. 3 lakh crore scheme**
 - ⊙ Under the scheme, **100% guarantee coverage will be provided by the National Credit Guarantee Trustee Company Limited (NCGTC)** to eligible MSMEs, in the form of a **Guaranteed Emergency Credit Line (GECL) facility**.
 - ⊙ Though primarily meant for the MSME sector, other small borrowers including the **Non-banking Financial Companies (NBFCs)** can also avail themselves of the scheme.
 - ⊙ The **tenure of loan under this scheme is four years** with a moratorium period of one year on the principal amount.
 - ⊙ The scheme would be applicable to all loans sanctioned under GECL till 31st October, 2020 or till an amount of Rs.3 lakh crore is sanctioned, whichever is earlier.

Credit offered by CGTMSE

- ⌚ **Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)** was set up by the Government of India and **Small Industries Development Bank of India (SIDBI)**.
- ⌚ CGTMSE has introduced a new **"Hybrid Security"** product allowing guarantee cover for the portion of the credit facility not covered by collateral security.
- ⌚ In the partial collateral security model, the Member Lending Institutions (MLIs) will be allowed to obtain collateral security for a part of the credit facility, whereas the remaining part of the credit facility,

up to a maximum of Rs. 200 lakh, can be covered under Credit Guarantee Scheme of CGTMSE.

- ⌚ The main objective is that the lender should give importance to project viability and secure the credit facility purely on the primary security of the assets financed.
- ⌚ The other objective is that the lender availing guarantee facility should endeavor to give composite credit to the borrowers so that the borrowers obtain both term loan and working capital facilities from a single agency.

National Credit

Guarantee Trustee Company Limited

- ⌚ National Credit Guarantee Trustee Company Limited (NCGTC) is a **Union Government Company**. It is classified as a company limited by shares.
- ⌚ It was set up by the Government of India to, inter alia, act as a common trustee company to manage and operate various credit guarantee trust funds.

ReStart Programme for MSMEs

Why in News

Recently, the Chief Minister of **Andhra Pradesh** has launched a new programme 'ReStart' to support the **Micro, Small and Medium Enterprise (MSME)** sector in the State.

Key Points

- ⌚ **Package:** The government will spend Rs 1,100 crore on revival of the sector which is expected to benefit 98,000 units that provide employment to more than 10 lakh people.
- ⌚ **Special Fund:** A special fund of Rs 200 crore to provide input capital loan to the firms at low interest rates.
- ⌚ **Waiving Off Power Charges:** The minimum power demand charges of the MSMEs for the months of April, May and June, amounting to Rs 188 crore to be waived off.
- ⌚ **Mandatory Purchasing by Government:** The government will purchase around 360 products from the MSMEs and payments towards it would be cleared in 45 days.
 - ⊙ Of the total purchases, almost 25% would be done from the micro and small enterprises, 4% from the SC/ST community enterprises, and 3% from women entrepreneurs.

- ⌚ **Capacity Development:** Skills required by the industries (MSMEs) to be imparted through Skill Development Colleges.

Importance of MSMEs for Indian Economy

- ⌚ **Employment:** It is the second largest employment generating sector after agriculture. It provides employment to around 120 million persons in India.
- ⌚ **Contribution to GDP:** With around 36.1 million units throughout the geographical expanse of the country, MSMEs contribute around 6.11% of the manufacturing GDP and 24.63% of the GDP from service activities.
 - ⊙ The MSME ministry has set a target to up its contribution to GDP to 50% by 2025 as India becomes a USD 5 trillion economy.
- ⌚ **Exports:** It contributes around 45% of the overall exports from India.
- ⌚ **Inclusive growth:** MSMEs promote inclusive growth by providing employment opportunities in rural areas especially to people belonging to weaker sections of the society.
 - ⊙ For example, Khadi and Village industries require low per capita investment and employ a large number of women in rural areas.

- ⌚ **Financial inclusion:** Small industries and retail businesses in tier-II and tier-III cities create opportunities for people to use banking services and products.

- ⌚ **Promote innovation:** It provides opportunity for budding entrepreneurs to build creative products boosting business competition and fuels growth.

Problems Faced by MSMEs in India

- ⌚ **Too Small for Registration:** Being out of the formal network, these MSMEs do not have to maintain accounts, pay taxes or adhere to regulatory norms etc., which brings down their costs. But in a time of crisis, it also constrains a government's ability to help them.
- ⌚ **Lack of Financing:** According to a 2018 report by the **International Finance Corporation (part of the World Bank)**, the formal banking system supplies less than one-third (or about Rs 11 lakh crore) of the MSME credit need that it can potentially fund.
- ⌚ **Delays in Payments to MSMEs:** MSMEs face delays in payment from their buyers which also includes the government. It also faces delays in GST refunds.

Note:

Revised definition for MSME

- ⌚ Under the new MSME Classification MSMEs will now be defined in a composite manner, taking **both investments as well as turnover into account.**
 - ⊙ **Micro:** Any firm with **investment up to Rs 1 crore and turnover under Rs 5 crore**
 - ⊙ **Small:** Any firm with **investment up to Rs 10 crore and turnover upto Rs 50 crore.**
 - ⊙ **Medium:** Any firm with **investment up to Rs 20 crore and turnover under Rs 100 crore.**

Way Forward

- ⌚ Along with the **Atma Nirbhar Bharat Abhiyan package** of the Central Government, the ReStart Programme will further provide much needed relief to the people engaged in this sector. Other States may also follow in the true spirit of cooperative and competitive federalism in order to support the backbone of Indian Economy.
- ⌚ Further, the government can provide tax relief, give swifter refunds, and provide liquidity to rural India to boost demand for MSME products.

Relaxation for Limited Category of OCIs

Why in News

The Ministry of Home Affairs has relaxed the Visa and travel restrictions for a limited category of stranded **Overseas Citizen of India (OCI)** cardholders to come to the country.

Key Points

- ⌚ The life-long visa to OCIs was temporarily suspended in March in the wake of **Covid-19** pandemic.
- ⌚ Several OCIs were feeling discriminated against as it stopped them from flying to India on the special flights being arranged by the government under the **Vande Bharat scheme.**
- ⌚ The **categories allowed** by the MHA on include:
 - ⊙ Minors born to Indian nationals abroad and holding OCI cards.
 - ⊙ Those who wish to come to India on account of family emergencies.
 - ⊙ Couples where one spouse is a cardholder and the other is an Indian national and they have a permanent residence in India.

- ⊙ University students who are cardholders (not legally minors) but whose parents are Indian citizens living in India.

Overseas Citizenship of India Scheme

- ⌚ A Committee on the Indian Diaspora under the **Chairmanship of L.M. Singhvi, in 2002** recommended the amendment of the Citizenship Act (1955) to provide for grant of **dual citizenship to the Persons of Indian Origin (PIOs)** belonging to certain specified countries.
- ⌚ Accordingly, the Citizenship (Amendment) Act, 2003, made provision for acquisition of Overseas Citizenship of India (OCI) by the PIOs of 16 specified countries other than Pakistan and Bangladesh.
- ⌚ Later, the Citizenship (Amendment) Act, 2005, expanded the scope of grant of **OCI for PIOs of all countries** except **Pakistan and Bangladesh** as long as their home countries allow dual citizenship under their local laws.
- ⌚ It must be noted here that the **OCI is not actually a dual citizenship** as the Indian Constitution **forbids dual citizenship or dual nationality (Article 9).**
 - ⊙ OCI does **not confer political rights.**
 - ⊙ The registered Overseas Citizens of India shall not be entitled to the rights conferred on a citizen of India under article 16 of the Constitution with regard to equality of opportunity in matters of public employment.
- ⌚ The Citizenship (Amendment) Act, 2015, replaced the nomenclature of "Overseas Citizen of India" with that of "Overseas Citizen of India Cardholder".
- ⌚ The OCI scheme provides facilities like life-long visa, exemption from registration with Foreigners Regional Registration Office and parity with NRIs in economic, financial and educational fields except purchase of agricultural properties, political and public employment rights.

States' Share in PMMSY and FME

Why in News

Recently, the Cabinet has approved the implementation of the **Pradhan Mantri Matsya Sampada Yojana (PMMSY)** and **Formalisation of Micro Food Processing Enterprises (FME).**

Note:

- ⌚ Both the schemes were announced in the **third tranche of the Rs. 20 lakh crore economic package** under **Atmanirbhar Bharat Abhiyan**.
- ⌚ It has been observed that about Rs. 30,000 crore worth of above schemes will rely on **40% share from states**.

Pradhan Mantri Matsya Sampada Yojana

- ⌚ **Aim:** The Pradhan Mantri Matsya Sampada Yojana (PMMSY) was first mentioned during the 2019-20 Budget.
 - ⦿ It aims to bring a **blue revolution** through sustainable and responsible development of the fisheries sector in India.
 - ⦿ It also intends to augment fish production and productivity at an annual growth rate of **9% to achieve a target of 22 million metric tons by 2024-25**.
 - ⦿ It strives to create direct employment to **15 lakh fishers, fish farmers**, etc. and about thrice this number as indirect employment opportunities.
 - ⦿ It also aims to **double the incomes** of fishers, fish farmers and fish workers by **2024**.
- ⌚ **Time Period:** The Scheme will be implemented during a **period of 5 years** from the Financial Year (FY) 2020-21 to FY 2024-25.
- ⌚ **Funding:** It has a total estimated investment of Rs 20,050 crore. The investment share is segregated as:
 - ⦿ **Central Share:** Rs 9,407 crores.
 - ⦿ **States' Share:** Rs 4,880 crores.
 - ⦿ **Beneficiaries' Share:** Rs 5,763 crores.
- ⌚ **Implementation:** The PMMSY will be implemented as an umbrella scheme with two separate Components namely,
 - ⦿ **Central Sector Scheme (CS):**
 - ⌘ **Non-beneficiary Oriented:** The entire project cost will be borne by the Central government (i.e. 100% central funding).
 - ⌘ **Beneficiary Oriented:** The individual/group activities undertaken by the entities of central government including the National Fisheries Development Board (NFDB), the central assistance will be up to 40% of the project cost for General category and 60% for SC/ST/Women category.
 - ⦿ **Centrally Sponsored Scheme (CSS):**
 - ⌘ **Non-beneficiary Oriented:** All the sub-components/activities will be implemented by

the States/UTs, the entire project/unit cost will be shared between Centre and State.

- ⌘ **Beneficiary Oriented:** The individual/group activities under this component to be implemented by the States/UTs. The financial assistance of both Centre and State/UTs governments together will be limited to **40% of the project cost** for General category and **60% of the project cost** for **SC/ST/Women**.
- ⦿ The Centre and State financial assistance for **CS** and **CSS** as mentioned above will be shared as given below:
 - ⌘ **North Eastern & Himalayan States:** 90% Central share and 10% State share.
 - ⌘ **Other States:** 60% Central share and 40% State share.
 - ⌘ **Union Territories (with legislature and without legislature):** 100% Central share.

Formalisation of Micro Food Processing Enterprises

- ⌚ **Aim:**
 - ⦿ The Scheme for Formalisation of Micro Food Processing Enterprises (FME) intends to increase access to finance and revenue targets for the micro **food processing enterprises**. It also targets **2,00,000 micro-enterprises** to be assisted with credit linked subsidies.
 - ⦿ It envisages increased access to credit by existing micro food processing entrepreneurs, women entrepreneurs and entrepreneurs in the **Aspirational Districts**.
 - ⦿ The project is likely to generate **9 lakh skilled and semi-skilled jobs**.
 - ⦿ It will also help to integrate micro food processing enterprises with the organized markets.
- ⌚ **Features:**
 - ⦿ It is a **Centrally Sponsored Scheme (CSS)** on All India basis with an outlay of Rs. 10,000 crore.
 - ⦿ The expenditure will be shared by the Centre and the States in a **ratio of 60:40**.
 - ⦿ Scheme will be implemented over a **5 year period** from **2020-21 to 2024-25**.
 - ⦿ The Scheme will majorly **focus on perishables**.
 - ⦿ The Scheme would be monitored at Centre by an Inter-Ministerial Empowered Committee (IMEC)

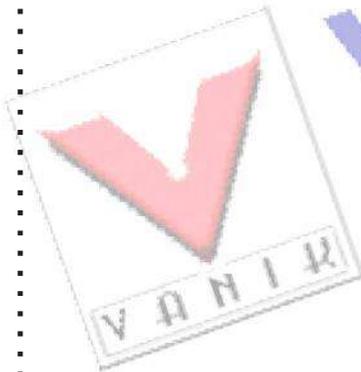
Note:

under the Chairmanship of Food Processing Industries Minister.

- ⊙ A State/UT Level Committee (SLC) chaired by the Chief Secretary will monitor and sanction/recommend proposals for expansion of micro

units and setting up of new units by the **Self Help Groups (SHGs)/Farmer Producer Organizations (FPOs)**/ Cooperatives.

- ⊙ The Scheme also envisages the third party evaluation and mid-term review mechanism in the programme.



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International Relations

Highlights

- ⌘ G-7 Summit
- ⌘ Aksai Chin
- ⌘ Increased Chinese Transgression
- ⌘ USA Offers Mediation Between India and China
- ⌘ USA Bill to Put Sanction on China
- ⌘ India-Nepal Border Dispute
- ⌘ Afghanistan's Power-Sharing Deal
- ⌘ WHO Foundation
- ⌘ India to Chair WHO Executive Board
- ⌘ Push for Probe into Covid-19 Origin
- ⌘ United Nations Relief and Works Agency
- ⌘ Protocol on Inland Water Transit and Trade
- ⌘ India Resumes Purchase of Malaysian Palm Oil
- ⌘ Open Skies Treaty
- ⌘ One Sun One World One Grid
- ⌘ Egypt-Ethiopia Conflict on GERD

G-7 Summit

Why in News

Recently, the President of the USA made an announcement to host the **46th G7 summit** in-person instead of remotely by videoconference.

- ⌚ Originally, the annual **G7** summit was scheduled to be held on 10th June to 12th June 2020 in **Camp David, United States**.

Key Point

⌚ G7:

- ⌚ G-7 is a bloc of industrialized democracies (**France, Germany, Italy, the UK, Japan, the USA and Canada**).
- ⌘ The world's biggest population and second-biggest economy, China has relatively low levels of wealth per head of population. Thus it is not considered as an advanced economy like other G7 members. **Hence China is not a member of G7.**
- ⌚ It is an **intergovernmental organisation** that was formed in **1975**.
- ⌚ The bloc meets **annually** to discuss issues of common interest like global economic governance, international security and energy policy.



- ⌚ The G7 was known as the '**G8**' for several years after the original seven were **joined by Russia in 1997**.

- ⌘ The Group returned to being called G7 after **Russia was expelled as a member in 2014** following the latter's annexation of the Crimea region of Ukraine.

⌚ Summit Participation:

- ⌚ Summits are held annually and hosted on a **rotation basis by the group's members**.
- ⌚ The host country not only holds the G7 presidency but also sets the agenda for the year.
- ⌚ The groundwork for the Summit, including matters to be discussed and follow-up meetings, is done by the **sherpas**, who are generally personal representatives or members of diplomatic staff such as ambassadors.
- ⌚ The leaders of important international organizations like European Union, IMF, World Bank and the United Nations are also invited.

⌚ Challenges and Concerns:

- ⌚ Internally the G7 has a number of disagreements like clash of the USA with other members over taxes on imports and action on climate change.
- ⌚ The organisation has also been criticised for **not reflecting the current state of global politics or economics**.
- ⌚ There are **no G7 members from Africa, Latin America or the southern hemisphere**.
- ⌚ It is also facing a challenge from fast-growing

Note:

emerging economies, like India and Brazil are not members of the G7.

India and G-7

- ⌚ The participation of India at the **45th summit in Biarritz, France**, is a reflection of deepening strategic partnership and recognition of India as a major economic power.
- ⌚ While India has found the **European Union** a difficult jurisdiction to navigate diplomatically, a better relationship between India and European Union is emerging as a policy priority under G-7.
- ⌚ India's ability to safeguard its core sovereign concerns such as trade, **Kashmir issue** and **India's relations with Russia** and Iran can be discussed with G7 members.
- ⌚ India raised issues on **climate change** and at meetings which signaled India's growing willingness to lead on issues that are points of contention for countries like China and the USA.

Way Forward

- ⌚ G-7 must focus on the key international issues like terrorism, climate change, trade and internal conflicts between the countries.
- ⌚ As a platform it must reflect the solutions for the pressing issues and global concerns like elimination of poverty and diseases.
- ⌚ It should support the economies at the global level and help to establish the equal levels for each country.

Aksai Chin

Why in News

Recently, Chinese media has accused India of building defence facilities in the Galwan Valley region of the contested Aksai Chin area.

Key Points

- ⌚ China controls Aksai Chin area, while India claims that it is part of Indian territory (Union territory of Ladakh).
- ⌚ The latest round of conflict comes days after Indian and Chinese troops clashed in the **NakuLa area in north Sikkim and Pangong Tso in eastern Ladakh**.
- ⌚ India and China have an **unresolved 3488 km long border dispute** that has cast a shadow on ties for decades.

- ⌚ However, in the **Wuhan** and **Mahabalipuram** summits, both China and India had reaffirmed that they will make efforts to "ensure peace and tranquility in the border areas".
- ⌚ Also, on 1st April, 2020 **India and China completed their 70 years of diplomatic relations**.

Dispute over Aksai Chin

- ⌚ During the time of British rule in India, two borders between India and China were proposed- **Johnson's Line and McDonald Line**.
 - ⌚ The Johnson's line (proposed in 1865) shows Aksai Chin in erstwhile Jammu and Kashmir (now Ladakh) i.e. under India's control whereas McDonald Line (proposed in 1893) places it under China's control.
 - ⌚ India considers Johnson Line as a correct, rightful national border with China, while on the other hand, China considers the McDonald Line as the correct border with India.
- ⌚ At present, Line of Actual Control (LAC) is the line separating Indian areas of Ladakh from Aksai Chin. It is concurrent with the Chinese Aksai Chin claim line.



Increased Chinese Transgression

Why in News

Recently, there has been a marked increase in the number of **Chinese transgressions** across the disputed India-China border in Ladakh.

- ⌚ In Ladakh, a **surge of 75%** have been observed in **2019** compared to 2018 and the **first four months of 2020** have also witnessed an **increase** compared to 2019.

Note:

Key Points

- ⌚ **Chinese Transgression:**
 - ⊙ The **border** between India and China is **not fully demarcated** and the **Line of Actual Control (LAC)** is neither clarified nor confirmed by the two countries.
 - ⊙ This leads to different perceptions of the LAC for the two sides while soldiers from either side try to patrol the area.
 - ⊙ **Observation Methods:** Use of surveillance equipment, face-offs by patrols, reliable indications by locals, or evidence left by the Chinese in the form of wrappers, biscuit packets etc. in an unmanned area.
 - ⊙ Official data shows that **80%** of Chinese transgressions across the LAC since 2015 have taken place in **four locations** of which **three are in eastern Ladakh** in the western sector.
 - ⌘ These areas of eastern Ladakh are **Pangong Tso, Trig Heights and Burtse**.
 - ⌘ The fourth area is the **Dichu Area/Madan Ridge area** (Arunachal Pradesh) of the Eastern sector.
 - ⊙ **Implications of Increased Number of Transgressions:**
 - ⌘ It is an indicator of **increased Chinese assertiveness**.
 - ⌘ Even if there are no major incidents, it should not be taken lightly.
 - ⌘ So far, there has been **no major standoff** between the two sides after the 73-day **Doklam standoff** on Sikkim-Bhutan border in 2017.

Different Sectors of India-China Border

- ⌚ India and China share a boundary that stretches **3,488 km** from **Ladakh to Arunachal Pradesh**.
- ⌚ The **border dispute** still stands **unresolved**.
- ⌚ It is **divided into three sectors:**
 - ⊙ **Western Sector:** It falls in the Union Territory (UT) of Ladakh and is 1597 km long.
 - ⌘ It witnesses the **highest transgressions** between the two sides.
 - ⊙ **Middle Sector:** It falls in Uttarakhand and Himachal Pradesh and is 545 km long.
 - ⌘ It is the **least disputed** sector between the two countries.
 - ⊙ **Eastern Sector:** It falls in the states of Sikkim and Arunachal Pradesh and is 1346 km long.

Concerns

- ⌚ India is worried about the **tensions at Naku La in Sikkim and at Galwan river and Pangong Tso in Ladakh**.
- ⌚ The increased transgressions lead to **more tensions** between both countries which are already struggling to contain the **Covid-19 pandemic**.
- ⌚ **Nepal's recent behaviour on the Mansarovar Link Road** raising the **border map issue** also raises Indian concerns.
- ⌚ The **constant accusations** on each other also cause tensions and disrupt the peace on borders.
 - ⊙ Recently, Chinese media accused India of building defence facilities in the **Galwan Valley region** of the contested **Aksai Chin area**.
- ⌚ India and China are both **nuclear-armed countries** with **strong militaries** and the constant border conflicts are not a desirable thing.

Way Forward

- ⌚ In the **Wuhan and Mahabalipuram summits**, both China and India had **reaffirmed** that they will make efforts to **ensure peace and tranquility in the border areas**.
- ⌚ On 1st April, 2020 **India and China completed their 70 years of diplomatic relations**.
- ⌚ Both countries have **resolved border issues peacefully in the past** four decades which gives the **hope** that the tensions will subside soon.
- ⌚ **Establishment of peace** between the two big powers of such an **important geopolitical region** is essential for their own **growth and development** as well as for **maintenance of global peace**.

USA Offers Mediation Between India and China

Why in News

Recently, the USA President has offered to **mediate between India and China** over the Indo-China border standoff.

- ⌚ The offer has come in the backdrop of the **ongoing standoff between India and China** along the **Line of Actual Control (LAC)**.

Note:

Background

- ⌚ Currently, India and China faces standoff at least four points along the LAC, including Pangong Tso lake, Demchok and **Galwan Valley** in Ladakh and **Naku La in Sikkim**.
- ⌚ The tensions between two countries escalated along the LAC after China ordered the military to scale up battle preparedness and asked it to resolutely defend the country's sovereignty.
 - ⊙ Subsequently, India has also increased its presence on **the boundary** with China in **North Sikkim, Uttarakhand, Arunachal Pradesh, along with Ladakh**.
- ⌚ So far, at least six rounds of talks have been held between **Indian and Chinese military commanders in Ladakh** on the ground but have failed to achieve a breakthrough.

Key Points

- ⌚ **Offer by USA:**
 - ⊙ The USA President has informed both India and China that the United States is willing and able to mediate or arbitrate their raging border dispute.
 - ⊙ It is the first time that the USA made such an offer to India and China, referring to the LAC situation as a “raging border dispute”.
 - ⌘ In the past, the USA had offered to **mediate between India and Pakistan** over Kashmir but it was rejected by India. India had cleared its position stating that the issue can only be discussed bilaterally.
 - ⊙ The offer comes amid ongoing issues between the **USA and China** over the origin of **Covid-19** and trade tensions between the two countries.
 - ⊙ Recently, the USA's National Security Adviser also said that the U.S. could impose sanctions on both Beijing and Hong Kong, if China were to go ahead and impose a **national security law on Hong Kong**.
- ⌚ **China's Stand:**
 - ⊙ China has cleared that both countries would resolve the standoff bilaterally. It has also stated that the situation at the border with India is “overall stable and controllable”.
 - ⊙ It has also stated that India and China have good border related mechanisms and communication channels and any issue can be resolved through dialogue and consultation.

India's Stand:

- ⊙ India has not given any official response to the USA's offer for mediation between India and China.
- ⊙ But, in the past India has rejected all offers for third party mediation.
- ⊙ India has been carrying out high level meetings to open diplomatic channels to resolve the issue peacefully.

Way Forward

- ⌚ The differing accounts in national and international media of escalation and continuing stalemate has created uncertainty in the scenario.
- ⌚ In the **Wuhan** and **Mahabalipuram** summits, both China and India had reaffirmed that they will make efforts to ensure peace and tranquility in the border areas.
- ⌚ Both countries have resolved border issues peacefully in the past four decades which gives the hope that the tensions will subside soon.
- ⌚ The peaceful resolution between India and China is essential for their own growth and development as well as for maintenance of global peace.

USA Bill to Put Sanction on China

Recently, the United States House of Representatives approved a legislation **calling for sanctions on Chinese officials responsible for oppression of Uighur Muslims**.

Key Points

- ⌚ The bill calls for **sanctions against those responsible for repression of Uighurs** and other **Muslim groups in China's Xinjiang province**.
 - ⊙ According to the **United Nations** estimates, more than **one million Uighurs Muslims** and members of other largely Muslim minority groups have been detained in camps in Xinjiang in a crackdown.
- ⌚ The bill also **calls on USA companies or individuals operating in the Xinjiang region** to take steps to ensure their products do not include parts using forced labor of Uighurs.
- ⌚ By passing the bill, the United States Congress has taken a firm step to counter China's human rights abuses against the Uighurs.
 - ⊙ It has sent a clear message that the Chinese government cannot act with impunity.

Note:

- ⌚ However, China denies the mistreatment in the camps and says the camps provide vocational training. China also refuses to allow independent inspections.
- ⌚ The bill has now been sent to the White House for President Donald Trump to veto or sign into law.
- ⌚ This approval of legislation should be observed in the context of recent developments in the US-China relationship which have become increasingly tense. Few noteworthy developments are:
 - ⊙ **Covid-19 Blame:** The **USA President has blamed China** again and again for worsening the Covid-19 pandemic.
 - ⊙ **Trade War:** Growing **trade war** between USA and China.
 - ⊙ Issue of Panchen Lama: **Over the release of Tibetan Buddhism's 11th Panchen Lama**, who was taken into captivity at the age of six.
 - ⊙ Hong Kong's Autonomy: China has approved a proposal for **bringing new national security legislation** in Hong Kong, despite apprehensions raised by the USA.
 - ⊙ **South China Sea:** China's growing assertiveness over the **South China Sea**.

Uighurs Muslims

- ⌚ The Uighurs are a **predominantly Muslim minority** Turkic ethnic group, whose origins can be traced to Central and East Asia.
- ⌚ The Uighurs are considered to be one of the 55 officially recognized ethnic minority communities in China.
 - ⊙ However, China recognises the community only as a regional minority and rejects that they are an indigenous group.
- ⌚ Currently, the largest population of the **Uighur ethnic community lives in Xinjiang region of China**.
 - ⊙ A significant population of Uighurs also lives in the neighbouring Central Asian countries such as Uzbekistan, Kyrgyzstan and Kazakhstan.

Way Forward

- ⌚ With the **USA signing out of major global deals** and taking a backstage in global scenario, China certainly has taken advantage of this and has become more assertive in recent past. It's up to the global community now to fix responsibility and accountability of major powers according to international laws and humanitarian values.

India-Nepal Border Dispute

Why in News

Recently, Nepal has released a **new political map that claims Kalapani, Limpiyadhura and Lipulekh of Uttarakhand as part of Nepal's territory**. The area of **Susta (West Champaran district, Bihar)** can also be noted in the new map.

Key Points

- ⌚ **India rejected the new map of Nepal** saying that Nepal's new map involves artificial enlargement of territories, which is **not based on historical facts and evidence**.
 - ⊙ Nepal's act is an unilateral act and is contrary to the bilateral understanding to resolve the outstanding boundary issues through diplomatic dialogue.
- ⌚ India has urged the Government of Nepal **to refrain from such an unjustified cartographic assertion and respect India's sovereignty and territorial integrity**.
- ⌚ India has also asked Nepal **to return to dialogue**.
- ⌚ Nepal's move came after India's Defence Minister recently **inaugurated a motorable link road** that connects **India and China**, significantly reducing the time of Kailash Mansarovar Yatra.
 - ⊙ The road passes through territory at the Lipulekh pass that Nepal claims as its own territory.
 - ⊙ Earlier, Nepal had protested strongly against India, when India published **a new map which showed the region of Kalapani as part of the Indian territory**.
 - ⊙ Nepal had also expressed **displeasure on the 2015 agreement between India and China** for using the Lipulekh pass for trade, without consulting Nepal.

Border Dispute Between India and Nepal

- ⌚ Currently, India and Nepal have border disputes over **Kalapani-Limpiyadhura-Lipulekh trijunction between India-Nepal and China** and **Susta area (West Champaran district, Bihar)**.
- ⌚ **Kalapani Region:**
 - ⊙ Kalapani is a valley that is administered by India as a part of the Pithoragarh district of Uttarakhand. It is situated on the Kailash Mansarovar route.
 - ✳ Kalapani is advantageously located at a height of over 20,000 ft and serves as an observation post for that area.

Note:

- ⊙ The **Kali River** in the **Kalapani region** demarcates the border between India and Nepal.
 - ⌘ The **Treaty of Sugauli** signed by the **Kingdom of Nepal and British India** (after **Anglo-Nepalese War**) in **1816** located the Kali River as Nepal's western boundary with India.
- ⊙ The discrepancy in locating the **source of the Kali river** led to boundary disputes between India and Nepal, with each country producing maps supporting their own claims.
- 🕒 **Susta Region:**
 - ⊙ The **change of course by the Gandak river** is the main reason for disputes in the Susta area.
 - ⊙ Susta is located on the bank of the **Gandak river**.
 - ⌘ It is called Narayani river in Nepal.
 - ⌘ It joins Ganga near Patna, Bihar.
- 🕒 **Nepal's Stand:**
 - ⊙ Nepal's claim is that the **Kali river originates from a stream at Limpiyadhura, north-west of Lipu Lekh**. Thus Kalapani, Limpiyadhura and Lipu Lekh, fall to the east of the river and are part of Nepal's Dharchula district.
 - ⊙ Nepal says Lipulekh was deleted from the country's map by the kings to get favours from India.
 - ⊙ Nepal also argues that it's new map is in fact a document that was in circulation in Nepal till the 1950s.
 - ⊙ It says, the territory of **Kalapani was offered to India by King Mahendra** after the 1962 India-China war who wanted to help India's security concerns due to perceived lingering Chinese threats.
 - ⊙ Nepal says Kalapani was **not a part of Nepal-India dispute**. It was Nepal's territory that the king had allowed India to use temporarily.
- 🕒 **India's Stand:**
 - ⊙ India's position is that the Kali originates in springs well below the **Lipu-lekh pass**, and the **Sugauli Treaty does not demarcate the area north of these streams**.
 - ⊙ The administrative and revenue **records of the nineteenth century also show that Kalapani was on the Indian side**, and counted as part of Pithoragarh district of Uttarakhand.
- 🕒 **Efforts to Solve Border Dispute:**
 - ⊙ In the 1980s, the two sides set up the **Joint Technical Level Boundary Working Group** to delineate the boundary.

- ⌘ The group demarcated everything except Kalapani and Susta area.
- ⊙ Officially, **Nepal brought the issue of Kalapani before India in 1998**. Both sides agreed to demarcate the outstanding areas (including Kalpani) by 2002 at the prime ministerial level talk held in 2000. But that has not happened yet.
- 🕒 **Issues Involved:**
 - ⊙ Nepal's **deliberate effort to make the Lipu-Lekh Pass a disputed tri-junction** (between India-China and Nepal) in which Nepal has an equal share.
 - ⊙ India perceives **Nepal to be tilting towards China** under the leadership of Prime Minister K P Oli and his Nepal Communist Party.
 - ⊙ Despite the open border between both countries and the people to people contact, **the levels of distrust in Nepal about India have only increased**.

Way Forward

- 🕒 Given the **importance of ties with Nepal**, often romanticised as one of "roti-beti" (food and marriage), India must not delay dealing with the matter, and at a time **when it already has a faceoff with China in Ladakh and Sikkim**.
- 🕒 Since the free movement of people is permitted across the border, Nepal enjoys immense strategic relevance from India's national security point of view, as terrorists often use Nepal to enter India.
 - ⊙ Therefore, **stable and friendly relations with Nepal** is one of prerequisites which India can't afford to overlook.
- 🕒 India should also try to convey to Nepal's leadership about the **congenial and friendly environment** that 6 to 8 million Nepali citizens living in India enjoy.
 - ⊙ Therefore, any thoughtless erosion of this centuries old togetherness may prove difficult for both countries.
- 🕒 The existing bilateral treaties between India and Nepal have not taken the shifting of Himalayan rivers into consideration. A primary reason for this is the **lack of an approach where ecological concerns** and needs of rivers are often discussed.
 - ⊙ Therefore, India and Nepal should try to resolve the boundary dispute by taking into account **all shared environmental characteristics**.

Note:

Afghanistan's Power-Sharing Deal

Why in News

Recently, Afghanistan's President Ashraf Ghani and his political rival Abdullah Abdullah have signed a power-sharing agreement.

Key Points

⌚ Power-sharing Deal:

- ⊙ According to the deal, Mr Ghani will remain the president while both Mr Ghani and Mr Abdullah will choose an equal number of ministers in the cabinet.
- ⊙ The deal calls for Mr Abdullah to lead the country's **National Reconciliation High Council**.
 - ⌘ The **Reconciliation Council** has been given the authority to handle and approve all **affairs related to Afghanistan's peace process including the peace talks with the Taliban**.

⌚ Background:

- ⊙ The deal has been signed two months **after the presidential election dispute** of September 2020 between Mr Ghani and Mr Abdullah.
- ⊙ The Election Commission **declared Mr Ghani to be the winner** of the presidential election **but Mr Abdullah** and the Elections Complaint Commission **charged widespread voting irregularities** in the election.
- ⊙ Following which both declared themselves the winner of the presidential election and have been locked in a power struggle since then.

⌚ USA-Taliban Peace Deal:

- ⊙ Earlier, a **peace deal between the USA Government and the Taliban** was signed on 29th February 2020.
 - ⌘ The deal calls for **USA and North Atlantic Treaty Organization (NATO) troops to leave Afghanistan**.
- ⊙ The USA-Taliban peace deal is seen as Afghanistan's **best chance to come at peace in decades of war**.
- ⊙ Since then, the USA has been trying to get the **Taliban and the Afghan government to begin intra-Afghan negotiations** but the political turmoil and personal hostility between Mr Ghani and Mr Abdullah have impeded talks.

- ⊙ This prompted the USA government to announce that it would cut \$1 billion in assistance to Afghanistan if the two weren't able to work out their differences.

⌚ India's Stand:

- ⊙ India has welcomed the power-sharing deal.
- ⊙ It hopes that the **power-sharing deal** will result in renewed efforts for **establishing enduring peace and stability** and **putting an end to externally-sponsored terrorism and violence in Afghanistan**.

⌚ Importance of Afghanistan for India:

- ⊙ Afghanistan's main advantage is its geography.
 - ⌘ Anyone who controls Afghanistan controls the land routes between the Indian subcontinent, Iran and resource-rich Central Asia.
- ⊙ Economically, it is a gateway to the oil and mineral-rich Central Asian republics.
- ⊙ Afghanistan has become the second-largest recipient of Indian foreign aid over the last five years.
- ⊙ India has become more and more popular in Afghanistan not only because of its soft power but also by setting up infrastructure, including hospitals, roads and dams and contributing to the fabric of a democratic nation-state.

WHO Foundation

Why in News

The **World Health Organization (WHO)** has created a foundation that will enable it to tap new sources of funding, including the general public.

Key Points

- ⌚ **Status:** Legally independent from the WHO. This will facilitate contributions from the general public (philanthropic contributions).
- ⌚ **Headquarter:** Geneva, Switzerland (WHO is also headquartered in Geneva).
- ⌚ **Objective:** Support global public health needs, from prevention, mental health, and non-communicable diseases to emergency preparedness, outbreak response and health system strengthening.
 - ⊙ In view of the **Covid-19 pandemic**, the WHO Foundation will initially focus on **emergencies and pandemic response**.

Note:

- ⌚ **Goal:** Broaden WHO's donor base and work towards more sustainable and predictable funding.
 - ⊙ It will provide funds to WHO and trusted implementing partners in order to achieve WHO's "**triple billion**" goals. These goals aim to:
 - ⌘ **Protect:** Protect 1 billion people from health emergencies.
 - ⌘ **Universal Health Coverage:** Extend universal health coverage to 1 billion people.
 - ⌘ **Health and Wellbeing:** Assure healthy lives and wellbeing to 1 billion people by 2023.
- ⌚ **Promising Initiative:** The success of **Covid-19 Solidarity Response Fund**, which has been able to raise around \$214 million from more than 4,00,000 individuals and companies in just two and a half months highlights the **potential this "foundation" can have in tapping potential resources.**

Background

- ⌚ WHO has little discretion over the way it spends its funds. A **robust and more reliable funding mechanism** was needed.
 - ⊙ Less than 20% of WHO's budget comes in the form of flexible assessed contributions from Member States, while more than 80% is voluntary contributions, from Member States and other donors, which are **usually tightly earmarked for specific programmes.**
- ⌚ **WHO's Funding:** There are four kinds of contributions that make up funding for the WHO.
 - ⊙ **Assessed Contributions:** These are the dues countries pay in order to be a member of the Organization. The amount each Member State must pay is calculated relative to the country's wealth and population.
 - ⊙ **Specified Voluntary Contributions:** They come from Member States (in addition to their assessed contribution) or from other partners.
 - ⊙ **Core Voluntary Contributions:** They allow less well-funded activities to benefit from a better flow of resources and ease implementation bottlenecks that arise when immediate financing is lacking.
 - ⊙ **Pandemic Influenza Preparedness (PIP) Contributions:** They were started in 2011 to improve and strengthen the sharing of influenza viruses with human pandemic potential, and to increase the access of developing countries to vaccines and other pandemic related supplies.

Way Forward

- ⌚ Over the past few decades, the WHO has been the **global leader** in numerous pandemics and outbreaks, including HIV/AIDS, Zika and Ebola. **Historical experiences and a strong understanding of cultural contexts** puts WHO in a prime position of a global leader to tackle coronavirus pandemic.
- ⌚ **Additional funding** can help the agency invest in some of its least funded areas such as diet, air quality, water and sanitation, investment in clean energy and promotion of healthy, sustainable food systems.
- ⌚ In this context, the establishment of this new funding mechanism offers a promise of building a better world after this pandemic. A world with focus on not just diseases but that on **promoting good health.**

India to Chair WHO Executive Board

Why in News

- Recently, India has been elected to the **World Health Organisation (WHO)**'s Executive Board. It will also be holding a **Chairmanship of the Executive Board** for the next one year (from May 2020- May 2021)
- ⌚ Currently, the **chairmanship** of the WHO Executive Board is being held by Japan.

Key Points

- ⌚ The proposal to appoint India's nominee to the executive board was signed by the 194-nation at the **73rd World Health Assembly** between 18-19 May, 2020.
- ⌚ In 2019, WHO's South-East Asia group had unanimously decided that India would be elected to the executive board for a **three-year-term** beginning from May, 2020.
 - ⊙ WHO Member States are grouped into **6 WHO regions** namely, African Region, Region of the Americas, South-East Asia Region, European Region, Eastern Mediterranean Region, and Western Pacific Region.
- ⌚ India has been elected along with **10 other countries** including Botswana, Colombia, Ghana, Guinea-Bissau, Madagascar, Oman, Republic of Korea, Russia, and the United Kingdom.

WHO Executive Board

- ⌚ **Composition:** The Executive Board is composed of 34 individuals technically qualified in the field of health, each one designated by a member state elected to do so by the World Health Assembly.
 - ⊙ Member States are elected for three-year terms.
- ⌚ **Chairman:** The chairman’s post is held by rotation for one year among regional groups.
 - ⊙ It is not a full time assignment and the chairman is just required to chair the Executive Board’s meetings.
- ⌚ **Meeting:** The Board meets at least twice a year.
- ⌚ **Functions:** The main functions of the Executive Board are to give effect to the decisions and policies of the World Health Assembly, to advise it and generally to facilitate its work.

World Health Assembly

- ⌚ The World Health Assembly is the **decision-making body** of WHO.
- ⌚ It is attended by delegations from all WHO Member States and focuses on a specific health agenda prepared by the Executive Board.
- ⌚ The main functions of the World Health Assembly are **to determine the policies of the Organization**, appoint the Director-General, supervise financial policies, and review and approve the proposed programme budget.
- ⌚ The Health Assembly is held **annually** in **Geneva, Switzerland**.

Push for Probe into Covid-19 Origin

Why in News

Recently, India joined 61 countries that have moved a proposal at the World Health Assembly to **identify the zoonotic source of the coronavirus**.

- ⌚ The World Health Assembly is the decision making body of the **World Health Organisation (WHO)**.
- ⌚ **Zoonotic** refers to diseases that can be passed from animals to humans.

Key Points

- ⌚ **The Proposal:**

- ⊙ It is a part of a seven-page draft resolution moved by 35 countries and the 27-member **European Union**.
- ⊙ It asks the WHO chief to work with the **World Organisation for Animal Health** to conduct scientific and collaborative field missions and the route of introduction to the human population (novel coronavirus), including the **possible role of intermediate hosts**.
- ⊙ The countries also demanded an “impartial, independent and comprehensive evaluation” of the World Health Organization’s (WHO) response to **Covid-19**.
 - ⌘ Earlier, the WHO was slammed for accepting the findings given by China on face-value. The **US has even suspended funding to the body**.
- ⌚ **Signatories of the Proposal:**
 - ⊙ The resolution is supported by three of the five permanent members of the **UN Security Council** — UK, Russia and France — along with Japan, Australia, South Korea, New Zealand, South Africa and Turkey.
 - ⊙ From the **South Asian Association for Regional Cooperation (SAARC)** nations, only India, Bangladesh and Bhutan have signed up.
- ⌚ **India’s stand:**
 - ⊙ This is the **first time India has taken a position** in an international forum on the origin of the virus and the need for an independent evaluation of WHO’s response to the crisis.
 - ⊙ Earlier, India had maintained that it is engaged in the fight against Covid-19, and will revisit the issue after the crisis is over.
 - ⌘ But Prime Minister Modi did indicate India’s stand at the G20 summit in March where he backed WHO reform and referred to the need for transparency and accountability.
 - ⊙ The virus has cost loss of livelihoods, poverty increase and economic crisis in each sector of India.
- ⌚ **Role of China and its Response:**
 - ⊙ The virus is widely believed to have originated from China’s Wuhan, where the first case of Covid-19 was reported.
 - ⊙ China is accused of concealing crucial information in relation to its spread and clinical diagnosis.
 - ⊙ China had stated in its defence that it may support a review “at an appropriate time”, but criticised

Note:

the politicisation of the virus's origin by the US and some other countries, and an inquiry "based on the presumption of guilt".

- ✳ It said that Wuhan city has first reported Covid-19 cases, but that does not mean the virus originated in Wuhan.

United Nations Relief and Works Agency

Why in News

Recently, the **United Nations Relief and Works Agency (UNRWA)**, has applauded India's financial support to keep its basic services operating, under the **Covid-19** crisis.

Key Points

- ⌚ The Government of India provided **USD 2 million to the UNRWA** in support of its core programmes and services, including education and health.
- ⌚ India had increased its annual contribution to the UNRWA from USD 1.25 million in 2016 to USD 5 million in 2019.
- ⌚ India has also pledged another USD 5 million for 2020 which opens its way to become a member of the agency's advisory commission.

United Nations Relief and Works Agency

- ⌚ It is a United Nations agency established by the **General Assembly in 1949**.
- ⌚ It supports the relief and human development of **Palestinian refugees** across its five fields of operation.
 - ⌚ Its services encompass education, health care, relief and social services, camp infrastructure and improvement, protection and microfinance.
- ⌚ Its mission is to help Palestine refugees **in Jordan, Lebanon, Syria, West Bank, including East Jerusalem and the Gaza Strip**.
 - ⌚ Palestine refugees are defined as persons whose normal place of residence was Palestine during the period 1 June 1946 to 15 May 1948, and who lost both home and means of livelihood as a result of the 1948 conflict.
- ⌚ It is funded almost entirely by **voluntary contributions** and financial support.

Background

- ⌚ 17 agreements have been signed under an **India-Palestine development partnership** between the two sides in the fields of agriculture, health care, information technology, youth affairs, consular affairs, women empowerment and media.
 - ⌚ India would provide an assistance of around USD 72 million through these agreements in projects like the post-2014 war reconstruction efforts in Gaza, construction of schools, setting up a centre of excellence for information and communication technologies at Al-Quds University and developing a satellite centre in Ramallah.
- ⌚ In March 2020, a delegation of **United Nations Committee on the Exercise of the Inalienable Rights of the Palestinian People (CEIRPP)** visited India intended to engage India in the settling of the question of Palestine.
 - ⌚ India has reiterated its stand and supported the Two-State solution for the **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.

Protocol on Inland Water Transit and Trade

Why in News

Recently, the second Addendum to the Protocol on **Inland Water Transit and Trade** was signed between **India and Bangladesh**.

- ⌚ The Protocol will further facilitate the trade between two countries with improved reliability and cost effectiveness.

Key Points

- ⌚ **Protocol on Transit and Trade:** Bangladesh and India have a long standing and time-tested Protocol on Transit and Trade through **inland waterways**.
 - ⦿ This Protocol was first signed in 1972.
 - ⦿ It was last renewed in 2015 for five years with a provision for its automatic renewal for a further period of five years.
- ⌚ **Second Addendum to the Protocol:** The second addendum includes new Indo Bangladesh Protocol (IBP) routes and declaration of new Ports of Call to facilitate trade between the two countries.
 - ⦿ **Routes:**
 - ⌘ As per the Protocol on Inland Water Transit and Trade, inland vessels of one country can transit through the specified routes of the other country. Under the Protocol, **50:50 cargo sharing by Indian and Bangladeshi vessels** is permitted both for transit and inter country trade.
 - ⌘ The number of IBP routes has been **increased from 8 to 10**.
 - ⌘ Inclusion of Sonamura-Daudkandi stretch of **Gumti river** in the Protocol will improve the connectivity of Tripura and adjoining States with Indian and Bangladesh's economic centres.
 - ⌘ The operationalization of **Rajshahi-Dhulian-Rajshahi Route** and its extension up to Aricha, Bangladesh will help the augmentation of infrastructure in Bangladesh. It will also decongest the Land Custom Stations on both sides.
 - ⦿ **Port of Call:**
 - ⌘ A port of call is an intermediate port where ships customarily stop for supplies, repairs, or transshipment of cargo.
 - ⌘ There were six Ports of Call each in India and Bangladesh under the Protocol. These are Kolkata, Haldia, Pandu, Karimganj, Silghat and Dhubari in India and Narayanganj, Khulan, Mongla, Sirajganj, Ashuganj and Pangaon in Bangladesh.
 - ⌘ Five new ports of call: Dhulian, Maia, Kolaghat, Sonamura and Jogigopha are on the Indian side

while Rajshahi, Sultanganj, Chilmari, Daudkandi and Bahadurabad are on the Bangladesh side.

- ⌘ Two extended Ports of Call i.e. Tribeni (Bandel), West Bengal and Badarpur, Assam on Indian side and Ghorasal and Muktarpur on the Bangladesh side.
- ⌘ Inclusion of Jogighopa in India and Bahadurabad in Bangladesh will provide connectivity to Meghalaya, Assam and Bhutan.
- ⌘ Multimodal Logistics Park is proposed to be established in Jogighopa.
- ⌚ **Movement on shallow draft mechanized vessels:**
 - ⦿ It would introduce trade between Chilmari (Bangladesh) and Dhubri (India) through the use of shallow draft mechanized vessels.
 - ⦿ This would allow export of stone chips and other Bhutanese and North East cargo to Bangladesh.
 - ⦿ It would give an easy access for the traders to the hinterland of Bangladesh, enhancing the local economy in Bangladesh and the lower Assam region of India.
- ⌚ **New opportunities on cargo movement:**
 - ⦿ Under this Protocol, Inland vessels of both the countries can work on the designated protocol route and dock, notified for loading/unloading of cargo.
 - ⦿ The Indian transit cargo is mainly coal, fly-ash, Over Dimensional Cargo (ODC) for power projects in North East region.
 - ⦿ The other potential cargo for movement is fertilizers, cement, food grains, agricultural products, containerized cargo etc.

India Resumes Purchase of Malaysian Palm Oil

Why in News

Recently, India has resumed purchases of **Malaysian palm oil after a gap** of four-month following a diplomatic row between the two countries.

Background

- ⌚ The former Prime Minister had criticised India's **Citizenship Amendment Act (CAA)** which was considered as an **interference in the internal matter** of India.

Note:

- ⌚ Subsequently, the **diplomatic row** emerged between the two countries.
- ⌚ Following the incident, India imposed a ban on imports of palm oil from Malaysia.
- ⌚ The **renewed purchases** come amid improving trade relations between India and Malaysia after the formation of a new government in Malaysia.
 - ⊙ India's total palm oil imports from Malaysia for the **first four months of 2020** fell by **more than 50%** from the **same period in 2019**.

Key Points

- ⌚ **India's Palm Oil import:**
 - ⊙ India is the **world's biggest buyer of edible oils**.
 - ⊙ India buys **more than two-thirds** of its total edible oil imports as palm oil.
- ⌚ **Malaysian Import over Indonesia:**
 - ⊙ Malaysia is the **world's second largest producer** of palm oil after **Indonesia**.
 - ⊙ Malaysia's palm oil inventories production has surged and **coronavirus lockdowns** led to a slump in demand.
 - ⊙ Thus, Malaysian palm oil is available at a discount price compared to supplies from Indonesia. On the other hand, **Indonesia has also raised its palm oil export levy**.
 - ⊙ Additionally, Malaysia has also signed a deal to buy 100,000 tonnes of Indian rice.

India-Malaysia Relation

- ⌚ India established diplomatic relations with Malaysia in **1957**.



Economic Relation:

- India and Malaysia have signed Comprehensive Economic Cooperation Agreement (CECA). CECA is a kind of **Free Trade Agreement (FTA)**.
- ⊙ India has also signed the Free Trade Agreement (FTA) in services and investments with the 10-member **Association of Southeast Asian Nations (ASEAN)**.
 - ⌘ Malaysia is the third largest trading partner in ASEAN.

- ⊙ Bilateral trade between India and Malaysia is **significantly biased in favour of Malaysia**.

- ⌚ **Defence & Security Cooperation:** Joint military exercises "Harimau Shakti" are held annually between the two countries.
- ⌚ **Traditional medicine:** India and Malaysia have signed a MoU on cooperation in the field of Traditional Medicine in October 2010.
 - ⊙ The Government of Malaysia has been working to popularize **AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy) systems** in Malaysia.
 - ⊙ AYUSH systems are practiced in Malaysia.

Open Skies Treaty

Why in News

Recently, the USA has announced that it will exit the **Open Skies Treaty (OST)** due to continuous violation of the treaty by Russia and changes in the security environment.

Key Points

- ⌚ It is expected to formally pull out of Open Skies in six months.
- ⌚ **USA's Stand:** The USA has blamed Russia for restricting USA flyovers in neighbour Georgia and its military enclave in Kaliningrad (Russia).
 - ⊙ Russia misused its flights over the USA and Europe to identify critical infrastructure for potential attack in a time of war.
 - ⊙ Russia intends to annex the Crimean peninsula and has designated an Open Skies refueling airfield in the region.
 - ⊙ Yet, the USA has expressed willingness to make a new agreement.
- ⌚ **Russia's Stand:** Russia has denied the allegations and warned that the withdrawal will affect the interests of all of 35 participating countries.
 - ⊙ However, Russia intended to fully follow all the rights and obligations under the treaty as long as the treaty is in force.
- ⌚ It can be noted that the USA has used the treaty more intensively than Russia.
 - ⊙ Between 2002 and 2016, the USA flew 196 flights over Russia compared to the 71 flights flown by Russia.

Note:

- ⌚ This move by the USA has further deepened doubts on extension of the **New START treaty**, which expires in February, 2021.

Open Skies Treaty

- ⌚ It was signed in 1992 and came into effect in 2002.
- ⌚ It is an agreement that allows its 34 signatories countries to monitor arm development by conducting **surveillance flights (unarmed)** over each other's territories.
- ⌚ Therefore, the **treaty established an aerial surveillance system** for its participants.
- ⌚ Both USA and Russia are signatories of the treaty.
- ⌚ India is not a member of this treaty.

Intermediate-Range Nuclear Forces Treaty

- ⌚ It was a nuclear arms-control accord reached by the USA and the Soviet Union in **1987** in which the two nations agreed to eliminate **their stocks of intermediate-range and shorter-range (or "medium-range")** land-based missiles (which could carry nuclear warheads).
- ⌚ It also covered all land-based missiles, including those carrying nuclear warheads but **did not cover sea-launched missiles**.
- ⌚ The USA withdrew from the Treaty on 2nd August 2019.

New START Treaty

- ⌚ The new **Strategic Arms Reduction Treaty (START)** is a treaty between the USA and the Russian Federation on measures for the further reduction and limitation of strategic offensive arms.
- ⌚ It entered into force on 5th February, 2011.
- ⌚ It is a successor to the START framework of 1991 (at the end of the Cold War) that limited both sides to 1,600 strategic delivery vehicles and 6,000 warheads.
- ⌚ The USA has been worried that extending New START would negatively impact an arms deal with China and Russia.
- ⌚ It is concerned that China's nuclear stockpile could be doubled if the treaty continued as is, without including China.
- ⌚ The Treaty also suffered from verification inadequacies and that the USA intended to **establish a new arms control regime which would include China**.

- ⌚ Throughout its term, the Trump administration has been skeptical of arms control agreements. In 2019, the USA and Russia walked away from the **1987 Intermediate-Range Nuclear Forces Treaty**.

One Sun One World One Grid

Why in News

Recently, the **Government of India** has called for bids to roll-out the '**One Sun One World One Grid**' (OSOWOG) plan.

- ⌚ The plan focuses on a framework for **facilitating global cooperation**, building a **global ecosystem of interconnected renewable energy resources** (mainly **solar energy**) that can be seamlessly shared.

Key Points

- ⌚ The **vision** behind the OSOWOG is '**The Sun Never Sets**' and is a constant at some geographical location, globally, at any given point of time.
- ⌚ This is by far **one of the most ambitious schemes undertaken by any country** and is of global significance in terms of sharing economic benefits.
- ⌚ It has been taken up under the **technical assistance program of the World Bank**.
- ⌚ OSOWOG plan may also **leverage the International Solar Alliance** (ISA), co-founded by India that has 67 countries as members.
- ⌚ With **India in the middle**, the solar spectrum can easily be divided into **two broad zones**, which are:
 - ⊙ **Far East** including countries like Myanmar, Vietnam, Thailand, Lao, Cambodia etc.
 - ⊙ **Far West** covering the Middle East and the Africa Region.
- ⌚ **Three Phases of the Plan:**
 - ⊙ **First Phase:** It deals with the **Middle East, South Asia and South-East Asia** (MESASEA) interconnection.
 - ⌘ Fostering cross-border energy trade is an important part of India's **Neighbourhood-first policy**.
 - ⌘ India has been supplying power to Bangladesh and Nepal and has been championing a **South Asian Association for Regional Cooperation** (SAARC) electricity grid minus Pakistan to meet electricity demand in the region.

Note:

- ⌘ The initial plans also involve setting up an **under-sea link** to connect with **Oman** in the West.
- ⊙ **Second Phase:** It deals with the MESASEA grid getting **interconnected with the African power pools**.
- ⊙ **Third Phase:** It is about **global interconnection**.
- ⌚ **Significance:**
 - ⊙ The proposed integration would lead to **reduced project costs, higher efficiencies and increased asset utilization** for all the participating entities.
 - ⊙ This plan will **require only incremental investment** because it will not require a parallel grid infrastructure due to working with existing grids.
 - ⊙ It will help all the participating entities in **attracting investments** in renewable energy sources as well as utilizing skills, technology and finances.
 - ⊙ Resulting economic benefits would **positively impact** poverty alleviation and support in mitigating water, sanitation, food and other socio-economic challenges.
 - ⊙ It will allow **national renewable energy management centres in India to grow** as regional and global management centres.
 - ⊙ This move, during the time of the **Covid-19 pandemic**, gives **India** the opportunity to be seen as **taking a lead in evolving global strategies**.
- ⌚ **Backdrops:**
 - ⊙ India is already expediting ISA's plan to set up the **World Solar Bank (WSB)** with a capital of USD 10 billion.
 - ⌘ WSB aims to compete with other newly created funding institutions like the **Asian Infrastructure Investment Bank (AIIB)** and the **New Development Bank (NDB)**.
 - ⊙ The **USA's withdrawal** from the **Paris climate deal**.
 - ⌘ OSOWOG will help to **mitigate its ill effects on climate** by providing clean and renewable energy sources, enabling member countries to fulfill their **Nationally Determined Contributions (NDCs)** towards reducing global warming.
 - ⊙ China's attempts to co-opt countries into its **One Belt One Road (OBOR)** initiative, a programme to invest billions of dollars in infrastructure projects, including railways, ports and power grids, across Asia, Africa and Europe.
 - ⌘ OSOWOG will provide a **strategic rebalance in**

favour of India and will **control the increasing Chinese dominance** in Asian subcontinent, providing a **better alternative** to developing countries.

Way Forward

- ⌚ The move is the **key to future renewable-based energy systems globally** because regional and international interconnected green grids can enable sharing and balancing of renewable energy across international borders.
- ⌚ It allows **grabbing opportunities to learn quickly from global developments** and share renewable energy resources to **reduce the global carbon footprint** and **insulate the societies from pandemics**.

Egypt-Ethiopia Conflict on GERD

Why in News

Recently, **Egypt** has announced that it is willing to resume negotiations with **Ethiopia** and **Sudan**, concerning the **Grand Ethiopian Renaissance Dam (GERD)**.

- ⌚ The dam is located on River **Blue Nile** (a tributary of River Nile) in Ethiopia and is the centre of a dispute involving several East-African countries, dependent on the river's waters.

Key Points

Ethiopia's new Nile dam



Note:

⌚ **Background:**

- ⊙ Ethiopia began the construction of the GERD in **2011** on the Blue Nile that runs across one part of the country.
 - ⌘ After completion, the dam hydropower project will be **Africa's largest**.
- ⊙ **Egypt has objected** to the construction of the dam and proposed a longer timeline for the project.
- ⊙ **Sudan** has also been **involved** due to its location.
- ⊙ The Nile is an important water source in the region so there are concerns that this dispute may evolve into a full-fledged conflict between Egypt and Ethiopia.
- ⊙ For the past four years, tri-party talks between Egypt, Ethiopia and Sudan have been unable to reach agreements.
- ⊙ Recently, the **USA** has stepped in to **mediate**.

⌚ **Dam's Importance for Ethiopia:**

- ⊙ Ethiopia believes that the dam will **generate approximately 6,000 megawatts** of electricity after completion.
 - ⌘ This dam will **reduce electricity shortages** and **help** the country's **manufacturing industry**.
- ⊙ It will also enable Ethiopia to **supply electricity to neighbouring nations** and **earn revenue** in exchange.
 - ⌘ Neighbouring countries like Kenya, Sudan, Eritrea and South Sudan also suffer from electricity shortages and they can also benefit from the hydropower project if Ethiopia decides to sell electricity to them.
- ⊙ Ethiopia sees the dam as a matter of **national sovereignty** and the dam project **does not rely on external funding** and relies on government bonds and private funds to pay for the project.

⌚ **Cause of Conflict:**

- ⊙ The hydropower project may just allow Ethiopia to control the Nile's waters, and this concerns **Egypt** because it **lies downstream on the Nile**.
 - ⌘ The dam would **jeopardise food and water security** and **livelihoods** of ordinary Egyptian citizens.
 - ⌘ Egypt has also written to the **United Nations Security Council (UNSC)** concerning the matter and has also implied that the dam **would cause armed conflict** between the two countries.

- ⊙ Egypt has **proposed a longer timeline** because it does not want the water level of the Nile to drastically drop as the dam reservoir needs plenty of water to fill in the initial stages.
 - ⌘ The longer it takes to fill the reservoir, the less impact will be there on the water level of the river.
- ⊙ **Sudan** too believes that Ethiopia having control over the river through the dam may **affect the water supplies** of the country. It has proposed **joint management** of the dam.
 - ⌘ Sudan is likely **to benefit from the power generated by the dam**.
 - ⌘ The **regulated flow of the river** will save Sudan from serious flooding in August and September.
- ⊙ There is a possibility that the conflict would **threaten the vital international trade** route through the **Suez Canal** and along the **Horn of Africa**.

River Nile

- ⌚ The name Nile is derived from the **Greek word Neilos** (Latin: *Nilus*), meaning a valley or a river valley.
- ⌚ It is the **longest river in the world** and is called the **father of African rivers**. It has a length of about 4,132 miles and drains an area estimated at 1,293,000 square miles.
- ⌚ It **rises south of the Equator** and **flows northward** through **northeastern Africa** to **drain into the Mediterranean Sea**.
 - ⊙ The Nile River forms an **arcuate delta** as it **empties into the Mediterranean Sea**. Deltas with triangular or fan-shape are called **arcuate (arc-like) deltas**.
- ⌚ The Nile is formed by **three principal streams**: the **Blue Nile**, the **Atbara**, and the **White Nile**.
- ⌚ **Drainage**: Parts of Tanzania, Burundi, Rwanda, the Democratic Republic of the Congo, Kenya, Uganda, South Sudan, Ethiopia, Sudan, and the cultivated part of Egypt.

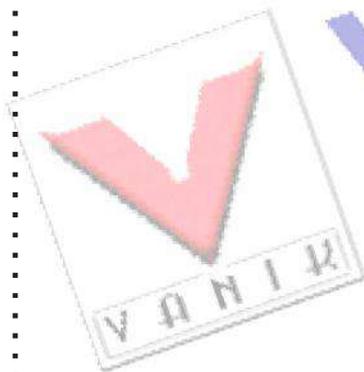
Way Forward

- ⌚ To solve the conflict peacefully, **mediation and facilitation** by the neighbouring countries and the international bodies are necessary.
- ⌚ In case, the attempt to resolve the conflict does not work out by facilitating negotiations between

Note:

the conflict parties, then a **compensation method** can be adopted which would need the countries to compensate each others' losses.

⌚ All countries involved in the issue need to **peacefully resolve** the issues so that they can **reap the advantages** of the dam and their **peace and security is restored** again.



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Science and Technology

Highlights

- ⌘ *Fibroin-based Hydrogel for Insulin*
- ⌘ *Lightweight Carbon Foam*
- ⌘ *New Super-Earth Planet*
- ⌘ *Malicious Software Cerberus*
- ⌘ *Agappe Chitra Magna Kit for Covid-19*
- ⌘ *South Atlantic Anomaly*
- ⌘ *Antarctic Impulsive Transient Antenna: ANITA*
- ⌘ *Arogya Setu App: An Open Source*
- ⌘ *Fabrication of Controlled Nanostructures*
- ⌘ *Tianwen-1: China's Mars Mission*
- ⌘ *Neutralising Antibodies Against Covid-19*

Fibroin-based Hydrogel for Insulin

Why in News

Recently, scientists at **Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR)**, have developed an **injectable silk fibroin-based hydrogel (or iSFH)** for sustained **insulin delivery** in **diabetic** patients.

⌚ JNCASR is an autonomous research institute under the **Department of Science and Technology**.

Key Points

⌚ Diabetes:

⌚ It results from **inadequate production of insulin** due to loss of **beta cells** (found in the pancreas which make insulin) **or insulin resistance** within the body.

⌘ Insulin helps glucose from food get into cells to be used for energy.

⌚ The inadequate production of insulin does not convert glucose into energy which leads to an abrupt **increase of blood glucose level**.

⌚ **India** is home to more than 70 million diabetes people, the second-highest in the world after China.

⌚ Treatment:

⌚ The conventional and last resort of treatment involves **repeated subcutaneous insulin injections** to maintain the physiological glucose balance.

⌘ Subcutaneous means under the skin.

⌚ Issues in Treatment:

⌚ The **multiple subcutaneous insulin** injections are associated with pain, local tissue necrosis (death of tissues), infection, nerve damage and locally concentrated insulin amyloidosis responsible for an inability to achieve physiological glucose balance.

⌘ Amyloidosis is a phenomenon that occurs when an abnormal protein, called amyloid, builds up in organs and interferes with their normal function.

⌚ **Solution:** Controlled and sustained insulin delivery.

⌚ **iSFH:** It can **ease insulin delivery in diabetic patients**.

⌚ The iSFH has successfully delivered active insulin in rats.

⌚ The subcutaneous injection of insulin with iSFH in diabetic rats formed an **active depot** under the skin from which **insulin trickled out slowly** and restored the physiological glucose balance for a prolonged period of 4 days.

⌚ The **porous form of iSFH** allowed the **encapsulation of recombinant insulin** (identical to human insulin) in its active form in diabetic rats.

⌚ It has proved to be an effective insulin delivery tool with excellent **mechanical strength, biocompatibility, encapsulation, storage** and demonstration of its **sustained delivery of active insulin** in the diabetic animal.

⌚ The **active encapsulation and delivery of insulin by iSFH** may also have implications for the future development of formulations for **oral insulin delivery**.

Note:

Silk Fibroin

- ⌚ Silk fibroins are the unique **proteins of silk worm fibres**.
- ⌚ Researchers have found fibroin as the **promising resources of biotechnology and biomedical materials**.
- ⌚ They have unique properties which include **biocompatibility (i.e. compatible with living tissue), favourable oxygen permeability and biodegradability**.
- ⌚ The **degradation product also can be readily absorbed by the body** with a minimal inflammatory reaction.

Hydrogel

- ⌚ A hydrogel is a three-dimensional network of **hydrophilic polymers** that can swell in water and hold a large amount of water while maintaining the structure due to chemical or physical cross-linking of individual polymer chains.

Lightweight Carbon Foam

Why in News

Recently, scientists (including a recipient of the INSPIRE Faculty award) from the CSIR-Advanced Materials and Processes Research Institute (Bhopal) have developed the **'lightweight carbon foam'** which has the potential to **replace lead grid in lead-acid batteries**.

Background

- ⌚ Currently, the large-scale energy-storage sector is dominated by **Lithium-ion (Li-ion) batteries**, because of their **higher energy density and long cycle life**.
 - ⊙ Energy density is the amount of energy that can be stored in a given mass of a substance or system, i.e. a measure of storage of energy.
- ⌚ However, there are some **concerns** regarding Li-ion batteries, such as safety risk, limited resource supply, high cost, and lack of recycling infrastructure.
- ⌚ As a result, **lead-acid batteries are still one of the most reliable, economical, and environmentally friendly options**.
 - ⊙ The Lead-acid battery is one of the **oldest types of rechargeable batteries** and was invented in **1859 by the French physicist Gaston Plante**.
 - ⊙ However, electrodes in the lead-acid batteries **suffer from the problem of heavyweight, corrosion, poor thermal stability, and diffusion of electrolytes**

in one dimension, which ultimately affects the output power.

- ⌚ The above issues necessitated the development of an **alternative battery system** with lower environmental concerns, economic and **higher energy density**.
- ⌚ Thus, currently developed lightweight carbon foam **can replace the lead-acid batteries** as the foam is **highly resistive to corrosion**, has **good electrical and thermal conductivity** with **high surface area**.

Key Points

⌚ Properties:

- ⊙ The developed lightweight carbon foam has **very less density and high porosity**.
- ⊙ It also has a **good mechanical strength** and is **insoluble in water**.

⌚ Uses:

- ⊙ It can also be useful for heat sinks in power electronics, electromagnetic interference shielding in aerospace, hydrogen storage, electrodes for lead-acid batteries and water purification systems.
 - ⌘ In the case of water purification systems it is cost-effective for the **removal of arsenic, oil, and other metals from contaminated water**.

⌚ Benefits:

- ⊙ These carbon foams are non-toxic, easy to fabricate and affordable.
- ⊙ The raw material for the fabrication of carbon foam is easily available and there is no requirement of any costly equipment for the fabrication of carbon foam and filtration.
- ⊙ Such materials can be safely used in remote areas where power supply is scarce.

⌚ Other Related Development:

- ⊙ Recently, a group of researchers (including a recipient of the INSPIRE Faculty Award) have also made significant achievements in developing **nanomaterials based supercapacitors** to achieve **high energy density and power density of supercapacitors**.

New Super-Earth Planet

Why in News

Recently, scientists have discovered a **rare new Super-Earth planet**. It is among only a handful of extra-solar

planets that have been detected with both sizes and orbits close to that of Earth.

- ⌚ An **exoplanet or extrasolar planet** is a planet **outside the Solar System**.

Key Points

⌚ Mass:

- ⊙ **Host Star:** The host star of the Super-Earth's system has about 10% the mass of the Sun. The lower mass of the host star makes a 'year' on the planet of approximately 617 days.

- ⊙ **Super-Earth Planet:** The planet is expected to have a mass between the Earth's mass and that of Neptune.



⌚ Orbit:

- ⊙ With reference to the Solar system, the Super-Earth planet would orbit at a radius anywhere between that of Venus and Earth in our solar system.

⌚ Planet Discovery:

- ⊙ The Super-Earth planet has been discovered using the gravitational microlensing technique.
- ⊙ **Gravitational microlensing** is an astronomical phenomenon due to the gravitational lens effect. It can be used to detect objects that range from the mass of a planet to the mass of a star, regardless of the light they emit.
 - ⌘ The microlensing effect is rare, with only about one in a million stars in the galaxy being affected at any given time.
- ⊙ Furthermore, such type of observation does not repeat, and the probabilities of catching a planet at the same time are extremely low.
- ⊙ The other methods for **exoplanets discovery** include:
 - ⌘ **Radial Velocity Method:** The planet causes the parent star to wobble around in its orbit, and as the planet moves to and fro, it changes the color of the light we see.
 - ⌘ **Transit Method:** When an exoplanet passes in front of its star, some of the starlight passes through its atmosphere. Scientists can analyze the colors of this light in order to get valuable clues about its composition.

- ⌘ **Direct Image Method:** The direct image can take pictures of exoplanets by removing the glare of the stars they orbit.

- ⌘ **Astrometry:** The orbit of the planet can cause a star to wobble around in spaces in relation to nearby stars in the sky. This method is quite similar to the Radial Velocity method. However, here scientists take a series of images of a star and some of the other stars that are near it in the sky. In each picture, they compare the distances between these reference stars and the star they're checking for exoplanets.

Exoplanet

- ⌚ An exoplanet or extrasolar planet is a planet outside the Solar System. The first confirmation of detection of exoplanets occurred in 1992.
- ⌚ Exoplanets are very hard to see directly with telescopes. They are hidden by the bright glare of the stars they orbit. So, astronomers use other ways to detect and study exoplanets such as looking at the effects these planets have on the stars they orbit.

Malicious Software Cerberus

Why in News

Recently, the **Central Bureau of Investigation (CBI)** has sent alerts to all the States, Union Territories and the central agencies on a **malicious software (Cerberus)** threat that is taking advantage of the **Covid-19** pandemic.

- ⌚ The **cyber alert** related to Cerberus has been sent on the basis of inputs received from the **Interpol**.

Key Points

- ⌚ **Cerberus:** It is a **Banking Trojan**. It is primarily used to steal financial data, such as credit card numbers.
- ⌚ **Trojan:**
 - ⊙ Trojan is a type of malicious code or software to damage, disrupt, steal, or inflict harmful action on data or network.
 - ⊙ The Trojan can also use overlay attacks to trick victims into providing personal information and can capture two-factor authentication details.
 - ⌘ **Overlay attacks:** An overlay attack happens when an attacker places a window over a legitimate application on the device. When the target application is running, the overlay opens

Note:

messages or data input forms identical to the real ones. Victims enter information (E.g. login credentials or bank card numbers), believing that they are dealing with the original program.

⌘ Two-factor authentication: It is a two step verification security process in which users go through two authentication processes to verify themselves.

⊙ Banking Trojan is a malicious program used in an attempt to obtain confidential information about customers and clients using online banking and payment systems.

⌚ **Working of Cerberus**

⊙ It takes advantage of the Covid-19 pandemic and sends SMS to lure a user to download the link containing the malicious software.

⊙ It deploys its malicious application usually spread via **phishing campaigns** to trick users into installing it on their smartphones.

⊙ **Phishing:** The email or text message carrying a link appears to come from a trusted source like a bank.

⌘ The link takes to a fake website and once details like login name and passwords are entered, the login credentials reach the hacker.

Agappe Chitra Magna Kit for Covid-19

Why in News

The Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) in collaboration with Agappe Diagnostics Ltd. has commercially launched the Agappe Chitra Magna Kit for detection of **Covid-19**.

⌚ SCTIMST is an Institute of National Importance under the Department of Science and Technology (DST).

Key Points

⌚ Agappe Chitra Magna is a **magnetic nanoparticle-based RiboNucleic Acid (RNA)** extraction kit.

Working:

⊙ It isolates RNA from the patient sample using magnetic nanoparticles.

⌘ SARS-COV-2, the causative virus of Covid-19 pandemic, is an **RNA virus**- a long single-stranded polymeric substance present in all living cells

that carries the genetic information of the organism necessary for life.

⌘ One of the critical steps in detecting this virus is by confirming the presence of the RNA of the virus in the sample taken from the throat or nose.

⊙ The magnetic nanoparticle beads bind to the viral RNA and, when exposed to a magnetic field, give a highly purified and concentrated RNA.

⊙ As the sensitivity of the detection method is dependent on getting an adequate quantity of viral RNA, this innovation enhances the chances of identifying positive cases.

Application:

⊙ The kit can be used for RNA extraction for **RT-LAMP, RT-PCR** and other isothermal and Polymerase Chain Reaction (PCR) based protocols for the detection of SARS-COV-2.

Significance:

⊙ The indigenously developed and manufactured RNA extraction kit would reduce the nation's dependence on imported kits which are expensive and thus will bring down the cost of Covid-19 testing.

South Atlantic Anomaly

Why in News

Recently, the **Swarm constellation of satellites** of the **European Space Agency (ESA)** has updated the development of **South Atlantic Anomaly (SAA)**.

⌚ The South Atlantic Anomaly signifies **weakening of the Earth's magnetic field** between **Africa and South America**.

⊙ However, it has been observed that the present dip in intensity of the Earth's magnetic field is **within the normal fluctuation levels**.

Key Points

Intensification of SAA (Weakening of Magnetic Field):

⊙ Scientists have discovered that Earth's magnetic field has **lost** around **9%** of its strength over the **last 200 years**.

⊙ Further, the strength of the field has **dropped** from around **24,000 nanoteslas** to **about 22,000 nanoteslas** between **1970 and 2020**.

Note:

Swarm Constellation Mission

- ⌚ Swarm is European Space Agency’s **first** constellation of satellites for **Earth observation**.
- ⌚ It consists of three satellites designed to identify and precisely measure the **different magnetic signals** that **make up Earth’s magnetic field**.
- ⌚ The mission is operated by ESA’s European Space Operations Centre (ESOC), in **Germany**, via the primary ground station in **Kiruna, Sweden**.

Earth’s Magnetic Field

⌚ **Description:**

- ⊙ Earth’s magnetic field, or the geomagnetic field, is the magnetic field that extends from the Earth’s interior out into space exerting a force on the charged particles emanating from the Space including Sun.
- ⊙ The earth’s south magnetic pole is actually near the North Pole and the magnetic north pole is near the South Pole. This is why a compass magnet’s north pole actually points north (Since opposite poles attract each other).

⌚ **Reasons for Presence:**

- ⊙ The magnetic field of the Earth is due to the **metallic and liquid outer core** of the planet.
- ⊙ The outer core of the planet is like a **giant dynamo**. The **rotation of the Earth** creates **movements inside the liquid outer core** which gives rise to the geomagnetic field.

⌚ **Significance:**

- ⊙ It creates electric currents that generate and change our electromagnetic field.
- ⊙ The Northern Lights in the Polar Regions are caused by the magnetic field of Earth—the energy particles emitted by the Sun are channelled by the Earth’s magnetic field towards the poles, where they interact with the atmosphere to create the **aurora borealis**.
- ⊙ The Earth’s magnetic field also plays an important role in **protecting the planet from solar winds and cosmic radiation that are harmful**.

⊙ It has also observed an **intensified weakening** of magnetic fields in the **southwest of Africa**. The **eastern minimum** of the South Atlantic Anomaly has appeared over the last decade and has been **developing vigorously**. This scenario indicates that

the South Atlantic Anomaly **could split** into **two separate low points**.

⌚ **Significance of SAA:**

- ⊙ It has been speculated that the current weakening of the field is a **sign of the pole reversal of the earth**— in which the north and south magnetic poles may switch places.
 - ⌘ Pole reversal is not an uncommon event and it takes place every 250,000 years. Last it had happened 7.8 lakh years ago.
- ⊙ Additionally, the SAA is expected to help to understand the **processes in Earth’s core** and future developments in the earth’s interior.

⌚ **Implications:**

- ⊙ At **surface level**, the South Atlantic Anomaly presents **no cause for alarm**. It means that people won’t feel the change even if the pole shift happens.
- ⊙ However, **satellites and other spacecraft flying through the area** are more likely to experience **technical malfunctions**. The weaker magnetic field in this region may force charged particles to penetrate the altitudes of low-Earth orbit satellites.
- ⊙ It may also affect the **navigation-mapping, telecommunication and satellite systems** which rely on the geomagnetic field. Therefore, computers, mobile phones and other devices could also face difficulties.

Way Forward

- ⌚ Earth’s magnetic field is often visualised as a powerful dipolar bar magnet at the centre of the planet, tilted at **around 11° to the axis of rotation**. However, the growth of the South Atlantic Anomaly indicates that the processes involved in **generating the field are far more complex**.
- ⌚ The magnetic field observations from the Swarm satellite are also expected to provide the new insights into the scarcely understood processes of Earth’s interior.

Antarctic Impulsive Transient Antenna: ANITA

Why in News

Recently, **NASA’s Antarctic Impulsive Transient Antenna (ANITA)** has detected the unusual upward movement of neutrinos in Antarctica.

- ⌚ Instead of the high-energy neutrinos streaming in from space, they seem to have come from the Earth's interior, before hitting the detectors of ANITA.
 - ⊙ Usually, the high-energy particles move top to bottom (i.e. from space to the earth). However, **ANITA has detected an anomaly** i.e. particles have been detected travelling bottom to top.
- ⌚ **Earlier, researchers had also located a deep-space source for high-energy neutrinos** through the **Ice Cube Neutrino Observatory** at a U.S. scientific research station at the South Pole in Antarctica.
 - ⊙ The **India-based Neutrino Observatory (INO)** is located at the **Bodi West Hills** region in **Theni District of Tamil Nadu**.

Antarctic Impulsive Transient Antenna

- ⌚ **Antarctic Impulsive Transient Antenna (ANITA)** is a **radio telescope instrument** to detect ultra-high energy cosmic-ray neutrinos from a scientific balloon flying over the continent of Antarctica.
 - ⊙ It involves an array of radio antennas attached to a helium balloon which flies over the Antarctic ice sheet at 37,000 meters.
 - ⊙ At such a height, the antennas can listen to the cosmos and detect high-energy particles, known as neutrinos, which constantly bombard the planet.
- ⌚ It is the **first NASA observatory for neutrinos** of any kind.
- ⌚ ANITA detects neutrinos pinging in from space and colliding with matter in the Antarctic ice sheet through the **Askaryan effect**.
 - ⊙ The Askaryan effect is the phenomenon whereby a particle traveling faster than the phase velocity of light in a dense dielectric (such as salt, ice or the lunar regolith) produces a shower of secondary charged particles.
 - * When neutrinos smash into an atom, they produce a shower of detectable secondary particles. These detectable secondary particles allow us to probe where they came from in the universe.
 - * However, neutrinos pose no threat to human beings and pass through most solid objects. Additionally, they rarely do interact with matter.
 - ⊙ It is **named after Gurgen Askaryan**, a Soviet-Armenian physicist who postulated it in 1962.

Neutrinos

- ⌚ Neutrinos are electrically neutral, undisturbed by even the strongest magnetic field, and rarely interact with matter. The direction from which they arrive points directly back to their original source.
- ⌚ Neutrinos are produced during natural radioactive decays and all sorts of nuclear reactions in nuclear power reactors, particle accelerators or nuclear bombs.
- ⌚ However, the most common sources of neutrinos are celestial phenomena i.e. the birth and death of stars, collisions, and explosions happening in space.

Way Forward

- ⌚ The ANITA experiment has definitely detected something unusual and unexpected about neutrinos but there are many competing theories about it. There are a number of potential candidate particles that could account for the results from ANITA.
- ⌚ Further, there are so many unknown properties about neutrinos that astrophysicists and scientists are still trying to unravel.
- ⌚ It contemplates that there is new physics out there to be found which will help to study the origin of the universe and big bang theory in the future.

Arogya Setu App: An Open Source

Why in News

- Recently, the source code of Aarogya Setu Mobile App has been made open source for software developers.
- ⌚ It has been uploaded on GitHub which will help in identifying any vulnerabilities or code improvement in order to make Aarogya Setu more robust and secure.

Background

- ⌚ India launched **Aarogya Setu mobile App** to augment the efforts of limiting the spread of **Covid-19**.
- ⌚ It has an objective of **enabling bluetooth based contact tracing** and mapping of likely hotspots and dissemination of relevant information about Covid-19.

- ⌚ Although the app has been resourceful by its users, there were **privacy concerns** regarding the lack of transparency in the app's code.
- ⌚ To address these concerns, the government has decided to launch the code-set of the **app on GitHub to make it more transparent.**

Key Points

- ⌚ **Arogya setu as an open source:** **Open Source** refers to a source which people can modify and share because its design is publicly accessible.
 - ⊙ **Source code** is the part of software that computer programmers can manipulate its working and function. Programmers who have access to a computer program's source code can improve that program by adding features.
- ⌚ **Significance:** Expanding collaboration amongst the talented youth and citizens through open source would help in building a robust and secure technology solution which will further support the work of frontline health workers in fighting this pandemic together.
- ⌚ Towards this objective, the **National Informatics Centre** has also launched a **Bug Bounty Programme**
- ⌚ **Challenges:** Releasing the source code of a rapidly evolving product that is being used by million users would require regular maintenance of the source code.
 - ⊙ Regular updates in the app with the new technology would also be a concern.

Bug Bounty Programme

- ⌚ It has a goal to partner with security researchers and Indian developer community to test the security effectiveness of Arogya Setu and also to enhance its security and build user's trust.
- ⌚ It is aimed at encouraging the Indian developer community to find security flaws in the app and get rewarded Rs 1 lakh.

Way Forward

- ⌚ The availability of the App as an open code would help in the development of a transparent mechanism of availing data from the public regarding the Covid-19. It would address the privacy issue by enabling a robust system in the App by adding new features to it.

Fabrication of Controlled Nanostructures

Why in News

Recently, the researchers at the **Institute of Nano Science and Technology (INST) Mohali** have found a route to fabricate precisely controlled nanostructures of desired geometry and location on 2D materials, through a rapid one-step low power laser writing process.

INST, Mohali is an **autonomous institute** under the **Department of Science and Technology (DST).**

Key Points

- ⌚ INST developed a **hybrid Surface-Enhanced Raman Spectroscopy (SERS) platform of Molybdenum disulfide (MoS₂, an inorganic compound) nanostructure decorated with gold NanoParticles (AuNPs).**
 - ⊙ SERS is a **commonly used sensing technique** in which inelastic light scattering by molecules is greatly enhanced when the molecules are adsorbed onto corrugated metal surfaces such as silver or gold nanoparticles (NPs).
 - ⊙ It enhances the Raman scattering light from molecules, thus leading to effective analysis of the molecules.
- ⌚ **Direct laser writing** (3D printing for microscopic world) was used to engineer the artificial edges on the surface of MoS₂ which **created localized hotspots with precision and control.**
 - ⊙ A focused laser beam of meagre power of a **conventional Raman spectrometer** was used which enabled the superior deposition of AuNPs along the artificial edges.
 - ⊙ Nanostructuring was done on the 2D MoS₂ sheet.
- ⌚ The hybrid SERS platform offers **controlled formation of localized hotspots for ultrasensitive and reproducible detection of analytes** (substances whose chemical constituents are being identified and measured).
- ⌚ **Significance:**
 - ⊙ This research will open a new avenue for the development of commercialized **SERS substrates** (a silicon wafer coated with a metal like gold or silver) with a localized detection capability of analytes.
 - ⌘ SERS detection has been emerging as a powerful **tool for the detection of a variety of analytes**.

Note:

due to its very **high sensitivity and fingerprinting recognition capabilities.**

- ⊙ This will also shed new light in the SERS sensing of biological and chemical molecules.
- ⊙ The technology can be used in combination with an antibody for the spectroscopic detection of various **biomarkers** (an objective measure that captures what is happening in a cell or an organism at a given moment).

Raman Effect

- ⊙ It is a phenomenon in **spectroscopy** discovered by the eminent **physicist Sir Chandrasekhara Venkata Raman** on **28th February 1928.**
 - ⊙ In his honour, 28th February is celebrated as **National Science Day** in India.
- ⊙ In **1930**, he got a **Nobel Prize** for this remarkable discovery and this was the **first Nobel Prize for India in the field of Science.**
- ⊙ Raman effect is the **inelastic scattering of a photon by molecules** which are excited to higher vibrational or rotational energy levels. It is also called **Raman scattering.**
 - ⊙ In simpler words, it is a **change in the wavelength of light that occurs when a light beam is deflected by molecules.**
 - ⊙ When a beam of light traverses a dust-free, transparent sample of a chemical compound, a small fraction of the light emerges in directions other than that of the incident (incoming) beam.
 - ⊙ Most of this scattered light is of unchanged wavelength. A small part, however, has wavelengths different from that of the incident light and its presence is a result of the Raman Effect.
- ⊙ The Raman effect **forms the basis for Raman spectroscopy** which is used by chemists and physicists to **gain information about materials.**
 - ⊙ **Spectroscopy** is the study of the interaction between matter and electromagnetic radiation.

Tianwen-1: China's Mars Mission

Why In News

China will launch its **first Mars Mission - Tianwen-1** in July, 2020.

Mars

⊙ **Size and Distance:**

- ⊙ It is the **fourth planet** from the Sun and the second-smallest planet in the Solar System.
- ⊙ Mars is about half the size of Earth.

⊙ **Similarity to the Earth (Orbit and Rotation):**

- ⊙ As Mars orbits the Sun, it completes one rotation every 24.6 hours, which is very similar to one day on Earth (23.9 hours).
- ⊙ Mars' axis of rotation is tilted 25 degrees with respect to the plane of its orbit around the Sun. This is similar with Earth, which has an axial tilt of 23.4 degrees.
- ⊙ Like Earth, Mars has distinct seasons, but they last longer than seasons on Earth since Mars takes longer to orbit the Sun (because it's farther away).
- ⊙ Martian days are called sols—short for 'solar day'.

⊙ **Surface:**

- ⊙ It has colors such as brown, gold and tan. The reason Mars looks reddish is due to oxidation or rusting of iron in the rocks, and dust of Mars. Hence it is also called Red Planet.
- ⊙ Mars has the largest volcano in the solar system i.e. Olympus Mons. It's three times taller than Earth's Mt. Everest with a base the size of the state of New Mexico.

⊙ **Atmosphere:**

- ⊙ Mars has a thin atmosphere made up mostly of carbon dioxide, nitrogen and argon gases.
- ⊙ The temperature on Mars can be as high as (20 degrees Celsius) or as low as about -153 degrees Celsius. This is because the thin atmosphere gives an easy escape to sun heat.

⊙ **Magnetosphere:**

- ⊙ Mars has no magnetic field till date, but areas of the Martian crust in the southern hemisphere are highly magnetized, indicating traces of a magnetic field.

- ⊙ **Moons:** Mars has two small moons, Phobos and Deimos, that may be captured asteroids.

Previous Mars Missions

- ⊙ The Soviet Union in 1971 became the first country to carry out a Mars landing, Mars 3.
- ⊙ The second country to reach Mars's surface is the United State of America (USA).

Note:

- ⊙ Since 1976, it has achieved 8 successful Mars landings, the latest being the 'InSight' in 2019.
- ⌚ European Space Agency has been able to place their spacecraft in Mars's orbit through the Mars Express Mission.
- ⌚ **India's Mars Orbiter Mission (MOM) or Mangalyaan:**
 - ⊙ It was launched from the Satish Dhawan Space Centre in Andhra Pradesh by **Indian Space Research Organisation** in November 2013.
 - ⊙ It was launched on board a PSLV C25 rocket with aim of studying Martian surface and mineral composition as well as scan its atmosphere for methane (an indicator of life on Mars).
- ⌚ China's previous 'Yinghuo-1' Mars mission, which was supported by a Russian spacecraft, had failed after it did not leave the earth's orbit and disintegrated over the Pacific Ocean in 2012.
- ⌚ The **National Aeronautics and Space Administration (NASA)** is also going to launch its own Mars mission in July, the Perseverance which aims to collect Martian samples.

Key Points

- ⌚ **The Tianwen-1 Mission:**
 - ⊙ It will lift off on a **Long March 5 rocket**, from the Wenchang launch centre.
 - ⊙ It will carry 13 payloads (seven orbiters and six rovers) that will explore the planet.
 - ⊙ It is an **all-in-one orbiter, lander and rover system.**
 - ⌘ **Orbiter:** It is a spacecraft designed to orbit a celestial body (astronomical body) without landing on its surface.
 - ⌘ **Lander:** It is a strong, lightweight spacecraft structure, consisting of a base and three sides "petals" in the shape of a tetrahedron (pyramid-shaped). It is a protective "shell" that houses the rover and protects it, along with the airbags, from the forces of impact.
 - ⌘ **Rover:** It is a planetary surface exploration device designed to move across the solid surface on a planet or other planetary mass celestial bodies.
- ⌚ **Objectives:**
 - ⊙ The mission will be the first to place a ground-penetrating radar on the Martian surface, which

will be able to study local geology, as well as rock, ice, and dirt distribution.

- ⊙ It will search the martian surface for water, investigate soil characteristics, and study the atmosphere.
- ⌚ **Landing on Mars:**
 - ⊙ The mission is expected to land on the surface of Mars in the first quarter of 2021.
 - ⊙ The **success of the mission will make China the third country** to achieve a Mars landing after the USSR (the former Eurasian empire) and the United States of America.

Neutralising Antibodies Against Covid-19

Why in News

Recently, a study conducted on the hospital staff in France has shown that **almost all doctors and nurses who got mild forms of Covid-19 have produced antibodies that can prevent reinfection.**

- ⌚ Almost all of the staff tested had antibodies that were **capable of neutralizing the novel coronavirus.**

Key Points

- ⌚ **Findings of the Study:**
 - ⊙ Antibodies against novel coronavirus were detected in virtually all hospital staff, sampled 13 days after the symptoms started.
 - ⊙ **Neutralising antibodies** were found in 91% of the individuals.
 - ⌘ After an infection, it takes some time for the host to produce neutralising antibodies.
 - ⌘ These are a type of antibody that is capable of keeping an infectious agent (for instance, a virus) from infecting a cell by neutralizing or inhibiting its biological effect.
 - ⌘ An antibody is a protective protein produced by the immune system in response to the presence of a foreign substance, called an antigen.
 - ⊙ The study also revealed that patients may get **protective immunity** against the virus.
- ⌚ **Protective Immunity:**
 - ⊙ It is a condition of developing the protection against infectious disease conferred either by the

Note:

immune response generated through immunization, previous infection or by other factors.

- ⊙ Several evidence suggest that the presence of neutralising antibodies may be associated with protective immunity for Covid-19 infection.

⌚ **Supports Serologic Testing:**

- ⊙ The study supports the use of **serologic testing** for the diagnosis of individuals who have recovered from Covid-19 infection.

- ⊗ Currently, serologic response of individuals with mild forms of Covid-19 infection is poorly characterised.

- ⊙ **Serologic Tests:**

- ⊗ Serology tests are **blood-based tests** that can be used to identify whether people have been exposed to a particular pathogen by looking at their immune response.

- ⊗ It measures the amount of antibodies or proteins present in the blood when the body is responding to a specific infection.

- ⊗ These tests can also give greater detail into the prevalence of a disease in a population by identifying individuals who have developed antibodies to the virus.

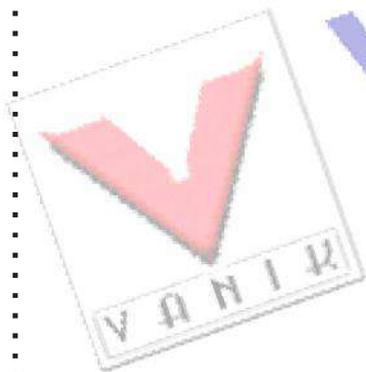
Way Forward

- ⌚ The findings may help scientists better understand Covid-19, including whether people who have recovered from the coronavirus infection, particularly milder forms, develop antibodies against the virus.

- ⊙ Currently, there's no specific treatment or vaccine for the coronavirus disease.

- ⌚ Further, there is a need of future studies to characterise the beneficial or detrimental role of specific antibodies in Covid-19 patients.

■ ■ ■



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Environment and Ecology

Highlights

- ⌘ *West Bengal Major Irrigation and Flood Management Project*
- ⌘ *A Rare Palm from Andamans*
- ⌘ *Objections to Etalin Hydroelectric Project*
- ⌘ *Tadoba Andhari Tiger Reserve*
- ⌘ *Ecologically Sensitive Areas in Western Ghats*
- ⌘ *Increased Stubble Burning in Punjab*
- ⌘ *International Day for Biological Diversity*
- ⌘ *World Turtle Day*
- ⌘ *Punitus Sanctus: New Freshwater Fish*
- ⌘ *Wildfires in Uttarakhand*
- ⌘ *Locusts and Urban Areas*
- ⌘ *Invasive Species: Charu Mussel*
- ⌘ *World Dugong Day 2020*
- ⌘ *Banana Covid: A Novel Fungal Strain*

West Bengal Major Irrigation and Flood Management Project

Why in News

Recently, the **Government of India**, the **Government of West Bengal**, the **Asian Infrastructure Investment Bank (AIIB)** and the **World Bank** have signed a loan agreement for a project titled '**West Bengal Major Irrigation and Flood Management Project**'.

- ⌚ The project includes the **improvement in irrigation and flood management in the Damodar Valley Command Area (DVCA)**.

Key Points

- ⌚ West Bengal Major Irrigation and Flood Management Project aims to improve irrigation service delivery, strengthen flood risk management and improve climate change resilience in the project area.
- ⌚ It is intended to **benefit about 2.7 million farmers** from five districts of West Bengal.
- ⌚ The project comprises **four components**:
 - ⌚ **Irrigation Management**: It will improve the management of the Damodar Valley Command Area (DVCA) irrigation scheme to improve service delivery, performance monitoring and irrigation efficiency evaluation.
 - ⌚ **Modernization of Irrigation Infrastructure**: It will invest in the modernization of irrigation

infrastructure at main, branch, distributary and minor canal levels.

- ⌚ **Flood Management**: It will invest in structural measures to reduce flooding in the project area. It will also include the implementation of the recommendations of the Dam Safety.
- ⌚ **Project Management**: It will strengthen the implementation agency's capacity for project management, including financial management, monitoring and evaluation, and environmental and social safeguards management and communication. It will also support a communication campaign to inform stakeholders on the importance of water use efficiency.
- ⌚ The **total value of the project is \$413.8 million**, co-financed between the International Bank for Reconstruction and Development (IBRD) (\$145 million), the Asian Infrastructure Investment Bank (\$145 million) and the Government of West Bengal (\$123.8 million).
- ⌚ **International Bank for Reconstruction and Development (IBRD) is a part of the World Bank Group** that provides financial products and policy advice to help countries reduce poverty and extend the benefits of sustainable growth to all of their people.

Damodar River

- ⌚ The Damodar river **rises in the Palamu hills of the Chota Nagpur plateau in the state of Jharkhand**.
- ⌚ It passes through two Indian states namely, Jharkhand and West Bengal.

Note:

Background

- ⌚ The **Damodar Valley Command Area** is in the **need of modernization**.
 - ⊙ The command area is the area around the dam/project, where the area gets benefits from the dam, such as irrigation water, electricity, etc. It is an area which can be irrigated from a project and is fit for cultivation.
 - ⊙ In other words, it is the area around a dam which is under its command as an irrigation source.
- ⌚ It faces **key challenges** including degradation of infrastructure, inadequate irrigation management, poor quality of service delivery and inefficient irrigation.
- ⌚ Due to above reasons, the farmers in the area are forced to extract groundwater, which increases the costs of cultivation.
- ⌚ Moreover, the Lower Damodar basin area is historically **flood-prone**. As this area lacks the infrastructure to protect against recurrent flooding, on average, 33,500 hectares of the cropped area and 461,000 people are affected annually due to recurrent flooding in the area.
 - ⊙ The Damodar occupies the eastern margins of the Chotanagpur Plateau where it flows through a rift valley and finally joins the Hugli (an arm of Ganga river).
- ⌚ The **Barakar river is its main tributary**.
- ⌚ Due to the devastating floods caused by the Damodar river and its tributaries in the plains of West Bengal, it is also known as the '**sorrow of Bengal**'.



Note:

Damodar Valley Corporation

- ⌚ The Damodar Valley Corporation was **established in 1948 as the first multipurpose river valley project of independent India**.
- ⌚ Under this project, **four dams** were constructed namely,
 - ⊙ **Tilaiya Dam**: It has been constructed across the Barakar river at Tilaiya in Koderma district of Jharkhand.
 - ⊙ **Konar Dam**: The Konar dam has been constructed across the Konar river—a tributary of the Damodar River in the Hazaribagh District of Jharkhand.
 - ⊙ **Maithon Dam**: It has been constructed across the Barakar river near the confluence of Barakar with Damodar river.
 - ⊙ **Panchet Dam**: The Panchet dam has been constructed across the Damodar river, about 20 km south of the Maithon Dam.

A Rare Palm from Andamans

Why in News

Recently, a rare palm, **Pinanga andamanensis**, has been successfully cultivated at **Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI)** based at **Palode, Thiruvananthapuram (Kerala)**.

Key Points

- ⌚ **Pinanga andamanensis**:
 - ⊙ It is a rare palm endemic to South Andaman Island. Its entire population of some 600 specimens naturally occurs only in a tiny, evergreen forest pocket in South Andaman's **Mount Harriet National Park**.
 - ✳ **Endemic** species are those plants and animals that exist only in one geographical region.
- ⌚ The name is derived from '**Penang**', the modern-day Malaysian state. Penang itself has its origins in Pulau Pinang which **means Island of the Areca Nut Palm**.
- ⌚ It has strong **resemblance with the areca palm tree** (widely used for bright interiors).
- ⌚ It has a **small gene pool** which means the species is vulnerable to natural calamities such as cyclones, earthquakes.
- ⌚ JNTBGRI scientists term it a critically endangered species and one of the least known among the endemic palms of the Andaman Islands.

☼ **Cultivation at JNTBGRI:**

- ⊙ **Thiruvananthapuram** has been referred as its **second home** as the species has started flowering in this Institute.
- ⊙ JNTBGRI will **resume seed germination experiments for mass multiplication** as part of the conservation strategy.

Mount Harriet National Park

- ⌚ It is located in the south of the Andaman island.
- ⌚ Mount Harriet is the **third-highest peak in the Andaman and Nicobar** archipelago next to **Saddle Peak** in North Andaman and **Mount Thuillier** in Great Nicobar.
- ⌚ The park is covered with evergreen forest pockets.
- ⌚ It is rich in flora and faunal species like **andaman wild pigs, saltwater crocodiles, butterflies and palm trees.**

Objections to Etalin Hydroelectric Project

Why in News

Recently, some conservationists and former members of the **National Board of Wildlife (NBWL)** have sought rejection of approval for the **Etalin Hydroelectric Project** in the **Dibang Valley, Arunachal Pradesh.**

Key Points

- ⌚ The Project is based on the river **Dibang** and is proposed to be **completed in 7 years.**
 - ⊙ Dibang is a **tributary of the Brahmaputra** river which flows through the states of Arunachal Pradesh and Assam.
- ⌚ It **envisages construction of two dams** over the tributaries of Dibang: **Dir and Tangon.**
- ⌚ The Project falls **under the richest bio-geographical province of the Himalayan zone** and would be located at the junction of major **biogeographic** zones like Palaeartic Zone and Indo-Malayan Zone.
- ⌚ It is expected to be **one of the biggest hydropower projects in India** in terms of **installed capacity.**

Background

- ⌚ The **Forest Advisory Committee (FAC)** of the **Ministry of Environment Ministry of Environment, Forest and**

Climate Change (MoEFCC) highlighted that the project will **clear 2.7 lakh trees** in subtropical evergreen broad-leaved forest and subtropical rainforests.

Biogeographic Regions

- ⌚ These are the large distinctive units of similar ecology, biome representation, community and species.
- ⌚ Originally, **six biogeographic regions** were identified: **Palearctic** (Europe and Asia), **Nearctic** (North America), **Neotropical** (Mexico, Central and South America), **Ethiopian/Afrotropic** (Africa), **Oriental/Indo-Malayan** (Southeast Asia, Indonesia) and **Australian** (Australia and New Guinea). **Currently, eight are recognised** since the addition of **Oceania** (Polynesia, Fiji and Micronesia) and **Antarctica.**



Palaeartic Zone

- ⌚ This includes arctic and temperate Eurasia and all islands surrounding the continent in the Arctic, in the sea of Japan and the eastern half of the North Atlantic.
- ⌚ It also includes the Macaronesian islands, Mediterranean North Africa and Arabia.

Indo-Malayan Zone

- ⌚ Its natural boundaries contain tropical Asia from the Balochistan mountains of Pakistan eastward to the Indian subcontinent south of the Himalayan crest, including the tropical southern fringe of China with Taiwan, the whole of Southeast Asia and the Philippines.

- ⌚ According to a sub-committee of FAC, the project **may be allowed subject to the condition** that the financial outlay of Wildlife Conservation Plan be deposited to the Forest Department by user agency on the basis of a study done by the **Wildlife Institute of India (WII).**
- ⌚ However, there were protests by green groups due to which MoEFCC **transferred the project** to the **Union Power Ministry.**

Note:

Criticism

- ⌚ Conservationists highlighted that the FAC sub-committee **ignored established tenets of forest conservation and related legal issues** while recommending the proposal.
- ⌚ FAC **ignored the threat of forest fragmentation.**
 - ⊙ **Forest fragmentation** results from ill-planned intrusion of developmental projects into contiguous landscapes with natural forests and threatens rare floral and faunal species in a biodiversity hotspot.
- ⌚ FAC's **site inspection report was also questioned for leaving out key details** like number of grids across an altitudinal range inspected and the status of vegetation there, direct and indirect signs of wild animals listed in the various **schedules of the Wildlife Protection Act, 1972** and overall appreciation of the ecological value of the area.
- ⌚ The **inadequacy of the Environment Impact Assessment report** on Etalin was also highlighted.
 - ⊙ Wildlife officials ignored observations which include the threat to 25 globally endangered mammal and bird species in the area to be affected.
- ⌚ The proposed **mitigation measures** like setting up butterfly and reptile parks are **inadequate and insufficient.**

Tadoba Andhari Tiger Reserve

Why in News

Recently, a new prey and predator estimation in **Tadoba Andhari Tiger Reserve (TATR)** in Maharashtra found the presence of 115 tigers and 151 leopards.

Key Points

- ⌚ The estimation was done as part of the **long-term monitoring of tigers**, co-predators and prey species in TATR inside the core and buffer areas of the reserve.
 - ⊙ The tiger reserves are constituted on a **core/buffer strategy.**
 - ⊙ The **Project Tiger** aims to foster an exclusive tiger agenda in the core areas of tiger reserves, with an inclusive people oriented agenda in the buffer.
 - ⊙ The **core areas** have the legal status of a national park or a sanctuary, whereas the buffer or peripheral areas are a mix of forest and non-forest land, managed as a multiple use area.

- ⌚ The tiger numbers appear to be up but the **population density** shows a **decline.**
 - ⊙ Population Density represents the number of animals residing in per unit area.
- ⌚ **Tadoba Andhari Tiger Reserve**
 - ⊙ It is located in **Chandrapur district in Maharashtra.**
 - ⊙ It is Maharashtra's **oldest and largest national park.**
 - ⊙ It is one of India's **50 "Project Tiger" reserves.**
 - ⌘ Tadoba-Andhari Tiger Reserve was established as the **second Tiger Reserve** in Maharashtra in **1993-94.**
 - ⌘ The first Tiger Reserve established in the State is Melghat Tiger Reserve (1973-74).
 - ⊙ It represents Southern **Tropical Dry Deciduous Teak Forests** in the Tiger habitat and has a viable tiger population

Ecologically Sensitive Areas in Western Ghats

Why in News

Recently, the Union Minister of Environment, Forest and Climate Change interacted with Chief Ministers of six states through a video conference to discuss issues relating to notification of **Ecologically Sensitive Area (ESA) pertaining to Western Ghats.**

- ⌚ These six states include **Kerala, Karnataka, Goa, Maharashtra, Gujarat and Tamil Nadu.**

Background

- ⌚ The government had constituted a High Level Working Group under the **Chairmanship of Dr Kasturirangan to conserve and protect the biodiversity of Western Ghats** while allowing for sustainable and inclusive development of the region.
- ⌚ The Committee had recommended that identified geographical areas falling in the six States of Kerala, Karnataka, Goa, Maharashtra, Gujarat and Tamil Nadu may be declared as **Ecologically Sensitive Areas.**
 - ⊙ The Committee recommended to bring just **37% of the Western Ghats** under the Ecologically Sensitive Area (ESA) zones — **down from the 64%** suggested by the **Gadgil Committee report.**
 - ⊙ The **Western Ghats Ecology Expert Panel, also known as the Gadgil Committee** was an

Note:

environmental research commission appointed by the government in 2011.

- ⌚ A **draft notification** related to the same was issued in **2018** mentioning the areas to be notified in the ESA.

Key Points

- ⌚ All the involved States recognised a **need to protect the Western Ghats**. However, the states expressed their concerns related to **the allowed activities and extent of area** mentioned in the draft notification.
- ⌚ Further, it has been also decided that **state specific issues** will be discussed and **resolved through the consensus**.

Eco-Sensitive Areas

- ⌚ These are located within **10 kms** around Protected Areas, National Parks and Wildlife Sanctuaries.
- ⌚ ESAs are notified by the **Ministry of Environment, Forest and Climate Change (MoEFCC)** under **Environment Protection Act 1986**.
- ⌚ **Aim:** To regulate certain activities around National Parks and Wildlife Sanctuaries so as to minimise the negative impacts of such activities on the fragile ecosystem encompassing the protected areas.

Western Ghats Ecology Expert Panel

- ⌚ A committee headed by ecologist Madhav Gadgil also known as the Western Ghats Ecology Expert Panel (WGEEP) in 2011 recommended that all of the Western Ghats be declared as the Ecological Sensitive Areas (ESA) with **only limited development allowed in graded zones**.
- ⌚ The panel had classified the Western Ghats into **Ecologically Sensitive Areas (ESA) 1, 2 and 3 of which ESA-1 is high priority**, almost all developmental activities (mining, thermal power plants etc) were restricted in it.
- ⌚ It specified that the system of governance of the environment should be a **bottom to top approach (right from Gram sabhas)** rather than a top to bottom approach.
- ⌚ It also recommended the constitution of a **Western Ghats Ecology Authority (WGEA)**, as a statutory authority under the Ministry of Environment and Forests, with the powers under Section 3 of the Environment (Protection) Act, 1986.
- ⌚ The report was criticized for being **more environment-friendly** and not in tune with the ground realities.

Kasturirangan Committee

- ⌚ The Kasturirangan Commission sought to **balance the development and environment** protection in contrast to the system proposed by the Gadgil report. The committee's major recommendations were:
 - ⌚ Instead of the total area of Western Ghats, **only 37%** of the total area to be brought under ESA.
 - ⌚ Complete ban on mining, quarrying and sand mining in ESA.
 - ⌚ No thermal power projects to be allowed and hydropower projects be allowed only after detailed study.
 - ⌚ Red industries i.e. which are highly polluting to be strictly banned.
 - ⌚ The report recommended exclusion of inhabited regions and plantations from the purview of ESAs making it a pro farmer approach.

Way Forward

- ⌚ It is a Development vs Conservation debate. Hence, a proper analysis based on scientific study followed by consensus among various stakeholders by addressing respective concerns is required urgently.
- ⌚ Holistic view of threats and demands on the forest land, products and services, devising strategies to address these with clearly stated objectives for the authorities involved must be taken.
- ⌚ Any further delay in the implementation will only accentuate degrading of the most prized natural resource of the country.

Increased Stubble Burning in Punjab

Why in News

Punjab has been experiencing a **problem of stubble burning** once again despite the government's efforts to control the practice since last few years.

- ⌚ The recent **end of wheat harvesting season** is responsible for the increased incidents of the stubble burning in the State.

Key Points

- ⌚ Total 13,026 incidents have been reported in 2020 compared to 10,476 incidents in 2019 and 11,236 in 2011.

Note:

- ⌚ The ban and action against people burning the crop residue is regulated under the **Air (Prevention and Control of Pollution) Act, 1981**.
- ⌚ The stubble burning causes diseases such as problems in breathing, lung etc, which could also affect recovery of patients suffering from **Covid-19**.

Stubble Burning

⌚ **Description:**

- ⊙ **Stubble (parali)** burning is the act of setting fire to crop residue to remove them from the field to sow the next crop.

● **Causes:**

- ⊙ The problem arises due to the use of mechanised harvesting which leaves several inches of stubble in the fields.
 - ⌘ Earlier, this excess crop was used by farmers for cooking, as hay to keep their animals warm or even as extra insulation for homes. But, now the stubble use for such purposes has become outdated.
- ⊙ In order to plant the next crop, farmers in Haryana and Punjab have to remove the stubble in a very short interval to avoid considerable losses. Therefore, burning is the cheapest and fastest way to get rid of the stubble.
 - ⌘ The leftover parali in the field may pose the threat of the pest attacks to the upcoming crop.

⌚ **Effects:**

- ⊙ The stubble burning emits large amounts of toxic pollutants in the atmosphere which contain harmful gases like **methane (CH₄)**, **Carbon Monoxide (CO)**, **Volatile organic compound (VOC)** and **carcinogenic polycyclic aromatic hydrocarbons**.
 - ⌘ After the release in the atmosphere, these pollutants disperse in the surroundings, may undergo a physical and chemical transformation and eventually adversely affect human health by causing a thick blanket of smog.
- ⊙ The burning of wheat straw **reduces the soil fertility**, besides polluting the environment.
- ⊙ Additionally, the heat generated by stubble burning penetrates into the soil, leading to the loss of moisture and useful microbes.

⌚ **Alternative Use of Stubble:**

- ⊙ The stubble can be used for preparation of the **high-grade organic fertilizers** by mixing with cow dung and few natural enzymes.
- ⊙ **The stubble can be converted to bio coal** and also can be used for **electricity generation**.

Way Forward

- ⌚ An expansion of schemes like the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) for harvesting and composting of stubble** will help to resolve the dual problem of **unemployment and stubble burning**.
- ⌚ The establishment of the **Farm Machinery Banks (FMB)** for custom hiring of in-situ crop residue management machinery.
- ⌚ The financial incentives to small and marginal farmers will help to engage in the management of the residue of their non-basmati variety rice crop in Punjab, Haryana and Uttar Pradesh.
- ⌚ However, in the long time span, shifting the **cropping pattern** away from paddy to maize, cotton, fruits or vegetables in Punjab, Haryana and UP will also help to resolve the issue.

International Day for Biological Diversity

Why in News

The International Day for Biological Diversity is **observed on 22nd May** every year to increase **understanding and awareness of biodiversity issues**.

Key Points

- ⌚ **Theme for 2020: Our solutions are in nature.**
- ⌚ The year 2020 is a reflection, opportunity and solutions for biodiversity issues. The year will witness:
 - ⊙ The final period for the **2011-2020 Strategic Plan on Biodiversity** and its 20 Aichi Biodiversity Targets.
 - ⊙ The end of the **2011-2020 United Nations Decade on Biodiversity** and start of other new pivotal biodiversity related decades for the period 2021-2030: the **UN Decade of Ocean Science for Sustainable Development** and the **UN Decade on Ecosystem Restoration**.
 - ⊙ The **UN Biodiversity Summit** (15th Conference of the Parties: COP-15) which will highlight the

Note:

urgency of actions in support of a post-2020 global biodiversity framework that contributes to the **2030 Agenda for Sustainable Development** and places the global community on a path towards realizing the **2050 Vision for Biodiversity**.

Note:

- ⌚ 22nd March: **World Water Day**
- ⌚ 22nd April: **Earth Day**
- ⌚ 22nd May : **World Biodiversity Day**
- ⌚ Recently the **EarthHour** was observed on 28th March, 2020. It encourages people to switch off the lights from 8.30 pm to 9.30 pm as per their local time.

World Turtle Day

Why in News

Recently, World Turtle Day was observed on 23rd May to increase attention on conservation of Turtles and Tortoises.

- ⌚ The theme for the **World Turtle Day 2020** is ‘**Adopt, Don’t Shop**’.

Key Points

- ⌚ World Turtle Day is an **annual event** that has been taking place since **2000**.
- ⌚ It is being organised by the nonprofit organisation namely, **American Tortoise Rescue (ATR)**.
- ⌚ It aims to protect the turtles and tortoises from illegal smuggling, exotic food industry, habitat destruction, global warming and pet trade.
- ⌚ The day was observed in India by the **National Mission for Clean Ganga (NMCG)**, along with the Wildlife Institute of India (WII).



Turtle Conservation in India

- ⌚ There are five species in Indian waters i.e. **Olive Ridley, Green turtle, Loggerhead, Hawksbill, Leatherback**.
 - ⊙ The **Olive Ridley, Leatherback and Loggerhead** are listed as ‘**Vulnerable**’ on the IUCN Red List of Threatened Species.
 - ⊙ The **Hawksbill turtle** is listed as ‘**Critically Endangered**’ and **Green Turtle** is listed as

‘**Endangered**’ on the IUCN Red List of Threatened Species.

⌘ They are protected in **Indian Wildlife Protection Act of 1972**, under Schedule I.

- ⌚ Turtles have been protected in India under the **Biodiversity Conservation and Ganga Rejuvenation** programme.

Turtle and its Significance

⌚ **Description:**

- ⊙ Turtles are the reptiles of the order **Testudines**, characterized by a special bony or cartilaginous shell developed from their ribs and acting as a shield.
- ⊙ It can reside inside **freshwater or saltwater**.
- ⊙ **Tortoise** are distinguished from other turtles by being **land-dwelling**, while many (though not all) other turtle species are at **partly aquatic**.
- ⊙ Turtles are cold-blooded species.
 - ⌘ **Cold blooded species** have a higher range of body temperature and move between environments to make themselves warmer or cooler. E.g. Insects, arachnids, fish, reptiles, and amphibians.
- ⊙ They have very **slow metabolism** and can survive without food and water for a long time.
- ⊙ According to the **International Union for Conservation of Nature (IUCN)** most of the species of turtles and tortoises are **vulnerable, endangered or critically endangered**.

⌚ **Significance:**

- ⊙ Turtles play an important role in the river by scavenging dead organic material and diseased fish by controlling the water pollution.
- ⊙ They also help in maintaining healthy fish stocks in the water by giving them habitat over their body.
- ⊙ Turtle populations could improve seagrass ecosystem health by removing seagrass biomass and preventing sediment formation.
- ⊙ Turtles are also transporters of nutrients and energy to coastal areas.

Way Forward

- ⌚ Turtles play an important role in ocean ecosystems by maintaining healthy seagrass beds and coral reefs, providing key habitat for other marine life. It also helps to balance marine food webs and facilitate

Note:

nutrient cycling from water to land. Thus, conservation of turtles will help to conserve biodiversity and to maintain natural balance.

Puntius Sanctus: New Freshwater Fish

Why in News

Recently, *Puntius Sanctus*, a new freshwater fish, has been found in Velankanni, Tamil Nadu. It has been found in a small waterbody.

- ⌚ The fish has been identified and named by the Department of Zoology, BJM Government College in Kollam. Sanctus means holy (pilgrim town) in Latin.
- ⌚ Species of Puntius are known from India mainly from the drainages of the Western and Eastern Ghats, as well as the Eastern Himalayas.



Key Points

- ⌚ **Puntius Genus:**
 - ⊙ The genus shows great species richness in Kerala and Tamil Nadu.
 - ⊙ The Puntius species are known locally as **Paral** in Kerala and **Kende** in Tamil Nadu.
 - ⊙ It belongs to the family '**Cyprinidae**'.

Puntius Sanctus:

- ⊙ It is a silver-hued fish. The species is small in size and grows to a **length of 7 cm**.
- ⊙ It is different from other species.
 - ⌘ It has a protractible (extended) mouth, a pair of maxillary barbels (a sensory organ near the snout).
 - ⌘ It bears lateral line scales and pre-dorsal scales.
 - The lateral line scales are found within the dermis i.e. under the skin of a fish and usually have sense organs.
 - The dorsal scale row in a fish consists of a series of deep scales devoid of spines.

⌚ **Cyprinidae:**

- ⊙ It is the family of freshwater fish, collectively called cyprinids, that includes the minnows, goldfish, bitterlings, barb, and carps.

⌘ **Freshwater fish** are those that spend some or all of their lives in freshwater, such as rivers and lakes, with a salinity of less than 1.05%.
E.g. Rohu, Katla, Hilsa etc.

- ⊙ It ranges from small aquarium sized species to huge fish.
- ⌚ The new fish has been deposited in the **Zoological Survey of India** at Pune.
- ⌚ It has also been registered with Zoo Bank of the **International Commission of Zoological Nomenclature**, the official authority for naming animals.

Zoological Survey of India

- ⌚ It is a subordinate organization of the **Ministry of Environment, Forest and Climate Change** and was established in 1916.
- ⌚ It is a national centre for faunistic survey and exploration of the resources leading to the advancement of knowledge on the exceptionally rich faunal diversity of the country.
- ⌚ It has its **headquarters at Kolkata** and 16 regional stations located in different geographic locations of the country.

International Commission of Zoological Nomenclature

- ⌚ It regulates a **uniform system of zoological nomenclature** ensuring that every animal has a unique and universally accepted scientific name.
- ⌚ It creates and revises the **International Code of Zoological Nomenclature**.
- ⌚ It is based in the Lee Kong Chian Natural History Museum, National University of **Singapore**.

Wildfires in Uttarakhand

Why in News

With rising mercury levels, **Uttarakhand's forest fire** season has now reached its peak.

Key Points

- ⌚ A wildfire is an **unplanned fire** that is often caused by **human activity** or a **natural phenomenon** such as lightning, and they can happen at any time or anywhere.
- ⌚ Wildfires occur in every continent **except Antarctica**.
- ⌚ There are **two primary causes** of wildfires, viz. Human and Natural.
 - ⊙ **Human Causes**

Note:

- ⌘ 90% of all wildfires are caused by humans.
- ⌘ Human acts of carelessness such as leaving campfires unattended and negligent discarding of cigarette butts result in wildfire disasters every year.
- ⌘ Accidents, deliberate acts of arson, burning of debris, and fireworks are the other substantial causes of wildfires.

⌚ **Natural Causes**

- ⌘ **Lightning:** A fairly good number of wildfires are triggered by lightning.
- ⌘ **Volcanic Eruption:** Hot magma in the earth's crust is usually expelled out as lava during a volcanic eruption. The hot lava then flows into nearby fields or lands to start wildfires.
- ⌘ **Temperature:** High atmospheric temperatures and dryness offer favourable conditions for a fire to start.
- ⌘ **Climate Change** is causing a gradually increasing surface air temperature, which can propagate forest fires.
- ⌘ **Weather Components:** Warmer temperatures and lower humidity cause vapour pressure deficit to increase which can dry fuels rapidly and allow fires to grow very fast

⌚ There are **three basic types of forest fires:**

- ⌚ **Crown fires** burn trees up their entire length to the top. These are the most intense and dangerous wildland fires.
- ⌚ **Surface fires** burn only surface litter and duff. These are the easiest fires to put out and cause the least damage to the forest.
- ⌚ **Ground fires** (sometimes called underground or subsurface fires) occur in deep accumulations of humus, peat and similar dead vegetation that become dry enough to burn. These fires move very slowly, but can become difficult to fully put out, or suppress.

Way Forward

- ⌚ Forest fires are among major disasters faced by India leading to massive loss of life and property and impact on the environment. A holistic approach of management of forest fires through prevention, mitigation and control can lead to better outcomes saving natural resources and loss of life and property.

Forest Fire Prevention and Management in India

- ⌚ Forests are a subject in the **concurrent list (brought under this list through 42nd Constitutional Amendment Act, 1976)** of the Seventh Schedule of the Indian Constitution.
- ⌚ **National Action Plan on Forest Fires (NAPFF-2018)** of Ministry of Environment, Forest and Climate Change (MoEFCC).
 - ⌚ MoEFCC also provides forest fire prevention and management measures under the **Centrally Sponsored Forest Fire Prevention and Management (FPM) scheme**.
 - ⌚ The FPM replaced the **Intensification of Forest Management Scheme (IFMS) in 2017**. By revamping the IFMS, the FPM has **increased the amount dedicated for forest fire work**.
 - ⌚ Funds allocated under the FPM are according to a center-state cost-sharing formula, with a **90:10 ratio of central to state funding** in the Northeast and Western Himalayan regions and a **60:40 ratio for all other states**.
 - ⌚ It also provides the states the flexibility to direct a portion of the **National Afforestation Programme (NAP)** and **Mission for Green India (GIM)** funding toward forest fire work.

Locusts and Urban Areas

Why in News

- Over the last few days, **swarms of locusts** have been sighted unusually even in urban areas of Rajasthan.
- ⌚ Swarms have also been reported from parts of Madhya Pradesh and Vidarbha region of Maharashtra.

Key Point

- ⌚ The **desert locust (*Schistocerca gregaria*)** is a short-horned grasshopper.
- ⌚ Harmless when solitary, locusts undergo a behavioural change when their population builds up rapidly.
- ⌚ They enter the **'gregarious phase'** by forming huge swarms that can travel up to 150 km per day, eating up every bit of greenery on their way.
- ⌚ These insects feed on a large variety of crops.
 - ⌚ If not controlled, locust swarms can threaten the food security of a country.

Note:

Early Arrival

- ⌚ The first swarms were sighted along the India-Pakistan border on April 11, months ahead of the usual time of arrival.
 - ⊙ In India, locusts are normally sighted during July-October along the Pakistan border.
- ⌚ **Reason for early arrival**
 - ⊙ This can be traced back to the **cyclonic storms Mekunu** and **Luban** that had struck **Oman and Yemen** respectively in 2018.
 - ⊙ These turned large deserts tracts into lakes, **facilitating locust breeding** that continued through 2019.
 - ⊙ Swarms attacking crops in **East Africa** reached peak populations from November, and built up in southern Iran and Pakistan since the beginning of 2020, with heavy rains in East Africa in March-April enabling further breeding.



Locusts and Urban Areas

- ⌚ Locusts are being seen in urban areas not historically associated with their sightings, such as — Jaipur, MP's Gwalior, Morena and Sheopur, and recently stray swarms in Maharashtra's Amravati, Nagpur and Wardha.
- ⌚ There being no crops in the fields, the locusts have moved across states attracted by green cover in search of food.
 - ⊙ The swarms were **aided by high-speed wind** and thus they made their way to such **urban areas**.

Impact on Crops

- ⌚ At present, chances of crop damage are low given that farmers have **already harvested their rabi crop**.
- ⌚ Orange growers in Maharashtra have expressed concern but as per scientists of the Agriculture Ministry's

Locust Warning Organization (LWO), the swarm in Maharashtra would be easy to control.

- ⌚ The bigger problem will come once the present swarms breed. An adult female locust lays 80-90 eggs thrice in her three-month life cycle.
 - ⊙ If left uncontrolled, a swarm can grow exponentially to 40-80 million locusts per square kilometre.
 - ⊙ The locusts will start laying eggs after the monsoon starts and continue breeding for two more months, with newer generations rising during the growth phase of the kharif crop.

Control Measures

- ⌚ Control involves spraying insecticide on locusts' night resting places like trees.
- ⌚ Till date, the LWO has carried out spraying over 21,675 hectares in Rajasthan. India has also put an order of 60 specialised insecticide sprayers with the UK, the country already has 50 such machines.
- ⌚ Drones will also be used to spray the resting places.

Way Forward

- ⌚ At a time India is battling Covid-19, there is a need to take measures so that it won't pose a threat to food security.
- ⌚ There is no quick-fix solution to the locust menace. Beyond chemicals, pesticides, and drones, it is imperative to tackle the root cause of global warming and invest in upgrading climate resilience and adaptation techniques. An expensive and complex process, this will require global cooperation and coordination.

Invasive Species: Charru Mussel

Why in News

An invasive species named Charru mussel (*Mytella strigata*), native to the South and Central American coasts, is spreading quickly in the backwaters of Kerala.

Key Points

- ⌚ **Reasons for the spread:**
 - ⊙ The Charru mussel may have reached the Indian shores attached to ship hulls or as larval forms in ballast water discharges.

Note:

- ⌘ Ballast is the seawater that ships carry to improve stability.
- ⊙ **Cyclone Ockhi** which struck the region (South India, Sri Lanka, Maldives) in 2017, may have sped up their invasion.
- ⌚ **Areas impacted:**
 - ⊙ The surveys conducted in **Kerala has found presence of Charru mussel in many estuaries/backwaters** of Kerala, which include Kadina-mkulam, Paravur, Edava-Nadayara, Ashtamudi, Kayamkulam, Vembanad, Chettuva and Ponnani etc.
 - ⌘ The backwaters of Kerala comprise stretches of lakes, canals and lagoons located parallel to the coast of the Arabian Sea.
 - ⊙ Ashtamudi Lake, a **Ramsar site** in Kollam district is the worst-hit due to Charu mussel. Here, **Charru mussel** has replaced the **Asian green mussel (Perna viridis)** and the edible oyster **Magallana bilineata (known locally as muringa)**.
- ⌚ **Concerns:**
 - ⊙ The **proliferation of Charu mussel** poses a serious threat to the **endemic species diversity** of brackish water habitats of Kerala coast.
 - ⊙ This invasive species is forcing out other mussel and clam species in the backwaters and threatening the livelihoods of fishermen engaged in molluscan fisheries.
 - ⌘ In **Ashtamudi lake**, the short-necked clam fisheries has obtained an eco label from the Marine Stewardship Council and about 3,000 people are dependent on fisheries here.
 - ⌘ **“Ecolabelling”** is a voluntary method of environmental performance certification and labelling that is practised around the world.
 - ⌘ An ecolabel identifies products or services proven environmentally preferable overall, within a specific product or service category.
 - ⌘ The **Marine Stewardship Council** is an independent non-profit organization which sets a standard for sustainable fishing. It is **headquartered in London**.
 - ⊙ In such a scenario, the fast-breeding Charru mussel could be seen as a ‘pest’ attack on clam fishery.

Invasive Species

- ⌚ An **invasive species** is an organism that is **not indigenous**, or native, to a particular area and causes harm.
- ⌚ They are **capable of causing extinctions of native plants and animals, reducing biodiversity, competing with native organisms for limited resources, and altering habitats**.
- ⌚ They can be introduced to an area by ship ballast water, accidental release, and most often, by people.

Mussel

- ⌚ **Mussel** is a common name for **numerous bivalve mollusks** belonging to the marine family Mytilidae and to the freshwater family Unionidae.
 - ⊙ Mollusks are soft-bodied invertebrates of the phylum Mollusca, usually wholly or partly enclosed in a calcium carbonate shell secreted by a soft mantle covering the body.
- ⌚ Worldwide, they are **most commonly found** in cool seas.
- ⌚ In India, two species of marine mussels, green mussel (*Perna viridis*), and the brown mussel, (*P. indica*) are found in the coastal areas.
 - ⊙ Farming of **green mussels** is now established as a commercial practice in India.
- ⌚ The **Charru mussel** is native to the South and Central American coast.
 - ⊙ Their colour varies from black to brown, purple or dark green.
 - ⊙ They can survive in a range of salinity and temperature but cannot survive beyond 36°C.

Way Forward

- ⌚ Completely eradicating the Charru mussel from Indian waters is going to be nearly impossible, so limiting its spread is crucial.
- ⌚ There is also a need to promote studies on invasion biology and strengthen awareness on marine invasive species.

World Dugong Day 2020

Why in News

World Dugong Day is celebrated on **28th May**, every year.

Key Points

- ⌚ **Dugong (Dugong dugon) also called 'Sea Cow'** is one of the four surviving species in the Order **Sirenia** and it is the only existing species of herbivorous mammal that lives exclusively in the sea including in India.
 
- ⌚ They are listed as **Vulnerable** on the **IUCN Red List** and are protected in India under Schedule I of the **Wild (Life) Protection Act, 1972**.
- ⌚ According to a **2013 survey report of the Zoological Survey of India (ZSI)**, there were only about 200 dugongs in the
- ⌚ Dugongs are an important part of the marine ecosystem and their depletion will have effects all the way up the food chain. Proper conservation is the only way to save dugongs from extinction.
- ⌚ **Threats:**
 - ⊙ Dugongs graze on seagrass and the loss of **seagrass beds** due to ocean floor **trawling** is one of the most important factors behind decreasing dugong populations in many parts of the world.
 - ⌘ **Trawling is a method of fishing** that involves **pulling a fishing net through the water behind one or more boats**. It is harmful to the environment because it damages the seafloor, coral reefs and other marine animals.
 - ⊙ Human activities such as the destruction and modification of habitat, pollution, rampant illegal fishing activities, vessel strikes, unsustainable hunting or poaching and unplanned tourism are the main threats to dugongs.
 - ⌘ Dugong meat is consumed under the wrong impression that it cools down human body temperature.
- ⌚ **Steps Taken for Conservation:**
 - ⊙ In February 2020, India hosted the **13th Conference of Parties (CoP)** of the **Convention on the Conservation of Migratory Species of Wild Animals (CMS)**, an environmental treaty under the aegis of the **United Nations Environment Programme (UNEP)**.
 - ⌘ The **Government of India is a signatory to the CMS since 1983**.

- ⌘ India has signed **non-legally binding Memorandums of Understanding (MoU)** with CMS on the conservation and management of Siberian Cranes (1998), Marine **Turtles** (2007), Dugongs (2008) and Raptors (2016).
- ⊙ The **Ministry of Environment, Forests and Climate Change** constituted a 'Task Force for Conservation of Dugongs' to look into issues related to conservation of dugongs and **implementation of the 'UNEP/ CMS Dugong MoU'** in India.
 - ⌘ It also facilitates India to act as the leading nation in the South Asia Sub-region with respect to dugong conservation.

Banana Covid: A Novel Fungal Strain

Why in News

- Recently, a novel **fungus strain Fusarium wilt TR4** has started infecting the Banana plantations in India.
- ⌚ It has been **described as the equivalent of Covid-19** in Bananas. Similar to Covid-19, there is no treatment yet for the new fungal disease.

Key Points

- ⌚ **The Epicentre:**
 - ⊙ In the midst of the **coronavirus disease outbreak**, **Fusarium wilt TR4**, has devastated plantations across the globe.
 - ⊙ **Ecuador**, the largest exporter of Banana is currently the epicentre.
 - ⊙ Banana is the world's most globally exported fruit and the disease is breaching borders through international trade.
 - ⊙ The spreading disease has impacted the \$26 billion global banana trade.
- ⌚ **The strain, Tropical Race 4 (TR4):**
 - ⊙ It was **first identified in Taiwan**, and has moved from Asia to the Middle East and Africa, reaching as far as Latin America.
 - ⊙ It **cripples plantations by first attacking the leaves**, which turn yellow from their trailing edges before wilting away.
 - ⊙ According to the **Food and Agriculture Organization of the United Nations**, TR4 is one of the "the most destructive of all plant diseases".

Note:

🕒 **Impact in India:**

- ⦿ The fungal strain is now spreading and threatening output in India, the world's largest producer of bananas.
- ⦿ **Katihar and Purnea** in Bihar and **Maharajganj in Uttar Pradesh** are the hotspots in India.
- ⦿ **TR4** has infected the most commonly sold variety, **Grand Nain (musa acuminata)**.
 - ⌘ Grand Nain: It accounts for 55% of the banana area in the country and accounts for 62% of commerce, including exports.
- ⦿ Inability to contain TR4 could impact the farm incomes and push up banana prices.

🕒 **Measures to curb the spread:**

- ⦿ **Plant Quarantine:** Scientists recommend biosecurity measures including “plant quarantine” to slow its spread.
- ⦿ **Growing Alternative Varieties:** In hotspot Katihar, scientists have set up an experimental farm in which they are growing several cultivars. Cultivars are different varieties of the Banana species and have shown potential resistance to TR4
- ⦿ **Biopriming:** The **Indian Council of Agricultural Research** is advocating a set of measures, known as Biopriming.
 - ⌘ It is a treatment of seed with beneficial organisms, as an alternative to treatment with pesticides, prior to sowing.
 - ⌘ Seed treatment integrates biological (vaccination of seed with beneficial organism to protect seed) and physiological aspects (seed hydration) of disease control.

- ⦿ **Chain of Infection:** It suggests farmers to abandon the crops whose plantations have been affected and grow rice for a year or two before returning to banana. It would help in breaking the chain of infection.

Banana

- 🕒 Being a tropical crop banana grows well under the following conditions:
 - ⦿ **Temperature:** 15°C – 35°C
 - ⦿ **Rainfall:** an average rainfall of 650-750 mm
 - ⦿ **Regional variation:** Humid tropics to dry mild subtropics
- 🕒 **Soil:** Deep, rich loamy soil is most preferred for banana cultivation
- 🕒 **Nutrients:** It has several nutrients like calories, protein, carbohydrate, potassium and trace quantities of vitamin C and B6.

Fusarium Wilt of Banana

- 🕒 It is popularly known as **Panama disease**.
- 🕒 It is a lethal fungal disease caused by the soil-borne fungus *Fusarium oxysporum*.
- 🕒 It is the first disease of bananas to have spread globally in the first half of the 20th century.
- 🕒 *Fusarium* has entirely wiped out Gros Michel, the dominant export variety of bananas in the 1950s.
- 🕒 It was in response to this, a new resistant variety, Grand Nain, came up, which has now fallen to TR4 infection.



History

Highlights

⌘ Veer Savarkar Jayanti

Veer Savarkar Jayanti

Why In News

On 28th May, India paid tribute to the freedom fighter, Vinayak Damodar Savarkar (Veer Savarkar) on his birth anniversary.

- ⌚ He was an Indian independence activist, politician, lawyer and writer.
- ⌚ He is also known as Swatantryaveer Savarkar.

Key Points

- ⌚ **Birth:** VD Savarkar was born on 28th May, 1883 in Bhagur, a village near Nashik in Maharashtra.
- ⌚ **Related Organisations and Work:**
 - ⌚ Founded a **secret society** called **Abhinav Bharat Society**.
 - ⌚ Went to the United Kingdom and was involved with organizations such as India House and the Free India Society.
 - ⌚ Involved in the **formation of Hindu Mahasabha**.
 - ⌘ He was the president of **Hindu Mahasabha from 1937 to 1943**.
 - ⌚ Savarkar wrote a book titled '**The History of the War of Indian Independence**' in which he wrote about the guerilla warfare tricks used in **1857 Sepoy Mutiny**.
 - ⌚ He also wrote the book 'Hindutva: who is hindu?'.
- ⌚ **Trial and Sentences:**
 - ⌚ Arrested in 1909 on charges of plotting an armed revolt against the **Morley-Minto reform (Indian Councils Act 1909)**.
 - ⌚ Arrested in 1910 for his connections with the revolutionary group India House.
 - ⌚ One of the charges on Savarkar was abetment to murder of Nashik Collector Jackson and the second was waging a conspiracy under Indian penal code 121-A against the King emperor.

- ⌚ Following the two trials, Savarkar was convicted and sentenced to 50-years imprisonment also known as Kala Pani and transported in 1911 to the Cellular Jail in the Andaman and Nicobar Islands.
- ⌚ He was not considered by the British government as a political prisoner.
- ⌚ **Death:** He died on 26th February 1966 due to fasting on his own wish of death.

Abhinav Bharat Society (Young India Society)

- ⌚ It was a secret society founded by Vinayak Damodar Savarkar and his brother Ganesh Damodar Savarkar in 1904.
- ⌚ Initially founded at Nasik as Mitra Mela, the society was associated with several revolutionaries and political activists with branches in various parts of India and London.

India House

- ⌚ It was founded by Shyamji Kishan Verma in 1905 in London.
- ⌚ It was opened to promote nationalist views among Indian students in London.

Free India Society

- ⌚ It was a political organization of Indian students in England, committed to obtaining the independence of India from British rule.
- ⌚ Initially an intellectual group, it became a revolutionary outfit under its founding leader, Madam Bhikaji Cama.

Hindu Mahasabha

- ⌚ It was a political party formed in 1933.
- ⌚ It was founded by Veer Damodar Savarkar, Lala Lajpat Rai, Madan Mohan Malviya.
- ⌚ The organisation was formed to protect the rights of the Hindu community, after the formation of the All India Muslim League in 1906 and the British India government's creation of separate Muslim electorate under the Morley-Minto reforms of 1909.



Note:

Geography

Highlights

- ⌘ Hotter Oceans and Supercyclones
- ⌘ Heat Waves

- ⌘ Chardham Pariyojana

Hotter Oceans and Supercyclones

Why in News

The **supercyclone 'Amphan'** is likely to make landfall between the Sagar islands of West Bengal and the Hatiya islands of Bangladesh.

- ⌚ Cyclone Amphan (pronounced as UM-PUN) is a tropical cyclone formed over Bay of Bengal that has turned into a "super cyclonic storm (maximum wind speed is 120 knots)".
- ⌚ The higher than normal temperatures in the Bay of Bengal (BoB) with the **countrywide lockdown** due to **Covid-19** pandemic have played a role turning a storm into a super cyclone.
- ⌚ Additionally, the super cyclone Amphan is the strongest storm to have formed in the BoB since the super cyclone of 1999 that ravaged Paradip in Odisha.

Key Points

- ⌚ **'Cyclones' as a Regular Phenomenon:**
 - ⊙ The cyclones gain their energy from the heat and moisture generated from warm ocean surfaces.
 - ⊙ The BoB has higher Sea Surface Temperature (SST) compared to the Arabian Sea. Some of the reasons for higher SST of BoB are:
 - ⌘ **Slow Flowing Winds:** It keeps temperatures relatively high i.e. around 28 degrees around the year.
 - ⌘ **Higher Rainfall:** It provides required humidity for cyclone formation.
 - ⌘ **Constant Inflow of Fresh Water:** The inflow from the Ganga and Brahmaputra rivers makes it impossible for the warm water to mix with

the cooler water below, making it ideal for a cyclonic depression.

- ⊙ On the other hand, the Arabian Sea receives stronger winds that help dissipate the heat, and the lack of constant fresh water supply helps the warm water mix with the cool water, reducing the temperature.
- ⊙ Additionally, the tropical cyclones in these seas are a typical feature of the summer months and play a role in aiding the arrival of the monsoon.
- ⌚ **Unusual Higher Temperature in BoB:**
 - ⊙ In 2020, the BoB has observed record summer temperatures due to the global warming from fossil fuel emissions that has been heating up oceans.
 - ⌘ The **cyclone Fani** in 2019 was also fuelled by high temperatures in the BoB.
 - ⊙ For the first two weeks of May, there were maximum surface temperatures of 32-34°C consecutively. These are record temperatures driven by climate change observed until now.
 - ⊙ Such unusual warming around India is no longer restricted to just the BoB but also the Arabian Sea and the Indian Ocean. It makes storm prediction less reliable as well as disrupting monsoon patterns.
- ⌚ **Impact of Lockdown:**
 - ⊙ Reduced particulate matter emissions during the lockdown resulted in **fewer aerosols**, such as black carbon, that are known to reflect sunlight and heat away from the surface.
 - ⌘ Every year, the particulate pollution from the Indo-Gangetic plains is transported toward the BoB which influences the formation of clouds over the ocean.
 - ⊙ The minimal presence of heat and sunlight reflecting aerosols in BoB resulted in fewer clouds and more heat. Further, it raised the temperature of BoB by 1-3°C

Note:

higher than normal. Thus, the whole phenomenon has amplified the strength of the cyclone.

🕒 **Overall Impact:**

- ⊙ The higher temperatures and minimal presence of aerosols helped the cyclone Amphan to intensify itself from a **category-1 cyclone** to category-5 in 18 hours that is an unusually quick evolution.

Tropical Cyclones

- 🕒 Tropical Cyclones are the formation of a very low-pressure system with very high-speed winds revolving around it. Factors like wind speed, wind direction, temperature and humidity contribute to the development of cyclones.
- 🕒 Before cloud formation, water takes up heat from the atmosphere to change into vapour. When water vapour changes back to liquid form as raindrops, this heat is released to the atmosphere.
- 🕒 The heat released to the atmosphere warms the air around. The air tends to rise and causes a drop in pressure. More air rushes to the centre of the storm. This cycle is repeated.
- 🕒 Hurricanes derive their energy from heated seawater which can be prevented by presence of upper-level-winds that disrupt the storm circulation forcing it to lose its strength.

Heat Waves

Why in News

Recently, the **India Meteorological Department (IMD)** has forecasted the “**heatwave to severe heatwave conditions**” over northwest, central and adjoining peninsular India along with heavy rain over northeast India.

- 🕒 Many parts of coastal Andhra Pradesh, Odisha and Maharashtra have also observed **increase in temperatures above 42°C**, triggering heatwave conditions.
- 🕒 The heat wave has been observed due to **dry northwesterly winds** prevailing over northwest and central India.

Heat Wave

- 🕒 A heat wave is a period of **abnormally high temperatures**, more than the normal maximum temperature that occurs during the summer season in the **North-Western and South Central parts of India**.

India Meteorological Department

- 🕒 The India Meteorological Department (IMD) was established in **1875**.
- 🕒 It is an agency of the **Ministry of Earth Sciences** of the Government of India.
- 🕒 It is the principal agency responsible for meteorological observations, weather forecasting and seismology.

- 🕒 Heat waves typically occur **between March and June**, and in some rare cases even extend till July.
- 🕒 Higher daily peak temperatures and longer, more intense heat waves are becoming increasingly frequent globally **due to climate change**.

Criteria for Heat Waves

- 🕒 The heat wave is considered when the maximum temperature of a station reaches at least **40°C for Plains** and at least **30°C for Hilly regions**.
- 🕒 If the **normal maximum temperature** of a station is **less than or equal to 40°C**, then an **increase of 5°C to 6°C** from the normal temperature is considered to be **heat wave condition**.
 - ⊙ Further, an increase of 7°C or more from the normal temperature is considered as **severe heat wave condition**.
- 🕒 If the normal maximum temperature of a station is **more than 40°C**, then an **increase of 4°C to 5°C** from the normal temperature is considered to be **heat wave condition**. Further, an **increase of 6°C or more** is considered as **severe heat wave condition**.
- 🕒 Additionally, if the actual maximum temperature remains **45°C or more** irrespective of normal maximum temperature, a **heat wave is declared**.

Health Impacts of Heat Waves

- 🕒 The health impacts of Heat Waves typically involve **dehydration, heat cramps, heat exhaustion and/or heat stroke**.
- 🕒 It also causes heat cramps, fatigue, weakness, dizziness, headache, nausea, vomiting, muscle cramps and sweating.
- 🕒 The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause physiological stress, sometimes resulting in death.

Note:

Way Forward

- ⌚ While climate change does have a strong link with the occurrence of extreme weather events, it **isn't the cause for extreme weather events**. Episodes of heat waves are growing more common as climate change intensifies. Therefore, the intensity and frequency of heatwaves can be reduced if the global community adopts and adheres to a lower emissions scenario in the future.

Chardham Pariyojana

Why in News

The **Border Roads Organisation (BRO)** has completed **construction of a 440 m long tunnel below the Chamba town** on the Rishikesh-Dharasu road highway (National Highway - 94).

- ⌚ The construction of the tunnel is a **part of the Chardham Pariyojana**.

Key Points

- ⌚ It is a programme taken up by the Ministry of Road Transport and Highways **for connectivity improvement for Chardham** (Kedarnath, Badrinath, Yamunotri and Gangotri) in Uttarakhand.
- ⌚ The cost of the project is around Rs. 12,000 Crore.

- ⌚ It envisages improvement as well as development of 889 km length of national highways.
- ⌚ **Implementing Agencies:** Uttarakhand State Public Works Department (PWD), BRO and the National Highway & Infrastructure Development Corporation Limited (NHIDCL).
- ⌚ **Project Mode:** The work under the programme is being implemented on **Engineering, Procurement and Construction (EPC)** mode.
 - ⌚ Under the EPC mode, the **project cost** is completely borne by the government.
 - ⌚ However, the contractor is directly responsible for **ensuring quality of the work** as well as rectification of defects and maintenance of the project stretch for a period of 4 years after completion of construction.

Border Roads Organisation

- ⌚ 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**.
- ⌚ 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.

Art & Culture

Highlights

- ⌘ Release of 11th Panchen Lama
- ⌘ Katkari Tribe

- ⌘ Purandara Dasa
- ⌘ Solarisation of Konark Sun Temple

Release of 11th Panchen Lama

Why in News

Recently, the USA has urged China to release Tibetan Buddhism's 11th Panchen Lama, who was taken into captivity at the age of six by Chinese authorities.

Key Points

- ⌚ In 1995, a young Tibetan boy **Gedhun Choekyi Nyima** was recognised as the 11th Panchen Lama, **the second highest spiritual authority in Tibetan Buddhism** after the Dalai Lama.
- ⌚ Days after his recognition Nyima was detained by Chinese authorities and became the **world's youngest political prisoner**.
- ⌚ Thereafter, China appointed its own Panchen Lama, **Gyaltzen Norbu**, who has been described by exiles as a **"stooge of the atheist Chinese Communist Party government"**.
- ⌚ The incident threatened the **unique identity of Tibetan Buddhism** and created **religious freedom issues** in Tibet.
- ⌚ The Dalai Lama has in the past strongly criticised China for meddling in the system of reincarnation of the Dalai Lamas and Panchen Lamas.

Background

- ⌚ Tibet is governed as an **autonomous region of China**. Beijing claims a centuries-old sovereignty over the region but many Tibetans argue that Tibet was colonised.
- ⌚ China sent in thousands of troops to enforce its claim on the region in 1950.

- ⌚ Some areas became the **Tibetan Autonomous Region** and others were incorporated into neighbouring Chinese provinces.
- ⌚ In 1959, after a failed anti-Chinese uprising, the 14th **Dalai Lama fled Tibet and set up a government in exile in India**.
- ⌚ **China views the Dalai Lama as a separatist threat**, although he has repeatedly stated that his goal is for Tibetan autonomy rather than independence.

Tibetan Buddhism

- ⌚ **Origin:**
 - ⌚ Buddhism became a major religion of Tibet towards the end of the 8th century CE.
 - ⌚ The **Tibetan king, Trisong Detsen**, who invited **two Buddhist masters namely, Shantarakshita and Padmasambhava from India to Tibet**. These two masters had helped to translate important Buddhist texts into Tibetan.
 - ⌘ **Shantarakshita** was the **abbot** of Nalanda in India. He **built the first monastery in Tibet**.
 - ⌘ **Padmasambhava** was a **mahasiddha** (master of miraculous powers).
- ⌚ **Geographical Reach:**
 - ⌚ Tibetan Buddhism is not only found in Tibet but also across the **Himalayan region from Ladakh to Sikkim as well as parts of Nepal**.
 - ⌚ It is the **state religion of the kingdom of Bhutan**.
 - ⌚ It also spread to **Mongolia and parts of Russia** (Kalmykia, Buryatia and Tuva).
 - ⌚ **Tara** (Tibetan Sgrol-ma) is a **Buddhist saviour-goddess**, widely popular in **Nepal, Tibet and Mongolia**.
- ⌚ **Special Features of Tibetan Buddhism:**
 - ⌚ Tibetan Buddhism **combines the essential teachings of Mahayana Buddhism with Tantric and Shamanic**

Note:

and material from an **ancient Tibetan religion called Bon**.

- ⊙ **Relationship between life and death:** A proper understanding of the subject of death and dying is held to be indispensable towards having a fuller, happier life.
- ⊙ **Lama:** Lama is a teacher.
- ⊙ **Deities:** These deities are not gods but aspects of enlightened qualities like wisdom and compassion. The patron deity of Tibet is **Avalokiteshvara**, the Buddha of Compassion.
- ⊙ **Rituals:** Temple ceremonies are often held with brass instruments, cymbals and gongs and musical and impressive chanting by formally dressed monks.

Katkari Tribe

Why in News

Katkari tribal youth from Shahpur in **Maharashtra** are making a name by **selling Giloy and other products online** during lockdown.

- ⌚ They received help under the **Pradhan Mantri Van Dhan Yojana (PMVDY)** run by the **Tribal Cooperative Marketing Development Federation of India (TRIFED)**.
- ⊙ TRIFED is a national level apex organisation functioning under the administrative control of the Ministry of Tribal Affairs.
- ⌚ **Giloy** (*Tinospora Cordifolia*) is an Ayurvedic herb that has been used and advocated in Indian medicine for ages..

Key Points

- ⌚ Katkari is one of **the 75 Particularly Vulnerable Tribal Groups (PVTGs)**.
- ⌚ Katkaris are **located** primarily in Raigad and in parts of Palghar, Ratnagiri and Thane districts of Maharashtra as well as in some places of Gujarat.
- ⌚ Katkaris were historically forest dwellers.
 - ⊙ The name **Katkari is derived from a forest-based activity** – the making and bartering or sale of Catechu from the Khair tree (*Acacia Katechu*).
 - ⊙ **Catechu** is an extract of acacia trees used variously as a food additive, dye, etc. It is extracted by boiling the wood in water and evaporating the resulting brew.

- ⌚ The British administration had classified them under **the Criminal Tribes Act, 1871**.
- ⊙ The Act described certain groups of people as 'habitually criminal'. The stigma associated with the Act continues.

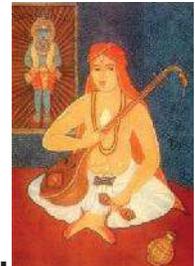
Pradhan Mantri Van Dhan Yojana

- ⌚ Pradhan Mantri Van Dhan Yojana (PMVDY) is a **retail marketing led value addition plan for Minor Forest Produce (MFP)**, meant for forest-based tribes to optimize the tribal income, locally.
 - ⊙ **MFP means all non-timber forest produce of plant origin** and includes **bamboo, canes, fodder, leaves, gums, waxes, dyes, resins and many forms of food including nuts, wild fruits, honey, lac, tusser etc.**
 - ⊙ It provides both **subsistence and cash income** for people who live in or near forests. They form a major portion of their food, fruits, medicines and other consumption items and also provide cash income through sales.
- ⌚ Under the program, MFP-based tribal groups / enterprises of around 300 members are formed for collection, value addition, packaging & marketing of Minor Forest Produces (MFPs).
 - ⊙ These tribal enterprises are in the form of **Van Dhan Self Help Groups (SHGs)** which is a group of 15-20 members and such 15 SHG groups will further be federated into a larger group of **Van Dhan Vikas Kendras (VDVKs)** of around 300 members.
- ⌚ TRIFED supports the VDVKs through providing them with model business plans, processing plans & tentative list of equipment for carrying out the value addition work of MFPs.

Purandara Dasa

Why in News

The **Department of Archaeology, Heritage and Museums, Karnataka** will soon commence field research work at **Araga in Malnad** (Malenadu) region in **Karnataka**, to end the **speculations regarding the birthplace of Purandara Dasa**.



Key Points

🕒 **Issue About Birthplace:**

- ⦿ It was widely **believed** that the Purandara Dasa was born in **Purandharagad, Maharashtra**. However, many **people in Malnad claimed that he hailed from their region**.
- ⦿ On **literary evidence**, it is being **speculated that Purandara Dasa was born near Araga**. However, **definitive conclusions can be reached only if tangible archaeological evidence** like inscriptions, coins, remains of building-related to the name Srinivasa Nayaka or Purandara Dasa **are found**.

🕒 **About Purandara Dasa:**

- ⦿ Purandara Dasa belonged to the **Vaishnava tradition** during the **Vijayanagar rule**.
- ⦿ Prior to the adoption of Vaishnava tradition, he was a rich merchant and was called **Srinivasa Nayaka**.
 - ⌘ The proponents of the theory that Puranadara Dasa was born in Malnad, refer to his older name and point out that **Nayaka title** was attributed to locally influential people, including wealthy merchants in Malnad during the Vijayanagar rule.
- ⦿ He was a great **devotee of Lord Krishna**, a **poet** and a **musician**. He is considered the **father of Carnatic Music**.
 - ⌘ He formalized the music system which was a **blend of various traditions of South India and the musical science** as explained in the Vedas.
 - ⌘ He **identified 84 ragas** and devised a system of teaching Carnatic music in graded lessons.
- ⦿ He **composed songs in Kannada and Sanskrit** with the pen name **Purandara Vithala**.
- ⦿ In his compositions, he expressed his love for Sri Krishna **describing various aspects of Krishna's life**.

Solarisation of Konark Sun Temple

Why in News

The Government of India has launched a scheme for **100% solarisation of Konark sun temple and Konark town in Odisha**.

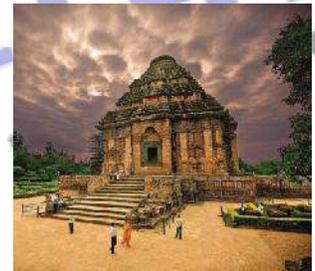
- 🕒 The scheme will meet all energy requirements of Konark town with solar energy.

Key Points

- 🕒 **Objective:** To take forward the Prime Minister's vision to develop the historical **Sun temple town of Konark in Odisha as 'Surya Nagri'**.
 - ⦿ To convey a message of synergy between the modern use of solar energy and the ancient Sun Temple and the importance of promoting solar energy.
- 🕒 **Plan:** It envisages setting up of the 10-MW grid connected solar project and various solar off-grid applications such as solar trees, solar drinking water kiosks and off-grid solar power plants with battery storage.
- 🕒 **Funding: 100% Central Financial assistance (CFA)** support of around Rs. 25 crore through the Ministry of New and Renewable Energy.
- 🕒 **Implementation Agency:** Odisha Renewable Energy Development Agency.

Konark Temple

- 🕒 Konark was built by King **Narasimhadeva I** of the **Ganga Dynasty (1238-1264AD)** in the 13th century and is located in Eastern Odisha near the sacred city of Puri.
- 🕒 The temple is designed in the shape of a colossal chariot. It is dedicated to the **sun God**.
 - ⦿ There are two rows of 12 wheels on each side of the Konark sun temple.
 - ⦿ The seven horses are said to symbolize the seven days of the week.
- 🕒 The temple was used as a navigational point by European sailors. They referred to it as the **'Black Pagoda'** due to its dark colour and its magnetic power that drew ships into the shore and caused shipwrecks.
- 🕒 It is the culmination of **Odisha temple architecture**.
- 🕒 It was declared a **UNESCO world heritage site in 1984**.



Social Issues

Highlights

- ⌘ Endemic Disease
- ⌘ Food Systems

- ⌘ Drop in Institutional Deliveries
- ⌘ Covid-19 Halts Global Vaccination Programme

Endemic Disease

Why in News

Recently, the **World Health Organisation (WHO)** predicted that novel coronavirus could become endemic to the world.

- ⌚ The rapid spread of **Covid-19** across the world has been characterised as Pandemic by the WHO.
- ⌚ Though India has made great efforts in containing the spread of the virus, the probability of its conversion into the category of endemic would be a great vulnerability.

Key Points

- ⌚ **Endemic Disease:**
- ⌚ A disease is called endemic when the presence or usual prevalence of its infectious agent is constant within a given geographical area or population group.
- ⌚ When the cases begin to rise, it is classified as an epidemic. If this epidemic has been recorded in several countries and areas, it is called a pandemic.
- ⌚ Some examples of endemics include chicken pox and **malaria**, where there are a predictable number of cases every year in certain parts of the world.
- ⌚ According to the WHO, the novel coronavirus may become just another endemic virus in communities, and may never go away.
- ⌚ **R0 and Spread of the Disease:**
 - ⌚ The mathematical figure '**R0**' (pronounced "**R-naught**") indicates how fast an infection is spreading.
 - ⌚ It is called the basic reproduction number and indicates the average number of people who will contract the virus from a person who has already been infected, in a population that does not have immunity for the said disease.

- ⌚ **If $R0=1$** , then the disease is endemic.
- ⌚ **When $R0>1$** , it implies that the cases are increasing and that the disease will eventually become an epidemic.
- ⌚ **When a Disease Becomes Epidemic:**
 - ⌚ The Disease becomes "**increasingly tolerated**" and the responsibility of protecting against it shifts from the government to the individual.
 - ⌘ This means, rather than government agencies actively engaging in tracking and identifying cases, the individuals themselves will be responsible for managing risk from the disease and seeking care.
 - ⌚ The sociopolitical response to the disease may also change, with investment in the disease becoming institutionalised along with the disease-inducing behavioural changes in people.
 - ⌚ Epidemic diseases typically have **higher mortality and morbidity** than the diseases which have become endemic, owing to lack of clinical experience and knowledge. Over time, effective prevention and treatment interventions emerge for the disease that has become endemic.

Types of

Endemic Diseases

- ⌚ **Holoendemic Diseases:** This kind of endemic disease affects mostly children. This infection is highly prevalent in the early years of life. The adult population do not show traces of diseases as much as children do. Malaria is a type of holoendemic disease.
- ⌚ **Hyperendemic Diseases:** These types of endemic diseases are constantly present at a high rate and are found among all age groups equally. E.g. African Sleeping Sickness and Chicken Pox.

Note:

Food Systems

Why in News

According to the **Global Nutrition Report 2020**, food systems should be inclusive, local and diverse to address food security and malnutrition and build economic and climate resilience.

Key Points

- 🕒 **Food systems**
 - ⊙ A food system is a composite of the environment, people, inputs, processes, infrastructures, institutions, etc.
 - ⊙ Production, processing, distribution, preparation and consumption of food are a part of food systems.
 - ⊙ They also include the outputs of such activities, including socio-economic and environmental outcomes.
- 🕒 **Reducing malnutrition through food systems**
 - ⊙ By adjusting food systems away from staples like wheat and rice towards non-staples like vegetables, fruits, fish, nuts etc., malnutrition can be reduced.
 - ⊙ More incentives towards millets, and non-staples will make production of healthy food attractive to producers and therefore improve the availability of more nutritious food, especially for the rural poor.
 - ⊙ Procurement of nutritious and climate-resilient crops like sorghum and millets should become the policy of the government.
 - ⌘ Their consumption should be increased through public food distribution schemes and creating awareness on the health benefits of these crops.
 - ⊙ Child malnutrition is a risk factor that can keep India from fulfilling all its child mortality related Sustainable Development Goals (e.g. SDG 2: Zero Hunger).
- 🕒 **Role of small farm holders**
 - ⊙ Small farm holders who usually do not have access to big value chains will be critical in improving food systems.
 - ⊙ Incentivising and hand-holding them to transition to diverse crops may improve local value chains as better access enables income enhancement.
- 🕒 **Food systems and climate change**

- ⊙ Smaller and localised value chains instead of supermarket driven long-value chains can reduce carbon footprints.
- ⊙ Similarly, climate-resilient and less water intensive crops should be incentivised and popularised among farmers and consumers alike.

Drop in Institutional Deliveries

Why in News

Recently, the **data from the states of Chhattisgarh and Jharkhand** has reported a drop in the institutional deliveries.

Key Points

- 🕒 **Current Scenario in Two States:**
 - ⊙ **Chhattisgarh:** It has recorded a **drop by 15.39 %** in April compared to the numbers recorded in March.
 - ⌘ In February 2020, before the lockdown was imposed, the State had recorded 37,984 institutional deliveries. But following the lockdown, the number of institutional deliveries fell to 32,529.
 - ⌘ The State has recorded an increase in the percentage of institutional deliveries from **44.9 to 70.2 between NFHS 3 (2005-06) and NFHS 4 (2015-16)**.
 - ⊙ **Jharkhand:** The state had listed 52,000 women for scheduled deliveries in May, out of these only 5.9% of these were conducted in medical institutions by May 21.
 - ⌘ The State has recorded an increase in the percentage of institutional deliveries from **40.1 % to 61.9 % between NFHS 3 (2005-06) and NFHS 4 (2015-16)**.
- 🕒 **Reasons for Drop in Institutional Deliveries:**
 - ⊙ The **public transport has been majorly affected** due to **nationwide lockdown** imposed to contain the spread of the **Covid-19 pandemic**. Thus reaching hospitals from villages became difficult.
 - ⊙ The **declared Covid-19 hospitals have created a fear of infection** and thus people are avoiding physical contacts with the hospitals.
 - ⊙ Many deliveries are being carried out at small private nursing homes to avoid movement and related Covid-19 spread.

Note:

Institutional Deliveries in India

⌚ Description:

- ⊙ **Institutional delivery means giving birth to a child in a medical institution** under the overall supervision of trained and competent health personnel.
- ⊙ It also signifies an availability of amenities to handle the situation and save the life of the mother and child.

⌚ National Scenario:

- ⊙ Over the past two decades, India has made progress in increasing the number of institutional deliveries.
 - ⌘ According to the **National Family Health Survey (NFHS-4)**, institutional deliveries have increased from 39% in 2005-06 to 79% in 2015-16.
 - ⌘ Further, the institutional births in public institutions have increased from 18% to 52% in the same time period.

⌚ Step Taken to Increase Institutional Deliveries:

- ⊙ **Janani Suraksha Yojana: Janani Suraksha Yojana (JSY)** is a 100% **centrally sponsored scheme** which is being implemented with the objective of reducing maternal and infant mortality by promoting institutional delivery among pregnant women.
- ⊙ **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA):** It has been launched to focus on conducting special AnteNatal Check-ups (ANC) check up on 9th of every month with the help of Medical officers to detect and treat cases of anaemia.
- ⊙ **Pradhan Mantri Matru Vandana Yojana (PMMVY):** It is a maternity benefit programme being implemented in all districts of the country with effect from 1st January, 2017.
- ⊙ **LaQshya Programme: LaQshya (Labour room Quality Improvement Initiative)** intended to improve the quality of care in the labour room and maternity operation theatres in public health facilities.

- ⊙ The **entire health machinery is battling Covid-19**, so non-Covid health services experience a lack of medical staff.

Way Forward

- ⌚ The entire health machinery is **battling Covid-19 but non-Covid health services** should not compromise which are the base of the health infrastructure of the country.
- ⌚ The government **should ensure adequate availability of medical staff, emergency medical services such as ambulance, vaccinations, maternity care, etc.** to the urban as well as rural areas.
- ⌚ The balance of the **Covid and non-Covid medical services** is need of the hour and the government needs to ensure the implementation of the same in the future.

Covid-19 Halts Global Vaccination Programme

Why in News

As per the report released by the **World Health Organisation (WHO)** and partners, **nearly 80 million children under the age of 1 are at risk of contracting deadly but vaccine preventable diseases such as measles, polio and diphtheria.**

- ⌚ This is so because many countries have **postponed their vaccine campaigns due to Covid-19.**
- ⌚ The report has come **ahead of the Global Vaccine Summit on 4th June**, at which world leaders are expected to come together to help maintain immunization programmes and mitigate the impact of the pandemic in lower-income countries.
 - ⊙ The summit will provide **an opportunity for the international community to pledge its support for Gavi's five-year strategy (2021-2025)** which is aimed at immunizing 300 million children and saving up to 8 million lives.
- ⌚ The **United Nations Children's Fund (UNICEF)**, the Sabin Vaccine Institute (Washington, USA) and **Global Alliance for Vaccines and Immunizations (GAVI)** are the partner organisations.

Key Points

- ⌚ **Data:**
 - ⊙ **More than half (53%) of the 129 countries** where data were available reported **moderate-to-severe disruptions, or a total suspension of vaccination services** during March-April 2020.

Note:

Immunization

⌚ It is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine.

⌚ Functioning:

⊙ A vaccine usually consists of two parts and is usually given through an injection. The first part is the **antigen**, which is a piece of disease one's body must learn to recognise. The second part is the **adjuvant**, which sends a danger signal to the body and helps the immune system to respond strongly against the antigen.

⊙ In simple terms, vaccines work by exposing a person to a safer version of a disease. While the body responds to the vaccine, it builds an **adaptive immune system**, which helps the body to fight off the actual infection in the future.

⌚ According to the WHO, vaccination prevents between **two-three million deaths each year**, a figure that will rise by another 1.5 million if vaccine coverage improves.

⌚ Reasons for the disruption:

⊙ Vaccination, which is typically done in mass campaigns, has been stopped due to **fear of breaking social distancing guidelines** needed to stop the spread of Covid-19.

⊙ **Health workers** who provide vaccinations have also been **diverted to help with the response to the pandemic**.

⊙ Also, there has been a **significant delay in planned vaccine deliveries** due to lockdown measures and reduction in the number of available flights.

⊗ More than 40 of Africa's 54 nations have closed their borders, though some allow cargo and emergency transport.

⌚ Concerns:

⊙ Disruption to immunization programs from the Covid-19 pandemic threatens to undo decades of progress against vaccine-preventable diseases like Measles, Polio and Diphtheria.

⊙ According to the experts, children need routine immunizations before the age of 2.

Way Forward

⌚ There is an urgent need to focus upon the **Global Vaccine Action Plan 2011-2020** that is a framework to prevent millions of deaths by 2020 through more equitable access to existing vaccines for people in all communities.

⌚ It is equally important for the countries to give importance to the **United Nations Sustainable Development Goal 3** i.e. Good Health and Well being.

⌚ There is a need for an immediate action plan to restart the vaccination programmes through better health infrastructure and medical equipment during the corona crisis.

⌚ Countries should start efforts at individual level e.g. India can expedite the vaccination programmes under the **Mission Indardhanush**.



Security

Highlights

⌘ *Illicit Drug Supply and Covid-19: UNODC*

Illicit Drug Supply and Covid-19: UNODC

Why in News

Recently, the United Nations Office on Drugs and Crime (UNODC) released a report on ‘**Synthetic Drugs in East and Southeast Asia: Latest Developments and Challenges**’.

- ⌚ According to this report, **Covid-19** induced **lockdowns and movement restrictions** may lead to an initial **statistical reduction in drug seizures**, but **without a real change in terms of supply**.
- ⌚ In other words, Covid-19 is **unlikely to have any effect on illicit drug supply**.

Key Points

- ⌚ **Shifting of Priorities:** Rearrangement of governments’ priorities and resources to tackle the **pandemic** could threaten the efforts to strengthen drug prevention and treatment programmes.
- ⌚ **No Direct Correlation:** Not every fluctuation in terms of drug seizures, prices, drug-related arrests or deaths in the coming months would be a direct or indirect consequence of the outbreak.
- ⌚ **Quick and Flexible Response:** Active organised crime groups have shown flexibility to respond to shortages of supplies and have raised risk levels on certain trafficking routes.
- ⌚ **Local Capacities:** Main synthetic drug of concern in the region, Methamphetamine (also called meth), was manufactured, trafficked and consumed without the need for globalised supply chains.

Indian Context

- ⌚ India reported a substantial increase in seizures of

Amphetamine-Type Stimulants (ATS), most of which are suspected to be meth.

- ⌚ The reasons behind the spike are:
 - ⌚ Growth in trafficking of meth from the **Golden Triangle** overland to Bangladesh, with some routes crossing India.
 - ⌚ The Golden Triangle represents the region coinciding with the **rural mountains of Myanmar, Laos, and Thailand**.
 - ⌚ It is Southeast Asia’s main opium-producing region and one of the oldest narcotics supply routes to Europe and North America.
 - ⌚ Use of maritime trafficking routes from Myanmar along the Andaman Sea, some of which cross Indian territorial waters.
- ⌚ India is in the middle of two major illicit opium production regions in the world, the Golden Crescent in the west and the Golden Triangle in the east.

Golden Crescent

- ⌚ This region of South Asia is a principal global site for opium production and distribution.
- ⌚ It comprises **Afghanistan, Iran, and Pakistan**.

Challenges

- ⌚ **Easy Borders:** The borders are porous and difficult to control in the lower Mekong region so cross-border movements in many places are not significantly hindered by Covid-19 measures.
- ⌚ **Evolving Ways of Trafficking:** The methods of containerised trafficking, couriers and body-packing have reduced due to shutting down of borders and trade. However, dealers might come up with other ways limiting the impact of reduced trade.
- ⌚ **Limited Control:** There is limited government control in the Golden Triangle, trafficking would continue at high volumes.

Note:

- ⌚ **Unaffected Supply:** The supply of precursor chemicals is not likely to be disrupted because major organised crime groups source chemicals through direct diversion from industry and not diversion from illicit overseas trade channels.
- ⌚ **Lowest Price Level:** The price of meth has dropped to the lowest level in a decade with the surge of supplies. This has in turn increased its affordability and, therefore, use.
- ⌚ **Increased Crime:** Changed methods to access drugs and economic hardship might reduce the disposable income of some drug users, and result in increased crime.
 - ⌚ Street dealing of drugs might be significantly impacted and altered due to movement restriction and social distancing.
- ⌚ **Additional Risks:** Vulnerable populations of drug users may be exposed to additional risks as funding is re-prioritised, access to programmes and services becomes difficult and activities of treatment providers are hampered as they are dealing with the pandemic.

United Nations Office on Drugs and Crime

- ⌚ Established in **1997** and was named **UNODC** in **2002**.
- ⌚ It acts as the Office for Drug Control and Crime Prevention by combining the United Nations International Drug Control Program (UNDCP) and the Crime Prevention and Criminal Justice Division of the United Nations Office at **Vienna**.
- ⌚ UNODC publishes the **World Drug Report**.

Way Forward

- ⌚ Additional efforts would be required at the national, regional, and international level to carefully analyse methods and trends to understand changes to drug markets in the wake of the pandemic.
- ⌚ Moreover, methods or procedures to deal with illicit drug supply, their usage must be institutionalised in order to ensure that fight against this menace is not compromised in face of a pandemic or any other crisis.

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VANIK-IAS
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Miscellaneous

Highlights

- ⌘ Defence Testing Infrastructure Scheme
- ⌘ Statehood Day of Sikkim
- ⌘ Missile Park 'Agneeprastha'
- ⌘ Odisha Promotes Contract Farming
- ⌘ International Day of Families
- ⌘ GOAL Programme
- ⌘ International Tea Day
- ⌘ Sonic Boom
- ⌘ Quantum Entanglement

Defence Testing Infrastructure Scheme

Why in News

Recently, the government has approved the launch of 'Defence Testing Infrastructure Scheme (DTIS)' in order to give a **boost to domestic defence and aerospace manufacturing**.

Background

- ⌚ The Government has accorded high priority to development of the manufacturing base of Defence and Aerospace sectors in the country under "**Make in India**" initiative to reduce dependence on imports.
- ⌚ In the above context, the government has already announced establishment of **Defence Industrial Corridors (DICs) in Uttar Pradesh and Tamil Nadu**.
- ⌚ But, still one of the main impediments for domestic defence production is **lack of easily accessible state-of-the-art testing infrastructure**.
- ⌚ Defence Testing Infrastructure is **capital intensive** requiring continuous upgradation and it is not economically viable for individual defence industrial units to set up in-house testing facilities.

Key Points

- ⌚ **Objectives:**
 - ⌚ The Scheme aims to promote indigenous defence production, with special focus on participation of **MSMEs and Start Ups by bridging gaps in defence testing infrastructure in the country**.

- ⌚ It will also help to provide easy access and to meet the testing needs of the domestic defence industry.
- ⌚ It will facilitate indigenous defence production, consequently reduce imports of military equipment and help make the country self-reliant.
- ⌚ **Finance and Cooperation:**
 - ⌚ The Scheme has an outlay of **Rs 400 crore** for creating state of the art testing infrastructure over the **duration of five years**.
 - ⌚ It envisages to set up test facilities in **partnership with private industry**.
 - ⌚ The projects under the Scheme will be provided with up to **75% government funding in the form of 'Grant-in-Aid'**.
 - ⌚ The remaining **25% of the project cost** will have to be borne by the **Special Purpose Vehicle (SPV)** whose constituents will be **Indian private entities and State Governments**.
 - ⌘ Only private entities registered in India and State Government agencies will qualify for forming the implementation agency for the Scheme.
 - ⌘ The SPVs under the Scheme will be registered under Companies Act 2013.
- ⌚ **Location of DTISs:**
 - ⌚ The Scheme aims at setting up Greenfield Defence Testing Infrastructure mainly in DICs but is not limited to setting up Test Facilities in the DICs only.

Statehood Day of Sikkim

Why in News

On the **Statehood Day of Sikkim** (16th May), the Prime Minister greeted the people of the state and praised

the traditions and culture of the state highlighting its contributions to the national progress.

Key Points

- ⌚ Sikkim is located in the **northeastern part** of the country, in the **eastern Himalayas** and is **one of the smallest states** in India.
- ⌚ It derives its name from the **Limbu** (a tribe) words *su him*, meaning **‘new house’**.
- ⌚ **Capital: Gangtok.**
- ⌚ **Borders:**
 - ⊙ **Tibet Autonomous Region of China** to the north and northeast, **Bhutan** to the southeast, Indian state of **West Bengal** to the south and **Nepal** to the west.
 - ⊙ Sikkim is of **great political and strategic importance** for India because of its location along several international boundaries.
- ⌚ **History:**
 - ⊙ Sikkim became a **protectorate of India in 1950** following the **Indo-Sikkimese Treaty**, with India assuming responsibility for the external relations, defense and strategic communications of Sikkim.
 - ⊙ Sikkim became the **22nd state** of India on **16th May 1975**, following a **statehood demand** from the political leaders.
 - ⊙ The **Namgyal dynasty** ruled Sikkim until 1975.
- ⌚ **Geography:**



Note:

- ⊙ **Mount Kanchenjunga**, India’s highest peak and the world’s third highest mountain **lies in Sikkim**.
- ⊗ The **Kanchenjunga National Park (KNP)** (established in **1977**), near the peak is among the largest of India’s high-elevation conservation areas.
- ⊗ KNP was designated a **World Heritage Site** in **2016** under the **‘mixed’ category** (sites containing elements of both natural and cultural significance).
- ⊙ Sikkim is drained by the **Teesta river** and its **tributaries** such as the Rangit, Lhonak, Talung and Lachung.
- ⊗ **Teesta river water conflict** is one of the most contentious issues between **India and Bangladesh**.
- ⊗ Teesta river is a **tributary of Brahmaputra river**.

Missile Park ‘Agneeprastha’

Why in News

- Recently, the foundation stone for a **missile park ‘Agneeprastha’** was laid at INS Kalinga.
- ⌚ A **2 MegaWatts (MW) solar photovoltaic plant** was also commissioned at INS Kalinga.
- ⊙ This is in tune with the initiative of the Union government to **promote solar power** and the **objective to achieve 100 GW** of solar power by 2022 as part of the **National Solar Mission**.
- ⊙ Launched in **2010**, the National Solar Mission is **one of the eight key components of the National Action Plan on Climate Change (NAPCC)**.
- ⌚ INS Kalinga is a premier Naval Establishment located on the Visakhapatnam- Bheemunipatnam beach road under the **Eastern Naval Command**.

Key Points

- ⌚ The Missile Park ‘Agneeprastha’ **aims to capture glimpses of missile history** of INS Kalinga from its establishment in 1981 till date.
- ⌚ It will be **dedicated to all the officers, sailors and support staff of INS Kalinga**.
- ⌚ It will also commemorate **the award of the prestigious Unit Citation to INS Kalinga** for the year 2018-19.
- ⌚ It has been set up with a **replica of missiles and Ground Support Equipment (GSE)** that showcase the evolution of missiles handled by the unit.

- ⌚ P-70 'Ametist', an underwater launched anti-ship missile from the arsenal of the old 'Chakra' (Charlie-1 submarine) which was in service with Indian Navy during 1988-91 is the main attraction point in the Park.
- ⌚ Agneeprastha will provide a one-stop arena for motivation and stimulation of curious minds regarding the missiles and related technologies, from school children to Naval personnel and their families.

Odisha Pomotes Contract Farming

Why in News

Recently, the Odisha government has promulgated an ordinance allowing investors and farmers to enter into an agreement for **contract farming**.

- ⌚ The contract farming has been allowed in view of the continuing **uncertainties** due to the **Covid-19 pandemic**.

Key Points

⌚ **Aim:**

- ⊙ The ordinance aims to facilitate both farmers and sponsors to develop **mutually beneficial and efficient** contract farming systems.
- ⊙ It is also expected to improve the production and marketing of agricultural produce and livestock while promoting farmers' interest.

⌚ **Contract Farming:**

- ⊙ Contract farming signifies an agricultural production (including livestock and poultry) based on a **pre-harvest agreement** between buyers (such as food processing units and exporters) and producers (farmers or farmer organisations).
- ⊙ The producer can sell the agricultural produce at a specific price in the future to the buyer as per the agreement.
- ⊙ Under contract farming, the **producer** can **reduce the risk** of fluctuating **market price and demand**. The **buyer** can reduce the **risk of non-availability of quality produce**.

⊙ **Regulations:**

- ⌘ In India, contract farming is regulated under the **Indian Contract Act, 1872**.

⌘ In addition, the **Model Agricultural Produce Market Committee (APMC) Act, 2003** provides specific provisions for contract farming, like compulsory registration of contract farming sponsors and dispute settlement.

⌘ Since **agriculture is a state list** subject, therefore contract farming is **not uniform**.

- The **NITI Aayog** observed that market fees and other levies are paid to the **APMC** for contract farming when no services such as market facilities and infrastructure are rendered by them.

- Thus, it has been recommended that contract farming should be out of the ambit of APMCs. Instead, an **independent regulatory authority** must be brought in to disengage contract farming stakeholders from the existing APMCs.

⌘ Therefore, the Ministry of Agriculture came out with a **draft Model Contract Farming Act, 2018**.

- The draft Model Act seeks to create a regulatory and policy framework for contract farming. Based on this draft Model Act, legislatures of states can enact a law on contract farming.

⌚ **Advantages:**

- ⊙ Contract farming addresses the problem of **low investment** in agriculture and ensures a supply of quality inputs, technical guidance and management support for farmers.
- ⊙ It provides an **assured market and a pre-agreed sale price for produce**, makes it easier for farmers to **access cheaper institutional credit**.

Way Forward

- ⌚ The contract farming seeks to provide alternative marketing channels and better price realisation to farmers. It has been observed that if the market price rises higher than the contracted price, the farmers are tempted to sell the produce to someone else for a higher price. On the other hand, if market prices were to fall below the contracted rate, the buyer often fails to honour the commitment.
- ⌚ It is also necessary to remember that for growers agriculture is a livelihood issue and for processors and aggregators it is business. Hence the Government

should play the role of a facilitator to promote as well as to develop a healthy system of farmer-corporate relationship for mutual benefit and development of the agriculture sector in India.

International Day of Families

Why in News

- 🕒 The International Day of Families is observed on **15 May** every year.

Key Points

- 🕒 In 1993, the **United Nations** General Assembly passed a resolution that 15 May of every year should be observed as the International Day of Families.
- 🕒 **Objectives:** It provides an opportunity to promote awareness of issues relating to families and to increase the knowledge of the social, economic and demographic processes affecting families.
- 🕒 **Theme:** The theme for 2020 is Families in Development: **Copenhagen & Beijing+25**.

Copenhagen & Beijing+25

- 🕒 Copenhagen & Beijing+25 signifies the World Conferences on Women (WCW) organised by the United Nations.
 - 🕒 The United Nations has organized four world conferences on women.
 - 🕒 These took place in Mexico City in 1975, Copenhagen in 1980, Nairobi in 1985 and Beijing in 1995.
- 🕒 **WCW, Copenhagen:**
 - 🕒 Under this a Programme of Action called for stronger national measures to ensure women's ownership and control of property, as well as improvements in protecting women's rights to inheritance, child custody and nationality.
- 🕒 **WCW, Beijing:**
 - 🕒 It marked a significant turning point for the global agenda for gender equality. The Beijing Declaration was adopted unanimously by the UN at the end of the 4th WCW.
 - 🕒 2020 marks the 25th anniversary of the 4th World Conference on Women (WCW) and adoption of the Beijing Declaration and Platform for Action (1995). Hence, it is referred to as Beijing +25.

- 🕒 The theme changes every year depending on the developmental endeavours ahead of the organisations working towards the welfare of families.

🕒 **Steps to promote healthy families:**

- 🕒 Healthy familial bonds are some of the greatest boons that parents and elders in the family can pass on their children and family youngsters.
- 🕒 A nurturing environment promoted with love and care helps the children grow up into well-balanced, happy adults.
- 🕒 Communication, quality time, appreciation, respect are some of the essentials towards building a strong and supportive family.

GOAL Programme

Why in News

Recently, the **Union Minister for Tribal Affairs** launched "**GOAL (Going Online As Leaders)**" programme at a webinar in New Delhi.

- 🕒 GOAL is a joint initiative of **Facebook and the Ministry of Tribal Affairs**.

Key Points

- 🕒 The GOAL programme is designed to **provide mentorship to tribal youth** through **digital mode**.
- 🕒 The program will focus on three core areas - **Digital Literacy, Life Skills and Leadership and Entrepreneurship**.
- 🕒 The program intends to upskill and empower 5,000 tribal youths in the current phase to harness the full potential of digital platforms and tools to learn new ways of doing business, explore and connect with domestic and international markets.
- 🕒 The programme has been designed with a long term vision to develop the potential of **tribal youth and women** to help them **acquire skills and knowledge through mentorship in various sectors including horticulture, food processing, bee keeping, tribal art and culture, medicinal herbs, entrepreneurship** among others.
- 🕒 The program aims to enable **Scheduled Tribe (ST)** youth in remote areas to use digital platforms for sharing their aspirations, dreams and talent with their mentors.

Note:

- ⌚ All the mentees will be provided with smartphones and Internet access (for one year) by Facebook along with exposure to various external forums that will give opportunity to the participants to showcase their entrepreneurial skills and leadership abilities.
- ⌚ The program will also **create awareness amongst tribal beneficiaries** about various **schemes initiated by Central and State Governments** for welfare of STs as well as their fundamental duties.

International Tea Day

Why in News

Recently, the **first International Tea Day** was observed on 21st May after it was designated by the **United Nations General Assembly** in December 2019.

- ⌚ The UN General Assembly called on the **Food and Agricultural Organisation (FAO is an agency of the United Nations)** to lead the observance of the day.
- ⌚ The date was chosen because the **season of tea production begins in May** in most of the tea producing countries.

Key Points

- ⌚ Tea is a beverage made from the **Camellia sinensis plant**. It is the world's most consumed drink, after water.
- ⌚ **Origin:** It is believed that tea originated in **northeast India, north Myanmar and southwest China** but the exact place where the plant first grew is not known. There is evidence that tea was consumed in China 5,000 years ago.
- ⌚ **Economy:**
 - ⊙ **Tea production and processing** constitutes a main source of livelihoods and subsistence for millions in developing and least developed countries.
 - ⊙ It is a labour-intensive sector, providing jobs, especially in remote and economically disadvantaged areas.
 - ⊙ Tea can play a **significant role in rural development, poverty reduction and food security** in developing countries, being one of the most important **cash crops**.
- ⌚ **Sustainable Development:** Tea production and processing contributes towards various **sustainable development goals**:

- ⊙ Reduction of extreme poverty (Goal 1).
- ⊙ Fight against hunger (Goal 2).
- ⊙ Empowerment of women (Goal 5).
- ⊙ Sustainable use of terrestrial ecosystems (Goal 15).

⌚ **Plantation condition:**

- ⊙ Tea is a **tropical and sub-tropical plant** and grows well in moderately hot and humid climates.
- ⊙ The ideal temperature for its growth is 20°-30°C and temperatures above 35°C and below 10°C are harmful for the bush.
- ⊙ It requires 150-300 cm annual rainfall which should be well distributed throughout the year.
- ⊙ The most suitable soil for tea cultivation is **slightly acidic soil (without calcium)** with porous sub-soil which permits a free percolation of water.

⌚ **Climate Change:**

- ⊙ Changes in temperature and rainfall patterns, with more floods and droughts, are already affecting yields, tea product quality and prices, lowering incomes and threatening rural livelihoods.
- ⊙ In parallel, there is a growing recognition of the need to contribute to **climate change** mitigation, by reducing carbon emissions from tea production and processing.

⌚ **FAO has designated 4 tea cultivation sites in China, Korea and Japan as Globally Important Agricultural Heritage Systems.**

- ⊙ Pu'er Traditional Tea Agrosystem (China)
- ⊙ Fuzhou Jasmine and Tea Culture System (China)
- ⊙ Traditional Tea-grass Integrated System (Japan)
- ⊙ Traditional Hadong Tea Agrosystem, Hwagae-myeon (Republic of Korea)

Globally Important Agricultural Heritage Systems

- ⌚ It was started by the FAO to safeguard and support the **world's agricultural heritage systems**.
- ⌚ GIAHS are outstanding landscapes of aesthetic beauty that combine agricultural biodiversity, resilient ecosystems and a valuable cultural heritage.
- ⌚ **Three recognised GIAHS sites in India:**
 - ⊙ Kuttanad Below Sea Level Farming System, **Kerala**.
 - ⊙ Koraput Traditional Agriculture, **Odisha**.
 - ⊙ Pampore Saffron Heritage, **Kashmir**.

Sonic Boom

Why in News

Recently, sonic boom (a loud sound) was heard in Bengaluru which emanated from an Indian Air Force (IAF) test flight involving a supersonic profile.

Key Points

- ⌚ Sonic Booms are shockwaves produced by planes or other objects that are flying at a speed equal to or greater than the speed of sound (**supersonic, >1225 kmph at sea level**).
- ⌚ When an airplane travels through the air, it produces **sound waves**. If the plane is traveling slower than the speed of sound, then sound waves can propagate ahead of the plane. If the plane breaks the sound barrier and flies faster than the speed of sound, it produces a sonic boom when it flies past. The **boom is the plane's sound waves combined together propagated at once**.
- ⌚ **Air reacts like fluid to supersonic objects**. As those objects travel through the air, molecules are pushed aside with great force and this forms a **shock wave**. The bigger and heavier the aircraft, the more air it displaces.
- ⌚ **Cause:**
 - ⊙ The shock wave forms a **cone of pressurized or built-up air molecules**, which move **outward and rearward** in all directions and extend all the way to the ground.
 - ⊙ As the pressure cone **spreads across the landscape** along the flight path, it **creates a continuous sonic boom** along the full width of the cone's base.
 - ⊙ The **sharp release of pressure**, after the buildup by the shock wave, is **heard as the sonic boom**.
 - ⊙ The change in air pressure associated with a sonic boom is only a **few pounds per square foot**, about the same pressure change experienced riding an elevator down two or three floors.
 - ⊙ It is the rate of change, the **sudden changing of the pressure**, which **makes the sonic boom audible**.
- ⌚ **General Factors Associated With Sonic Booms:**
 - ⊙ There are several **factors that can influence sonic booms** like weight, size, and shape of the aircraft or vehicle, plus its altitude, attitude, and flight path, and weather or atmospheric conditions.

- ⊙ The **direction of travel and the strength** of shock waves are influenced by wind, speed, and direction, as well as by air temperature and pressure.

Quantum Entanglement

Why in News

Recently, the scientists from **S. N. Bose National Centre for Basic Sciences (SNBNCBS), Kolkata** have developed a novel protocol to find out whether a pair of electrons is in an entangled state.

- ⌚ This novel protocol to measure the status of entanglement is known as **Device Independent Self Testing (DIST)** method.

Key Points

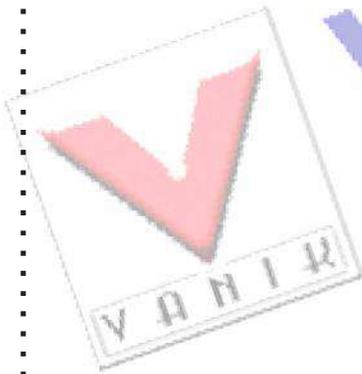
- ⌚ **Device Independent Self Testing (DIST) Method:**
 - ⊙ This method can be used to overcome safety concerns in quantum entanglement as it **enables the verification** of entanglement in an unknown quantum state of two photons **without having direct access to the state, or complete trust in the measurement devices**.
 - ⊙ In several practical situations, one of the parties may be fully trusted, whereas, the other may not be trusted like in the case of server-client relationship in banking transactions.
- ⌚ **Quantum Entanglement:**
 - ⊙ It is the **physical phenomenon** that occurs when a pair or group of particles is generated and they interact in such a way that the **quantum state of each particle of the pair or group cannot be described independently** of the state of the others.
 - ⊙ In this quantum mechanical phenomenon, the quantum states of two or more objects have to be described with reference to each other, even though the individual objects may be spatially separated.
 - ⊙ This leads to correlations between observable physical properties of the systems.
 - ⊙ **Albert Einstein** dismissed this idea as a **'spooky action'**.
- ⌚ **Importance:**
 - ⊙ Entangled states are **key resources** to facilitate many **quantum information processing tasks and quantum cryptographic protocols**.

Note:

- ⦿ The entangled pairs of electrons can be **safely used as resources for facilitating quantum information processing tasks.**
- ⌚ **Challenges:**
 - ⦿ **Fragility:** Entanglement is **fragile and is easily lost** during the transit of photons through the

environment. Hence, it is extremely **important to know whether a pair of photons is entangled**, in order to use them as resources.

- ⦿ **Safety:** Verification of entanglement requires the use of measurement devices, but such devices may be hacked and cannot be trusted fully.



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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



Serada 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. Behera



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 Sonapati



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 Jani



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**