CIVIL SERVICES MONTHLY

MAY 2020

CHAHAL ACADEMY

ONE STOP SOLUTION FOR CIVIL SERVICES

INDEX

PRELIMS

MAINS

GENERAL STUDIES – III

Polity and Governance

BS-VI emission norms for quadricycles

Why in news?

- The Ministry of Road Transport and Highways had notified pertaining to the emission norms for L7 (quadricycle) category for BS-VI.
- This notification concludes the process of BS-VI for all category vehicles in India.
- The emission norms are on akin to the European Union's World Motorcycle Test Cycle (WMTC).
- It is a system of driving cycles utilized to measure fuel consumption and emissions in motorcycles.
- The methods are stipulated as part of the Global Technical Regulation established under the UN World Forum for Harmonization of Vehicle Regulations, also called WP.29.

Quadricycle

- It is the size of a three-wheeler but with four tyres and is fully covered like a car.
- It has an engine similar to that of a three-wheeler. This makes it safe and cheap mode of transport for last-mile connectivity.
- It cannot be more than 3.6 metres long, should have an engine smaller than 800cc, and should not weigh more than 475 kilograms.

Emergency Credit Line Guarantee Scheme (ECLGS)

Why in news?

- The Union Cabinet has given its nod for the Emergency Credit Line Guarantee Scheme (ECLGS) for MSMEs and MUDRA borrowers.

- In this Scheme, 100% guarantee coverage to be given by National Credit Guarantee Trustee Company Limited (NCGTC) for extra funding of up to Rs. 3 lakh crore to entitled MSMEs and concerned MUDRA borrowers.
- The credit will be given in the form of a Guaranteed Emergency Credit Line (GECL) facility.
- This Scheme would be applicable to all loans sanctioned under GECL Facility during the period from the date of announcement of the Scheme to 31.10.2020.
- Tenor of the loan in this Scheme shall be four years with a moratorium period of one year on the principal amount.
- No Guarantee Fee shall be charged from the Member Lending Institutions (MLIs) by NCGTC in the Scheme.
- Interest rates in the Scheme shall be capped at 14% for NBFCs and 9.25% for banks and FIs.

Benefits of the scheme

- **Aim:** To mitigate the distress caused by COVID-19 and the consequent lockdown, which has severely influenced manufacturing and other activities in the MSME sector.

- The scheme is expected to give credit to the sector at a low cost, thereby enabling MSMEs to meet their operational liabilities and restart their businesses.
- By assisting MSMEs to continue functioning during this current unprecedented situation, this Scheme is expected to have a positive impact on the economy and support its revival.

Pradhan Mantri Vaya Vandana Yojana (PMVVY)
Why in news?
- The Union Cabinet has given its nod to the Extension of Pradhan Mantri Vaya Vandana Yojana (PMVVY) upto 31st March 2023 to enable old age income security for Senior Citizens.

Other changes for the welfare of senior citizens

1. Revised rate of returns of Senior Citizens Saving Scheme (SCSS).

2. Nod for expenditure to be incurred on account of the difference between the market rate of return generated by LIC.

3. The minimum investment has also been revised to Rs.1,56,658 for pension of Rs.12,000/- per annum and Rs.1,62,162/- for getting a minimum pension amount of Rs.1000/- per month under the scheme.

About PMVVY

- Pension Scheme only for the senior citizens aged 60 years and above.
- It can be purchased offline and online through LIC of India which has been provided the sole privilege to operate this Scheme.
- One can invest a maximum amount of ₹15 lakh under this scheme.
- The tenure of the policy is set at 10 years.
- Scheme gives initially an assured rate of return of 7.40 % p.a. for 2020-21 and thereafter to be reset every year.
- Pension is payable at the end of each period, as per the frequency of monthly/ quarterly/ half-yearly/ yearly as chosen by the pensioner at the time of purchase.
- The scheme is exempted from GST.
- On survival of the pensioner to the end of the policy term, Purchase price along with final pension installment shall be payable. On death of the pensioner, the Purchase Price shall be paid to the beneficiary.
- Loan upto 75% of Purchase Price shall be allowed after 3 policy years (to meet the liquidity needs). Loan interest shall be recovered from the pension installments and loan to be recovered from claim proceeds.
- Permits for premature exit for the treatment of any critical illness of self or spouse. On such premature exit, 98% of the Purchase Price shall be refunded.

Pradhan Mantri Matsya Sampada Yojana
Why in news?
- The Union Cabinet has given its nod for implementation of the Pradhan Mantri Matsya Sampada Yojana (PMMSY).

About the scheme
- Ministry of Fisheries, Animal Husbandry and Dairying is its nodal Ministry. It will be implemented for a period of 5 years from FY 2020-21 to FY 2024-25.

- The entire project cost is 100% central funding.
- It is a scheme that aims to bring Blue Revolution by sustainable and responsible development in fisheries sector in India under two components which are Central Sector Scheme (CS) and Centrally Sponsored Scheme (CSS).
- CSS Component is further divided into Non-beneficiary oriented and Beneficiary orientated sub-components under the following three broad heads:
1. Enhancement of Production and Productivity.
2. Infrastructure and Post-Harvest Management.
3. Fisheries Management and Regulatory Framework.

Advantages
- Creation of direct gainful employment opportunities to about 15 lakh fishers, fish farmers, fish workers, fish vendors and other rural/urban populations in fishing and allied activities.
- Augmenting fish production and productivity at a sustained average annual growth rate.
- Creation of critical infrastructure including modernisation and strengthening of value chain.
- Boost to investments in fisheries sector and increase of competitiveness of fish and fisheries products.
- Address the critical gaps in the fisheries sector and realize its potential.
- Social, physical and economic security for fishers and fish workers.
- Improve availability of certified quality fish seed and feed, traceability in fish and including effective aquatic health management.

15 MPs nominated of Delimitation Commission

Why in news?

- Lok Sabha Speaker nominated 15 Members of Parliament and Legislative Assemblies of states from Jammu and Kashmir, Assam, Manipur, Nagaland and Arunachal Pradesh as "associate members" of the Delimitation Commission to support the panel in redrawing parliamentary and assembly constituencies of the northeastern states and the union territory.
- On 6 March 2020, the government established the Delimitation Commission, to be headed by former SC judge Ranjana Prakash Desai.

• The commission will fix the constituencies of J&K according to the provisions of the Jammu and Kashmir Reorganisation Act, and of Assam, Arunachal Pradesh, Manipur and Nagaland according to the provisions of the Delimitation Act, 2002.

What is Delimitation?

• It literally means the process of fixing limits or boundaries of territorial constituencies in a state that has a legislative body.
• Delimitation is undertaken by a highly powerful commission called Delimitation Commission or Boundary Commission.

About Commission

• These bodies are so powerful that its orders have the force of law and they cannot be challenged before any court.
• Such commissions have been constituted 4 times — in 1952 under the Delimitation Commission Act, 1952; in 1963 under Delimitation Commission Act, 1962; in 1973 under Delimitation Act, 1972 and in 2002 under Delimitation Act, 2002.
• According to the Delimitation Commission Act, 2002, the Delimitation Commission appointed by the Centre has to have three members:
1. A serving or retired judge of the Supreme Court as the chairperson
2. The Chief Election Commissioner or Election Commissioner nominated by the CEC
3. The State Election Commissioner as ex-officio members.
• Article 82: Parliament enacts a Delimitation Act after every Census.
• Article 170: States get divided into territorial constituencies as per Delimitation Act after every Census.
• Once the Act is in force, the Union government sets up a Delimitation Commission.

==Forest rights modified==

Why in news?

• Governor of Maharashtra had modified the Section 6 of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, in its application to Scheduled Area of Maharashtra, which permits legitimate claimants of forest rights to appeal against decisions of the district level committee (DLC).
• Governor has modified in exercise of the powers conferred on him by Schedule V of the Constitution.

About Modification

• Give justice to tribals whose 'individual or community forest right' has been rejected by the DLC, established under the Forest Rights Act (FRA).
• Applies to regions covered in the Panchayats (Extension to Scheduled Areas) Act and permits appeal provision against the decision of DLC.
• Divisional level committees under the chairmanship of divisional commissioners have been comprised to hear the appeals against the decisions of DLC.
• If an order is passed by the DLC before the beginning of the notification, the appeal requires to be made within six months. However, if an order has been passed after its beginning, the application needs to be made within 90 days.
• Activists opine that this will lead to further delays in implementation of forest laws and the notification is a double-edged sword. Delay means denial of justice and expanded scope for fake claims.

Forest Rights Act 2006

• In the colonial period, the Britishers diverted abundant forest wealth to meet their economic requirements. While procedure for settlement of rights was given under statutes like the Indian Forest Act, 1927, these were hardly followed.
• As a result, tribal and forest-dwelling communities continued to live inside the forests in tenurial insecurity, a scenario which continued even after 1947 as they were marginalised.

- The symbiotic relationship between forests and forest-living communities found acceptance in the National Forest Policy, 1988.
- The policy called for the requirement to associate tribal people in the regeneration, protection and development of forests.
- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, or Forest Rights Act (FRA) aimed to protect the marginalised socio-economic class of citizens and maintain the balance between the right to environment with their right to life and livelihood.
- FRA aimed at recognizing the forest rights and occupation in forest by forest-dwelling STs and other traditional forest dwellers who have been residing in such forests for generations but whose rights could not be recorded.

Schedule V

- It deals with the administration and control of Scheduled Areas and Scheduled Tribes residing in any State except Assam, Meghalaya, Tripura and Mizoram.

One Nation One ration Card scheme

Why in news?

- 5 more states/UT have joined ration card portability like Bihar, Punjab, UP, Himachal Pradesh and Daman and Diu and Dadra and Nagar Haveli.
- These states have been integrated with the 'one nation, one ration card' scheme.

Advantages

- Around 60 crore beneficiaries from 17 states and UTs can take advantage from the ration card portability and they can buy the subsidized food grains utilizing the existing ration cards.
- One Nation One Ration Card will ensure all beneficiaries especially migrants regarding the accessibility of PDS from any PDS shop of their own choice.
- No poor person will be deprived of getting subsidised foodgrains under the food security scheme when they shift from one place to another.
- It aims to remove the chance of anyone holding more than one ration card to avail benefits from different states.
- This will give freedom to the beneficiaries as they will not be tied to any one PDS shop and reduce their dependence on shop owners and curtail instances of corruption.

National Migrant Information System

Why in news?

- National Disaster Management Authority (NDMA) has developed an online dashboard namely National Migrant Information System (NMIS) on the existing NDMA-GIS portal.

Aim of NMIS

- To capture the information related to movement of migrants
- Facilitate smooth movement of migrants across States of India.
- Maintain a central repository
- Aid in fast communication between States without creating additional work at the level of the field officers. It offers contact tracing also.
- Allow States to upload batch file of individual data on the portal, this can be integrated through Application Programming Interface (API).

NDMA

- Formally constituted on 27 September 2006, in accordance with the Disaster Management Act, 2005 with Prime Minister as its Chairperson and nine other members, and one such member to be designated as Vice-Chairperson.

- Coordinates response to natural or man-made disasters and for capacity-building in disaster resiliency and crisis response.
- Apex statutory body to lay down policies, guidelines and plans for Disaster Management to ensure timely and effective response to disasters.
- To build a safer and disaster resilient country by a holistic, proactive, technology driven and sustainable development strategy that includes all stakeholders
- Promotes prevention, preparedness and mitigation.

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.
- 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.

Star Rating of Garbage Free Cities

Why in news?

- Ministry of Housing and Urban Affairs (MoHUA) had announced the results of Star rating of garbage free cities for the assessment year 2019-2020.
- A total of six cities have been certified as 5-Star like Ambikapur (Chhattisgrah), Rajkot (Gujarat), Surat (Gujarat), Mysuru (Karnataka), Indore (MP) and Navi

Mumbai (Maharashtra), 65 cities as 3-Star and 70 cities as 1-Star.
- This certification is a recognition of the clean status to the Urban Local Bodies and strengthens SWM system and is a mark of trust and reliability similar to universally known standards.

About

- The Star Rating Protocol was launched by the MoHUA in January 2018 to institutionalize a mechanism for cities to attain a status of Garbage Free and to encourage cities to attain higher degrees of cleanliness.
- The protocol incorporates components like the cleanliness of drains & water bodies, plastic waste management, managing construction etc
- The main focus of this protocol is on Solid waste management (SWM)
- It also ensures certain minimum standards of sanitation through a set of prerequisites defined in the framework.
- It is one of the various initiatives which intend to make Swachh Bharat Mission- Urban (SBM-U) as a successful project.
- To ensure that the Protocol has a SMART framework, the Ministry had developed a three-stage assessment process.
- In the first stage, ULBs populate their progress data on the portal along with supporting documents within a particular timeframe. The second stage involves a desktop assessment by a third party agency selected and appointed by the Ministry.
- Claims of cities that clear the desktop assessment are then verified through independent field level observations in the third stage.

Stringency Index

Why in news?

- The Stringency Index, created by the University of Oxford, has been released recently.

• It had found that India has one of the stringent lockdown measures at an early phase of case growth among various countries responding to the ongoing COVID-19 pandemic.

About Index

• Utilized by the Oxford COVID-19 Government Response Tracker.

• Includes a team of 100 Oxford community members who have constantly updated a database of 17 indicators of government response.

• These indicators examine containment policies like school and workplace closings, public events, public transport, stay-at-home policies.

• The Stringency Index is a number from 0 to 100 that reflects these indicators. A higher index score indicates a higher level of stringency and vice versa.

• It provides a picture of the stage at which any country enforced its strongest measures.

• Oxford gives countries' death curve and their stringency score.

• Some countries saw their deaths just begin to flatten as they reached their highest stringency, such as Italy, Spain, or France. As China adopted stronger measures, its death curve plateaued.

• Oxford graphs shows that death curve has not flattened even after adopting stringent measures in UK, the US, and India.

Comparison of India with others

• India imposed its strict lockdown at a much earlier point on its case and death curves, when compared to other countries with similar or higher cases.

• In a research note, these researchers examined if countries meet four of the six World Health Organization's (WHO) recommendations for relaxing physical distancing measures: 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; and community engagement.

CHAMPIONS portal

Why in news?

• This portal has been launched by the Ministry of Micro, Small and Medium Enterprises (MSME).

• CHAMPIONS stands for Creation and Harmonious Application of Modern Processes for Increasing the Output and National Strength.

About Portal

• A technology driven Control Room-Cum-Management Information System.

• Uses modern information and communication technology (ICT) tools including telephone, internet and video conference. Entire ICT architecture is created in house with the help of the National Informatics Centre (NIC).

• System is enabled by Data Analytics, Artificial Intelligence and Machine Learning.

• Integrated on a real time basis with the Ministry's other web based mechanisms and Centralized Public Grievances Redress and Monitoring System (CPGRAMS)

• A network of control rooms is created in the Hub & Spoke Model. The Hub is located in the Secretary MSME's office and the spokes in the States in various offices and institutions of the Ministry.

• Aim of portal: To help 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

• To assist the MSMEs in this difficult situation in finance, raw materials, labour, permissions, etc.

• To assist them capture new opportunities such as manufacturing of medical accessories and products for e.g., PPEs, masks, etc.

• To identify the bright MSMEs who can withstand and can become national and international champions.

Centralized Public Grievances Redress and Monitoring System (CPGRAMS)

- It is an online web-enabled system developed by National Informatics Centre (Ministry of Electronics & IT, in collaboration with Directorate of Public Grievances (DPG) and Department of Administrative Reforms and Public Grievances (DARPG).
- It aims to receive, redress and monitor the grievances of the public.
- It was launched by the Department of Administrative Reforms & Public Grievances (DARPG) under the Ministry of Personnel, Public Grievances & Pensions.
- Gives the facility to lodge a grievance online from any geographical location.
- It allows the citizen to track online the grievance being followed up with Departments concerned and enables DARPG to monitor the grievance.
- The procedure includes designating a senior officer as the Director of Grievances/Grievance officer in every office to ensure that the system remains accessible, simple, quick, fair and responsive, and fixing the time limit for disposal of work relating to public grievances and staff grievances.

National Informatics Centre (NIC)

- Gives e-Governance assistance to the Central Government, State Governments and UT Administrations.
- It has been closely associated with the Government in different aspects of Governance
- Established Nationwide State-of-the-Art information and communication technology (ICT) Infrastructure.
- It has built a large number of digital solutions to assist the government at various levels, making the last-mile delivery of government services to the citizens a reality.
- Nodal Ministry: Ministry of Electronics and Information Technology
- It was established in 1976 and is located in New Delhi.

Why in news?

- According to the Centre for Monitoring Indian Economy (CIME) data, Jharkhand is facing severe joblessness with unemployment rate at 47.1% — double that of the national average (23.5%). The arrival of around 5-6 lakh stranded migrant workers, due to COVID-19 lockdown, from other states worsened the situation.
- That's why the Jharkhand's government had launched 3 employment schemes namely Birsa Harit Gram Yojana (BHGY), Neelambar Pitambar JAL Sammridhi Yojana (NPJSY) and Veer Sahid Poto Ho Khel Vikas Scheme (VSPHKVS) with an aim to generate wage employment for workers in rural areas.
- These 3 schemes have been devised in convergence with the MGNREGA.
- By MGNREGA and these schemes, Jharkhand government plans to generate 30 crore person days and give wage employment to the rural people in the coming 5 years.
- Earlier, the Odisha government has announced Rs 100-crore Urban Wage Employment Initiative to create employment for the urban poor in 114 urban local bodies.

BHGY

- It is envisaged at bringing over 2 lakh acres of unutilized government fallow land under the afforestation programme.
- Around 5 lakh families will be given 100 fruit-bearing plants.
- Initial plantation, maintenance, afforestation and land work will be done through MGNREGA.
- Each family is estimated to get an annual income of ₹50,000 from fruit harvest after 3 years while the ownership of land will rest with the government.

NPJSY

- This scheme aims to create agro-water storage units by arresting rainwater and runaway groundwater.
- About 5 lakh acre of cultivable land can be irrigated by this initiative.
- Around 10 crore person days will be created by the scheme in the next 4-5 years.

VSPHKVS

- The government is linking sports with rural job schemes for generation of assets in the rural areas to give a boost to sports.
- Around 5,000 sports grounds are being planned to be established, with one each in all the 4,300 panchayats.

Saras Collection portal

Why in news?

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

About Portal

- Showcase daily utility products made by rural SHGs and ensure better prices for SHGs.
- To give SHGs with market access to Central and State Government purchasers.
- First launched in Bihar, Chhattisgarh, Jharkhand, Karnataka, Kerala, Himachal Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh and West Bengal.
- Do away with intermediaries in the supply chain.

Deen Dayal Antyodaya Yojana

- Aims to assist the poor by giving skill training in both rural and urban areas as per requisite international standards.

Cauvery Water Management Authority

Why in news?

- The Centre issued a notification officially that brought the Cauvery Water Management Authority (CWMA) under the Jal Shakti Ministry.
- Many political parties, especially the Opposition, and some farmers' associations in Tamil Nadu have raised concerns over this.

Jal Shakti Ministry

- Formed in May 2019, by merging the Ministry of Drinking Water and Sanitation and Ministry of Water Resources.
- Deals with all water, sanitation and irrigation-related issues.
- Erstwhile water resources ministry has been brought under this ministry as a department.
- Management boards of all rivers were functioning under the previous water resources ministry.

With a notification in 2020, the following were brought under the Jal Shakti Ministry:

1. National Water Informatics Centre
2. North Eastern Regional Institute of Water and Land Management
3. Krishna River Management Board
4. Godavari River Management Board
5. Cauvery Water Management Authority (Formed following the instructions of the SC in February 2018 as a quasi-judicial authority by the Centre, with its own powers like an independent body. This was to implement the water-sharing award of the Cauvery Water Dispute Tribunal)

Reasons behind the opposition against Centre's move

- Other inter-state river dispute boards (Narmada, Krishna, Godavari) were directly established by the ministry, the CWMA was set up with the instructions of the Supreme Court.
- Between June 2018-May 2019, there was no public notification on the CWMA being designated as an organisation under the Union Ministry of Water Resources.

- Centre's present move will erode the autonomy and dilute the powers of the authority, and reduce it to a "puppet" of the Centre.
- The whole idea of being an independent body will be sidelined.
- Tamil Nadu, being a lower riparian state, might not be able to represent their rights.
- The move is also seen as yet another dent on the federal structure.

Counter-arguments

- The CWMA, a body corporate, has been working all along under the Water Resources Ministry.
- Even in the case of its predecessor, the Cauvery River Authority (1998-2013), the Water Resources Ministry had the administrative control.
- The formalisation of the CWMA's status corrects an apparent lapse on the Ministry's part and addresses administrative issues.
- Apart from meeting the procedural requirement, the notification does not, in any way, alter the character, functions or powers of the CWMA.

Way Ahead

- Previous governments at the Centre have been wary of acting decisively on this dispute, other than the orders of the SC due to the fear of alienating voters in one of the States involved.
- Even 2 years after its formation, the Authority does not have a full-fledged Chairman.
- The Centre would do well to act in making the CWMA fully operational, when the southwest monsoon is about to set in.

Economy

Sarfaesi Act

Why in news?

- A five-judge Constitution Bench of the SC ordered that all co-operative banks in India could make utilization of the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act (Sarfaesi) to recover against defaulting persons.
- SC held that all similar cooperative banks involved in the activities related to banking are covered within the meaning of 'banking company'.
- Cooperative banks cannot carry on any activity without compliance with the Banking Regulation Act, 1949 and any other legislation applicable to such banks relatable to banking.

Voluntary Retention route for FPIs

Why in news?

- Foreign Portfolio Investors (FPIs) reduced the pace of outflows in April 2020, after a record net outflow of Rs. 118203 crore in March 2020.
- In April 2020, FPIs pulled out a net of Rs.14858 crore from equity and debt markets. This brought a relief to the capital markets amid COVID-19 and subsequent lockdowns.
- FPIs were net positive investors in debt Voluntary Retention Route scheme (new channel of investment available to FPIs to encourage them to invest in debt markets in India over and above their investments through the regular route).
- FPIs invested a net of Rs.4032 crore in debt VRR schemes in April 2020.

West Bengal Major Irrigation and Flood Management Project

Why in news?

• West Bengal government, the Department of Economic Affairs (DEA), the World Bank and the Asian Infrastructure Investment Bank (AIIB) have signed loan agreements for West Bengal Major Irrigation and Flood Management Project (WBMIFMP).

• World Bank & AIIB are providing $145 million each as soft loan, totaling US$ 290 million which is 70% of the project cost. 30% ($ 123 million) is being funded by the West Bengal government

About the Project

• The duration of the project is 2020 to 2025.

• Total estimated cost of the project is Rs. 2931 crore.

• This Project was initiated by the State Irrigation & Waterways Department for revamping and modernizing the decade old Damodar Valley Command Area (DVCA) irrigation system in the districts of Purba & Paschim Bardhaman, Bankura and Hooghly and for controlling floods in the lower Damodar areas in Hooghly and Howrah.

• Availability of adequate surface water for irrigation will help reduce groundwater use and lead to crop diversification. The flood protection measures will significantly reduce damages caused by perennial flooding in lower Damodar valley areas in Hooghly and Howrah.

• The project will improve livelihood of farmers and boost rural economy in the project area.

World Bank Support

Why in news?

• The World Bank sanctioned $1 billion for 'Accelerating India's COVID-19 Social Protection Response Program' to support the country's efforts for giving social support to the poor and vulnerable households who are severely impacted by the pandemic.

• A $1 billion support was announced earlier to support India's health sector and this recent announcement takes the total commitment from the Bank towards emergency COVID-19 response in India to $2 billion.

About

• $550 million of the $1 billion will be financed by a credit from the International Development Association (IDA) and $200 million will be a loan from the International Bank for Reconstruction and Development (IBRD), with a final maturity of 18.5 years including a grace period of 5 years.

• The left $250 million will be made available after 30 June 2020.

• Prime Minister Jan Dhan Yojana, along with Direct Benefit Transfer (DBT) scheme is set to play a major role in filling the gap between the World Bank and the people in need. Pradhan Mantri Garib Kalyan Yojana (PMGKY) will take the front seat as the first phase of the operation will be implemented countrywide through this scheme. The aim is to immediately help scale-up cash transfers and food benefits, using a core set of pre-existing national platforms and programs such as the Public Distribution System (PDS) and DBT.

• The move is also expected to provide robust social protection for essential workers involved in coronavirus relief efforts and benefit vulnerable groups, particularly migrants and informal workers, who face a major risk of being excluded from PMGKY. On the other hand, the second phase is set to be delivered through the state governments in the form

of more social protection packages, increasing cash, and fulfilling local needs.

Merchandise exports drop over 60%

Why in news?

- India's trade basket plummeted to a record low in April as countries sealed their borders to contain the spread of the coronavirus pandemic.
- Merchandise exports plunged 60.3% and imports fell 58.7% resulting in a trade deficit of $6.8 billion, data released by the commerce ministry showed.
- The weak performance in April 2020 followed a 34.6% drop in country's merchandise exports in March 2020 when imports declined 28.7%.
- Nationwide lockdown has hit India's trade, which has been on a declining trend due to a slowing economy.
- Only iron ore (17.5%) and pharmaceuticals (0.25%) recorded positive growth in April 2020 out of the 30 major exporting items.
- While the contraction in non-oil imports was broad-based, two-thirds of it was concentrated in items such as gold and precious stones, electronic goods, machinery and coal.
- The sharp 59.3% decline in non-oil exports was driven by engineering goods, gems and jewellery, and textiles.
- Considered the severest in the world, the lockdown has led to large-scale job losses and difficulties for migrant workers.
- India's unemployment rate climbed to 27.1% in the week to 3 May before dropping to 23.97% in the following week, data from the Centre for Monitoring Indian Economy showed.
- Around 121.5 million people reported job losses in April, the survey said.
- The Asian Development Bank on Friday said GDP in South Asia will be lower by $142 billion to $218 billion (3.9-6%) in fiscal 2021, mainly reflecting strict coronavirus induced restrictions in countries such as Bangladesh, India and Pakistan.

- The World Trade Organization (WTO) has projected global merchandise trade to drop between 13% and 32% in 2020 due to the pandemic.

Energy Transition Index

Why in news?

- Global Energy Transition index has been released by the World Economic Forum (WEF).

Global Performance

- Sweden leads the overall rankings for the third consecutive year, followed by Switzerland and Finland.
- Performance of G20 countries is mixed. France and UK are the only G20 countries in the top 10.
- China, India, and Italy made consistent improvements on overall ETI score since 2015, while Russia, Japan, South Korea and Germany made moderate gains.
- Scores for USA, Canada, Brazil and Iran were either stagnant, or declining.

India Performance

- India is one of the few countries in the world to have made consistent year-on-year progress since 2015.
- India's improvements have come across all three dimensions of the energy triangle — economic development and growth, energy access and security, and environmental sustainability.
- Emerging centres of demand such as India (74th) and China (78th) have made consistent efforts to improve the enabling environment.
- For India, gains have come from a government-mandated renewable energy expansion programme, now extended to 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.

Conclusion

- The transformation of the energy system over the past decade, although slower than required to achieve the objectives of the Paris Agreement to combat climate change, has been unprecedented. But this hard‑earned momentum now risks being lost, as the ongoing COVID‑19 pandemic continues to cause economic and social damage.

Impact of COVID-19 on energy sector

- The erosion of almost a third of global energy demand
- Unprecedented oil price volatilities and subsequent geopolitical implications
- Delayed or stalled investments and projects
- Uncertainties over the employment prospects of millions of energy‑sector workers
- The crisis has forced the unthinkable. Society has had to relinquish valuable commodities and freedoms to collectively address the global outbreak. An effort of similar proportions is required for a successful energy transition.

About Index

- The Energy Transition Index (ETI) is a fact-based ranking intended to enable policy-makers and businesses to plot the course for a successful energy transition.
- The benchmarking of energy systems is carried out annually across countries. Part of the World Economic Forum's Fostering Effective Energy Transition initiative, it builds on its predecessor, the Energy Architecture Performance Index. The ETI does not only benchmark countries on their current energy system performance, but also provides a forward‑looking lens as it measures their readiness for the energy transition.
- The Energy Transition Index, a composite score of 40 indicators, benchmarks 115 countries on the current performance of their energy system, and their readiness for transition to a secure, sustainable, affordable, and inclusive future energy system.

Energy Transition

Energy transition refers to the global energy sector's shift from fossil-based systems of energy production and consumption — including oil, natural gas and coal — to renewable energy sources like wind and solar, as well as lithium-ion batteries.

The increasing penetration of renewable energy into the energy supply mix, the onset of electrification and improvements in energy storage are all key drivers of the energy transition.

Effective energy transition is timely, inclusive, sustainable, affordable and secure. It provides solutions to global energy-related challenges, while creating value for business and society, without compromising the balance of the energy triangle.

The World Economic Forum's initiative on "Fostering Effective Energy Transition" offers a platform to foster common understanding among all stakeholder groups on the destination of energy transition, necessary imperatives, market and policy enablers, and the resulting human impact.

Energy Transition Index 2020
Top 10 countries

	ETI Ranking
Sweden	1
Switzerland	2
Finland	3
Denmark	4
Norway	5
Austria	6
United Kingdom	7
France	8
Netherlands	9
Iceland	10
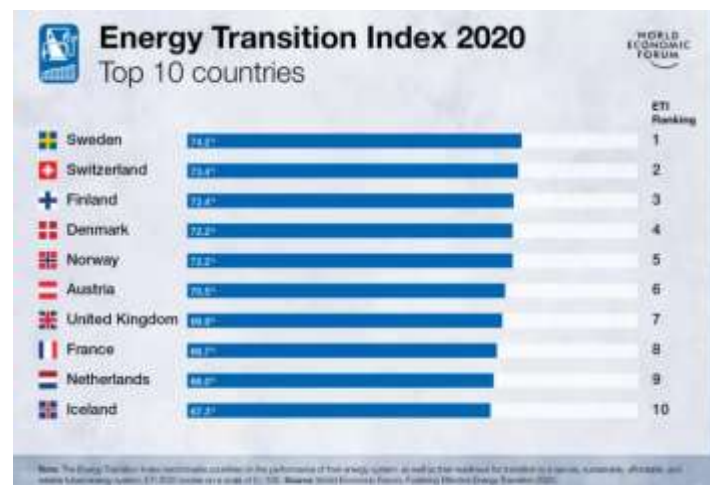
==Krishak Kalyan fees==

Why in news?

- Government of Rajastan has levied 2% Krishak Kalyan fees on agricultural produce brought or bought in mandis.

About

- 2% Krishak Kalyan fees collected will be deposited in the Krishak Kalyan Kosh, for the purpose of ensuring fair price for farmer's produce and to strive towards "ease of doing farming" in 2019.
- However, farmer outfits are apprehensive that people at agricultural mandis will pass on the burden of the increased cost to farmers, already reeling by the lockdown imposed due to the coronavirus.
- Through an ordinance, the government stated that the market committee shall collect Krishak Kalyan fee from the licensees in the prescribed manner on the agricultural produce brought or bought or sold by them in the market area (mandi) at such rate as may be specified by the state government.
- As per the government, the fee will not be a burden on the people associated with the mandis nor the farmers.
- The levied fees is an addition to the existing mandi cess of 1.6% on the produce. Thus the total fees will turn out to be 3.6%, which is much higher than other states.
- The increased cess will encourage black marketing as many farmers would try to sell their produce outside the mandi mechanism.
- The prices farmers are getting for their produce in mandis are already much lower than the Minimum Support Price (MSP).
- Further, farmers may receive lesser prices for their agricultural produce due to the introduction of Krishi Kalyan fee.

Inject money into the power sector

Why in news?

- India will give ₹90,000 crore liquidity injection for the fund-starved electricity distribution companies (discoms) to bring India's battered economy back on track.
- This is part of the first tranche to combat the economic disruption from the COVID-19 lockdown, which has worsened the already precarious finances of power discoms.

About

- State-owned Power Finance Corporation (PFC) and Rural Electrification Corporation (REC) will infuse the liquidity by increasing of about ₹90,000 crore from the market against the receivables of discoms. The state governments will provide a guarantee.
- This one-time time liquidity infusion will be utilized to pay the central public sector power generation companies, transmission companies, independent power producers and renewable energy generators.
- Energy consumption like electricity and refinery products is linked to overall demand in the economy.
- With at least 10 states losing about a third of the power supplied to their consumers in distribution losses, their overdues have not only hit power producers, but have also contributed to stress in the banking sector.
- Besides, the electricity demand load shifted to homes during the lockdown, resulting in lower realizations. With peak electricity demand coming down, commercial and industrial power demand has taken a hit after many factories shut down.

Impact of energy efficiency measures for 2018-19

Why in news?

- A Report on "Impact of energy efficiency measures for the year 2018-19" has been released by the Union Minister of Power.

Key takeaways from the report

- India has reduced the energy intensity of economy by 20% compared to 2005 levels.
- Total electricity savings is up to 9.39% of the net electricity consumption (113.16 Billion Units) in 2018-19.
- Total energy savings in 2018-19 is 2.69% of the total primary energy supply (23.73 million Tonne of Oil Equivalent). This includes both supply and demand side sectors of the economy.

- 151.74 Million Tonnes of Carbon Dioxide ($MTCO_2$) emissions have been reduced.

About report

- It was prepared by an Expert agency PWC Ltd, which was engaged by Bureau of Energy efficiency (an agency of the Government of India, under the Ministry of Power created in March 2002 under the provisions of Energy Conservation Act, 2001) for an independent verification to assess the resultant annual savings in energy as well as CO2 emissions through various initiatives in India.
- It assesses the resultant impact of current schemes at national and state level for the FY 2018-19.
- It then compares the result with a situation where the same schemes were not implemented.

Helicopter money

Why in news?

- Telangana Chief Minister proposed that the helicopter money can assist states to come out of the economic crisis created by COVID-19 pandemic.

About Helicopter Money

- Term coined by Milton Friedman (American economist).
- Basically shows a helicopter dropping money from the sky.
- It is an unconventional monetary policy tool, which includes printing large sums of money and distributing it to the public, to fuel the economy during a recession.
- Under this policy, a central bank "directly raises the money supply and, via the government, distributes the new cash to the population with the objective of enhancing demand and inflation."
- This money should not be confused with quantitative easing, because both aim to enhance consumer spending and raising inflation.
- Currency is distributed to the public and there is no repayment liability in case of helicopter money.

- 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.

Advantages of Helicopter Money	Disadvantages of Helicopter Money
It does not depend on increased borrowing to revive 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 immediately.	It does not involve repayment liability; therefore many people argue that it's not a feasible solution to fuel the economy. It may lead to over-inflation. It may devalue the currency in the foreign exchange market.

Forex reserves declined

Why in news?

- According to the recent data from the RBI, India's Foreign Exchange (Forex) reserves have declined by $113 million to $479.45 billion in the week due to a fall in foreign currency assets.
- The main reason for the decline is attributed to fall in Foreign Currency Assets (FCAs).

Foreign Exchange Reserves

- These are assets held on reserve by a central bank in foreign currencies, which can include bonds, treasury bills and other government securities.
- Most foreign exchange reserves are in U.S. dollars.
- These assets are held to ensure that the central bank has backup funds if the national currency rapidly devalues or becomes altogether insolvent.

India's Forex Reserve includes

- Foreign Currency Assets (FCA)
- Gold reserves

- Special Drawing Rights
- Reserve position with IMF

Global Energy Review 2020

Why in news?

- Global Energy Review 2020 report has been released by the International Energy Agency (IEA).

Key findings

- Global energy demand is projected to fall 6% in 2020. This will be steepest decline in percentage terms in 70 years and the largest ever in absolute terms.
- Except renewables, all fuels are set to witness their greatest contractions in demand for decades.
- According to the report advanced economies will experience the greatest declines in energy demand in 2020.
- Energy demand would decline for the first time in India, following on from low demand growth in 2019.
- Global oil demand in 2020 is projected to drop by 9 per cent or 9 million barrels per day on an average across the year, returning oil consumption to 2012 levels.
- Global coal demandis projected decline by 8 per cent, in large part because electricity demand will be nearly 5 per cent lower over the course of the year.
- Global Electricity Demand has been declined by 20% during periods of full lockdown in several countries. The residential demand is outweighed by reductions in commercial and industrial operations.

What next?

- According to IEA, if lockdowns are shorter and the global recovery is more rapid, the decline in global energy demand across 2020 could be limited to 3.8 per cent, which is still four times the decline during the global financial crisis.

Reports by IEA

- Global Energy & CO_2 Status Report.

- World Energy Outlook.
- World Energy Statistics.
- World Energy Balances.
- Energy Technology Perspectives.

Report on National Infrastructure Pipeline (NIP)

Why in news?

- The task force on National Infrastructure Pipeline (NIP) led by Atanu Chakraborty has submitted its final report to the Finance Minister.

Important recommendations and observations

- ₹111 lakh crore over the next five years (2020-2025) to build infrastructure projects and drive economic growth.
- Energy, roads, railways and urban projects account for the bulk of projects (around 70%).
- The centre (39 percent) and state (40 percent) are expected to have an almost equal share in implementing the projects, while the private sector has 21 percent share.
- Aggressive push towards asset sales.
- Monetisation of infrastructure assets.
- Setting up of development finance institutions.
- Strengthening the municipal bond market.

Task force has recommended setting up of the following three committees

- Committee to monitor NIP progress and eliminate delays
- Steering Committee at each Infrastructure ministry level to follow up on the implementation process
- Steering Committee in DEA for raising financial resources for the NIP.

Beekeeping in India

Why in news?

- National Cooperative Development Corporation (NCDC) conducted a webinar on the theme "Sweet Revolution and Atma Nirbhar Bharat"
- Aim of this webinar was to popularize scientific beekeeping as a source of livelihood for landless rural poor, small and marginal famers to supplement agricultural income, as also as tool to enhance agriculture and horticulture production.

Other Steps taken

- Finance Minister has allocated 500 crores towards Beekeeping under the Atma Nirbhar Abhiyan.
- National Bee Board has developed 4 modules to impart training as part of the National Beekeeping and Honey Mission (NBHM) and 30 lakh farmers have been trained in beekeeping. They are also being financially supported by the Government.
- 'Honey Mission' as part of 'Sweet Revolution' has been launched by the Government.
- India is among the world's top five honey producers. As per FAO database, in 2017-18, India ranked eighth in the world in terms of honey production (64.9 thousand tonnes) while China stood first with a production level of 551 thousand tonnes.
- Beekeeping can be an important contributor in achieving the 2022 target of doubling farmer incomes
- Compared to 2005-06 honey production has risen by 242% and exports shot by 265%.

Coir Geotextiles

Why in news?

- Coir geo textiles will be utilized for construction of rural roads under the Pradhan Mantri Gram Sadak Yojana (PMGSY-III), as announced by the National Rural Infrastructure Development Agency (NRIDA).

About

- Coir (100% natural fiber, obtained from the coconut husk, renewable source) Geo Textile is naturally resistant to rot, molds and moisture.

- Geo Textile is permeable fabrics which, when used in association with soil, have the ability to separate, filter, reinforce, protect, or drain. These are typically made from polypropylene or polyester
- It is free from any microbial attack hence it requires no chemical treatment. It has a permeable, natural and strong fabric with high durability.
- It protects the land surface and promotes quick vegetation.
- It is biodegradable, and assists in soil stabilisation.
- It can dissipate the energy of flowing water and absorb the excess solar radiation.

Open Budget Survey (OBS) 2019

Why in news?

- Open Budget Survey (OBS) 2019 has been released by the International Budget Partnership (IBP).

About Survey

- It is part of the IBP's (formed in 1997 to promote transparent and inclusive government budget processes as a means to improve governance and service delivery in the developing world.
- It intends to bring citizens participation in open, inclusive budgeting processes to shape policies and practices that promote equity and justice on a sustainable basis) Open Budget Initiative, a advocacy program and global research to encourage public access to budget information and the adoption of accountable budget systems.
- It is a biennial survey, which covers 117 countries.
- It rates the level of budget transparency on a scale of 0-100, on the basis of several normative, internationally comparable indicators
- It measures each country based on the availability of key budget documents of the Central or Federal Government, and evaluates whether these are made public, in a timely manner, and provide comprehensive information.

Global Scenario in OBS

- The global average transparency score has turned out to be 45/100 and thus levels of publicly available budget information remains limited.
- New Zealand with a score of 87 tops the chart. Further, South Africa (87), Mexico (82) and Brazil (81) are among the top six countries giving extensive information to the public for scrutiny.
- The participation of citizens' in the budget process continued to be at a poor level and thus average global scores on the OBS participation measure remains 14/100.
- Only 30/117 surveyed countries have adequate scores for audit and for legislative oversight.

Indian Scenario in OBS

- It has been placed at 53rd position in terms of budget transparency and accountability.
- India's Union Budget process has a transparency score of 49/100, which is higher than the global average of 45.
- Except China, some of the other large developing countries have got much higher transparency scores compared to India.
- The public participation in its budgets has been flagged as an area of improvement required for India.
- The absence of a published Pre-Budget Statement and not bringing out a Mid-Year Review in 2018-19 pulled down the transparency score for the Union Budget of India.

Way Ahead

- Though many governments and citizens have embraced the open budgeting agenda, more efforts to translate good intentions into better practice are required.
- A global effort of joint and sustained activism is required to accelerate progress and deliver the promises of open Budgeting to all Citizens.

$500 million from AIIB

Why in news?

- Asian Infrastructure Investment Bank (AIIB) had approved US$ 500 million for 'COVID-19 Emergency Response and Health Systems Preparedness Project' initiated by India.

Aims of the Project

- Plans to slow down and limit the spread of COVID-19
- To strengthen India's public health preparedness.
- Incorporates an immediate help for enhancement of disease detection capacities, oxygen delivery systems and medicines among others.
- To develop systems and capacity to detect emerging and existing zoonoses
- Upgrade diagnostic laboratories and viral research for research and testing.
- To strengthen capacity to handle future disease outbreaks and Integrated Disease Surveillance Program (IDSP) of India (IDSP aims to strengthen decentralized laboratory based and IT enabled disease surveillance systems for epidemic prone diseases to monitor disease trends).

Features of the Project

- Covers all States and UTs of India.
- Implemented by the National Health Mission (NHM), the National Centre for Disease Control (NCDC) and the ICMR.
- Addresses 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.
- Financed by the $1.0 billion of World Bank and $500 million of AIIB

Asian Infrastructure Investment Bank
Multilateral development bank
Improve economic and social outcomes in Asia.
Established by the AIIB Articles of Agreement, which is a multilateral treaty.
Headquarters: Beijing
Started its operations in January 2016.

- India joined AIIB as a regional member of the Bank in 2016.
- Total members: 102 approved members globally.
- 14 of the G-20 nations are AIIB members: France, Germany, Italy and the UK.

National Health Mission (NHM)
- Launched in 2013 absorbing the National Rural Health Mission and the National Urban Health Mission.

NCDC
- Functions as the nodal agency for disease surveillance
- Facilitates prevention and control of communicable diseases under the Ministry of Health and Family Welfare.

ICMR
- Formulates, coordinates and promotes biomedical research.

RBI cuts repo rate down to 4% and extends moratorium

Why in news?

- The Reserve Bank of India (RBI) offered the first official acceptance that GDP growth will slip into negative territory this year, blaming it on the collapse in demand due to a slide in private consumption following the Covid-19 lockdown.
- The central bank has pointed to the likelihood of some pick-up in growth impulses from the second half of 2020-21.
- At an out-of-cycle meeting of its six-member monetary policy committee (MPC), the panel cut the repo rate — the key policy rate at which RBI lends short term money to banks — by 40 basis points to its lowest level in over 20 years, a move that is being seen as more of a signal rather than aimed at actual outcomes. With this, the RBI has slashed the repo rate by 115 points since the lockdown commenced March 25.
- RBI's moves may give twin relief to some. One, the repo rate cut by 40 basis points (bps) will bring down the interest rate on loans linked to external benchmarks. Two, the extension of the loan moratorium facility till August will bring immediate relief.
- The repo rate cut will also result in a fall in the interest rates on fixed deposits (FDs).

RBI cancels CKP Co-op Banks' license

Why in news?

- The Reserve Bank of India (RBI) has cancelled the licence of The CKP Co-operative Bank Ltd for reasons like, the lack of any viable revival plan and functioning "in a manner detrimental to the public interest and interest of the depositors".
- According to RBI, the cooperative bank cannot accept or repay deposits, with immediate effect. Moreover, with the cancellation of licence and start of liquidation proceedings, the process of paying the depositors will be as per the Deposit Insurance and Credit Guarantee Corporation (DICGC) Act, 1961.
- The central bank also outlined 6 reasons for its action. According to the RBI, the financial position of the bank is highly adverse and unsustainable and there is no concrete revival plan or proposal for merger with another bank.
- Secondly, the bank does not satisfy the need of minimum capital and reserves. It is also not in a position to pay its present and future depositors.

Society and Health

Fungal powder to boost immunity

Why in news?

- A university in Assam has developed a fungal powder namely Cordyceps militaris to help people boost their immunity to disease.

Cordyceps militaris

- The powder is from a parasitic but rare "super mushroom" called Cordyceps militaris.

- The militaris underwent powdering through lyophilisation or freeze-drying at –80°C.
- The earth has more than 400 species of Cordyceps, a fungus parasitic on insects as well as other fungi.
- Often referred to as a super mushroom, Cordyceps known for its anti-ageing, anti-viral, energy and immunity-boosting effect.
- Natural Cordyceps is hard to get and if dried, costs at least ₹8 lakh per kg.

Syndemic Situation

Why in news?

- The possibilities of COVID-19 being syndemic have been raised in the backdrop of the World Health Organization (WHO) announcement that least possibility of elimination of COVID-19 pandemic and warning about the second wave of COVID-19 infections worldwide has reinforced the presence of COVID-19 for the long term (i.e. may become endemic).
- The rapid spread of COVID-19 across the world has been characterized as 'Pandemic' by the WHO. The second wave of COVID-19 infection is suspected to be seen in those with weakened immunity.
- A situation in which when two or more epidemics interact synergistically to produce an increased burden of disease is called syndemic. This situation was first described by medical anthropologist Merrill Singer in the mid-1990s.
- The alarm is being raised about diseases like dengue and malaria emerging with the upcoming monsoon season in tropical South Asia.
- Simultaneously, the world is facing antibiotic resistance and the world will face comorbidities if COVID-19 deepens as a syndemic.

Way Ahead

- Whole world will require to implement large-scale population testing for COVID-19 (such as PCR and antibody testing) to contain it at its base level.

- The societies around the world will also have to consider innovations in population health surveillance technology and develop creative business models at a large scale.

> - **Pandemic**: When a new disease for which people do not have immunity spreads around the world beyond expectations.
> - **Epidemic**: A large outbreak, one that spreads among a population or region. It is less severe than pandemic due to a limited area of spread.
> - **Endemic**: When the presence or usual prevalence of its infectious agent is constant within a given geographical area.

GOAL Programme

Why in news?

- Tribal Affairs Minister has launched the "GOAL - Going Online As Leaders - programme of his Ministry in partnership with Facebook.
- The GOAL programme is designed to give mentorship through digital mode to tribal youth.
- The digitally enabled programme envisages to act as a catalyst to explore hidden talents of the tribal youth, which will help in their personal development as well as contribute to all-round upliftment of their society.
- Digital literacy has gained importance in view of challenges posed by Covid pandemic.
- Ministry's partnership with Facebook through GOAL programme has come at the right time to provide a platform to tribal youth and women to move ahead in life.
- The programme 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.

World Red Cross/Red Crescent Day

Why in news?

- This was celebrated on May 8 on the birth anniversary of Henry Dunant (founder of the International Committee of the Red Cross, recipient of the first Nobel Peace Prize) by the Indian Red Cross Society (IRCS).

Indian Red Cross Society (IRCS)

- A voluntary humanitarian organization to protect human life and health with the assistance of its network of over 1100 branches in India.
- Established in 1920.
- 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 promotes healthcare facilities among vulnerable people and communities.
- Chairman: Union Health Minister and President: President of India
- **Aim**: To inspire, initiate and encourage all kinds of humanitarian activities under all times and circumstances.
- **Programmes conducted**: Promotion of humanitarian principles and values; disaster response; disaster preparedness; and health and care.
- **Based on 7 principles**: Humanity, impartiality, neutrality, independence, voluntary, unity and universality.

Why in news?

- The Union HRD Ministry has launched Helpline "Bharosa'' for the Central University of Odisha to relieve the distress of the student community during the COVID-19 pandemic and to give Cognitive Emotional Rehabilitation Services to all University Students of Odisha.
- Social distancing and self-isolation has led to decline in social interactions which further impact mental and physical health. It is being called the 'social recession' (a collapse in our social contacts).
- This app would give mental and psychological support to the students.

Global Nutrition Report 2020

Why in news?

- Global Nutrition Report 2020 has been released. Coming at a time the world is battling COVID-19, the report calls for promoting equity to address malnutrition.

India's Status

- India is among 88 countries that are likely to miss global nutrition targets for all four nutritional indicators for which there is data available by 2025.
1. Stunting among under-5 children,
2. Anaemia among women of reproductive age,
3. Childhood overweight and
4. Exclusive breastfeeding.
- Report also identified the country as one with the highest rates of domestic inequalities in malnutrition.
- Stunted children under 5 years are 37.9% and 20.8% are wasted, compared to the average of 22.7% and 9.4% respectively in Asia.
- India, Nigeria and Indonesia are identified as the three worst countries for steep within-country disparities in stunting, where the levels varied four-fold across communities.
- Stunting level in UP is above 40% and their rate among lowest income group is more than double those in the highest income group at 22.0% and 50.7%, respectively. Stunting prevalence is 10.1% lower in urban areas compared to rural areas.

Key findings

- Rate of overweight and obesity continues to increase, at 21.6% and 17.8% of women and men respectively. There are 5.1% and 2.7% obese adult females and males respectively.

- One in two women of reproductive age is anaemic.
- Between 2000 and 2016, rates of underweight have fallen from 66.0% to 58.1% in boys and 54.2% to 50.1% for girls. This is still high compared to the average of 35.6% for boys and 31.8% for girls in Asia.
- The report focus on the link between malnutrition and different forms of inequity, like 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.

International Nurses Day

Why in news?

- International Nurses Day is annually observed on May 12 as it is the birth anniversary of Florence Nightingale, the foundational philosopher of modern nursing.
- Theme of 2020: Nursing the World to Health
- WHO has designated 2020 as The Year of the Nurse and the Midwife.

Suggestions provided by the WHO and Others

- To provide occupational safety and health of nurses and all health workers, including access to personal protective equipment so that they can safely provide care and reduce infections in health care settings.
- Nurses and all health care workers should have access to mental health support, timely pay, sick leave and insurance.
- They should be provided with access to the knowledge and guidance required to respond to all health needs, including outbreaks.
- Nurses should be given the financial support and other resources required to respond to future outbreaks.

Step Taken by the Indian Government

- The Indian Nursing Council is an autonomous body under the Ministry of Health and Family Welfare that establishes uniform standards of training for nurses, midwives and health visitors.
- The Government has announced Rs. 50 lakh insurance cover per person (part of the Pradhan Mantri Garib Kalyan Yojana) for frontline health workers involved in managing the Covid-19 outbreak.
- The Government has also passed an ordinance for the protection of healthcare workers battling Covid-19 on the frontline.
- Recently, the Supreme Court directed the government to ensure the availability of Personal Protective Equipment (PPE), to all health workers, including doctors, nurses, ward boys, other medical and paramedical professionals.

Ban use of antibiotics streptomycin and tetracycline on crops

Why in news?

- Ban on the use of antibiotics streptomycin and tetracycline have been recommended by the Registration Committee (RC) (under the Central Insecticides Board and Registration Committee (CIBRC)) 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 utilized on crops stringently 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 utilizing integrated pest management and other practices.

Issues

- Streptocycline use is permitted for eight crops by the CIBRC, it was found to be utilized on many more crops in practice.
- 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.

Central Insecticides Board & Registration Committee

• CIBRC was established by the Ministry of Agriculture and Farmers Welfare in 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.

Data Related to Birth Rate and Death Rate

Why in news?

• Data related to India's birth rate, death rate and infant mortality rate has been released by the Registrar General of India (founded in 1961 by the Government of India under the Ministry of Home Affairs) in its Sample Registration System (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) bulletin for 2018.

• The rates are calculated per one thousand of the population.

Birth rate

• Birth rate is a crude measure of fertility of a population and a crucial determinant of population growth.

• It has declined drastically over the last 4 decades to 20.0 in 2018 from 36.9 in 1971.

• The rural-urban differences have narrowed. This rate has continued to be higher in rural areas compared to urban areas.

• Bihar (26.2) continues to remain at the top of list while Andaman and Nicobar Islands (11.2) is at the bottom in birth rate.

Death rate

• This rate has witnessed a decrease over the last 4 decades from 14.9 in 1971 to 6.2 in 2018.

• In the last decade, death rate in whole India has decreased to 6.2 from 7.3.

• The decline has been steeper in rural areas.

• Chhattisgarh has the highest death rate at 8 and Delhi has a lowest death rate of 3.3.

Infant mortality rate

• It has declined to 32 about one-fourth as compared to 1971 (129).

• The IMR in whole India has decreased to 32 from 50 in the last decade.

• Nagaland has the lowest IMR of 4 and Madhya Pradesh has the highest IMR of 48.

Land pooling to corporatize agri, merging MNREGA with skilling programmes

Why in news?

- A Group of Ministers panel on employment and skill development headed by Social Justice and Empowerment Minister has drafted a set of suggestions that incorporates land pooling to corporatise agriculture, opening up Employees' Provident Fund (EPF) and Employees State Insurance Corporation(ESIC) for the unorganised sector, merging the Mahatma Gandhi National Rural Employment Guarantee Act ,2005 (MGNREGA) with skill development programmes to create a wage subsidy programme.

Panel's suggestions in the drafted proposals

- Land pooling model used to build greenfield airports can be utilized in agriculture so as to enable corporatisation, which will develop demand for skilled labourers.
- Merge MGNREGA with skill development programmes to develop a wage subsidy programme, where the MGNREGA amount is extended to companies as a wage subsidy for Small and Medium Enterprises (SME).
- Works in private enterprises like factories, construction sites and shops can be considered as eligible work under MGNREGA, which will lower the cost of wages and make industries competitive, developing a local employment wave.
- RBI can cut the reverse repo rate to 0% for a few months, encouraging banks to lend more. Banks can use GST credits as collateral and lend against them. Establish a venture capital fund for SMEs.
- Develop & maintain the rental housing facilities at government and private levels so as to give rental accommodation to migrant workers
- Develop a new Department of Hygiene to ensure hygienic practices, which should be made mandatory in all organisations, government or private, and public places, which will have more employment potential.
- The food processing should be given "cottage industry" status, with the assistance of Pradhan Mantri

Kaushal Vikas Yojana (PMKVY), a balance between farm and non-farm activities could be managed.
- Besides from National Employment Policy (NEP), a National Electronic Employment Exchange is proposed to assist every worker who has migrated or is proposing to migrate. All those workers shall register their skill and enterprises should register their requirement for workers.
- Frame a standard operating procedure for migrant workers as a large part of the workforce is unskilled. Proposed a Migrant Worker Welfare Fund with equal contributions from the worker, employer and government, this fund can be utilised to address the requirements of accommodation, health insurance and unemployment allowance in case of shifting of jobs.
- To provide rental accommodation to migrant workers, the panel suggests development and maintenance of rental housing facilities at government and private levels. It talks of opening up EPF and ESIC for the unorganised sector by registering workers on agreeing to make contributions. The GoM has proposed a Social Distancing Protocol, which shall be embedded in the functioning of enterprises, and recommends a task force of health experts and industry representatives within a week to decide this protocol.

AYUSH Sanjivani App

Why in news?

- Government has launched the 'AYUSH Sanjivani' App, developed by the Ministry of AYUSH and the Ministry of Electronics and Information Technology (MEITY), to reach out to 50 lakh people in the country.
- The app intends to generate data on usage of AYUSH advocacies and measures among the population and its impact in prevention of COVID-19.
- The data collected through this app will be analyzed to find out utilization of AYUSH interventions and its efficacy in maintaining health by enhancing immunity.

AYUSH Entrepreneurship Development programme

Why in news?

• AYUSH Entrepreneurship Development programme was jointly organized by the Ministry of AYUSH and Ministry of MSME for promoting the AYUSH sector in India under variousSchemes of the Ministry of MSME.

• There is a high demand for Indian Ayurveda, Yoga, Homeopathy, Siddha in other countries, entrepreneurs can grab this opportunity & open their clinics/ outlets there & assist export.

• The raw materials of Ayurveda are mainly found in forest, rural areas, tribal areas, aspiration districts & there is a requirement for processing units, clusters there for Job creation, enterprise development, self-employment.

• The two Ministries have made an action plan for promoting AYUSH Sector that incorporates roping AYUSH clusters in the schemes of the Ministry of MSME.

• Major AYUSH clusters are at Ahmedabad, Hubli, Thrissur, Solan, Indore, Jaipur, Kanpur, Kannur, Karnal, Kolkata and Nagpur.

R&D Statistics and Indicators 2019-20 report

Why in news?

• Research & Development (R&D) Statistics and Indicators 2019-20 is based on the national S&T survey 2018 brought out by the National Science and Technology Management Information (NSTMIS), Department of Science and Technology (DST).

Background

• The report covers the R&D landscape of India through various Input-Output S&T Indicators in the form of Tables and graphs.

• These pertain to Investments in national R&D, R&D investments by Government and Private sector; R&D relationship with economy (GDP), Enrolment of S&T personnel, Manpower engaged in R&D, Outrun of S&T personnel, papers published, patents and their international S&T comparisons.

Key findings

• India's gross expenditure in R&D has tripled between 2008 & 2018 driven by Govt sector and scientific publications have increased placing the country internationally among the top few.

• With the increase in publication, India is globally at the 3rd position on this score as per the NSF database, 3rd in Ph.D. in science & engineering.

• The number of researchers per million population has doubled since 2000.

• Women participation in extramural R&D projects has risen from 13% in 2000-01 to 24% in 2016-17 due to many initiatives undertaken by the Government in S&T sector.

• India's per capita R&D expenditure has risen from PPP $ 29.2 in 2007-08 to PPP $ 47.2 in 2017-18.

• India spent 0.7% of its GDP on R&D in 2017-18. It is ranked at 9th position in Resident Patent Filing activity in the world. According to WIPO, India's Patent Office stands at the 7th position.

World Health Day

Why in news?

• World Health Day is observed on 7 April every year.

• Theme 2020: To support nurses and midwives.

About

• It is an initiative by the WHO to raise awareness about overall health and well-being of people in the world.

• According to WHO, health is central to human well-being and happiness. It also makes a significant contribution to economic progress, as healthy populations live longer, save more and are more productive

• This Day, WHO is asking for support to ensure that the nursing and midwifery workforces are strong

enough to make sure that everyone, everywhere gets the healthcare they need.

- WHO started the World Health Day campaign in 1950 with the motive of promoting awareness about physical and mental health and offer the necessary support.

BCG vaccine

Why in news?

- WHO and others highlight a few critical issues over the utilization of Bacillus Calmette–Guerin (BCG) vaccine for COVID-19.
- The authors cite five reasons countries should wait for the results of the BCG vaccine Randomised controlled trials.
- Those countries where the elderly was likely to have had a BCG shot in their childhood were likely to be better protected against coronavirus because COVID-19 was particularly lethal to the Elderly.

About

- BCG vaccine is primarily used against TB. Its dose is recommended in healthy babies as close to the time of birth as possible.
- In areas where TB is not common, children at high risk are typically immunized, while suspected cases of TB are individually tested for and treated.
- BCG vaccine is known to confer a strong immune response and an important degree of protection against leprosy and non-invasive bladder cancers.

Concerns of WHO

- The association of fewer COVID-19 cases in countries that have a universal BCG Vaccination Programme is based on population rather than individual data.
- Beneficial effects of the BCG vaccine given at birth are "unlikely" to decrease the severity of COVID-19 decades later. "One reason for this is that the beneficial off-target effects of the BCG vaccine might

be altered by subsequent administration of a different vaccine.

- There is a possibility, even if remote, that the BCG vaccine ramps up the immune system leading to exacerbation of COVID-19 in a small population of patients with a severe disease. It is already known that the virus induces cytokine storm in some patients, leading to further complications — and even death.
- If not effective against the novel coronavirus, BCG vaccination is likely to give a false sense of security to people, especially during the pandemic.
- Using the vaccine without evidence of its benefits could further Jeopardise vaccine supply, which is already short, to protect children against disseminated TB in high-risk Countries.

International Labour Day/May Day

Why in news?

- It is observed every year on 1 May to celebrate achievements of the working class. It is also observed as a public holiday in many countries like India, where it is celebrated as Antarrashtriya Shramik Diwas (International Labour Day).
- However, the common theme in all countries is the labour class taking a stand against the exploitation they were subjected to.
- May 1 is also celebrated as 'Gujarat Day' and 'Maharashtra Day' to mark the date in 1960, when the two western states attained statehood.

Importance of the Day

- During the era of industrialisation, US industrialists exploited the working class by making them work 15 hours a day. It was only on May 1, 1886, that the labour class came together and revolted against this unjust system and asked for paid leaves, good wages and proper breaks.
- The day has its origins in the labour union movement, the eight-hour day movement, that supports eight hours for work, eight hours for recreation, and eight hours for rest.

• During the Cold War, May Day became intermittent for large military parades in Red Square by the Soviet Union and was attended by the top leaders of the Kremlin, especially the Politburo, atop Lenin's Tomb. It became an enduring symbol of that period.

• In India, the first May Day was celebrated in Madras (now known as Chennai) by the Labour Kisan Party of Hindustan on May 1, 1923. It was also the first time when the Red Flag which symbolises Labour Day was used in India for the first time.

Science and Technology

China's central bank digital currency

Why in news?

• China, to be the first major economy to launch a digital currency, is to trial a digital yuan in urban areas – incorporating payments of local government employees' transportation subsidies.

• Initially it will be tested in three major cities of Shenzhen, Suzhou and Chengdu.

• China's Digital Currency Electronic Payment (DCEP) project is the country's progress towards a digital yuan is known and it began in 2014.

e-RMB

• e-RMB (digital currency) will not be issued in huge amounts for public utilization in the short term, and the digital currency in circulation would not lead to an inflation surge.

• Sole issuer of the digital yuan is People's Bank of China (PBOC), the country's central bank, initially offering the digital money to commercial banks and other operators.

• Public would be able to convert money to the digital version in their bank accounts and make deposits via electronic wallets.

Magnetosphere

Why in news?

• Scientists at the Indian Institute of Geomagnetism (IIG) have created a generalized one- dimensional fluid simulation code capable of studying a wide spectrum of coherent electric field structures in near-earth plasma environment or earth's magnetosphere that can be useful in planning of future space missions.

• The study will support to plan the future space missions and will lead to control fusion experiments to fulfill ever-expanding energy demands of humanity.

About Magnetosphere

• It is the region around a planet dominated by the planet's magnetic field.

• Other planets in our solar system have magnetospheres.

• Shields our home planet from solar and cosmic particle radiation and erosion of the atmosphere by the solar wind

• Earth has the strongest one of all the rocky planets.

• Earth's magnetosphere is part of a dynamic, interconnected system that responds to solar, planetary, and interstellar conditions.

• It is generated by the convective motion of charged, molten iron, far below the surface in Earth's outer core.

• The solar wind drags out the night-side magnetosphere to possibly 1000 times Earth's radius; its exact length is not known. This extension of the magnetosphere is known as the Magnetotail.

• The outer boundary of Earth's confined geomagnetic field is called the Magnetopause.

'Solar Minimum'

Why in news?

• The sun is said to have gone into a state called the 'solar minimum' and is about to enter the deepest period of 'sunshine recession' as sunspots are virtually not visibly at all.

- Some reports suggest that it has been almost 100 days this year when the sun has shown zero sunspots.
- Sun has a regular part of the sunspot cycle of 11 years, and right now it is at the peak of that cycle. Sunspots fade away in every 11 years, bringing a period of relative calm. This is called the solar minimum.
- While intense activity like sunspots and solar flares subside during solar minimum, that doesn't mean the sun becomes dull.
- Solar activity simply changes form. For instance, during solar minimum one can see the development of long- lived coronal holes.
- But, this may cause health risks to astronauts travelling through space as "the sun's magnetic field weakens and provides less shielding from these cosmic rays."

SpaceX Demo-2 mission

Why in news?

- NASA's SpaceX Demo-2 test flight lifted off for International Space Station (ISS), becoming the first crewed flight to launch from America since the conclusion of the space shuttle era in 2011.
- The Demo-2 mission is part of NASA's Commercial Crew Program, and fly two astronauts on SpaceX's Crew Dragon spacecraft.
- This mission is essentially a flight test to certify if SpaceX's crew transportation system can be used to ferry crew to and from the space station regularly.
- This is the final flight test for the system and intends to validate its different components, including the spacecraft (Crew Dragon), the launch vehicle (Falcon 9), the launch pad (LC-39A) and the operations capabilities.
- The main objective of Commercial Crew Program is to make access to space easier in terms of its cost, so that cargo and crew can be easily transported to and from the ISS, enabling greater scientific research.

- Boeing and SpaceX were selected by NASA in September 2014 to develop transportation systems meant to transfer crew from the US to the ISS.

Quantum entanglement

Why in news?

- Researchers from Kolkata have created a novel protocol to find out whether a pair of electrons is in an entangled state so that they can be safely utilized as resources for facilitating quantum information processing tasks. The protocol has been created by theoretical and experimental analysis.
- Theoretical idea is based on applying the fine-grained uncertainty relation to perform quantum steering.
- The experiment utilizes an all-optical set-up in which entangled pairs of photons are created by laser light on Beta barium borate (BBO) crystals, a nonlinear optical crystal, used as laser crystal.

What is Quantum entanglement?

- A quantum mechanical phenomenon (physical phenomenon) is known as quantum entanglement in which 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.
- It occurs when a pair or group of particles generates, interact, in a manner such that the quantum state of each particle of the pair or group cannot be described independently of the state of the others.
- It is one of the peculiarities of quantum mechanics, which makes phenomena like quantum teleportation and super-dense coding possible.

Artificial Intelligence (AI)

Why in news?

- The Ministry for Electronics and IT has launched India's national Artificial Intelligence Portal called

www.ai.gov.in. The Ministry has also launched a National Program for the youth called "Responsible AI for Youth".

About Artificial Intelligence Portal

• Developed by the Ministry of Electronics and IT and IT Industry jointly.
• National e-Governance division of Ministry and NASSCOM from the IT Industry will run this portal.
• This portal shall work as a one stop digital platform for AI related developments in India, sharing of resources like articles, documents, case studies, research reports, startups, investment funds in AI, resources, companies and educational institutions to AI in India.
• It has section for learning and new job roles pertaining to AI.

Responsible AI for Youth

• Its aims to encourage the youth to become AI ready and assist decrease the skill gap, while enabling youth to develop meaningful social impact solutions.
• The National Programme is for students of classes 8-12 from Central and State government-run schools (including KVS, NVS, JNV).

New Super Earth Planet

Why in news?

• Scientists have discovered a rare new Super-Earth planet using the gravitational microlensing technique (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). It is among only a handful of extra-solar planets that have been detected with both sizes and orbits close to that of Earth.
• The planet is expected to have a mass between the Earth's mass and that of Neptune.
• The host star of the Super-Earth's system has about 10% mass of the Sun. The lower mass of the host star

makes a 'year' on the planet of approximately 617 days.
• With reference to the Solar system, the Super-Earth planet would orbit at a radius anywhere between that of Venus and Earth.
• Such type of observation does not repeat, and the probabilities of catching a planet at the same time are extremely low.

Ashwagandha

Why in news?

• Researchers of IIT-Delhi with Japan's National Institute of Advanced Industrial Science and Technology (AIST) have used Ashwagandha and propolis based compounds to target the main coronavirus's enzyme (biological molecules that regulate the rate of virtually all of the chemical reactions that take place within living organisms), known as the Main protease or Mpro (plays a key role in mediating viral replication) and found that the ayurvedic herb Ashwagandha has "therapeutic and preventive value" against COVID-19.
• The publication of the coronavirus genome and structure has triggered drug designing, devising and development using informatics and experimental tools across the world.
• The researchers have found that Withanone (Wi-N), a natural compound derived from Ashwagandha and Caffeic Acid Phenethyl Ester (CAPE), an active ingredient of New Zealand propolis, have the potential to interact with and block the activity of Mpro.
• Recently, the Indian government has also set up a task force to launch its clinical research studies on some Ayurvedic medicines that can be used to boost the immune system and control coronavirus. The government has also launched the 'AYUSH Sanjivani' App, intends to generate data on usage of AYUSH advocacies and measures among the population and its impact in prevention of COVID-19.

Ashwagandha

- Scientific name- Withania somnifera
- It is a medicinal herb. It is reputed as an immunity enhancer.
- It is classified as an adaptogen, means that it can help the body to manage stress.
- It boosts brain function and lowers blood sugar, and helps fight against symptoms of anxiety and depression.
- It has shown clinical success in treating both acute and chronic rheumatoid arthritis.

Propolis/bee glue

- It is a resinous mixture (a sticky chemical compound) that honey bees produce by mixing saliva and beeswax with gums gathered from tree buds, sap flows, or other botanical sources.
- Propolis is used against infections caused by bacteria, viruses, fungus etc and used for boosting the immune system and for treating gastrointestinal problems.

Injectable silk fibroin-based hydrogel

Why in news?

- Scientists have developed the silk fibroin (SF) formulation using biocompatible additives and prepared an injectable SF hydrogel (iSFH) that can ease insulin delivery in diabetic patients.
- The results have been published in the journal ACS Applied Bio Materials regarding the successful delivery of active insulin in rats demonstrated by iSFH
- Scientists have shown that subcutaneous injection of insulin with-iSFH in diabetic rats formed active depot under the skin from which insulin trickled out slowly and restored the physiological glucose homeostasis for a prolonged period of 4 days with no risks of low blood sugar through sudden burst of high concentration of insulin into the blood.
- The conventional and last resort of treatment involves repeated subcutaneous insulin injections to maintain the physiological glucose homeostasis.

- The multiple subcutaneous insulin injections are associated with pain, local tissue necrosis, infection, nerve damage, and locally concentrated insulin amyloidosis responsible for inability to achieve physiological glucose homeostasis.
- This problem can be overcome with controlled and sustained insulin delivery.
- Thus, encapsulation and sustained delivery of insulin in its active form (without loss of activity) is the key to the development of such controlled and sustained in vivo delivery of Insulin.
- The iSFH has proved to be an effective insulin delivery tool for diabetic patients 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.

Lightweight carbon foam

Why in news?

- Dr. Rajeev Kumar from CSIR-Advanced Materials and Processes Research Institute, Bhopal, a recipient of the INSPIRE Faculty award, is developing 'Lightweight Carbon Foam', which will be a porous carbon material and has the potential to replace lead grid in lead-acid batteries.
- The new material can also be useful for heat sinks in power electronics, electromagnetic interference shielding in aerospace, hydrogen storage and electrode for lead-acid batteries and water purification systems.
- The lightweight carbon foam will have a density of less than 0.3g/cc, high porosity of over 85% and good mechanical strength.
- The carbon foam developed under the INSPIRE fellowship will also be cost-effective for the removal of arsenic, oil, and other metals from contaminated water.
- These carbon foams are non-toxic, easy to fabricate, affordable, and insoluble in water.

COVID KAVACH ELISA

Why in news?

• In another step towards deploying antibody testing kits manufactured in India for a new nationwide "sero-survey" (to detect prevalence of antibodies that appear after a patient has recovered), the Indian Council of Medical Research (ICMR) has approved the first batch of test kits namely COVID KAVACH ELISA, manufactured by Zydus-Cadila.

• It was developed at the National Institute of Virology, Pune, by isolating the virus from patients in India.

• The first manufactured batch of ELISA kits has a sensitivity (accurate positive test results) of 98.7 per cent and a specificity (accurate negative test results) of 100 per cent.

• ELISA antibody tests are different from the rapid antibody tests. The WHO has called ELISAs "highly sensitive and specific" tests which are suitable for "for testing large numbers of samples per day, as well as in blood banks or for surveillance studies".

• While only Zydus-Cadila had earlier accepted a non-exclusive agreement to produce the test kits, ICMR stated that "now, ICMR has been approached by Cipla Pvt. Ltd. and NextGen Life Sciences".

SAMARTH Enterprise Resource Planning (ERP)

Why in news?

• NIT Kurukshetra has implemented Enterprises Resource Planning (refers to a type of software designed to integrate the main functions of an organization's business processes into a unified system), SAMARTH to 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.

• **S**AMARTH is an open source, open standard enabled robust, secure, scalable and evolutionary process automation engine for Universities and Higher Educational Institutions.

• It has been developed under the National Mission of Education in Information and Communication Technology Scheme (launched in 2003 by MHRD to leverage the potential of ICT in teaching and learning process for the benefit of all the learners in Higher Education Institutions in any time anywhere mode) of the Ministry of Human Resource Development (MHRD).

• The platform caters to faculty, students and staff at a University/Higher Educational Institutions.

COBAS 6800

Why in news?

• Union Health Minister inaugurated the first automated coronavirus testing device named 'COBAS 6800', 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).

• COBAS 6800 is a fully automated, high end machine for performing Real Time Polymerase Chain Reaction (RT-PCR) testing for COVID-19.

• It will give quality, high-volume testing as it can test about 1200 samples in 24 hours.

• 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+ includes laboratories which work with agents associated with human diseases (i.e. pathogenic or infectious organisms).

• The device can also detect other pathogens such as Viral Hepatitis B & C, HIV (Human Immunodeficiency Virus), Mycobacterium Tuberculosis, Papilloma, Cytomegalovirus (CMV) infection, Chlamydia (a bacterial infection), Neisseria (bacteria) etc.

NCDC

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

New technique for lung treatment of newborns launched in Jaipur

Why in news?

- Less invasive surfactant administration (LISA) has been started at J.K. Lon Government Children's Hospital, Jaipur for the treatment of lung disease or respiratory distress syndrome among premature babies.
- LISA has been developed as a lung protective strategy for respiratory management and ventilation in view of the mechanical ventilation causing damage to the preterm lungs of newborns.
- Infants considered suitable for LISA are those being managed with primary continuous positive airway pressure (CPAP) or high flow with the evidence of increasing respiratory distress and with a rising oxygen requirement.
- The procedure has yielded encouraging results started initially for newborn children with the birth weight of less than 1,500 grams.

- The regular application of LISA would turn out to be very useful and save the lives of premature babies.

Z-scan method

Why in news?

- Scientists from IIT (Indian School of Mines) Dhanbad and CSIR-Indian Institute of Chemical Biology (Kolkata) have developed the Z-scan method to monitor the origin as well as the progression of Parkinson's disease in human beings.
- The discovered Z-scan method is expected to help in monitoring both the early and late stages of the aggregation of ASyn and death of neuronal cells.

CSIR-Indian Institute of Chemical Biology

- Indian Institute of Chemical Biology (IICB) was established in 1935 as the first non-official center in India for biomedical research and was included within the aegis of Council of Scientific and Industrial Research (CSIR) in 1956.
- CSIR-IICB helps to maintain momentum in life science research.
- It is engaged in research on diseases of national importance and biological problems of global interest.
- It conducts research in a variety of areas including chemistry, biochemistry, cell biology, molecular biology, neurobiology and immunology which promotes productive interdisciplinary interaction.

Quinine Nongladew

Why in news?

- Quinine, the most primitive antimalarial avatar of Hydroxychloroquine (HCQ), has made a village in Meghalaya latch on to its past for a curative future.

About

- Quinine Nongladew (herb) is the alkaloid quinine extracted from the cinchona bark, a plant belonging to

the Rubiaceae family and classified as either a large shrub

- The tree is named after a village about 70 km south of Guwahati, on the highway to Meghalaya capital Shillong.
- The cinchona nursery was raised in the 19th century, probably around 1874, when Shillong became the British administrative headquarters for Assam Province.
- Large swathes of Meghalaya used to be, and still are, malaria-prone.
- The British had the foresight to start the plantation to combat malaria and other diseases caused by mosquitoes.

Feluda Test

Why in news?

- Council of Scientific and Industrial Research's Institute of Genomics and Integrative Biology (CSIR-IGIB) has developed indigenous first paper strip rapid testing for COVID-19 in an hour namely, 'Feluda' (based on Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) technology).
- Feluda is an acronym for FNCAS9 Editor Linked Uniform Detection.

CRISPR

- It is a gene editing technology, which replicates natural defence mechanisms in bacteria to fight virus attacks, using a special protein called Cas9.
- 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 and a cut-and-paste mechanism on DNA strands, that location is cut off from the strand.
- Scientists intervene during this auto-repair process, supplying the desired sequence of genetic codes that binds itself with the broken DNA strand (when broken, it has a natural tendency to repair itself).

Feluda test	RT-PCR Test (Reverse Transcription Polymerase Chain Reaction)
Uses the gene-editing tool-Crispr-Cas9 to target and identify genomic sequences of the novel coronavirus in suspected individual samples. Test will cost less than Rs.500. Does not rely on costly real-time PCR machines for RNA isolation, DNA conversion, and amplification which are already in limited supply in the country	Detects the virus genetic material, which is the Ribonucleic acid (RNA). Test costs Rs.4500, which is currently being used for COVID-19 diagnosis in India

National Biomedical Resource Indigenization Consortium (NBRIC)

Why in news?

- 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).
- It is a 'Make in India' initiative for biomedical research and innovative products, towards promoting import substitution and exports.
- It aims to set up a nation-wide collaborative platform for convergence of research, product resources and services towards developing reagents, therapeutics, diagnostics, vaccines.
- 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.

Devices for Disabled and Elderly

Why in news?

• Department of Science and Technology (DST) has helped in developing various assistive tools, devices and technological solutions to mitigate the impact of COVID-19 among Divyangjan and Elderly through Technology Interventions for Disabled and Elderly (TIDE) programme (DST's focused initiative for improving the quality-of-life of elderly and differently-abled Divyangjan persons with appropriate and/or innovative scientific technological interventions).

Latest Tools and Devices to tackle COVID-19:

1. **e-Tool:** Developed by Rajalakshmi Engineering College, Chennai. 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.

2. **Wearable sensor device**: A band, developed by PSG College of Technology, Coimbatore 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 assist the elderly to get outcomes regarding the improvement in muscle strength, flexibility and endurance without physical interventions from doctors and physiotherapists.

Automated contactless UVC

Why in news?

• Research Centre Imarat (Hyderabad based DRDO premier lab) 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 NOTESCLEAN, an automated UVC currency sanitising device.

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

DRUVS

• Used to sanitise mobile phones, iPads, laptops, currency notes, cheque leafs, challans, passbooks, paper, envelopes, etc.
• The DRUVS cabinet has a contactless operation that becomes crucial to prevent the spread of COVID-19 and other viruses.
• It has proximity sensor switches, clubbed with drawer opening and closing mechanism that makes its operation automatic and contactless.
• It gives 360 degree exposure of UVC to the objects placed inside the cabinet and it automatically goes into sleep mode after the sanitation process.

NOTESCLEAN

• Device picks the note inserted from the input slot and makes them pass through a series of UVC lamps for complete disinfection.
• Saves a lot of time because disinfection of each currency note by DRUVS or any other sanitising process is a time consuming process.

Low-cost device to detect melamine in dairy products

Why in news?

• IISc Bangalore has developed a device to detect melamine (compound that is used to adulterate milk and dairy products, which can lead to kidney-related diseases and also kidney failure) in milk.
• It is a low-cost, hand-held device to detect the presence of melamine in milk and dairy products.
• The device is expected to make the process of detecting melamine in water and milk faster.
• The device can also be modified to detect other substances like lead and mercury.

SwasthVayu

Why in news?

• National Aerospace Laboratories (only government aerospace Research & Development laboratory in the country's civilian sector), Bangalore has developed BiPAP (Bilevel Positive Airway Pressure) positive pressure 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.

• While using BiPAP, positive air pressure is received during breathing in and breathing out. But higher air pressure is received during breathing in.

• 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.

• 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).

Wafer-scale photodetector device

Why in news?

• Jawaharlal Nehru Centre for Advanced Scientific Research (autonomous institute under the Department of Science and Technology (DST)) has fabricated a wafer-scale photodetector (thin slice-based) device, using gold (Au)-silicon (n-Si) interface (shows high sensitivity towards light)

• The Au-Si interface was brought about by galvanic deposition (a technique for electroplating of metals) wherein water-based solutions (electrolytes) are utilized, which contain the metals to be deposited as ions.

• Photodetectors are an important part of an opto-electronic circuit that can detect light.

• Applications: Controlling automatic lighting in supermarkets, Being used in security-related applications and Photodetectors are unaffordable for daily applications due to high material costs.

Advantages of Au-Si interface Photodetectors

• The fabricating process is quick and simple.

• The method is highly economical since it is a solution-based technique.

• It can detect weak scattered light as an indication of unwanted activity.

• The device does not require external power to operate and runs on self-operated mode.

Developing nanomaterials based supercapacitors

Why in news?

• A group of researchers (including a recipient of the INSPIRE Faculty Award) have made significant achievements in developing carbon (Carbon Nanotubes, Graphene) nanomaterials based supercapacitors to achieve high energy density (amount of energy that can be stored in a given mass of a substance or system) and power density (amount of power (time rate of energy transfer) per unit volume) of supercapacitors.

Nanomaterials Based 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.

Energy: Batteries, Capacitors and Supercapacitors

Batteries and Capacitors are used to store energy. While batteries rely on chemical reactions, capacitors use static electricity (electrostatics) to store energy.

Capacitors 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.

National Technology Day

Why in news?

• India observes National Technology Day on 11 May every year.

About Day

• The day which was first observed in 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.'

• India successfully tested nuclear bombs on 11 May 1998 in Pokhran, Rajasthan.

• The country test-fired its Shakti-1 nuclear missile successfully at the Indian Army's Pokhran Test Range in operation called Pokhran-II or Operation Shakti.

• 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'.

Janaushadhi Sugam Mobile App

Why in news?

• People are using Janaushadhi Sugam Mobile App developed by the Bureau of Pharma PSUs of India (BPPI) under Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers because of COVID-19.

• Janaushadhi Sugam App helps people to

1. Locate nearby Janaushadhi kendras (through Google Maps).
2. Search Janaushadhi generic medicine.
3. Analyse product comparison of generic v/s branded medicines in the form of MRP & overall savings etc.

• Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJK) are established under Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana (PMBJP) to give generic medicines.

• Generic drugs are equally effective and are marketed under a non-proprietary name rather than brand name. Generic medicines are sold at 50% to 90% lesser prices as compared to the market prices of branded medicines.

• Implementing agency for PMBJP: Bureau of Pharma PSUs of India (BPPI)

• All drugs procured under this scheme are tested for quality assurance at NABL (National Accreditation Board Laboratories) accredited laboratories and are

compliant with WHO GMP (Good Manufacturing Practices) benchmarks.

• Government grants up to 2.5 lakhs that are provided for establishing of PMBJKs.

• They can be set up by doctors, pharmacists, entrepreneurs, Self Help Groups, NGOs, Charitable Societies, etc. at any suitable place or outside the hospital premises.

African swine fever amid COVID-19

Why in news?

• For the first time that an African Swine Fever (ASF) outbreak has been reported in India. Since February, over 2,900 pigs have died in Assam due to this another disease outbreak, which does not affect humans but can be catastrophic for pigs.

• As per the latest update issued by FAO, the current outbreak of ASF has affected China, Mongolia, Vietnam, Cambodia, Myanmar, the Philippines, Republic of Korea and Indonesia among others.

• In China, the first ASF outbreak was confirmed in August 2018 and since then more than 1 million pigs have been culled in the country.

• ASF came into India through Tibet into Arunachal Pradesh and then into Assam, the state with the highest population of pigs in the country.

• ASF is a severe viral disease that affects wild and domestic pigs typically resulting in an acute hemorrhagic fever.

• The disease has a case fatality rate (CFR) of about 100 per cent.

• Its routes of transmission include direct contact with an infected or wild pig (alive or dead), indirect contact through ingestion of contaminated material such as food waste, feed or garbage or through biological vectors such as ticks.

• The disease is characterized by the sudden deaths of pigs.

• Other manifestations of the disease include high fever, depression, anorexia, loss of appetite,

hemorrhages in the skin, vomiting and diarrhoea among others.

• As of now, there is no approved vaccine, which is also a reason why animals are culled to prevent the spread of infection.

• It is important that determination of ASF is made through laboratory testing and it is differentiated from Classical Swine Fever (CSF), whose signs may be similar to ASF, but is caused by a different virus for which a vaccine exists.

• While ASF is lethal, it is less infectious than other animal diseases such as foot-and-mouth disease.

• Pig farmers in Assam describe the outbreak as a "double whammy" since the COVID-19 lockdown was already impacting sales negatively.

• The outbreak has ruined the prospect of the Northeastern states as a hub for the export of pork products.

DRDO develops a disinfection tower

Why in news?

• An Ultra Violet (UV) Disinfection Tower has been developed by the Laser Science & Technology Centre (LASTEC), a premier laboratory of DRDO, to achieve rapid and chemical free disinfection of high infection prone areas.

• It is a UV based area sanitiser that is beneficial for high tech surfaces like electronic equipment, computers and other gadgets in laboratories as well as offices that are not suitable for disinfection with chemical methods.

• The UV based area sanitiser may be operated remotely through laptop/mobile phone with the help of wifi link and would be also effective for areas with large flow of people such as shopping malls, factories, metros, airports, hotels, offices, etc.

• It has also the facility of getting switched off on accidental opening of room or human intervention.

NIAB develops portable coronavirus detection kit

Why in news?

• National Institute of Animal Biotechnology (NIAB), Hyderabad has developed a coronavirus detection kit named "eCovSens".

• eCovSens is a biosensor/biological sensor (It is an analytical device that detects the changes in biological processes like enzymes, tissues, antibodies or microorganisms and converts them into an electrical signal that can be measured) that can detect the presence of novel coronavirus antigens (A toxin or other foreign substance that includes an immune response in the body) in human saliva within 30 seconds.

• It consists of a carbon electrode coated with the antibody of COVID-19. When a saliva sample from an infected person is applied on the electrode, a reaction occurs between antibody (It is a protective protein produced by the immune system in order to attack antigens) on the electrode and antigen in the saliva.

• This generates an electric signal confirming the presence of the virus in the sample.

New rules for satellite TV channels

Why in news?

• The Ministry of Information and Broadcasting has issued draft guidelines to overhaul its nine-year-old uplink and downlink policy for private satellite TV channels.

• This change offers relaxation for non-news category channels to broadcast live events. Now the channel has to register online at Broadcast Seva with the document five days before to the telecast, instead of seeking permission.

The Ministry has listed out 11 violations. These violations include:

1. Delay or non-intimation to the Ministry about change in the shareholding pattern of the company,
2. appointment of a Director without prior permission of the Ministry,
3. non-removal of a Director who has been denied security clearance

4. showing dual logo/logo or name not permitted by the Ministry.

• For any of the 11 violations, the penalty ranges from warning, prohibition to broadcast up to 10 days and even cancellation of permission.

• All channels have to take security clearance for 10 years from the Ministry of Home Affairs (MHA), which was the case earlier too.

International Relations

Indo-USA Vaccine Action Programme (VAP)

Why in news?

• India and USA under the VAP are planning to collaborate on the development and testing of vaccine and diagnostics for COVID-19.

• VAP supports a broad spectrum of activities relating to new and improved vaccines.

• The programme was designed to encompass laboratory based research, evaluation of candidate vaccines, testing for clinical development, vaccine quality control, delivery of vaccines and so on.

• The programme is under implementation since July, 1987 under the Gandhi-Reagan Science and Technology Agreement.

• Major projects were initiated under VAP in the areas of rotaviral diarrhea, viral hepatitis, acute respiratory infections, tuberculosis, malaria, typhoid, E. coli, leishmaniasis, pneumococcal, HIV/AIDS etc.

• With completion of 25 years of its implementation, DBT celebrated the silver jubilee function of VAP in September 2012.

• The US has already announced a donation of 200 ventilators to India. The ventilators, which will be paid for by the US Agency for International Development (USAID), are part of the $5.9 million in funding announced till date for India.

United Nations Relief and Works Agency for Palestinian Refugees

Why in news?

• India has given USD 2 million to the United Nations Relief and Works Agency (UNRWA) in support of its core programmes and services, including education and health, amidst the coronavirus crisis, which is working for the assistance and protection for some 5.6 million Palestinian Refugees

• India had increased its annual contribution to the UNRWA to USD 5 million in 2019 from USD 1.25 million in 2016. It also pledged another USD 5 million for 2020 which opens its way to become a member of the agency's advisory commission.

• UNRWA was established by the UN in 1949 to provide assistance and protection for registered Palestinian refugees to aid them achieves their full potential in human development.

• The UNRWA definition of refugee covers Palestinians who fled or were expelled from their homes during the 1948 War.

Issue of Gilgit Baltistan

Why in news?

• Pakistan government passed a Presidential proclamation on 16 May 2020 to conduct elections in Gilgit-Baltistan on 24 June 2020 following a Pakistan Supreme Court order to hold elections.

• India had protested by issuing of a 'demarche' in May 2020 against this Pakistan's SC order as it considers complete Jammu and Kashmir including Gilgit-Baltistan and Pakistan Occupied Kashmir as an integral part of India.

• In 2017, Pakistan suggested to declare this region as its fifth Province.

About Gilgit-Baltistan Region

• It was part of the formerly princely state of J&K.
• Located in the northern Pakistan.
• North border: China, West: Afghanistan, North-west: Tajikistan and south east: Kashmir.

• China-Pakistan Economic Corridor (CPEC) passes through this region.
• This region consists 5 of the "8-thousanders" and to more than 50 peaks above 7,000 metres (23,000 ft).
• 3 of the world's longest glaciers outside the Polar Regions are located in Gilgit-Baltistan.
• It has an elected Chief Minister and a regional Assembly.
• Pakistan considers Gilgit-Baltistan as separate from PoK on the plea that it had risen in revolt against the Maharaja much before the kabalis had invaded the province.
• But as per historical records, it is known that British army officers seconded to the local rajas of Gilgit-Baltistan had engineered a revolt so that it did not become a part of India. But that's another story.
• In 1970, it was amalgamated as a single administrative unit by combining Gilgit Agency, the Baltistan District of the Ladakh-Wazarat, and the states of Hunza and Nagar and rechristened as Northern Areas under the administrative control of Pakistan's Ministry of Kashmir Affairs and Northern Areas.
• Gilgit-Baltistan has functioned as a "provincial autonomous region" since 2009.

Iran to get a new currency

Why in news?

• Iran's money will soon likely be called the Toman, and an impressive four zeros will be shaved off all denominations. Now 10,000 rials will become one Toman under the new plans.

Issue

• The currency has been devalued 3,500 times since 1971. Value of Iran's national currency is declining since the Islamic Revolution. This steady decline has catalysed in recent years as harsh US sanctions battered the country's economy.
• Iran has faced a number of financial disasters since 1979, which in turn have all but dried up its primary

source of revenue, including international sanctions that have severely limited its ability to sell oil.

- The government has also implemented strict rules on access to foreign currency, leading to a flourishing black market for non-Iranian cash inside the country and further eroding the value of the national currency.
- The global pandemic has piled even more stress onto the lives of people already bludgeoned by a White House bent on ramping up maximum pressure on Iran.

Devaluation of the rial has been marked by four key turning points:

- Islamic Revolution of 1979: When the government of the Western-allied Shah collapsed and an ideological cadre of mullahs took over, many entrepreneurs and business moguls left the country for fear of persecution, and they took their wealth with them.
- End of the Iran-Iraq war in 1989: Iran spent almost eight years to rebuild its shattered economy, during which time the rial lost almost 100% of its value compared to the US dollar.
- Last years of hard-line President Mahmoud Ahmadinejad's tenure: Before he left power in 2013, Iran was slammed with severe international sanctions that saw the rial hemorrhage almost 400% more of its value on global currency markets.
- President Donald Trump pulled the U.S. out of the nuclear deal: It was like an electric shock that sizzled through every aspect of Iran's already beleaguered economy. The rial's plunge has continued leaving it almost 600% weaker against the US dollar than it was before the Revolution.

Implications of the latest move

- If implemented carefully and as part of wider financial reforms, redenomination would be a positive move but there is hardly an answer for all the country's intertwined economic woes.
- It would vastly simplify financial calculations by eliminating the requirement for Iranian shoppers to

carry loads of rials to make purchases, which they have to do because of inflation.

Why in news?

- In the wake of COVID 19 pandemic, upcoming public hearings at the International Court of Justice (ICJ) on Somalia's maritime dispute with Kenya will be deferred yet again.

Issue

- The dispute area is roughly 1,00,000 sq km and contains huge deposits of oil and gas and this issue is between Somalia and Kenya on the delimitation of the maritime boundary in the Indian Ocean. The disputed.
- The dispute is rooted in a disagreement over which direction the two countries' border extends into the Indian Ocean.
- Somalia argues that the maritime boundary should continue on in the same direction as the land border's southeasterly path.
- Kenya insists that the border should take a roughly 45-degree turn at the shoreline and run in a latitudinal line, giving Nairobi access to a larger chunk of the sea.

Efforts to find a solution

- Under a 2009 Memorandum of Understanding, each granted the other no objection to presenting separate submissions to the UN Commission on the Limits of the Continental Shelf (CLCS) concerning the outer limits of the continental shelf beyond 200 nautical miles. The parties also committed to finding a settlement in accordance with international law on the basis of the CLCS's recommendations.
- But, In 2014 Somalia called on the International Court of Justice in The Hague to resolve the dispute. In October 2019 the ICJ postponed the hearing until 8 June 2020.
- The dispute has drawn international attention, owing in part to the ramifications for the international

energy market and the promise for lucrative oil and gas contracts. The United Kingdom and Norway have expressed support for Somalia, while the United States and France have backed Kenya's claim.

Travel Bubble

Why in news?

• The Baltic countries of Estonia, Latvia, and Lithuania have started 'travel bubble' to put their economies back on track post-COVID lockdowns.

About

• Due to break in international and domestic trade and travel out of gear, 'travel bubbles' are now being recommended to keep at least parts of the global economy afloat.
• Creating a travel bubble includes reconnecting countries that have shown a good level of success in containing the COVID-19 domestically.
• Such a bubble would permit the members of the group to rekindle trade ties with each other, and kickstart sectors such as travel and tourism.
• In the Baltic countries travel bubble, residents would be able to travel freely by rail, air, and sea without any quarantine measures. Those wanting to enter this corridor from countries outside would first have to go into isolation for 14 days.
• To be able to freely travel in the zone, one should not have travelled outside the three countries in the past 14 days, should not be infected with coronavirus, and should not have come in contact with anyone who has been coronavirus infected.
• Potential travel bubbles among better-performing countries around the world would account for around 35 per cent of the global GDP. Such arrangements are especially being favoured by smaller countries, who are likely to benefit after being able to trade again with larger partners.

Afghanistan power sharing

Why in news?

• Afghanistan's President Ashraf Ghani and his rival Abdullah have signed a power-sharing deal, which has ended months of political uncertainty.
• Mr Ghani and Dr Abdullah both claimed victory in September 2019 election and recently held rival inauguration ceremonies. As, the Afghan electoral commission says incumbent Ashraf Ghani narrowly won the vote, but Mr Abdullah has alleged the result is fraudulent.

Features of the deal

• Ghani will stay on as president and Abdullah will lead peace talks with Taliban.
• Abdullah will lead National Reconciliation High Council (to handle and approve all affairs related to Afghanistan's peace process) and some members of Abdullah's team would be included in Ghani's Cabinet.
• The deal comes as Afghan authorities are hoping to enter peace talks with the Taliban to end years of violence. It is hoped the deal in the capital Kabul will help to maintain the balance of power that existed before last year's disputed presidential election.

Significance of Peace in Afghanistan for India

• India has welcomed the deal and has called for renewed efforts for establishing enduring peace and stability, and putting an end to externally-sponsored terrorism and violence in Afghanistan.
• It is a gateway to the oil and mineral-rich Central Asian republics.
• Afghanistan has also become the second-largest recipient of Indian foreign aid over the last five years.

Open Skies Treaty

Why in news?

• US President wants to pull out of the "Open Skies" treaty. The treaty "was designed to boost mutual understanding and confidence by providing all participants, regardless of size, a direct role in

gathering information through aerial imaging on military forces and activities of concern to them."

About the treaty

• It permits 34 countries to conduct unarmed surveillance flights over one another's territories, including the USA and Russia.

• It was signed in 1992 and went into effect in 2002. It was agreed just after the Cold War to allow signatories to avoid nasty surprises by monitoring rival militaries.

• Treaty makes it possible to conduct joint unarmed observation flights over the territories and to take images utilizing sensors of a predefined resolution.

• The treaty lays down which air bases can be used for the flights and at which points they can cross into each other's air space. Russia and the U.S. have four such bases each.

• It permits all signatories to request copies of all images taken during overflights carried out by others.

• The country under surveillance is given 72 hours' warning of a flight and 24 hours notice of the route, to which it can suggest modifications.

• A committee to oversee the implementation of the treaty meets in Vienna every month at the headquarters of the Organisation of Security and Cooperation (OSCE) in Europe.

Reason behind US withdraw

• Moscow and Washington have long accused of breaching its terms. USA had accused Moscow of imposing restrictions on flights near its exclave of Kaliningrad, an area where the Russian military maintains a robust presence.

Why in news?

• India has sent Indian Naval Ship (INS) Kesari as part of a "Mission Sagar" initiative, with food items and medical assistance teams, to countries located in the

southern Indian Ocean — except Sri Lanka to deal with COVID-19.

About

• Maldives, Mauritius, Madagascar, Comoros and Seychelles had requested India for support in dealing with the COVID-19.

• This is the first time that a single assistance mission is covering all island countries of the western Indian Ocean in one go, for which a second set of medicines have been airlifted.

• The assistance is in line with India's role as the first responder in the Indian Ocean region.

• The deployment is also in consonance with the Prime Minister's vision of 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)).

• By SAGAR, India aims to deepen economic and security cooperation with its maritime neighbours and support 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.

• Under the Mission, India will Deploy Medical Assistance Teams in Mauritius and Comoros to help them in dealing with COVID-19 and in case of Comoros, with dengue fever also.

• Deliver consignments include COVID-19 related essential medicines to Mauritius, Madagascar, Comoros and Seychelles and about 600 tonnes of food items to Maldives.

• A special consignment of Ayurvedic medicines is also being sent to Mauritius. The consignments also include Hydroxychloroquine tablets.

Why in news?

• UNESCO organized the 27th celebration of World Press Freedom Day.

- The Day was proclaimed by the UN General Assembly in December 1993, following the recommendation of UNESCO's General Conference.
- From then, 3 May, the anniversary of the Declaration of Windhoek, is celebrated worldwide as World Press Freedom Day.
- This Day aims to celebrate the fundamental principles of press freedom, assess the state of press freedom throughout the world, defend the media from attacks on their independence, and pay tribute to journalists who have lost their lives in the line of duty.

Lost at Home Report

Why in news?

- "Lost at Home" report has been published by the UNICEF.

Key findings

- In 2019, 33 million new displacements were recorded out of which 25 million were due to natural disasters and 8.5 million due to conflict and violence.
- There were 12 million new displacements of children in 2019, around 3.8 million of them caused by conflict and violence, and 8.2 million, due to weather-related events.
- Natural disasters led to more new displacements rather than conflict and violence. Almost 10 million new displacements in 2019 were recorded in East Asia and the Pacific (39 %) — and almost the same number in South Asia (9.5 million) as well.
- Migrant camps are generally overcrowded, and lack adequate hygiene and health services. Physical distancing is not at all possible, that create conducive conditions to the spread of COVID-19.
- Risks internally displaced children face include child labour, child marriage, trafficking.
- The largest number of internally displaced children (concentrated in two regions — the Middle East and North Africa and West and Central Africa) due to conflict are found in the Middle East and North Africa (MENA) and sub-Saharan Africa.

India and neighbours

- More than five million people were internally displaced in India in 2019 due to natural disasters, conflict and violence, constituting the highest number of new internal displacements in the world during the period followed by the Philippines, Bangladesh and China.
- India, the Philippines, Bangladesh and China accounted for 69% of global disaster-induced displacements due to extreme conditions created by dangerous storms and floods.

Steps to be taken

- Governments and humanitarian partners should work together to keep migrants safe, healthy, learning and protected.
- Better, timely and accessible data -- disaggregated by age and gender -- is also critical to delivering on this agenda. Internally displaced children and youth themselves must have a seat at the table.
- Strategic investments are required to address the child-specific drivers of displacement, especially in violence, exploitation and abuse.

Commonwealth Health Ministers' Meeting

Why in news?

- Union Health Minister attended the 32nd Commonwealth Health Ministers' Meeting through videoconferencing.

About

- The Commonwealth Health Ministers Meeting (CHMM) is the annual meeting held in Geneva in mid-May of health ministers from across the Commonwealth countries.
- The meeting reviews activity and events from the previous year and gives a platform for countries to bring issues of health to the attention of Commonwealth partners and peers.

- Each CHMM gives a ministerial statement summarising the discussion and priorities for the coming year including setting the theme for the next meeting.

Commonwealth of Nations

- The Commonwealth of Nations, at one time known as British Commonwealth, is an organisation of 54 states that were principally under the British colonial rule. They came into existence with the proclamation of sovereignty of the state from the British colonial rule and were later given self-governance. Symbol of Commonwealth Association is Queen Elizabeth II who is the Supreme of the Commonwealth nations
- Former British mandates that did not become members of the Commonwealth are Egypt, Transjordan, Iraq, British Palestine, Sudan, British Somaliland, Oman, Kuwait, Bahrain, Qatar, and the United Arab Emirates.
- Member of the commonwealth are not legally liable.
- Their values are listed in the Commonwealth Charter and the hands of harmony are extended by the Commonwealth Games held every four years among the member states.
- They are united by language, history, culture, likeness of the democracy, human rights and the rule of law.

G 20 Virtual Trade & Investment Ministers Meeting

Why in news?

- Union Commerce and Industry Minister attended the second G20 Virtual Trade & Investment Ministers Meeting, held through video-conferencing.

About

- After the Asian Financial Crisis in 1997-1998, G7 finance ministers agreed to establish the G20 Finance Ministers and Central Bank Governors meeting in 1999.

- Its first meeting occured in Berlin in 1999, which is formally known as the "Summit on Financial Markets and the World Economy".
- G20 held every year between leaders from the countries with the largest and fastest-growing economies. Its members account for 85% of the world's GDP, and two-thirds of its population.
- It has no permanent staff of its own, so every year in December, a G20 country from a rotating region takes on the presidency, responsible for organising the next summit, and smaller meetings for the coming year.
- They can also choose to invite non-member countries along as guests.
- Full membership of the G20 are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom, the United States and the European Union.
- The recent G20 summits have focused on macroeconomy and trade and on a wide range of global issues like development, climate change and energy, health, counter- terrorism, as well as migration and refugees.

G20+

- G20 developing nations, also called G21/G23/G20+ is a bloc of developing nations which was established on August 20, 2003. It is different from the G20.
- Its origins can be traced to the Brasilia Declaration signed by the foreign ministers of India, Brazil and South Africa on 6 June 2003.
- The G20+ originated at the 5th ministerial conference of the WTO held at Cancun, Mexico in September 2003.
- The G20+ is responsible for 60% of the world population, 26% of the world's agricultural exports and 70% of its farmers.

Shanghai Cooperation Organization (SCO)

Why in news?

- External Affairs Minister represented India at SCO foreign minister meet through video conferencing.
- The foreign ministers at the meet discussed COVID-19 crisis, coordination efforts, social and economic consequences of the crisis and how to tackle it. Apart from COVID-19, the major issue discussed was the Afghanistan situation

About

- SCO is a permanent intergovernmental international organization
- It's creation was announced on 15 June 2001 in Shanghai (China) by the Republic of Kazakhstan, the People's Republic of China, the Kyrgyz Republic, the Russian Federation, the Republic of Tajikistan, and the Republic of Uzbekistan.
- The SCO's official languages are Russian and Chinese.
- SCO comprises eight member states, namely the Republic of India, the Republic of Kazakhstan, the People's Republic of China, the Kyrgyz Republic, the Islamic Republic of Pakistan, the Russian Federation, the Republic of Tajikistan, and the Republic of Uzbekistan;
- SCO counts four observer states, namely the Islamic Republic of Afghanistan, the Republic of Belarus, the Islamic Republic of Iran and the Republic of Mongolia;
- SCO has six dialogue partners, namely the Republic of Azerbaijan, the Republic of Armenia, the Kingdom of Cambodia, the Federal Democratic Republic of Nepal, the Republic of Turkey, and the Democratic Socialist Republic of Sri Lanka.

World Telecommunication and Information Society Day

Why in news?

- World Telecommunication and Information Society Day 2020 was observed on 17 May with the theme "Connect 2030: ICTs for the Sustainable Development Goals (SDGs)."

About

- It has been celebrated every year on 17 May since 1969, marking the founding of the International Telecommunication Union (ITU) and the signing of the first International Telegraph Convention in 1865.
- ITU is an agency of the UN whose purpose is to coordinate telecommunication operations and services throughout the world.
- ITU was founded in 1865, as the International Telegraph Union
- Headquarters are in Geneva, Switzerland.
- There are 193 Member States of the ITU, including all UN member states except the Republic of Palau, plus the Vatican City.
- Membership of ITU is open to only UN members, which may join as Member States, as well as to private organizations like carriers, equipment manufacturers, funding bodies, research and development organizations and international and regional telecommunication organizations, which may join as non-voting Sector Members.

National security law in Hong Kong

Why in news?

- China has sought the help and understanding of India and other countries for its controversial decision to impose a new national security law on Hong Kong.
- The new legislation is aimed at containing the "secessionist" forces in the former British colony as it has posed a "grave threat" to the country's national security and sovereignty.
- China has also sent demarches to India and several other countries explaining the reason for the new draft legislation with a reminder that upholding national security" in Hong Kong Special Administrative Region (HKSAR) is "purely China's internal affair and no foreign country may interfere in this matter".

Administration in Hong Kong

- Hong Kong is a Special Administrative Region (SAR) of China. It has observed a "one country, two systems" policy since Britain

returned sovereignty to China on July 1, 1997, which has allowed it certain freedoms the rest of China does not have.

• As per the policy, the Hong Kong and Macau Special Administrative Regions (both former colonies of British and Portugal respectively) can have different economic and political systems from that of mainland China, while being part of the People's Republic of China.

• It was proposed by Deng Xiaoping with an aim to unify China and Taiwan.

• Local Hong Kong people carried out relentless agitation demanding political and administrative autonomy agreed by China when it took possession of the former British colony in 1997.

<mark>Virtual NAM</mark>

Why in news?

• Indian Prime Minister Narendra Modi for the first time will participate in a video conference meeting of non-alignment movement (NAM) on COVID crisis. The title of the summit is "We stand together against COVID-19".

• The last time any Indian PM participated at Tehran NAM meet was 2012 with the then PM Manmohan Singh was present.

• Both in 2016, 2018 summits of NAM, India was represented at Vice President level. The last NAM Summit happened in 2019 in Azerbaijan.

• Azerbaijan is the president of the grouping from 2019-2022 and the meet is being organised under the leadership of President of Azerbaijan Ilham Aliyev.

About

• NAM is an idea that emerged in 1950. NAM is the second-largest platform globally in terms of country membership after the UN.

• It currently has more than 120 members.

• NAM today has grown into a forum where developing nations could blame all their problems on the big powers.

<mark>WHO Executive Board</mark>

Why in news?

• Union Health Minister Dr Harsh Vardhan will be the chairman of the WHO Executive Board at its 147th session. Dr Hiroki Nakatani of Japan, currently the Chairman of the 34-member WHO Executive Board, preceded Vardhan.

WHO Executive Board

• It is one of the WHO's two decision making bodies. The agency's headquarters are located at Geneva in Switzerland.

• It has 34 members technically qualified in the field of health. Members are elected for three-year terms.

• The Board chairman's post is held by rotation for one year by each of the WHO's six regional groups: African Region, Region of the Americas, South-East Asia Region, European Region, Eastern Mediterranean Region, and Western Pacific Region.

• India became a party to the WHO Constitution on 12 January 1948.

• The first Regional Director for South East Asia was an Indian, Dr Chandra Mani, who served between 1948-1968.

• Since 2019, Dr Soumya Swaminathan has been the WHO's Chief Scientist.

<mark>International Day of UN Peacekeepers 2020</mark>

Why in news?

• International Day of UN Peacekeepers 2020 was celebrated on 29 May.

• Theme 2020: Women in Peacekeeping: A Key to Peace with an aim to mark the 20th anniversary of the adoption of UN Security Council Resolution 1325 on Women, Peace and Security.

- The first UN peacekeeping mission was established on 29 May 1948, when the Security Council authorized the deployment of a small number of UN military observers to the Middle East.
- United Nations Peacekeeping is a joint effort between the Department of Peace Operations and the Department of Operational Support.

New Development Bank

Why in news?

- Union Minister of Finance & Corporate Affairs attended the Special Board of Governors meeting of the New Development Bank (NDB) through video-conference.
- The agenda included the election of next President of NDB, appointment of Vice-President and Chief Risk Officer and membership expansion.

About the Bank

- Multilateral development bank
- The Bank was agreed to by BRICS leaders at the 5th BRICS summit held in 2013 in Durban, South Africa.
- Established in 2014, at the 6th BRICS Summit at Fortaleza, Brazil.
- Established to foster greater financial and development cooperation among BRICS.
- The bank will be headquartered in Shanghai, China.
- The New Development Bank will mobilise resources for infrastructure and sustainable development projects in BRICS and other emerging economies and developing countries, to supplement existing efforts of multilateral and regional financial institutions for global growth and development.

Geography and Environment

Preservation of Eastern, Western Ghats

Why in news?

- 6 States including Kerala, Karnataka, Goa, Maharashtra, Gujarat and Tamil Nadu have expressed desire to expedite early notification of Ecologically Sensitive Area (ESA) of Western Ghats.
- Earlier, none of the six concerned states agreed with the recommendations of the Gadgil Committee, which submitted its report in August 2011.
- The then Environment Minister constituted a High-Level Working Group in August 2012 on Western Ghats under Kasturirangan to examine the Gadgil Committee report.
- The Kasturirangan report seeks to bring 37% of the Western Ghats under the ESA zones rather than 64% suggested by the Gadgil Committee report and identified geographical areas falling in Kerala, Karnataka, Goa, Maharashtra, Gujarat and Tamil Nadu may be declared as ESA.
- This committee also recommended a ban on mining, quarrying, new polluting industries and sand mining, no new thermal power projects, but hydro power projects allowed with restrictions, building and construction projects up to 20,000 sq m was to be permitted but townships were to be banned.

Eco-Sensitive Areas

- Located within 10 kms around Protected Areas, National Parks and Wildlife Sanctuaries.
- ESAs are notified under Environment Protection Act 1986 by the Ministry of Environment, Forest and Climate Change (MoEFCC).
- The aim is 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.

Objectives of declaring areas as ESA

- To manage and regulate the activities around these areas with the intention of creating some kinds of 'shock absorbers'
- To give for a transition zone between the highly protected and relatively less protected areas.
- To provide effect to Section 3(2)(v) of the Environment Protection Act, 1986 which restricts the operation of industries or processes to be carries out in certain areas or to maintain certain safeguards to operate industries.

Amaltas or Indian Laburnum

Why in news?

- The Amaltas or Indian laburnum has begun blooming this summer.
- The Amaltas (Cassia fistula linn), native to South-East Asia is one of the most widespread trees in India and South-East Asia, with their presence both in cities as well as in moist and dry forests.
- It has dropping clusters of bright fragrant yellow flowers with 5 petals and characteristic cylindrical fruits.
- The Amaltas is nown by so many names – Indian Luburnum, Golden Shower, Purging Fistula, Pudding-pipe tree, Girmala, Rajbrikh, Alash, Kiar, Kirwara, Ali – showing us how common nd loved it is.
- State flower of Kerala
- This middle sized deciduous tree is leafless only for a brief time, between March and May.
- The new leaves are glossy, a trait that they ose on maturing, and are mostly bright green, though sometimes a rich copper too
- It flowers from April to June.
- The tree is mostly known to be ornamental and few know of its benefits as a medicinal plant and one that's loved by some mammals, bees and butterflies.

Banana COVID: A Novel Fungal Strain

Why in news?

- Fusarium Wilt TR4 or Banana COVID is setting up new hotspots and threatening the output of Banana Cultivation in India.

About TR4 (Tropical Race 4)

- It is a novel fungus strain that causes Fusarium wilt (Panama disease) in banana plants.
- It was first identified in Taiwan and has jumped 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.
- There is no effective remedy yet. Hence, scientists recommend biosecurity measures including plant quarantine to slow its speed.

Banana

- Being a tropical crop like India, China, the Philippines and brazil.
- Temperature: 15 degree Celsius – 35 degree Celsius
- Rainfall: An average rainfall of 650-750mm
- Soil: Deep, rich loamy soil (mixture of soil that is the ideal plant-growing medium. It is actually a combination soil, normally equal parts of clay, silt, and sand, which gives the benefits of each with few of the disadvantages) is most preferred for banana cultivation
- Nutrients: it has several nutrients like calories, protein, carbohydrate, potassium and trace quantities of Vitamin C and B6.

BoBBLE: India-UK project

Why in news?

- Indian Institute of Science in Bengaluru and UK based University of East Anglia have created a blueprint for accurate prediction of monsoon, tropical cyclones and other weather-

related forecast under the Bay of Bengal Boundary Layer Experiment (BoBBLE).

- It aims to examine the impact of ocean processes in the Bay of Bengal on the monsoon system. Bay of Bengal plays a key role in controlling the weather systems that make up the South Asian summer monsoon system.
- It is a project funded by Union Ministry of Earth Sciences and the Natural Environment Research Council of UK.

Silver fish

Why in news?

- Kerala team nets silver fish in Velankanni. The new freshwater species, Puntius sanctus, grows to only 7 cm. Velankanni in Tamil Nadu has thrown up a new species of small freshwater fish of the family Cyprinidae.
- The silver-hued fish has been christened Puntius sanctus — 'sanctus' is Latin for holy — after the popular pilgrim town.
- Encountered in a small waterbody in Velankanni, Puntius sanctusgrows to a length of 7 cm.
- The Puntius species are known locally as 'Paral' in Kerala and 'Kende' in Tamil Nadu.
- Its physical characteristics included a protractible mouth, a pair of maxillary barbels (a sensory organ near the snout), 24-25 lateral line scales and 10 pre-dorsal scales.

Invasive mussel

Why in news?

- An invasive mussel is spreading quickly in the backwaters of Kerala that may have been triggered by Cyclone Ockhi which struck the region in 2017, which is native to the South and Central American coasts.

Charru mussel (Mytella strigata)

- It has replaced the Asian green mussel (Perna Viridis) and the edible oyster Magallana bilineata (known locally as muringa).
- Externally, the Charru mussel resembles the green and brown mussels (kallummekka in Malayalam) but is much smaller in size.
- Its colour varies from black to brown, purple or dark green.
- Charru mussel are present in the Kadinamkulam, Paravur, Edava-Nadayara, Ashtamudi, Kayamkulam, Vembanad, Chettuva and Ponnani estuaries/backwaters.
- Ashtamudi Lake, a Ramsar site in Kollam district, remains the worst-hit.
- Though this smaller mussel is edible, the overall economic loss and impact on biodiversity are much bigger.
- It is throwing out other mussel and clam species and threatening the livelihoods of fishermen engaged in shrimp fisheries.

New Plant species found in Western Ghats

Why in news?

- A team of scientists from the Botanical Survey of India (BSI) have discovered three new plant species from the evergreen forest patches of the southern end of the Western Ghats in Kerala and Tamil Nadu.

Eugenia sphaerocarpa

- It belongs to a Myrtaceae or Rose apple family, and a good population of Eugenia sphaerocarpa is growing in the Kakkayam area of the Malabar wildlife sanctuary in Kerala.
- The specific epithet 'sphaerocarpa' denotes the large, showy lemon-yellow spherical fruits and these fruits are known for their palatability and many of them are harvested from the wild.

Goniothalamus sericeus

- It belongs to the Annonaceae family of custard apple.
- A small number of Goniothalamus sericeus plants has been found in the Kanyakumari wildlife sanctuary in Tamil Nadu. The plants were found at an altitude of 1400 m from sea level.
- Mature flowers having characteristic greenish-yellow colour and the petals are fragrant while the fruits are very showy and have an attractive golden yellow in colour and the specific epithet 'sericeus' refers to the presence of dense silky hair on the petals.

Memecylon nervosum

- It belongs to the Melastomataceae (Kayamboo or Kaasavu in local parlance) family.
- A small population of Memecylon nervosum was also found in the Kanyakumari wildlife sanctuary at an altitude between 700-900 m from sea level, with more than 10 sub-populations of the same located along the banks of perennial rivulets.
- The species have showy purplish-blue flowers and mauve to purplish-red fruits and specific epithet 'nervosum' indicates the presence of prominently raised lateral and intramarginal veins on the lower surface of the lamina.

Global Forest Resources Assessment 2020

Why in news?

- Global Forest Resources Assessment 2020 (FRA 2020) has been released by the Food and Agriculture Organisation.
- FRA 2020 has examined the status of and trends in more than 60 forest-related variables in 236 countries in 1990–2020.
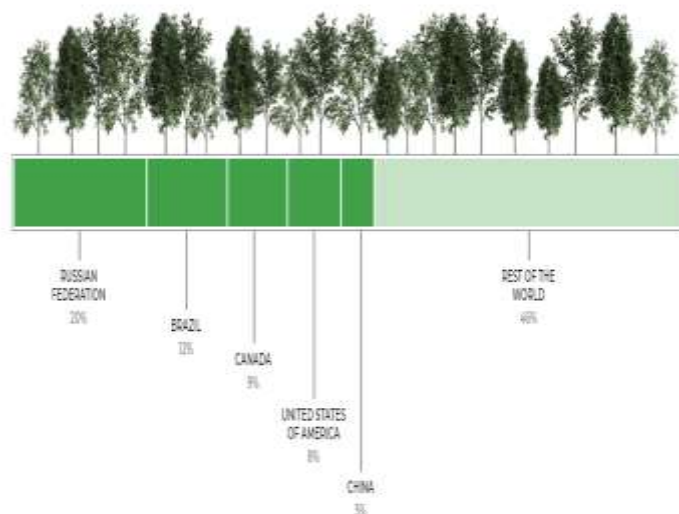
World Level

- The world's total forest area was 4.06 billion hectares (bha), which was 31 per cent of the total land area. This area was equal to 0.52 ha per person.

- The largest proportion of the world's forests was tropical amounts to 45%, followed by boreal, temperate and subtropical.
- 93% of the forest area in the world is composed of naturally regenerating forests and 7 percent is planted.
- More than 54 per cent of the world's forests were in only five countries — the Russian Federation, Brazil, Canada, the United States of America and China.
- The world lost 178 mha of forest since 1990, an area equivalent to the size of Libya.
- Rate of net forest loss reduced substantially during 1990–2020 because of a decrease in deforestation in some countries and rise in forest area in others through afforestation and the natural expansion of forests.
- The rate of net forest loss declined from 7.8 mha per year in the decade 1990–2000 to 5.2 mha per year in 2000–2010 and 4.7 mha per year in 2010–2020.

Regional Level

- 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.
- Asia had the highest net gain of forest area in 2010–2020, followed by Oceania and Europe.
- Both Europe and Asia recorded lower rates of net gain in 2010–2020 than in 2000–2010.

RUSSIAN FEDERATION 20%
BRAZIL 12%
CANADA 9%
UNITED STATES OF AMERICA 8%
CHINA 5%
REST OF THE WORLD 46%

Government of UP has released Gharials

Why in news?

• Uttar Pradesh Government has released Gharials (Gavialis gangeticus) in the Ghaghara river (source is near Gurla Mandhata peak, south of Mansarovar in Tibet) for the conservation and protection in natural habitat.

Gharial

• It is a species of Asian crocodilian distinguished by their long, thin snouts which resembles a pot (ghara in Hindi).
• They prefer to live in riverine habitats with deep, clear, fast-moving water and steep, sandy banks.
• Gharials are a type of Crocodilians and it includes alligators, crocodiles, caimans, etc. India has 3 species of Crocodilians:
1. Gharial (Gavialis gangeticus): International Union for Conservation of Nature (IUCN) - Critically Endangered.
2. Mugger crocodile (Crocodylus palustris): IUCN-Vulnerable
3. Saltwater crocodile (Crocodylus porosus): IUCN-Least Concern
• It was once found across Bangladesh, Bhutan, India, Myanmar, Nepal and Pakistan. However, currently it survives in several severely fragmented populations in India and Nepal.
• In India, Gharials are present in Son River, Girwa River, the Ganges, Mahanadi River and the Chambal River.
• The National Chambal Sanctuary is located along river Chambal on the tri-junction of Rajasthan, Madhya Pradesh and Uttar Pradesh. It is known for gharials, the red-crowned roof turtle, and dolphin.
• Protected areas: National Chambal Sanctuary and Katarniaghat Wildlife Sanctuary.
• Wild Life (Protection) Act, 1972: Schedule I
• CITES: Appendix I

• Construction of Dam, barrages, and water abstraction, entanglement in fishing nets, River bed cultivation and sand mining.
• Indian government launched Project Crocodile with UNDP and FAO in 1975. It included an intensive captive rearing and breeding programme intended to revive dwindling gharial population.

Pinanga andamanensis

Why in news?

• A rare palm, endemic to South Andaman Island, reappeared at Palode in Thiruvananthapuram by conservation efforts of Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI).

About

• Derived its name from 'Penang' (modern-day state in Malaysia).
• Scientific name Pinanga Andamanensis (originally discovered by the Italian botanist Odoardo Beccari in 1934) has its origins in 'Pulau Pinang' (Island of the Areca Nut Palm). It resembles the areca palm to which it is closely related.
• Its entire population naturally occurs only in a tiny, evergreen forest pocket in South Andaman's Mount Harriet National Park.
• It has a very small gene pool, 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.

Antibodies from Llamas

Why in news?

• The researchers of the University of Texas at Austin linked two copies of a special kind of antibody produced by llamas and created a new antibody, which binds tightly to a key protein on the novel coronavirus SARS-CoV2. This protein is the spike protein, shaped

like a corona (crown) that gives coronaviruses their name. It is also the protein that allows the virus to break into human and animal cells.
• Initial tests with the new antibody and cultured cells indicated the antibody blocks viruses with this spike protein from infecting cells.

llama

• It is a South American relative of the camel, though the llama does not have a hump.
• These creatures are domestic animals used by the peoples of the Andes Mountains. (Their wild relatives are guanacos and vicuñas).
• Llamas graze on grass and, like cows, regurgitate their food and chew it as cud.

COMMON NAME: Llama

SCIENTIFIC NAME: *Lama glama*

TYPE: Mammals

DIET: Herbivore

SIZE: Height at the shoulder: 47 inches

WEIGHT: 250 pounds

SIZE RELATIVE TO A 6-FT MAN:

IUCN RED LIST STATUS: ?   Not Evaluated

| LC | NT | VU | EN | CR | EW | EX |

LEAST CONCERN   EXTINCT

CURRENT POPULATION TREND: Unknown

Direct Seeding of Rice (DSR)

Why in news?

<mark>Tiger population in Sunderbans rises</mark>

Why in news?

• As per the latest census conducted by West Bengal Forest Department, the tiger count in the

Sundarbans for 2019-20 has gone up to 96 from 88 in 2018-19.

Sundarbans

• It 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 and was recognised as UNESCO World Heritage Site in 1987.
• It is also the 27th Ramsar Site in India and is now the largest protected wetland in the country.
• It is home to rare and globally threatened species such as the critically endangered northern river terrapin, the endangered Irrawaddy dolphin, vulnerable fishing cat and Endangered Royal Bengal Tiger.

<mark>**Lockdown air: less NO2, same PM2.5 and more urban ozone**</mark>

Why in news?

• The research has been conducted by experts from the University of Manchester and found that while traffic pollution fall during this lockdown period but lead to the generation of a dangerous pollutant, urban zone, which can cause airway inflammation in humans.
• PM2.5 refers to fine particles with diameters that are generally 2.5 micrometers and smaller. PM2.5 particles are respirable, which means that they are small enough to reach the gas exchange region of the lungs.
• When fossil fuels are burned in air, nitrogen oxides (NO and NO2, collectively referred to as NOx) are created from molecular nitrogen in the air and in the fuel that is being burned. NOx pollution, along with sulfur dioxide, which is also produced when fossil fuels are burned, reacts with water to form acid rain, snow and fog, and with other substances to form particulate

matter. The health impacts of exposure to nitrogen oxides include cardiovascular diseases, exacerbated symptoms of asthma, chronic obstructive pulmonary disorder and other respiratory diseases.

Urban zone

• The Manchester team specualted that photochemical production of ozone may become more important in urban areas during summer time in these low conditions of oxides of nitrogen.

• As nitrogen oxides reduce, photochemical production may become more efficient and can lead to higher ozone concentrations in the summertime as higher temperature increases emissions of biogenic hydrocarbon from natural sources such as trees.

• These biogenic hydrocarbons impact urban ozone levels.

• While ozone is important for screening harmful solar UV radiation when present higher up in the atmosphere, it can be dangerous at the Earth's surface, and can react to destroy or alter many biological molecules.

Erosion in Ladakh and Zanskar

Why in news?

• Indian researchers have studied rivers in Ladakh Himalaya and found out 35,000 year histories of river erosion and identified hotspots of erosion and wide valleys that act buffer zones.

• The scientists have traced where the rivers draining Himalaya and its foreland erode the most and identify the zones that receive these eroded sediments and fill up.

• The study suggested that most sediments were derived from Higher Himalayan crystalline that lies in the headwater region of Zanskar.

• It was found out that dominant factors responsible for sediment erosion were deglaciation and Indian Summer Monsoon derived precipitation in the headwaters despite the presence of a geomorphic barrier (the deep, narrow gorge).

• The study will assist in understanding of river-borne erosion and sedimentation and help study the dynamics of devastating floods created by these Himalayan rivers.

• Thus, the understanding of water and sediment routing becomes important while developing infrastructure and for other development works in the river catchment area.

Olive Ridley turtles

Why in news?

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

Olive ridley turtles

• Smallest and most abundant of all sea turtles found in the world.

• Carnivores and get their name from their olive colored carapace.

• Found in warm waters of the Pacific, Atlantic and Indian oceans.

• Migrate thousands of kilometers between feeding and mating grounds in the course of a year.

• Best known for their unique mass nesting called Arribada, where thousands of females come together on the same beach to lay eggs.

• 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.

• Poached for their meat, shell and leather, and their eggs.

• IUCN Red List: Vulnerable

• CITES: Appendix I

• Indian Wildlife (Protection) Act, 1972: Schedule I

Sal forest tortoise habitat

Why in news?

• Ecologists in the Wildlife Institute of India (Dehradun, autonomous institution under the Ministry

of Environment, Forest and Climate Change) finds that over 29% of the predicted distribution of the species falls within high occurrence fire zones and 90% of the potential distribution of the Sal forest tortoise lays outside of the current protected area's network. 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 covers parts of India with Bangladesh, Bhutan and Nepal.
- The species experience jhum fire in northeast India, such an intervention may directly kill the animals and result in loss of habitat.
- According to the IUCN, the population of the species may have decreased by 80% in the last 90 years.

Sal Forest Tortoise/elongated tortoise (Indotestudo elongata)

- 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.

Black Panther

Why in news?

- A rare Black Panther was found in the Netravali WLS.

Black Panther/Black Leopard

- It is a color variant of spotted Indian leopards, reported from densely forested areas of south India, mostly from Karnataka.
- It is the melanistic colour variant of any Panthera, particularly of the leopard (P. pardus) in Asia and Africa, and the jaguar (P. onca) in the Americas.
- They are also known as the ghost of the forest.

Netravali Wildlife Sanctuary

- Located in South-Eastern Goa.
- It constitutes one of the vital corridors of the Western Ghats and covers an area of about 211 sq.km.
- Netravali or Neturli is a tributary of River Zuari, which originates in the sanctuary.
- The Gaur or Indian Bison, Malabar giant squirrel, four-horned antelope or chousingha, leopard, black sloth bear and other predators and herbivores are found in the sanctuary.

Internal Security

Eventbot

Why in news?

- A warning against a new malware called "EventBot" has been issued by the Computer Emergency Response of Team (CERT) of India.

About Malware

- Malware is defined as software designed to perform an unwanted illegal act via the computer network. It could be also defined as software with malicious intent.
- EventBot steals personal financial information from Android phone users. It targets money-transfer services, financial applications.
- It is a Trojan. It cheats secretly attacking computer or phone.
- Trojan/trojan horse is a program that impairs the security of a system.
- Trojans are used to develop back-doors (a program that allows outside access into a secure network) on computers belonging to a secure network so that a hacker can have access to the secure network.

Mission Park 'AGNEEPRASTHA'

Why in news?

- Foundation stone for a Missile Park 'AGNEEPRASTHA' was recently laid at INS Kalinga, Vizag to capture glimpses of Missile History of INS Kalinga since 1981 till date.
- The Missile Park has been established with a replica of missiles and Ground Support Equipment (GSE) that showcase the evolution of missiles handled by the unit.
- The exhibits have been developed from scrap/obsolete inventory which have been reconditioned in house.
- The main attraction is P-70 'Ametist', an underwater launched anti-ship missile from the arsenal of the old 'Chakra' (Charlie-1 submarine) which was in service with IN during 1988-91.
- It will also give a one-stop arena for motivation and stimulation of inquisitive minds pertaining to the missiles and related technologies, from school children to naval personnel and their families.

Cerberus threat

Why in news?

- Central Bureau of Investigation (CBI) has sent alerts to all the States, UTs and the central agencies on a malicious software called Cerberus threat, which is taking advantage of the COVID-19 pandemic.
- Cerberus is a banking Trojan which is primarily used to steal financial data such as credit card numbers. It uses a phishing method to send SMS to lure a user to download the link containing the malicious software.
- Phishing is a method in which users are contacted by email, telephone or text message by posing as a legitimate institution to lure into providing sensitive data such as personal information, banking and credit card details.

Defence Testing Infrastructure Scheme (DTIS)

Why in news?

- Minister of Defence has given his nod for the launch of the Defence Testing Infrastructure Scheme (DTIS) with an outlay of Rs.400 crore 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.
- Duration of the scheme is 5 years and envisages establishing 6 to 8 new test facilities in partnership with private industry.
- Government will give up to 75% funding in the form of 'Grant-in-Aid' and remaining 25% of the project cost will have to be borne by the Special Purpose Vehicle (SPV) whose constituents will be State Governments and Indian private entities.
- It will facilitate indigenous defence production, consequently reduce imports of military equipment and help make the country self-reliant.

Indian Coast Guard

Why in news?

- A ship and two Interceptor Boats (IB) were commissioned into the Indian Coast Guard (ICG) in Goa via videoconference from Delhi by Defence Ministry, it now has 150 ships and boats and 62 aircraft.
- On joining the fleet, the ships will be deployed for Exclusive Economic Zone (EEZ) surveillance, coastal security and other duties as enshrined in the Coast Guard charter of duties, to safeguard the maritime interests of the nation.
- Ship ICGS Sachet is the first in a series of five offshore patrol vessels (OPVs), built by the Goa Shipyard Limited (GSL). The IBs, C-450 and C-451, are designed & built by the Larsen & Toubro Shipyard, Hazira. The 30-metre long boats are capable of achieving speeds in excess of 45 knots and designed for high-speed interception, close patrol and low intensity maritime operations.
- The 105-metre long ICGS Sachet displaces approximately 2,350 tons and is propelled by two 9,100 KW diesel engines designed to attain a maximum speed of 26 knots, with an endurance of 6,000 nautical miles. It is designed to carry a twin-engine helicopter and four high-speed boats and one inflatable boat for swift boarding and search and rescue operations.

- The ship is also capable of carrying limited pollution response equipment to undertake oil spill pollution response at sea.

Navy to aid Northern theatre command

Why in news?

- The Navy will give crucial intelligence to the upcoming theatre commands at the northern and western borders once they start taking shape next year.
- The Navy uitilizes a variety of equipment to carry out maritime surveillance. Out of these, the P8I aircraft and unmanned aerial vehicles (UAVs) could possibly be used on the land borders. For instance, the P8I anti-submarine warfare aircraft was deployed to carry out surveillance on movement of Chinese troops during the 73-day long Doklam standoff between India and China in 2017.
- A theatre command will have specific units of personnel from the three services — Army, Navy and Air Force — under a common commander so they fight as a cohesive unit. Both the US and China follow a theatre command doctrine.
- Navy's fighter aircraft, which is currently limited to operate at the sea, could also be integrated with these theatre commands. The Navy's fighter aircraft squadron comprise the MiG-29Ks.
- As part of the integration process, the three Services' air defence under an Air Defence Command is the first on the block.
- There is a need for a common communication system as part of the integration. As of now, all three Services use different systems.

3 years of voluntary Tour of Duty (ToD)

Why in news?

- Army proposed "tour of duty" (ToD) model that seeks to allow the country's youth to serve the military for three years

- ToD initiative of the government is a "game changer" as it is not just as an "employment opportunity" but as a "nation building" initiative "where the industry will send existing employees for a three-year tour of duty with job security when they return."
- The ToD model is similar to the short-service commission that allows officers to serve the armed forces for 10 to 14 years.
- If the proposal is accepted, the army could implement the ToD model - essentially an voluntary internship after military training - on a trial basis for both officers and other ranks in a limited number of vacancies.
- The cost, including training, pay and allowances, incurred on people joining under the new model would be Rs 80-85 lakhs, as compared to over Rs 6 crore for an officer under the Short Service Commission, who serve up to 14 years. The savings from this can be used in modernization and in other areas.
- This scheme was for those who did not want a full career in the Army but still wanted to put on the uniform. Individuals who opted for ToD would get a much higher salary than their peers on an average who started a career in the corporate sector and would also have an edge after leaving the Service and going to the corporate sector. The Army hoped that this would attract individuals from the best colleges, including the Indian Institute of Technology.
- The proposal adds that in addition "the nation and the corporates are likely to benefit from a trained, disciplined confident, diligent and committed men and women who have completed the ToD."

'5G club'

Why in news?

- UK government has approached the US with the prospect of creating a 5G club of 10 democracies, including India, amid growing security concerns related to Chinese telecom giant Huawei and to permit more

and more 5G equipment and technology providers to come up.

About

- Earlier, UK PM granted Huawei a limited role in supplying kits for its 5G networks and capped its market share to 35 %. Before that, UK stood against the US-led drive to ban Huawei from entering the 5G sector.

- In May 2020, the UK government came under increasing pressure from its own Conservative party members, who demanded that Huawei's equipment should not be allowed in UK's 5G networks beyond 2023, owing to potential national security concerns.

- Following these demands, reports emerged that the government was drawing up a plan to phase out Huawei from UK's 5G networks in the next three years. Recently, a review was issued by their intelligence chiefs, who would look into Huawei's role in UK's 5G plans.

D10 club of democratic partners

- It includes G7 countries namely UK, US, Italy, Germany, France, Japan and Canada and plus Australia, South Korea and India.

- It will aim to create alternative suppliers of 5G equipment and other technologies to avoid relying on China. The plan to form a democratic alliance in order to marginalise the Chinese tech giant Huawei comes at a time when there is rising global backlash against China for its initial handling of the coronavirus outbreak.

- It aims to ensure that these new entrants belong to like-minded democratic regimes.

- There is also growing consensus among the British political class regarding resetting relations with Beijing, following the global pandemic and the havoc it has caused in the UK.

- Moreover, there has been a concerted effort by the US and several other countries to keep Huawei away from their countries' 5G networks. These countries

have raised concerns regarding potential surveillance and breach of their national security by China using the state-run Huawei.

5G in India

- India's is the second biggest smartphone market in the world, leading to a high rise of data consumption in 2019.

- There is no practical way fibre connectivity can be enhanced fastly. This raises a serious challenge to back-haul capacities of the macro towers.

- The Fourth Industrial Revolution (Industry 4.0) is powered by emerging technologies like AI, machine learning, Internet of Things, Edge Computing, which need 5G to be effective. Such similar services are required to raise additional revenue streams for the carriers that are stressed with financial burdens.

- As India moves ahead with its Smart City vision, it must leverage 5G to ensure that the underlying technology remains relevant for a longer time.

Way ahead

- India needs to create a positive environment for 5G's launch

- It needs to assist telcos to overcome the prevailing financial crisis.

- The spectrum policy should focus on incentivising heavy investment in 5G, including support for long-term, exclusive, technology-neutral spectrum licences, instead of trying to look for financial windfall right away. GoI and operators should collaborate to create an ecosystem capable of leveraging 5G technology. A favourable policy will indirectly enable advances in areas including employment, technology and investment.

- The shift from 4G to 5G is not incremental in nature, but transformational.

Technologies make up 5G

- 5G is based on OFDM (Orthogonal frequency-division multiplexing), a method of modulating a digital

signal across several different channels to reduce interference. 5G uses 5G NR air interface alongside OFDM principles. 5G also uses wider bandwidth technologies such as sub-6 GHz and mmWave.

Previous generations of mobile networks are 1G, 2G, 3G, and 4G

1G, 2G, 3G and 4G all led to 5G, which is designed to provide more connectivity than was ever available before.

• First generation - 1G: 1980s: 1G delivered analog voice.
• Second generation - 2G: Early 1990s: 2G introduced digital voice (e.g. CDMA- Code Division Multiple Access).
• Third generation - 3G: Early 2000s: 3G brought mobile data (e.g. CDMA2000).
• Fourth generation - 4G LTE: 2010s: 4G LTE ushered in the era of mobile broadband.

Art and Culture

Why in news?

• Union government 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, which is made under PM-vision to develop the historical Sun temple town of Konark in Odisha as 'Surya Nagri'.
• This aims 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.
• 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.

• It will receive 100% Central Financial assistance (CFA) support of around Rs. 25 crore through the Ministry of New and Renewable Energy.
• Odisha Renewable Energy Development Agency will be the Implementation Agency of the project (and not union Ministry of Renewable energy or Ministry of culture)

Konark Sun Temple

• Built by King Narasimhadeva I, Ganga Dynasty (1238-1264AD), in the 13th century
• Situated in Eastern Odisha near Puri, sacred city.
• The temple is designed in colossal chariot shape.
• There are 2 rows of 12 wheels on each side of this temple.
• The seven horses are said to symbolize the seven days of the week.
• European sailors 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 was declared a UNESCO world heritage site in 1984.

2020 Pulitzer Prize

Why in news?

• List of the 2020 Pulitzer Prize was announced by Dana Canedy (the administrator of the prizes) incorporating the categories of 15 Journalism and 7 Book, Drama and Music.
• Announcement of this prize for 2020 was delayed due to the prevailing COVID-19 pandemic.

Winners

• **Fiction**: American novelist Colson Whitehead for his book, The Nickel Boys. He won the honour for the second time. He had won for Underground Railroad in 2017.
• **Non-fiction**: The Undying: Pain, Vulnerability, Mortality, Medicine, Art, Time, Dreams, Data, Exhaustion, Cancer, and Care by Anne Boyer and The

End of the Myth: From the Frontier to the Border Wall in the Mind of America by Greg Grandin.

- **Feature Photography**: 3 photojournalists from the news agency Associated Press (AP) – Dar Yasin, Mukhtar Khan and Channi Anand. This is the first time that anyone in Jammu and Kashmir has bagged it.

About the Prize

- This Prize was set up in 1917 by provisions in the will of newspaper publisher Joseph Pulitzer. It is administered by Columbia University.
- The Pulitzer Prize recognises excellence in different fields such as newspaper, online journalism, music, magazine literature in the USA. There are 21 categories and each receives a certificate along with $15,000 as a cash award.

Purandara Dasa

Why in news?

- Karnataka Government took efforts to solve mystery over the birthplace of Purandara Dasa.

About

- Purandara Dasa is hailed as father figure of Carnatic music and there are many speculations regarding his birthplace. 'Purandara Vithala' was the pen name of his compositions.
- It was believed that the mystic poet was born in Purandharagad, Maharashtra.
- To explore definitive archaeological evidences that may put an end to these speculations, the Department of Archaeology, Heritage and Museums will soon start field research work at Keshavapura in Araga Grama Panchayat of Tirthahalli taluk in Karnataka.
- According to historians, Araga in Malnad was a commercial centre during the Vijayanagar kingdom, the period to which he belonged to.
- Referring to the names of the places in the vicinity of Keshavapura namely Varthepura, Vithalanagundi, Dasanagadde, it was argued that these places were inhabited by merchant community influenced by the Vaishnava tradition to which Purandara Dasa belonged.

- Prior to his initiation to Haridasa tradition, Purandara Dasa was a rich merchant and was called as Srinivasa Nayaka.
- Puranadara Dasa was born in Malnad points out that 'Nayaka' title was attributed to locally influential people, including wealthy merchants in Malnad during the Vijayanagar rule.

Gandhi Peace Prize

Why in news?

- Ministry of Culture extended the nomination period for the Gandhi Peace Prize from 30 April to 15 June 2020, due to the lockdown in the wake of the COVID-19.
- It is an annual award, which 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 ₹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.

Mahatma Gandhi

- Mohandas Karamchand Gandhi was born on 2 October, 1869, at Porbandar in Gujarat and died on 30 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, and writer and became the leader of the nationalist movement against the British rule of India.
- Non-Violence or Ahimsa is considered as the base of his political philosophy. He applies it for the first time in politics in a mass scale.
- He is considered the Father of the Nation. Rabindranath Tagore is said to have given him the title of Mahatma.
- His alternative vision of self-rule appreciates the self-organizing capacity of the Indian village. He is very critical of political violence supported by secret societies.
- He wrote journals like Young India, Harijan Bandhu, Harijan, Navajivan, Indian Opinion I and II, etc. and books namely Hind Swaraj, Satyagraha in South Africa, The Story of My Experiments with Truth (autobiography), etc.
- He laid foundations of Natal Indian Congress (South Africa, 1894), Phoenix Settlement (South Africa, 1904), Satyagraha Ashram (Ahemadabad, 1915), Harijan Sevak Sangh (1932), Sevagram Ashram (Wardha, 1936), etc.

GI tag awarded

Why in news?

- Jharkhand's Sohrai Khovar painting, Kashmir's Saffron and Telangana's Telia Rumal were awarded the Geographical Indication (GI) tag by the Geographical Indications Registry.

Kashmir's Saffron

- It is a long, thick and has natural deep red colour.
- It has high aroma.
- It is processed without adding any chemicals.
- Its colour is unique due to the high quantity of crocin.

- It has a rich flavour because of safranal and the bitterness is due picrocrocin.
- It is the only saffron in the world that is grown at an altitude of 1,600m.
- The saffron in Kashmir is of 3 types: Lachha Saffron', 'Mongra Saffron' and 'Guchhi Saffron'.

Telia Rumal

- It traces its origin back to a small village, Puttapaka in Telangana region of Andhra Pradesh, having some 20 families engaged in handloom weaving of the same.
- It also received the patronization of Nizam of Hyderabad and flourished in that reign.
- The officers working in the court of the Nizam would wear the Chituki Telia Rumal as a symbolic representation of status and were worn as a veil by princesses in the court of erstwhile Nizam. Also, it was used as turban cloth by Arabs.
- Telia Rumal cloth involves handmade work with cotton loom displaying different designs and motifs in red, black and white.
- Telia Rumals are offered at the dargah of Ajmer Sharif (Rajasthan).

Sohrai Khovar Painting

- It is traditional and ritualistic mural art being practiced by local tribal women during local harvest and marriage seasons using local, naturally available soils of different colours primarily in the district of Hazaribagh only. For promotional purposes, it has been seen in other parts of Jharkhand too.
- The style of the painting features lines, dots, animal figures and plants, showing religious iconography.
- Traditionally painted on mud houses walls and on other types of surfaces.
- In recent times, the walls of important public places in Jharkhand, like the Birsa Munda Airport in Ranchi, and the Hazaribagh and Tatanagar Railway Stations, among others, have been decorated with Sohrai-Khovar paintings

International Museum Day (IMD)

Why in news?

• Each year since 1977, International Council of Museums (ICOM) has organised International Museum Day, which represents a unique moment for the international museum community.

• The objective of this Day is to raise awareness about the fact that, "Museums are an important means of cultural exchange, enrichment of cultures and development of mutual understanding, cooperation and peace among peoples."

• Organised on 18 May each year, the events and activities planned to celebrate International Museum Day can last a day, a weekend or an entire week.

• With the theme "Museums for Equality: Diversity and Inclusion", International Museum Day 2020 aims at becoming a rallying point to both celebrate the diversity of perspectives that make up the communities and personnel of museums, and champion tools for identifying and overcoming bias in what they display and the stories they tell.

• IMD is important for creating awareness about the role of museums in the development of society on an international level.

Ramkinkar Baij (1906-1980)

Why in news?

• Ministry of Culture's National Gallery of Modern Art organised virtual tour titled "Ramkinkar Baij, Journey through silent transformation and expressions" to commemorate the 115th Birth Anniversary of Ramkinkar Baij.

About

• He was one of the most seminal artists of modern India, an iconic sculptor, painter and graphic artist.

• He was born in Bankura, West Bengal.

• In 1925, he made his way to Kala Bhavana, the art school at Santiniketan and was under the guidance of Nandalal Bose.

• Along with Nandalal Bose and Benodebehari Mukherjee, he played a pivotal role in making Santiniketan one of the most important centres for modern art in pre-Independent India.

• He assimilated the idioms of the European modern visual language and yet was rooted in his own Indian ethos. He experimented restlessly with forms, moving freely from figurative to abstract and back to figurative.

• His themes were steeped in a deep sense of humanism and an instinctive understanding of the symbolic relationship between man and nature.

• Both in his paintings and sculptures, he pushed the limits of experimentation and ventured into the use of new materials.

• For instance, his use of unconventional material, for the time, such as cement concrete for his monumental public sculptures set a new precedent for art practices.

• He was invited to participate in the Salon des Réalités Nouvelles in 1950 and in the Salon de Mai in 1951. In 1970, the Government of India honoured him with the Padma Bhushan for his irrefutable contribution to Indian art.

• In 1976, he was made a Fellow of the Lalit Kala Akademi and was conferred the honorary Doctoral Degree of 'Desikottama' by Visva Bharati, and in 1979 an honorary D.Litt by Rabindra Bharati University.

Toda embroidery

Why in news?

• Due to COVID-19 pandemic, Toda artisans from the Nilgiris used their traditional skills in making face-masks to assist people ward off the infection and provide Todas with livelihood.

About Tribe

• This tribe is a pastoral tribe of the Nilgiri Hills of southern India.

• The Toda language is Dravidian but is the most unusual and different among the languages belonging to the Dravidian family.

• They live in settlements of from three to seven small thatched houses.

• They traditionally trade in dairy products, cane and bamboo articles, with the other Nilgiri peoples.

• The traditional Toda dress is a characteristic shawl which is known as putukuli.

• It is considered a grand garment and worn for special occasions like visits to the temple, festivals and finally as a shroud.

Toda Embroidery

• It is called pohor in the Toda language.

• The embroidery is done by Toda women and has distinctive red and black (and occasionally blue) thread work in geometric designs on unbleached white cotton fabric.

• It has got a Geographical Indications (GI) Tag.

Mains

General Studies I (Indian Heritage and Culture, History and Geography of the World and Society)

Desert locusts appeared

Why in news?

• Locust Warning Organisation (LWO) observed groups of desert locusts in several districts of Rajasthan, which had originated in Iran and entered neighbouring Madhya Pradesh.

• Movement of locusts is catalysed by summer dusty winds, which flow from the Arabian Sea.

• Earlier, they caused huge damage to the growing rabi crops along western Rajasthan and parts of northern Gujarat during December, 2019-January, 2020.

• As per FAO's Locust Status Update, the current situation remains extremely alarming in East Africa where it is an unprecedented threat to food security and livelihoods.

• The locusts will start laying eggs after the onset of monsoon and continue breeding for two more months, with new insects being born during the growth phase of the Kharif crops.

• Locust Circle Offices (LCO) are conducting survey & control operations in close coordination with the District Administration and agriculture field machinery of the affected States.

• Advisories have been issued to the States of Rajasthan, Gujarat, Haryana and Punjab pertaining to the locust attack

• Right now, Locust Control Offices have 26 Ulvamast (47 spray equipment) and 21 Micronair which are being utilized for locust control.

About Desert locust (Schistocerca gregaria)

• Locust is an omnivorous and migratory pest and has the ability to fly hundreds of kilometres collectively.

• Locusts need moist, sandy soil in which they lay eggs and fresh vegetation for hoppers to grow into adults. Locusts do not attack people or animals. There is no evidence that suggests that locusts carry diseases that could harm humans.

• Locusts are part of a large group of insects commonly called grasshoppers which have big hind legs for jumping. Locusts belong to the family called Acrididae.

• They vary from ordinary grasshoppers in their ability to change behaviour and form swarms that can migrate over large distances.

• They upsurged in the Mekunu and Luban cyclonic storms in Oman and Yemen respectively in 2018.

- These storms converted large desert regions in remote parts of the southern Arabian Peninsula into lakes, which allowed the insects to breed undetected across multiple generations.
- They are seen in June and July as they are active from summer to the rainy season.
- However, the last five years have been hotter than any other since the industrial revolution, and since 2009.
- Wet weather also favours multiplication of locusts. Widespread, above average rain that pounded the Horn of Africa from October to December 2019 were up to 400 per cent above the normal rainfall amount.
- These abnormal rains were due to the Indian Ocean dipole.
- Locust adults can eat their own weight every day.
- A very small swarm eats as much, posing a destruction threat to crops and food security.
- Following 4 species found in India:
1. Desert locust (Schistocerca gregaria)
2. Tree locust (Anacridium sp.)
3. Bombay Locust (Nomadacris succincta)
4. Migratory locust (Locusta migratoria)

Locust Control measures

- Destroying egg masses laid by invading swarms,
- Digging trenches to trap nymphs,
- Using wheeled screens that cause locusts to fall into troughs containing water and kerosene, insecticidal baits, and applying insecticides to both swarms and breeding grounds from aircraft.
- Utilizing Organophosphate insecticides like Malathion
- FAO gives information on the general locust situation to the global community and gives timely warnings and forecasts to those countries in danger of invasion. It raised alarm over the locust outbreak in northeast Africa and Saudi Arabia in February, 2019.
- Locust Warning Organisation (LWO), Ministry of Agriculture & Farmers Welfare, is responsible for monitoring, survey and control of Desert Locust in Scheduled Desert Areas mainly in the States of Rajasthan and Gujarat.

Locust Warning Organisation (LWO)

- The Union Agriculture Ministry's LWO is headquartered in Jodhpur.
- LWO said that the locusts that came in 2019, after a gap of 26 years, were mature and had affected 12 districts of the State.

Amphan

Why in news?

- Kolkata has been devastated by a powerful cyclone which has killed many people across India and Bangladesh.
- Amphan made landfall, lashed coastal areas with ferocious wind and rain. The storm weakened as it moved north into Bhutan.
- The storm is the first super cyclone to form in the Bay of Bengal since 1999. Though its winds had weakened by the time it struck, it was still classified as a very severe cyclone.
- Amphan hit the Sundarbans, a mangrove area around the India-Bangladesh border home to four million people, before carving north and north-eastwards towards Kolkata, a historic city that was the capital of the British Raj and widely known as Calcutta.
- Parts of West Bengal and Odisha states in India, and areas in south-west Bangladesh, bored the brunt, with winds gusting up to 185km/h (115mph).

About

- Cyclone Amphan (pronounced as UM-PUN) is a tropical cyclone formed over Bay of Bengal that has intensified and likely to turn into a "super cyclonic storm (maximum wind speed is 120 knots)".
- It has been named by Thailand.
- Affected Regions: West Bengal, Odisha and Bangladesh.

- Amphan is the second pre-monsoon cyclone to form in the Bay of Bengal in two years. The first one was Cyclone Fani.
- The pre-monsoon period is generally considered to be unsupportive for the formation of tropical cyclones.
- Doppler Weather Radar (DWR) at Visakhapatnam (Andhra Pradesh) is utilized to track the cyclone Amphan.
- After the Phailin cyclone that had hit the Bengal-Odisha coast in 2013, Amphan was the strongest tropical cyclone to hit the coast.
- National Disaster Response Force (NDRF) is a specialized authority constituted under the Disaster Management Act 2005. It is monitoring Amphan with the parallel monitoring by:
1. National Crisis Monitoring Committee (Constituted by the Government of India, to meet the exigencies of natural calamities.)
2. Cabinet Committee on Security (CCS)
3. Indian Meteorological Committee (IMD)

IMD
- Principal agency under the Ministry of Earth Sciences (MoES), responsible for meteorological observations, weather forecasting and seismology.
- It is headquartered in Delhi and operates hundreds of observation stations across India and Antarctica. Regional offices of IMD are at Mumbai, Chennai, Delhi, Kolkata, Nagpur & Guwahati.
- IMD is also one of the six Regional Specialised Meteorological Centres of the World Meteorological Organization. It has the responsibility for forecasting, naming and distribution of warnings for tropical cyclones in the Northern Indian Ocean region, including the Malacca Straits, the Bay of Bengal, the Arabian Sea and the Persian Gulf.

NDRF
- The Disaster Management Act has made the statutory provisions for constitution of NDRF for the purpose of specialized response to natural and man-made disasters.
- Two national calamities in quick succession in the form of Orissa Super Cyclone (1999) and Gujarat Earthquake (2001) brought about the realization of the need of having a specialist response mechanism at

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National Level to effectively respond to disasters. This realization led to the enactment of the DM Act on 26 Dec 2005.

Role and Mandate of NDRF
- Specialized response during disasters.
- Proactive deployment during impending disaster situations.
- Acquire and continually upgrade its own training and skills.
- Liaison, Reconnaissance, Rehearsals and Mock Drills.
- Impart basic and operational level training to State Response Forces (Police, Civil Defence and Home Guards).
- Community Capacity Building Programme.
- Organize Public Awareness Campaigns.

Why in news?

- Gopal Krishna Gokhale and Maharana Pratap were born on 9 May.

Gopal Krishna Gokhale

- He was a great social reformer and educationist who provided exemplary leadership to India's freedom movement.
- He was born in Kotluk village in Maharashtra (then part of the Bombay Presidency) in a Brahmin family.
- He worked towards social empowerment, expansion of education, struggle for freedom in India for three decades and rejected the use of reactionary or revolutionary ways.
- 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, he played a key role in framing the Morley-Minto reforms of 1909.
- He was associated with the Moderate Group of INC (joined in 1889).
- He became president of INC in 1905 in Banaras session when bitter differences had increased between his

factions of 'Moderates' and the 'Extremists' led by Lala Lajpat Rai and Bal Gangadhar Tilak among others. The two groups 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 Myanmar.

• 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.

• The Hitavada (The people's paper), an English weekly newspaper, was started by him.

• 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'.

Rana Pratap Singh/ Maharana Pratap

• He was born in 1540 in Kumbhalgarh, Rajasthan.

• He was the 13th King of Mewar and was the eldest son of Maharana Udai Singh II (ruled the Mewar kingdom, with capital at Chittor and a founder of the city of Udaipur (Rajasthan)).

• 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.

• 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.

Thrissur Pooram in Kerala

Why in news?

• This year Thrissur Pooram festivity was scheduled for 3 May 2020. It is a 36 hours long festivity where a large number of devotees and spectators gather to witness the temple festival. However, it did not happen due to the outbreak of COVID-19 pandemic.

About festival

• According to Malayalam Calendar, Pooram is the day when the moon rises with the Pooram star in the month of Medam.

• On this day, Thechikottukavu Ramachandran named elephant opens the gates of the Vadakkunnathan temple in Kerala and the rituals begin. A huge procession of tuskers decorated beautifully remains the highlight of the traditional Hindu festival in the state.

• Sakthan Thampuran/Raja Rama Varma (Maharaja of Cochin) is associated with the celebration of Thrissur Pooram festival.

• Much before the grand celebrations at Thrissur temple, the largest temple festival in Kerala was mainly a one-day festival held at Aarattupuzha known as Arattupuzha Pooram.

• However, many believe that once it so happened that due to incessant rains, the participating temples of the city of Thrissur were late for the Arattupuzha Pooram and eventually denied access to the Pooram procession. The temples which were denied entry informed about the incident to their Maharaja who in turn started the grand Thrissur Pooram festival.

• It is said that the Maharaja unified as many as 10 temples in and around Vadakkunnathan Temple and organised the celebration of Thrissur Pooram as a mass festival.

• Sakthan Thampuran invited adjoining temples with their deities to Thrissur to pay obeisance to Lord Vadakkunnathan (Lord Shiva) the presiding deity of the Vadakkunnathan Temple.

- The festivities begin early morning and continue the next day as well. Devotees visit the temple and seek the blessings of the Lord.
- These post-harvest festivals are an occasion to break out of the monotony of daily routine. The size and importance of this festival may vary from small gathering to mega spectacle like Thrissur pooram. There are other Pooram festivals in and around the central Kerala which may stand better than Thrissur pooram in some respect.

Thrissur City

- Thrissur is a city situated in the centre of Kerala. It is an important cultural centre, and is known as the "cultural capital" of Kerala. The name Thrissur is derived from "Thiru-Shiva-Perur", which literally translates to "The city of the Sacred Siva".

Labour laws and COVID-19

Why in news?

- Madhya Pradesh has permitted units of business and industries to be operated without many of the requirements of the Factories Act. Uttar Pradesh has cleared an ordinance exempting businesses and industries from labour laws, except for a handful, for three year period.
- On the face of it, these changes are being brought about to incentivise economic activity in the respective states. Keeping aside the questions of law — labour falls in the Concurrent List and there are many laws enacted by the Centre that a state cannot just brush aside.

Background

- Estimates are different but there are over 200 state laws and 50 central laws. And yet there is no set definition of "labour laws" in the country.
- Labour falls in the Concurrent List of the Indian constitution and there are many laws enacted by the Centre and the states.

- Factories Act aims to ensure safety measures on factory premises, and promote health and welfare of workers.
- The Shops and Commercial Establishments Act aims to regulate hours of work, payment, overtime, weekly day off with pay, other holidays with pay, annual leave, employment of children and young persons, and employment of women.
- The Minimum Wages Act covers more workers than any other labour legislation. The most contentious labour law, however, is the Industrial Disputes Act, 1947 as it relates to terms of service such as layoff, retrenchment, and closure of industrial enterprises and strikes and lockouts.
- Indian labour laws are often characterised as "inflexible".
- In other words, it has been argued that because of the onerous legal requirements, firms (those employing more than 100 workers) dither from hiring new workers because firing them requires government approvals. Even the organised sector is increasingly employing workers without formal contracts. This has constrained the growth of firms on the one hand and provided a raw deal to workers on the other.
- Others have also pointed out that there are too many laws, often unnecessarily complicated, and not effectively implemented. This has laid the foundation for corruption and rent-seeking.

Recent Changes and its implications

- UP has summarily suspended almost all labour laws including the Minimum Wages Act, creating an enabling environment for exploitation".
- That's because far from being a reform the removal of all labour laws will not only strip the labour of its basic rights but also drive down wages.
- In that sense, from the perspective of the workers, the government has completely turned its stand from asking firms not to fire workers and pay full salaries at the start of the lockdown, to stripping workers of their bargaining power now.

- Moreover, far from pushing for a greater formalisation of the workforce, this move will in one go turn the existing formal workers into informal workers as they would not get any social security.
- If all labour laws are removed, most employment will effectively turn informal and bring down the wage rate sharply. And there is no way for any worker to even seek grievance redressal.
- This move and the resulting fall in wages will further depress the overall demand in the economy, thus hurting the recovery process.

Way Ahead

- Instead of creating exploitative conditions for the workers, the government should have — as most governments have done across the world— partnered with the industry and allocated 3% or 5% of the GDP towards sharing the wage burden and ensuring the health of the labourers "because if Covid hits them, the whole country would be sunk".
- For sustainable industrial growth in India, there is a need for holistic labour laws reforms, which would enable firms to expand, while keeping the interest of labours intact, thereby resulting in the formalisation of the Indian economy.

General Studies II (Governance, Constitution, Polity, Social Justice and International relations)

Intentional affliction

Why in news?

- The Uttar Pradesh Public Health and Epidemic Disease Control Ordinance, 2020, passed by the Cabinet, which states a maximum punishment of life term if "death be caused by intentional (COVID-19) affliction". The ordinance will be sent to the Governor for approval.

About Ordinance

- Section 24 (punishment for intentional affliction): A person who "intentionally" infects another person with a contagious disease shall be punished with rigorous imprisonment for 2-5 years.
- Section 25 (mass affliction): Infecting five or more persons.
- Section 26: Whoever causes death by affliction under Sections 24 and 25, shall be punished with rigorous imprisonment for a term which shall not be less than seven years but may extend to imprisonment for life and shall also be liable to pay a fine ranging Rs 3-5 lakh.
- Punishments are defined under different heads, including for "concealment" and "travel by public mode of transport". The punishment for both these offences is imprisonment for 1-3 years and a fine of Rs 50,000-1 lakh.
- Section 30 of the ordinance underlines that notwithstanding anything contained in the CrPC, all offences under this ordinance shall be cognizable and non-bailable.
- Section 31 (1): No suit, prosecution or other legal proceedings shall lie against any person for anything, which is done or intended to be done in good faith in pursuance of this ordinance.
- Ordinance also prescribes strictest punishment for attacks on healthcare workers to give protection to all the corona warriors working in the field.
- For violation of quarantine rules, the person can be imprisoned for 1-3 years and made to pay Rs 10,000 -1 lakh. Those who escape from hospital can be imprisoned for 1-2 years and made to pay Rs 10,000-1 lakh.
- Government will established two authorities for prevention and treatment of the disease namely the State Epidemic Control Authority chaired by the CM, and district-level epidemic control authorities chaired by the district magistrates.
- While the state authority will advise the government on prevention and control, district authorities will coordinate with the different departments.

Role of FCI amid COVID-19

Why in news?

• The Central Government had decided to supply rice and wheat at a lower price during the lockdown period to prevent hungriness' among the rural and urban poor, especially migrant labour and BPL families.

Food Corporation of India (FCI)

• Established under the Food Corporation's Act 1964 to fulfill below mentioned objectives of the Food Policy:
a. Effective price assistance operations for safeguarding the interests of the farmers.
b. Distribution of food grains throughout the country for PDS.
c. Maintaining satisfactory level of operational and buffer stocks of food grains to ensure National Food Security.

• It has played an important role in India's success in transforming the crisis management oriented food security into a stable security system.

• In its first decade, it was at the forefront of India's aim of self-sufficiency in rice and wheat following the Green Revolution, managing procurement and stocking grain that supported a vast PDS.

• In the 1970s and 1980s, lot fof grain was lost to pests due to poor storage conditions, mainly rats; diversion of grain was widespread, prompting a former chairman to declare that there was a problem with "human rats" as well. By the late 1990s, the FCI was often referred to as the "Food Corruption of India", not entirely facetiously.

• During COVID-19 pandemic, it holds the key to warding off a looming crisis of hunger and starvation, mainly in regions where lakhs of migrant workers have returned with little in hand by way of money or food.

• The FCI has also enabled purchases by States and non-governmental organisations directly from FCI depots, doing away with e-auctions typically conducted for the Open Market Sale Scheme (OMSS).

With rabi procurement under way in many States, it seems that the country will secure ample food supplies to cope with the current crisis. In the lockdown period, the FCI was uniquely positioned to move grain across State borders where private sector players faced formidable challenges.

Center-State relations amid COVID-19

Why in news?

• The health and economic crisis led by the COVID-19 pandemic has compounded the substantially lower revenue mobilization. The States are now looking forward for a substantial assistance from the Centre and also a relaxation in borrowing curbs as a way forward.

• States are scramble to raise funds to fight the COVID-19 and in this wake a high-level panel appointed by the Maharashtra government has recommended that the Centre should borrow from RBI and "pass it on" to states to help them avoid a debt trap. This will allow borrowing at much lower interest rates.

Fiscal relates issues

• Nationwide lockdown is testing the resilience of state governments as states slashed salaries, demanding an increase in borrowing limits and asking for fund transfers from Central government as their tax revenues decreased due to large scale travel restrictions.

• Their own revenue sources that account for half their total revenues, have collapsed. And their expenditure such as on interest payments, social sector schemes and staff salaries remains unchanged.

• Several restrictions have had a "significant impact on the economic activities" in the country, resulting in a "stress on the revenue mobilization" of the central government.

• After incurring high losses due to the pandemic, states levied 70-75% additional fee

on liquor purchases. Manufacture and sale of liquor are major sources of revenue for states.

• But liquor outlets flouted all physical distancing norms. The fear was that this could seed fresh infections. The Centre is itself not in a happy place financially. But it at least has the means to replenish its finances through conventional and unconventional means.

• World Health Organization's regional office for Europe was cited. The advisory states: "At times of lockdown during the Covid-19 pandemic, alcohol consumption can exacerbate health vulnerability, risk-taking behaviours, mental health issues and violence."

Disaster Management Act strained federal structure

• The Central government has so far followed a mostly top-down approach in tackling the COVID-19 pandemic. During lockdowns, the Centre has issued guidelines under the Disaster Management Act of 2005, to scrupulously enforce every new set of guidelines, with the States only being allowed to increase and not dilute the restrictions.

• This centralised approach is counterproductive, has put the federal structure of India under strain, and is in fact beyond the powers of the Central government.

• At this juncture, an important caveat must be pointed out. Under Entry 29 of List III, both Parliament and State legislatures are competent to legislate on matters involving inter-State spread of contagious or infectious diseases. Therefore, theoretically speaking, Parliament would be competent to pass a law that allows the Central government to issue directions to the States to prevent inter-State spread of a disease like COVID-19. That law is not the Disaster Management Act which is concerned with disasters in general, and not pandemics in particular.

• 'Prevention of inter-State spread of contagious and infectious diseases' being a specific legislative head provided in List III, the same must be deemed to have been excluded from Parliament's residuary legislative powers. Therefore, the Disaster Management Act, which has been enacted under Parliament's residuary

legislative powers, cannot be applied to the prevention of inter-State spread of contagious and infectious diseases.

Epidemic Diseases Act, 1897

• Under this Act, it is the State governments which have the prerogative to take appropriate measures for arresting the outbreak of a contagious or infectious disease in their respective States.

• The Central government's powers are limited to taking measures for inspecting and detaining persons travelling out of or into the country. Even if that Act were to be amended, it would not empower the Central government to issue directions to the States to contain the pandemic within the State; it can only deal with inter-State spread of the disease.

• Therefore, instead of resorting to the Epidemic Diseases Act which gives powers to the States, the Centre has applied the Disaster Management Act, which has enabled it to ride roughshod over State governments. This is plainly unconstitutional. The States are not legally bound to observe the directions/guidelines being issued by the Central government and would be well within their rights to challenge them before the apex court.

The federal scheme

• Under the federal scheme, Parliament can legislate on matters under the Union List (List I), Stage legislatures can legislate on matters under the State List (List II), and both Parliament and State legislatures can legislate on matters under the Concurrent List (List III).

• The residuary power to legislate on matters that are not mentioned in either List II or List III vests with Parliament under Article 248 of the Constitution read with Entry 97 of List I.

• Furthermore, the rule of harmonious construction laid down by the Supreme Court in a number of judgments, including in Godfrey Phillips v. State of U.P. & Ors (2005), dictates that the entries in the legislative

lists must be interpreted harmoniously, and in the event of any overlap between two or more entries, the specific subject matter contained in a particular entry must be deemed to have been excluded from another entry which may deal with a more general subject matter.

• Finally, as per Articles 73 and 162, the executive power of the Centre and the States is co-extensive with their respective legislative powers, which means that the Central and State governments can only take executive actions in matters where Parliament and State legislatures, respectively, have powers to legislate.

• Disaster management as a field of legislation does not find mention in either List II or List III, nor does any particular entry in List I specifically deal with this. Thus, the Disaster Management Act could only have been enacted by Parliament in exercise of its residuary powers of legislation under Article 248 read with Entry 97 of List I.

• 'Public health and sanitation' is a specific field of legislation under Entry 6 of List II. This would imply that States have the exclusive right to legislate and act on matters concerning public health. Thus, the Centre's guidelines and directions to the States for dealing with the pandemic trench upon a field of legislation and executive action that is exclusively assigned to the States — public health.

Way Ahead

• The States should at least be able to borrow more. The Centre should also provide States the freedom to restart economic activity based on their own assessment. Not all States are in the same virus-spread position and within each State, not all districts are the same. This has to be acknowledged while planning a phased lifting of the lockdown. Greater leeway in restarting economic activity will relieve some of the financial stress, not just on the States but also on the Centre.

• A decentralised approach is required to manage the large rural population

• In conclusion, the approach to the management ofCOVID-19 needs to blend acute disaster management strategies with longer-term public health measures including economic measures.

Why in news?

• A nine-judge Bench of the Supreme Court declared in connection with the Sabarimala review (allowed women of every age to enter and worship at the temple) that superior courts enjoy untrammelled power to take up any cause to do complete justice.

Entry of women

• On 14 November 2019, a five-judge Bench led by then Chief Justice (Ranjan Gogoi) did not complete its assigned task of reviewing the SC's original Sabarimala judgment of 2018.

• But, it had framed "larger issues" regarding essential religious practices of different religions and clubbed other pending cases on subjects as varied as female genital mutilation among Dawoodi Bohras to entry of Parsi women who married inter-faith into the fire temple and Muslim women into mosques and referred them all to a larger Bench.

• Current Chief Justice of India established a nine-judge Bench to hear the reference.

Issue

• Several parties raised objections in front of the nine-judge Bench and questioned how a Bench sitting in a limited review jurisdiction assumed powers to frame new questions of law.

• Lawyers also had argued that the Gogoi Bench should have decided the Sabarimala review petitions first before referring any questions of law to a larger Bench. Objections were raised on how the Gogoi Bench chose to rope in unconnected religious issues in the Sabarimala review.

Constitutional Provisions

• Indian Constitution recognizes the freedom of religion as an individual right (Article 25), and the right of religious denominations to manage their own affairs in matters of religion (Article 26).

• The Constitution expressly gives for the possibility that there may be times when members of religious and cultural communities may require to be protected from authoritarian and oppressive social practices. Articles 25 and 26 are subject to public order, morality, and health; and Article 25 is also subject to other fundamental rights guaranteed by the Constitution, and to the state's power to bring in social reform laws.

J&K Internet curbs

Why in news?

• Supreme Court refused to restore 4G services in Jammu & Kashmir and ordered establishing of a high-powered committee to look into the raised contentions by petitioners against limited 2G services in the UT.

• In August 2019, the Indian government suspended all modes of communications due to revocation of J&K's special status, granted under Article 370. Later, services were partially restored 2G services.

• A plea was filed by 'Foundation for Media Professionals' for restoration of high-speed internet in UT in view of the prevailing COVID-19.

• SC ruled that the special circumstances occur in the UT which needs delicate balancing of national security concerns and human rights. The bench also referred to its previous decision in the Anuradha Bhasin case (2020) wherein it ordered review of restrictions placed in UT.

Criticism of the move

• The Court has not even pursued the order it made in Anuradha Bhasin, to lay down a set of rules by which authorities seeking to impose restrictions on

fundamental rights must adhere to the doctrine of proportionality.

• The court failed to ask how handwara-like incidents could be linked to Internet speed when all of them took place while severe restrictions were in place.

• The mandate that the Court enjoys under Article 32 of the Constitution — to enforce fundamental rights — cannot be transferred to the executive.

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.

4G services

• 4G services are significant to give access to the medical fraternity incorporating patients to access information, advisories, and guidelines.

• The petition stated that the schools in India have shifted to online classes due to the lockdown but lack of the 4G internet puts J&K students at a disadvantage.

• There are national security concerns like infiltration of outside sources through the borders and destabilizing the integrity of the country was raised during the hearing and J&K administration mentioned that high-speed internet will enable the spread of fake news and transfer of heavy data 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)

1. **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 accordance with the Article 19(2) and Article 19(6) of the Constitution.

2. Territorial Extent of Internet Suspensions

- It haddirected authorities to pass internet suspension orders with respect to only those areas, where there is absolute requirement of such restrictions to be imposed.

3. Constitution of Review Committee

- The Court directed the government to set up a review committee to review orders leading to suspension of Internet, mobile and fixed line telecommunication services.

- All orders 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 plans to temporarily suspend telecom services in any part of India.

- 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 and Central level officials as the issue involved affects not only the UT but also the whole India.

Disqualification

Why in news?

- After the hearing, the Speaker's Tribunal formed under the Tenth Schedule of the Constitution reserved its order regarding the disqualification petition of 7 Congress MLAs who have helped formation of the BJP-led government in the state after the Assembly election in 2017, in which the Congress emerged as the single largest party.

- In March 2020, SC invoked its plenary powers and ordered forthwith removal of state's forest minister.

- The plea of his disqualification was also pending with the Speaker since 2017. Speaker later disqualified him from the Assembly.

The Anti-Defection law and its purpose

- Aaya Gaya Ram was a phrase that became popular in Indian politics after a Haryana MLA Gaya Lal changed his party thrice within the same day in 1967. After such incidents, a need was felt to prevent such political defections which may be due to reward of office or other similar considerations.

- The anti-defection law was passed in 1985 through the 52nd Amendment to the Constitution, which added the 10th schedule to the Indian Constitution. The main intent of the law was to combat "the evil of political defections".

- SC in Kihoto Hollohon Case observed that the provisions don't subvert the democratic rights of elected members in Parliament and state legislatures. It does not violate their conscience. The provisions do not violate any right or freedom under Article 105 and 194 of the Constitution.

- The court made it clear that it was only in matters regarding confidence motion/no confidence motion and matters integral to party's policy based on which it enjoys support of the electorate, that a legislator is bound by direction issued by the party.

- Voluntarily giving up the membership is not the same as resigning from a party. SC in Ravi S. Naik v. Union of Indi has held that the words "voluntarily giving up membership" have a wider meaning. An inference can also be drawn from the conduct of the member that he/she has voluntarily given up the membership of his/her party.

- According to the SC in G. Vishwanathan v. Honorable Speaker, Tamil Nadu Legislative Assembly, once a member is expelled, he/she is treated as an unattached member in the house. However, he/she continues to be member of the old party as per the 10th Schedule. So if he/she joins a new party after being expelled, he/she can be said to have voluntarily given up membership of his/her old party.

Anti-Defection provisions under the tenth schedule

1. Disqualification

a. If a member of a house belonging to a political party: Voluntarily gives up the membership of his/her political party, or votes, or does not vote in the legislature , contrary to the directions of his/her political party. However, if the member has taken prior permission, or is condoned by the party within 15 days from such voting or abstention, the member shall not be disqualified.

b. If an independent candidate joins a political party after the election

c. If a nominated member joins a party 6 months after he/she becomes a member of the legislature.

2. Power to disqualify

a. The Chairman or the Speaker of the House takes the decision to disqualify a member.

b. If a complaint is received w.r.t. the defection of the Chairman or Speaker, a member of the House elected by that house shall take the decision.

3. Exceptions

a. A person shall not be disqualified if his/her original political party merges with another and he/she and other members of the old political party become members of the new political party or he/she and other members do not accept the merger and opt to function as a separate group.

b. This exception shall operate only if not less than 2/3rd of the members of party in the House have agreed to the merger.

Collective conscience of society

Why in news?

• According to a study by Project 39A, a criminal reforms advocacy group, 72% of all cases was awarded the death penalty from 2000 to 2015 by Delhi trial courts due to a major influencing factor cited "collective conscience of the society".

Key Findings

• 3 states were chosen for the study since they secured high rank on the list of states awarding capital punishment and an enormous number of decisions in capital cases were overturned in the High Courts and Supreme Court.

• Of the 112 cases in which collective conscience was a factor influencing the decisions of courts, no other mitigating factor was considered in 63 cases.

• Of 52 cases in the three states, where many accused were involved, individual mitigating circumstances for each accused was argued only in nine cases.

• Trial courts mainly relied on aggravating circumstances to impose death sentences.

• No mitigating circumstances were considered during sentencing like in Madhya Pradesh (51 judgments out of 82), Maharashtra (41 out of 90), and Delhi (18 out of 43 cases).

• In Delhi, of the 80 death sentences handed by trial courts between 2000 and 2013, over 60% later resulted in acquittals or where sentences were commuted by the Delhi High Court.

• In Maharashtra, out of approximately 120 sentenced to death by trial courts between 2000 and 2013, more than half the prisoners were acquitted or had sentences had sentences commuted by Bombay High Court.

Previous cases

• Machhi Singh And Others vs State of Punjab (1983): Introduced 'collective conscience' into the capital sentencing framework and laid down five categories, where the community would "expect the holders of judicial power to impose death sentence, because collective conscience was sufficiently outraged".

• Bachan Singh vs State of Punjab (1980): A framework was developed for sentences in cases that involved the death sentence while evolving the 'rarest of rare', a doctrine that advocated a restrictive approach to the award of capital punishment. This case required trial courts to weigh the circumstances of the offence and the offender, while also considering the

probability of reformation, and the suitability of the alternative option of life imprisonment.

- The court had previously said a condemned convict should die in peace and not in pain. A human being is entitled to dignity even in death. The court had asked the government to consider the "dynamic progress" made in modern science to adopt painless methods of causing death.

Law Commission recommendation

- In 2013, the Supreme Court had asked the Law Commission to examine whether the death penalty is deterrent punishment or is retributive justice or serves an incapacitative goal.
- In its report in 2015, Law Commission, ten headed by Justice A P Shah, had proposed the abolition of capital punishment for non-terrorism cases (i.e. it should be abolished for all crimes other than terrorism-related offenses and waging war).
- According to the Law Commission's Report, India is among a handful of countries such as China, Saudi Arabia, Iran and Iraq that still carry out executions.
- At end of 2014, 98 countries had abolished the death penalty, 7 had abolished it for ordinary crimes, and 35 were abolitionists in practice, making 140 countries abolitionists in law or practice.

Projet 39A
- Project 39A is inspired by Article 39-A of the Indian Constitution, a provision that furthers the intertwined values of equal justice and equal opportunity by removing economic and social barriers.
- These are constitutional values of immense importance given the manner in which multiple disparities intersect to exclude vast sections of our society from effectively accessing justice.
- Project 39A aims to trigger new conversations on legal aid, torture, DNA forensics, mental health in prisons, and the death penalty.

==New set of rules for domicile certificates in J&K==

Why in news?

- Jammu and Kashmir Grant of Domicile Certificate (Procedure) Rules 2020 had been notified by the administration of Jammu and Kashmir.

About

- Specifies the conditions and the process to obtain the documents needed for applying to jobs and avail other privileges restricted to residents.
- Define who was qualified to be a competent authority to issue such certificate
- Includes time frame within which the domicile can be issued and the punishment awarded to the concerned official who fails to furnish the domicile on time.
- Also reaffirm who can apply for a domicile certificate.
- The relief and rehabilitation commissioner (migrant) of UT shall be the competent authority for the purpose of registration of displaced persons, besides Kashmiri migrants for the purpose of issuance of domicile certificate
- As per the order, individuals who have resided in J&K for 15 years or have studied for seven years or appeared in examinations for class 10th or 12th can be eligible for the grant of a domicile certificate.

Analysis

- West Pakistan Refugees (WPRs), safai karamcharis and children of women married outside J&K shall be now eligible for Domicile Certificate.
- The new law is a major departure from the Article 35A of the Indian constitution and Section 6 of J&K Constitution that empowered the J&K assembly to define a permanent resident of Jammu & Kashmir
- The new rules have empowered a tehsildar to issue such certificate in most cases and Relief and Rehabilitation Commissioner in the case of migrants.
- There are provisions for nominating higher officials as application categories expand. The applicant can also both submit the application and receive the certificate electronically.

- The new changes present not only a serious challenge to the demography of the former state but also significantly expand access to state resources.
- The opportunity of registration for the purpose of obtaining a domicile certificate shall be open only for a period of one year from the date of issuance of this order.

India-China clash

Why in news?

- The India-China border has been witnessing face-off and stand-off situations over the past month, with incidents reported in at least four different locations along the Line of Actual Control (LAC) in areas where India and China have overlapping claim lines at the Pangong lake in Ladakh and at Naku La in Sikkim, in the Galwan valley and in Demchok in Ladakh.
- These tensions can be viewed as against the Wuhan spirit (2018) and Mamallapuram summit (2019) objectives that aimed for a peaceful and diplomatic resolution of any conflict.
- India is upgrading its infrastructure along the border, permitting troops to patrol with greater depth and frequency into areas where the Chinese had set up a more frequent presence. That is now being challenged.
- All 61 strategic roads along the border, spread across Arunachal Pradesh, Jammu and Kashmir, Sikkim, Uttarakhand and Himachal Pradesh, will be completed by December 2022, adding up to 3,417 km in length.
- In 2019, India completed the Darbuk-Shyok-Daulet Beg Oldi (DBO) road that connects Leh to the Karakoram Pass. India also maintains a key landing strip at DBO at 16,000 feet.

Reasons behind tensions

- Various perceptions are particularly acute in around two dozen spots across the Western (Ladakh), Middle (Himachal Pradesh and Uttarakhand), Sikkim, and Eastern (Arunachal Pradesh) sectors of the India-China border.

- The boundary in the Sikkim sector is broadly agreed, but has not been delineated.
- Face-offs and stand offs happens when patrols encounter each other in the contested zones between overlapping claim lines. Protocols agreed to in 2005 and 2013 detail rules of engagement to prevent such incidents, but have not always been adhered to.
- India has long proposed an exercise to clarify differing perceptions of the LAC to stop such incidents.
- Maps were exchanged in the Middle Sector, but exercise failed in the Western Sector due to greatest divergence.
- China has rejected this exercise since a long time and this added another complication to the on-going boundary negotiations. India's stand is rather than agree on one LAC, and this exercise could help both sides understand the claims of the other, paving the way to regulate activities in contested areas until a final settlement of the boundary dispute.
- Any such issue is resolved through the mutually established protocols to maintain peace and tranquility on the border.
- The recent clash happened three years after the Doklam stand-off (2017), which was also happened across the border in Sikkim.

Disputed Areas

- The likelihood appears remote as the main differences lies in the Western and Eastern sectors.
- India sees China as occupying 38,000 sq km in Aksai Chin. In the east, China claims 90,000 sq km, extending all across Arunachal Pradesh.
- A swap was hinted at by China in 1960 and in the early 1980s, which would have essentially formalised the status quo. Both sides have now ruled out the status quo as a settlement, agreeing to meaningful and mutual adjustments. At the same time, the most realistic solution will involve only minor adjustments along the LAC, considering neither side will be willing to part with territory already held.

- The 2005 agreement said both sides "shall safeguard due interests of their settled populations in border areas". One particular sticking point appears to involve China's claims to Tawang in Arunachal Pradesh.
- The Tawang demand is more a symptom than the root of the problem. In reality, China knows ceding Tawang will be impossible for the consideration by any Indian government. The broader issue appears to be a fundamental difference in how both sides view the boundary question.
- In some sense, Beijing appears to view an unsettled border as holding some leverage with India, one of the many pressure points it could use to keep India off-guard. Until that strategic calculus — and China's broader view of its relations with India — changes, the stalemate will likely endure.

Way Ahead

- Armed conflicts serve neither the interest of India nor China as it incurs huge costs to life and money. Both countries should bring situation under the control and use the current situation as an opportunity to revive the stalled process of clarifying the LAC.
- China is a manufacturing hub and India is a huge market and in this scenario both must realise that both are equally critical for their economic revival.
- Both countries should adhere to the policy of Panchsheel and align their energies for development for their people, region and global peace.
- Promotion of tourism through education, spiritual visits especially on the Buddhist circuit, etc. must be promoted.
- Cultural cross-connect must be expanded to build up the people to people connection and boost businesses that can consequently lead to resolving of conflicts at the national level.

Current boundaries

Naku La sector
It is a pass at a height of more than 5,000 metres above Mean Sea Level (MSL) in 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.
Pangong Tso Lake
This 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.
McMahon Line
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 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.
The line was forgotten until the British government published the documents in 1937. Subsequently, China refused to accept the line.
Line of Actual Control
The Line of Actual Control (LAC) is the effective border between India and China.

LAC was supposed to divide areas under Indian and Chinese control since the end of the Sino-Indian War of 1962.

• 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.

New road to Kailash Mansarovar

Why in news?

• Defence Minister of India had inaugurated a new 80-km link road namely inaugurated the Darchula-Lipulekh pass link road in Uttarakhand as the Kailash-Mansarovar Yatra Route, cutting across the disputed Kalapani area. The road **is** funded by Indo-China Border Road (ICBR) and was made under directions of the China Study Group (CSG).

• It was approved by the Cabinet Committee on Security (CCS) in 2005.

• The last 5-km of the road could not be finished because of a temporary ban placed on the last-mile connectivity in 2016 by the Director General Military Operations, which is yet to be lifted.

• It is scheduled to be completed by December 2022 and will reduce the travel time for pilgrims.

• Border Roads Organisation (BRO) achieved road connectivity from Dharchula (Pithoragarh, Uttarakhand) to Lipulekh Pass (China border).

• Lipulekh Pass/Qiangla or Tri-Corner is a high altitude of 5,334 metre international mountain pass situated in the western Himalayas between India, China and Nepal.

Significance of this road

• Shortest and cheapest route with just one-fifth distance of road travel via Sikkim as compared to other old routes.

• No air travel involved and the majority of the travel (84%) is in India and only 16% is in China compared to other routes where 80% road travel is in China.

• Whole travel will be on vehicles reducing the 5-day trek to 2- days road travel, except for a 5-km trek.

Stand of Nepal

• 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.

• 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 Sugauli treaty (1816) 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.

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.

Kailash Mansarovar
- 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 Mansarover lake are run by the Kumaon Mandal Vikas Nigam (KMVN), a government organization.
- The organization works in collaboration with the Government of India's Ministry of External Affairs and the Government of China.

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.

General Studies III (Technology, Economic Development, Bio-diversity, Environment, Security and Disaster Management)

Surging glaciers in the Karakoram Range

Why in news?

- Scientists from Wadia Institute of Himalayan Geology (WIHG), Dehradun an autonomous institute under the Department of Science & Technology, have discovered through detailed assessment by using satellite images (Landsat 8 OLI, ASTER and Sentinel-2),

Digital Elevation Models (DEM) and thermal data of some major surging glaciers of the Karakoram range that there is a seasonal advancement in surge-type glaciers in this range of Ladakh.
- The scientists focused on the Muchuhar and Shispare glaciers, former tributaries of the once larger Hasanabad Glacier located in Hunza Valley, Gilgit-Baltistan, Pakistan.

'Surging' or 'Surge-type' glaciers

- These are a certain type of glaciers that have shown advancement in length and volume over a period of time.
- These glaciers oscillate between brief (months to years) rapid flow and lengthy (tens to hundreds of years) slow flow or stagnation, which are called the 'active' (or 'surge') and 'quiescent' phases, respectively.
- This unsteady glacier flow makes it difficult to accurately assess individual glacier mass balances using in-situ observations because of the uncertain outcomes.
- Subglacial processes and conditions like amount of debris, distribution of stored water, and temperature gradient are crucial to understand the diversity of surge-types and surge-like behavioural spectrum.
- However, such information has been rare or unknown in the Karakoram, because ground-based observations are difficult to acquire.

Issue of Concerns

- The surging terminates in summer due to channelized flow of meltwater and considerable heterogeneity in movement is also observed during summer and springtimes.
- The behaviour of these glaciers, which represent 40% of the total glaciated area of the Karakoram goes against the normal trend of considerable reduction in volume and length of most glaciers in the Himalaya in recent decades.

- Surging of glaciers is potentially catastrophic as it can lead to the destruction of villages, roads and bridges.
- It 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.
- The study published in the journal Nature, Scientific Reports will help to understand the diversity of glacial behaviour and help make accurate assessments of individual glacier mass balances for disaster planning and management.

Etalin Hydroelectric Project

Why in news?

- 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.
- 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 Palaearctic 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.
- 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.

Criticism

- FAC sub-committee ignored established tenets of forest conservation and related legal issues while recommending the proposal.
- FAC also ignored the threat of forest fragmentation.
- Forest fragmentation is a consequent of 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.
- 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.

International Day for Biological Diversity

Why in news?

- The United Nations celebrates May 22 as the International Day for Biological Diversity (IDB) to raise understanding and awareness of biodiversity issues.

- 2020 will witness the final period of the 2011-2020 Strategic Plan on Biodiversity and UN Decade on Biodiversity, leading to the transitional phase for the 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; and the UN Biodiversity Summit, in order to highlight the urgency of action at the highest levels in support of a post-2020 global biodiversity framework.

About

- It was first created by the Second Committee of the UN General Assembly on 29 Decmber 1993, (the date of entry into force of the Convention of Biological Diversity)
- In December 2000, the UN General Assembly adopted 22 May as IDB, to commemorate the adoption of the text of the Convention on 22 May 1992 by the Nairobi Final Act of the Conference for the Adoption of the Agreed Text of the Convention on Biological Diversity.
- This was partly done because it was difficult for many countries to plan and carry out suitable celebrations for the date of 29 December, given the number of holidays that coincide around that time of year.

Themes

- 2020 - Our solutions are in nature
- The theme will cover 3 essential topics during the week leading up to the observance: 18 May will cover the importance of knowledge and science; 19-21 May will raise awareness of the importance of biodiversity; and finally, the day of the observance, will issue a call to action.

Biodiversity loss is a loss for humanity

- Biological diversity is often understood in terms of the wide variety of plants, animals and microorganisms, but it also includes genetic differences within each species — for example, between varieties of crops and breeds of livestock — and the variety of ecosystems (lakes, forest, deserts, agricultural landscapes) that host multiple kind of interactions among their members (humans, plants, animals).
- Biological diversity resources are the pillars upon which we build civilizations. Fish provide 20 per cent of animal protein to about 3 billion people. Over 80 per cent of the human diet is provided by plants. As many as 80 per cent of people living in rural areas in developing countries rely on traditional plant-based medicines for basic healthcare.
- But loss of biodiversity threatens all, including our health. It has been proven that biodiversity loss could expand zoonoses - diseases transmitted from animals to humans- while, on the other hand, if we keep biodiversity intact, it offers excellent tools to fight against pandemics like those caused by coronaviruses.
- While there is a growing recognition that biological diversity is a global asset of tremendous value to future generations, the number of species is being significantly reduced by certain human activities. Given the importance of public education and awareness about this issue, the UN decided to celebrate the International Day for Biological Diversity annually.

==World Migratory Bird Day (WMBD)==

Why in news?

- World Migratory Bird Day (WMBD) 2020 was observed on 9 May 2020 organized by the Convention on Migratory Species (CMS), the African-Eurasian Waterbird Agreement (AEWA) together with Environment for the Americas (EFTA).
- Theme of 2020: "Birds Connect Our World".

About

- WMBD was initiated in 2006 by the Secretariat of the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) in collaboration with the Secretariat of the Convention on the

Conservation of Migratory Species of Wild Animals (CMS).

• In 1993, the US Fish and Wildlife Service, the Smithsonian Migratory Bird Center and the Cornell Laboratory of Ornithology initiated celebrations of the 'International Migratory Bird Day' (IMBD).

• On the occasion of its 10th anniversary in 2005, the AEWA Secretariat initiated the Migratory Waterbird Days (MWD) which was held in Africa, Europe and parts of Asia.

• The very first WMBD was launched by AEWA and CMS on the weekend of 8-9 April 2006 on famous wildlife reserve 'Ole Ari Nyiro' in Laikipia, Kenya. The central event at the launch - called WINGS - was inspired by the phenomenon of bird migration.

• On 26 October 2017 in the margins of the CMS COP12 in Manila, Environment for the Americas (EFTA), the Convention on Migratory Species (CMS) and the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), announced an innovative partnership to increase awareness of the plight of migratory birds around the world.

• The new partnership formally unites two of the world's largest bird education campaigns, International Migratory Bird Day (IMBD) and World Migratory Bird Day (WMBD) in a bid to strengthen global recognition and appreciation of migratory birds and highlight the urgent need for their conservation.

• Starting in 2018, the new joint campaign adopts the single name of "World Migratory Bird Day" and major events to celebrate the day will be organized twice a year, on the second Saturday in May and in October.

• WMBD is an annual awareness-raising campaign highlighting the need for the conservation of migratory birds and their habitats. It has a global outreach and is an effective tool to help raise global awareness of the threats faced by migratory birds, their ecological importance, and the need for international cooperation to conserve them.

Convention on Migratory Species (CMS)

• CMS has been in force under the United Nations Environment Programme to protect the migratory species throughout their range countries.

• Also referred to as the Bonn Convention, it gives a global platform for the conservation and sustainable use of migratory animals and their habitats and brings together the States through which migratory animals pass, the Range States, and lays the legal foundation for internationally coordinated conservation measures throughout a migratory range.

• Under this convention, migratory species threatened with extinction are listed on Appendix I and Parties strive towards strictly protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them.

<mark>Abolition of MES posts</mark>

Why in news?

• The Defence Minister had approved a suggestion for the abolition of a number of posts in the Military Engineering Service (MES) in accordance with the recommendations of the Shekatkar Committee.

• This committee also proposed to restructure the civilian workforce in a way that the work of the MES could be partly done by departmentally employed staff and other works could be outsourced.

Significance of this step

• MES is the infrastructure development agency for the armed forces and defence establishments. Almost 70% of the budget is utlilized for payment of salaries and allowances and 30% for actual infrastructural development. According to recently released SIPRI report, India was among the top 3 top military spenders in 2019 followed by USA and China. By abolition of almost 9000 posts of basic and industrial staff can save up to ₹25,000 crore in defence expenditure, if implemented in the upcoming 5 years.

• It has been estimated that this move will make MES an effective organisation with a less workforce, well

equipped to manage complex issues in an efficient and cost-effective manner.

Shekatkar Committee

11-member committee (headed by Lt. Gen. D.B. Shekatkar (Retd))

Appointed by the then Defence Minister in mid-2016

To suggest ways to enhance combat capability and rebalance defence expenditure of the armed forces.

Submitted its report in December 2016.

99 Recommendations

Made recommendations from optimising defence budget to the requirement for a Chief of the Defence Staff. First 65 recommendations regarding the Army were approved in August 2017.

Suggested that India's defence budget should be in the range of 2.5-3% of GDP, in view of current and future threats.

Recommended 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.

Suggested the conversion of the Military Intelligence School at Pune to a tri-service intelligence training establishment.

Suggestions on the creation of the Chief of Defence Staff post and a Department of Military Affairs have already been implemented.

Restructuring of Army headquarters to enhance the operational and functional efficiency of force

Other suggestions that have been implemented include like optimisation of signals establishments, restructuring of repair units, redeployment of ordnance echelons, better utilisation of supply and transportation units and animal transport entities, etc.

Fake News

Why in news?

• The Bureau of Police Research and Development (BPRD), a think-tank under the Union Home Ministry, has published guidelines in a report 'Fake News & Disinformation: A Guide for LEAs – How to spot and investigate' to aid law enforcement agencies to identify fake news and videos.

• But later, BPRD has removed the recently released guide for law enforcement agencies to identify 'fake news' from its website.

• This was done subsequent to objections to the inclusion of certain portals on an indicative list of websites that could be accessed for the fact check.

Why these guidelines were necessary?

• Increased incidence of fake news or yellow journalism is due to digital news.

• Fake news or Yellow Journalism is published with the intent to damage an agency, entity or a person and gain financially or politically and it often uses sensationalist, dishonest or outright fabricated headlines to increase readership.

• In the wake of the COVID-19, fake news and videos have spread and increased panic, hatred and communal violence. Wrongdoers have used fake URLs to mislead people who wanted to donate to PM-CARES fund.

Fake News

• Fake news or hoax news refer to false propaganda published under the guise of authentic news. It is deliberately created to misinform the readers.

• Fake news can be propagated through any media: print, electronic and social.

• Fake news can be related to anything –

1. Commercially driven sensational content
2. Nation-state sponsored misinformation
3. Highly partisan news site
4. Social media itself
5. Satire or parody

• Some checks and balances, though largely ineffective, exist in the mainstream media against fake news, but social media does not have such a mechanism.

• Only a few mechanisms exist such as defamation suit, filing of FIR, complaints to bodies like News Broadcasters Association (NBA), Broadcasting Content Complaint Council (BCCC), Press Council of India (PCI) etc.

SC observations regarding fake news

- Media should maintain a strong sense of responsibility, while disseminating news on coronavirus and should ensure that unverified and fake news is not published, the Supreme Court said after the central government drew the court's attention to the possibility of people panicking due to "fake" and "inaccurate reporting" of news connected with Covid-19.
- Media should refer to and publish the official version about developments regarding coronavirus threat, the court said, while maintaining that it does not intend to interfere with the "free discussion" about the pandemic.

About Bureau of Police Research and Development (BPR&D)

- The Government of India established the BPR&D, under the Ministry of Home Affairs in the 1970s.
- It replaced Police Research and Advisory Council (1966), with the primary objective of modernization of police force.
- In 1995, the Government of India decided to entrust issues relating to Correctional Administration Work to the BPR&D.
- Thereby BPR&D has to ensure the implementation of prison reforms as well.

Domestic defence procurement gets separate budget provision

Why in news?

- The Union Minister of Finance announced a separate budgetary provision for domestic defence procurements as part of efforts to promote indigenous manufacturing and reduce the defence import bill.
- In order to promote self-reliance in defence production, the government has announced several measures under Atma Nirbhar Abhiyan. The limit for FDI in defence through the automatic route had also been raised from 49% to 74%. Earlier, 100% FDI was allowed on a case by case basis.
- Though these steps are in the right direction, there are long-overdue reforms to make India truly self-reliant in defence manufacturing.

- The Finance Minister announced a long-pending proposal of the corporatisation of the Ordnance Factory Board (OFB) for autonomy, efficiency and accountability and it would not be privatised. The ordnance factories would eventually be listed on the stock market to improve transparency. This move comes after the Ministry of Defence set up a high-level committee to examine the aspects of the corporatisation of the OFB and work out the modalities. The Kolkata headquartered OFB, with 41 factories spread across the country, functions as a department under the Department of Defence Production.
- A time-bound defence procurement process and faster decision-making would be brought in by setting up a Project Management Unit (PMU) to support contract management, "realistic setting" of General Staff Qualitative Requirements (GSQRs) of weapons and platforms and overhauling the trial and testing procedures.

About budget provisions

- List of weapons will be notified and military platforms are not allowed for import. Indigenisation of some imported spares will also be given priority.
- Some of the states of the art weapons required by the services would be met through imports and some will be produced in the country.
- The negative import list for weapons would be worked out in consultation with the Department of Military Affairs headed by the Chief of the Defence Staff.

Analysis

- The Confederation of Indian Industry (CII) called the measures a much-needed step for reducing imports and building self-reliance in defence.
- The stress laid on domestic manufacturing is very encouraging as India today is among the largest importers in the world of defence equipment. But in the past five years, the Indian government has

approved over 200 defence acquisition proposals with the transfer of technology provision, valued around Rs 4 trillion, but most are still in relatively early stages of processing.

- The list of non-importable items and corporatisation of OFB will boost the confidence of domestic manufacturers and are some landmark steps.
- The increase in FDI limit to 74% would attract foreign funds into this sector, along with technology infusion. But the relationship between the R&D establishment, production agencies (public or private) and the end-user are extremely weak. In fact, the creation of a manufacturing base is capital and technology-intensive and has a long gestation period.
- The separate budget provision would help decrease the defence import bill and encourage domestic manufacture.
- Overlapping jurisdiction of the Ministry of Industrial Promotion and Ministry of Defence impair country's capability of defence manufacturing.
- Self-reliance in defence manufacturing is a main component of effective defence capability and to maintain national sovereignty and achieve military superiority.
- The attainment of this will ensure strategic independence, cost-effective defence equipment and may lead to saving on defence import bill, which can subsequently finance the physical and social infrastructure.

Research & Development (R&D) Statistics and Indicators 2019-20 report

Why in news?

- R&D Statistics and Indicators 2019-20 is based on the national S&T survey 2018 released by the National Science and Technology Management Information (NSTMIS) under the Department of Science and Technology (DST).
- The report covers the R&D landscape of the country by different Input-Output S&T Indicators in the form of Tables and graphs. These pertain to Investments in

national R&D, R&D investments by Government and Private sector; R&D relationship with economy (GDP), Enrolment of S&T personnel, Manpower engaged in R&D, Outrun of S&T personnel, published papers, patents and their international S&T comparisons.

Key findings

- India's gross expenditure in Research and Development has tripled between 2008 and 2018 driven particularly by Govt sector.
- Scientific publications have increased placing India internationally among the top few.
- With the rise in publication, the country is globally at the 3rd position on this score as per the NSF database, 3rd in Ph.D. in science & engineering.
- Since 2000, the number of researchers per million population has doubled.
- Women participation in extramural R&D projects has increased to 24% in 2016-17 from 13% in 2000-01 due to various initiatives undertaken by the Government in S&T sector.
- Per capita Research and Development expenditure in India has increased to PPP $ 47.2 in 2017-18 from PPP $ 29.2 in 2007-08.
- India spent 0.7% of its GDP on Research and Development in 2017-18, while the same among other developing BRICS countries was Brazil 1.3%, Russian Federation 1.1%, China 2.1% and South Africa 0.8%.
- India is ranked at 9th position in terms of Resident Patent Filing activity in the world.
- According to WIPO, India's Patent Office stands at the 7th position among the top 10 Patent Filing Offices in the world.

Luhman 16A

Why in news?

- A group of astrophysicists have found that the closest known brown dwarf, Luhman 16A shows signs of cloud bands akin to those seen on Jupiter and Saturn. In case of Luhman 16A, the researchers have

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

• They utilized the technique of polarimetry to determine the properties of atmospheric clouds outside of the solar system.

Polarimetry

• The concept of polarimetry technique (study of polarization) was put forth by Sujan Sengupta (Indian astrophysicist), that the light emitted by a cloudy brown dwarf, or reflected off an extrasolar planet, will be polarized (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.

• 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 16A has less brightness variation due to a band of clouds.

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.

Why in news?

• The 'loud sound' heard in Bengaluru was revealed to have emanated from an IAF test flight involving a supersonic profile and it is known as 'sonic boom'.

About

• Sound travels in the form of waves which are emitted outwards from its source. The speed of these waves in air depends on a number of factors like air temperature and altitude.

• Sound waves travel outwards in concentric spheres of growing radii from stationary source like TV.

• When the source of sound is moving, like truck, the successive waves in front of the truck get closer together, and the ones behind it spread out. This is also the cause of the Doppler effect.

• When an aircraft travels at supersonic speed, the field of sound waves moves to the rear of the craft. A stationary observer hears no sound when a supersonic flight approaches, since the sound waves are at the rear of the latter.

• At such speeds, both newly created as well as old waves, are forced into a region at the aircraft's rear called a 'Mach cone', which extends from the craft and intercepts the Earth in a hyperbola-shaped curve, and leaves a trail called the 'boom carpet'. The loud sound that is heard on the Earth when this happens is called a 'sonic boom'.

• When such aircraft fly at a low altitude, the sonic boom can become intense enough to cause glass to crack or cause health hazards. Overland supersonic flights have thus been banned in many countries.

Economic stimulus package

Why in news?

- After the announcement by PM regarding the Atmanirbhar Bharat Abhiyan (Self-reliant India Mission) with an economic stimulus package of Rs 20 lakh crores, which is equal to 10% of India's GDP in 2019-20, to support an already struggling economy to get back on its feet.
- Finance Ministry had unveiled the relief measures to revive the economic activity and create new opportunities for growth in sectors like agriculture, micro, small and medium enterprises (MSMEs), power, coal and mining, defence and aviation, etc.

About

- The stimulus is argued to strengthen India's cottage and home industries, small and medium enterprises (SMEs) and other industries.
- The main aim of this plan is two-fold - Interim measures like liquidity infusion and DBTs for the poor and long-term reforms in growth-critical sectors to make them globally competitive and attractive.

Atmanirbhar Bharat Abhiyan (or Self-reliant India Mission)

- India in the pre-1991 era also strived for achieving self-reliance and import substitution through its LPG (liberalisation, privatisation and globalisation) reforms, but remained hesitant in giving the market model full freedom.
- It aims towards reducing import dependence by emphasizing on substitution while improving safety compliance and quality goods to gain global market share. It focuses on the importance of promoting "local" products (vocal for local). Only after this the dream of transforming "Local" India into a "Glocal" India will be possible. As it is also expected to complement 'Make In India Initiative'.
- The Self-Reliance neither signifies any exclusionary or isolationist strategies but involves creation of a helping hand to the whole world.
- The Mission would be based on five pillars:
1. Economy
2. Infrastructure
3. System
4. Vibrant Demography
5. Demand

Significance of these measures

- The measures particularly for the agricultural and allied sectors are transformative in nature.
- These reforms are steps towards the One Nation One Market aim and assist India become the food factory of the world. These would finally help in achieving the goal of a self-sustainable rural economy.
- MGNREGA infusion of Rs 40,000 crore may help in alleviating the distress of migrants.
- Amendments to the ECA, reforms in agricultural marketing and risk mitigation through predictable prices will empower farmers, strengthen agri-food processing linkages and enable demand-driven value added agriculture.
- The reforms will encourage investments in food processing and together with the infrastructure outlays will contribute in shaping a competitive agri value chain, reduce wastages and raise farmer incomes.
- The removal of cereals from essential commodities, the agricultural marketing policy changes being made to facilitate direct sale to aggregators, and the assistance being provided to enhance food processing and post-harvest infrastructure in proximity to farm gates are excellent formulations which will help farmers.
- Rs 3 lakh crore collateral-free loan facility for MSMEs will support this finance-starved sector and thereby provide a kickstart to the dismal state of the economy.
- This step will help to sustain the labour intensive industries and thereby help in leveraging India's comparative advantage.
- Limiting imports of weapons and increasing the limit of FDI in defence to 74% from 49% will give a much-needed boost to the production in the Ordnance Factory Board, while reducing India's huge defence import bill.

- The newly launched PM e-Vidya programme for multi-mode access to digital online education provides a uniform learning platform for the whole nation, which shall enable schools and universities to stream courses online without further loss of teaching hours.
- 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.

Criticism

- The package of Rs 20 lakh crore comprises both fiscal and monetary measures, the latter being in the nature of credit guarantees and liquidity infusions into banks and other financial sector institutions rather than the economy per se.
- 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).
- If the government is including RBI's liquidity decisions in the calculation, then the actual fresh spending by the government could be considerably lower.
- 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 is not like government expenditure.
- The package, by relying on credit infusion to boost the economy, has failed to recognise that investment will pick up only when demand increases.
- There is no sure way of knowing how much the government will spend at the end of this financial year, but most calculations suggest that far from the promised 10% of GDP, the actual government expenditure in the Atmanirbhar package is just 1%.

- Any stimulus package will fail to reflect the trickle-down effect, until and unless it is backed by reforms in various sectors.
- Thus, Atma nirbhar plan also encompasses the unfinished agenda of holistic reforms which may include reforms in Civil services, Education, Skill and Labour, etc.

What government should do?

- The immediate requirement is to give free food and cash transfers to those rendered income less.
- The economic package for the country emerging out of the lockdown requires a stimulus enhancing demand across the economy.
- The best way for this is to spend on greenfiled infrastructure.
- Infrastructure spending uniquely creates structures that raise productivity and extends spending power to the section of the population most affected by the lockdown, namely daily wage labourers.
- For financing of the stimulus package, India's foreign reserves stand at an all-time high which could be strategically used to finance its needs.
- The rest may have to come from privatisation, taxation, loans and more international aid.
- There is a need to ensure greater control over certain parts of the global value chain to protect strategic interests, especially in healthcare, agriculture and defence.

Table: Relief Package announced by other countries

Country	Percentage of GDP
USA	13% (2.7 trillion USD – largest in absolute monetary terms)
Japan	21.1%
Sweden	12%
Australia	10.8%
Germany	10.7%

Why in news?

• A gas leak has affected thousands of residents in 5 villages of Vishakhapatnam, Andhra Pradesh.

• The gas was leaked from a styrene plant by LG, South Korean electronics giant.

• National Green Tribunal (NGT) found LG Polymers prima facie liable under the strict liability principle for this incident and directed the company to deposit an initial amount of ₹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	Absolute Liability Principle
Company is not liable and need not pay compensation if a hazardous substance escapes its premises by accident or by an 'act of God' among other circumstances.	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.

About Styrene

• Poisonous and Flammable liquid, found in vehicle exhaust, cigarette smoke and in natural foods.

• Utilized in the manufacturing of polystyrene plastics, fiber glass, rubber and latex

• It is manufactured in petrochemical refineries.

• It is also known as PVC gas (polyvinyl chloride).

• According to the WHO, it is the 20th most utilized chemical in the world.

• Once released into the environment, it can be found in air, water and soil.

Public Liability Insurance

The Vizag gas leak has brought back the focus on the Public Liability Insurance.

Over and above the compensation that may be awarded by the Courts, the victims are also entitled to compensation under the company's Public Liability Insurance, available in terms of the Public Liability Insurance Act, 1991.

What is Public liability?

Simply put, public liability insurance policy covers a policyholder from claims from third parties for death or injury or property damage caused by hazardous substances handled in a factory

About the Public Liability Insurance Act, 1991:

The Act came into being in the aftermath of the Bhopal Gas Tragedy.

This law requires all enterprises that own or have control over handling of any hazardous substance, to subscribe to a "public liability insurance policy cover" whereby they are insured against the claims from third parties for death or injury or property damage caused by hazardous substances handled in their enterprise.

The compensation payable under this Act is also irrespective of the company's neglect. The victims who are exposed to hazardous substance used by an industry may file a claim with the Collector within 5 years of the accident.

On receipt of an application, the Collector, after giving notice to the owner and after giving the parties an opportunity of being heard, will hold an inquiry into the claim and may make an award determining the amount of relief which appears to him to be just.

COVID-19: The Novel Threat

Corona Viruses

- All Corona viruses are large (120-160 nm) enveloped RNA viruses which have single stranded genome.
- The name —coronavirus is derived from Latin corona, meaning —crown or —wreath.
- The virus possesses a club shaped or crown like peplomer spikes giving appearance of solar corona.
- High rates of genetic mutations are shown by the corona viruses. Most of these infect animals and birds.
- Human infection is caused by only those which can adapt to human conditions.
- There are already known six corona viruses involved in human infections.
- Most of them are widespread, affecting people of most parts of the world and are known to produce mild upper respiratory tract infection and occasional diarrhoea.
- In 2003 there was an outbreak of SARS-CoV (SevereAcute Respiratory Syndrome coronavirus). It originated from China and spread to around 29 countries causing8098 cases and 774 deaths. The source was believed to be monkeys, raccoon dogs, cats and rodents.

- Another member of corona viruses, MERS-CoV (Middle East Respiratory Syndrome coronavirus) emerged in 2012. First reported from Saudi Arabia, MERS-CoVhas affected more than 2143 cases and 750 deaths from27 different countries. Here, the source was thought to be camels and bats.

COVID 19

- This is the latest terminology being used as per the WHO guidelines. It represents Corona Virus Disease originated in 2019.
- Wuhan pneumonia; First case of this virus was identified in December 2019 from Wuhan, Hubei province of China.
- WHO declared the 2019-20 coronavirus outbreak, a Public Health Emergency of International Concern (PHEIC) on 30 January 2020 and a pandemic on 11 March 2020.

Challenges due to COVID 19

- It is a novel virus, very little is known about it. That's why currently the treatment being given is not very specific.
- Some antivirals, some anti-parasitic drugs are being tried. It is a highly contagious disease.
- The transmission rate of SARS-CoV-2 is higher than SARS-CoV and the reason could be genetic recombination.
- Asymptomatic carriers as well as convalescent individuals can transmit the virus. No age group is spared.
- The progression of the disease is very unpredictable.
- Mortality rates are very high in some parts of the world compared to others.

Transmission

- There are two main routes of transmission of the COVID-19 virus: respiratory and contact.
- The virus is mainly spread by small droplets produced by coughing, sneezing or even talking to an infected person. People may also become infected by touching a contaminated surface and then their face.
- The virus can survive on surfaces for a few hours to a few days, depending upon the nature of surface. It is most contagious during the first three days after onset of symptoms.
- Spread is possible before symptoms appear and in later stages of the disease as well. That makes it more dangerous.
- The time from exposure to onset of symptoms is typically around five days, but may range from two to fourteen days.
- There have been no reports of faecal–oral transmission of the COVID-19 virus.

Symptoms and Mortality

- Common symptoms include fever, cough (mostly dry cough) and shortness of breath.
- Other symptoms may include fatigue, muscle pain, diarrhoea, sore throat, loss of smell and abdominal pain.
- While the majority of cases result in mild symptoms (about 80%), some progress to viral pneumonia and multiorgan failure.
- Older people and people with other medical conditions (such as asthma, diabetes, hypertension or heart disease), are more vulnerable to becoming severely ill. Severity also depends on pollution levels in that area.
- Mortality rates vary in different age groups, highest being in 80+. Some survivors show permanent lung damage.

- Unfortunately corona virus infections produce short and brief immunity, leaving a chance of re infection.

Diagnosis

Laboratory testing is essential for confirmation. Real-time reverse transcriptase PCR (rRT-PCR) testing is the most useful test and currently the only reliable one.

Treatment

- Currently, there is no uniform policy for treatment.
- Several drugs such as chloroquine, hydroxychloroquine, arbidol, remdesivir, and favipiravir are undergoing clinical studies to test their efficacy and safety in the treatment.
- Right now, no vaccine is available for COVID-19.
- Major problem with vaccine production is the genetic alterations which the virus undergoes.
- In the initial phase of the disease where symptoms are mild, it can be treated by supportive therapy.
- In case of major lung damage, ventilator support might be required.
- Good immunity of individual may prevent further complications.

Preventive Measures in public places

- Staying home
- Covering mouth and nose with flexed elbow or tissue when coughing or sneezing
- Disposal of used tissue immediately
- Systematic washing of hands often with soap and water for at least 20 seconds OR using a hand

sanitiser that contains at least 60% alcohol. Cover all surfaces of your hands and rub them together until they feel dry

- Avoid touching your eyes, nose and mouth with unwashed hands
- Cleaning frequently touched surfaces and objects
- Keep about 6 feet distance with others
- Wear a cloth face cover/mask. Do not use a facemask meant for a healthcare worker
- Clean and disinfect frequently touched surfaces daily. This includes tables, doorknobs, lift handles, light switches, countertops, handles, desks, phones, keyboards, toilets, faucets and sinks.

Strengthening Health Systems

India‟s achievements in Healthcare

- Network of 1,58,417 Sub-Centres (SCs), 25,743 Primary Health Centres (PHCs) and 5624 Community Health Centres (CHCs).
- More than 30,000 SCs and PHCs have been up scaled to Health and Wellness Centres (HWC) to provide comprehensive primary health care since 2018.
- India has achieved reduction in infant mortality rate (IMR) from 74 per 1000 live birth in 1994 to 33 in 2017.
- Maternal mortality ratio (MMR) from 600 per one lakh live births to 122 per one lakh live births in 2015-2017 and crude death rate (CDR) and crude birth rate (CBR) declined to 6.3 and 20.2 per 1000 population.
- The life expectancy at birth has increased from 58 years to 69 years from 1990 to 2017.
- India has successfully eliminated diseases like small pox, guinea worm, neonatal tetanus and polio, and effectively controlled many communicable diseases like leprosy, malaria, flariasis, kalaazar and progressing well towards ending tuberculosis by 2025.
- ⬜ Deaths due to infectious and communicable diseases have also been significantly reduced.

- New challenges ⬜ Overcome the growing incidence of non-communicable and lifestyle diseases like cancer, diabetes, chronic kidney diseases, cardiovascular diseases, chronic lung diseases and mental health disorders etc., as well as to achieve the universal health coverage with indigenous, affordable and cost effective innovations.

Health Financing in India

- To address the entire game of disease burden, the public expenditure on health accounts for nearly one-third of the total expenditure at 1.2% of the GDP and remaining is met by Out-of-Pocket expenditure (OOPE) by the households.
- According to the latest National Health Accounts Estimates (2016-2017), the total spending on health in India is 3.8% of the GDP which has reduced from 4.2% in 2004- 05.
- The Government health spending has remained almost static around an average of 1% of GDP and the State health spending is around 2% of SGDP on average with variations across the States.
- The Total Health Expenditure (THE) per capita has increased more than three times from 2004-05 to 2016- 17.
- Out of THE, 32.4% is Government Health Expenditure (GHE), 58.7% household as OOPE, 7.3% social security insurance and 4.7% private health insurance.

- A sum of 45% of the total current health expenditure is spent on primary health care followed by 36% for secondary care, and 13.9% for tertiary care.
- 52% primary health care is supported by government as compared to primary sector (41%).
- The government share on secondary tertiary (10.8%) care is lower than the private sector (42.4% and 15.6% respectively).
- Among the providers of health care, the Government hospitals contribute to 14% of the current health expenditures, whereas the contribution of the private sector is significantly higher at 26%.

Government Commitments

Government of India and the State Governments have to substantially raisethe spending on healthcare in India owing to:

(a) Enhancing healthcare finance and to realign the allocation to emerging priorities, fulfilling its commitment to UHC and SDG
(b) Rising trends in disease burden of non-communicable diseases
(c) Continued challenges in poor maternal and child health especially in Empowered Action Group (EAG) and North East (NE) states
(d) Unfinished agenda of Millennium Development Goals (MDGs) for communicable diseases, especially TB and Malaria
(e) Phenomenal rise in health care costs

The National Health Policy (NHP), 2017 aims to double the government healthcare spending from the existing 1.2% of the GDP to 2.5% by 2025.

Time for "More Health for Money"

- Health budget during 2020-21 has increased by 4.1% from 2019- 20.
- The health sector has tremendous potential to use digital technology.
- Studies have indicated that the health sector in India is facing shortage of infrastructure and manpower especially specialists.
- It is a right time to use the power of technology in the re-organisation of healthcare and evolve a new class of care delivery models.
- Initiations such as liability gap funding for setting up hospitals under PPP mode in aspirational districts offer an opportunity to innovate limited health allocation.
- This will push the sector "to do more with less" adopting innovations and replicating existing best practices.
- Some innovations from Budget 2020-21:
  o Proceeds from tax on medical devices to be used for funding government hospitals
  o Converting existing district hospitals to medical colleges through PPP mode
  o Attaching a medical college with district hospital in the PPP mode.
- Health cess of about 1% on direct tax, raising funds of approximately Rs. 10,000 each year need to be diverted to health.
- There is a need to develop partnership with the private health sector for co-financing secondary and tertiary health care, and with the corporate sector for allocating CSR funds in health care.
- Health insurance to finance hospitalisation to reduce OOPE and catastrophic health expenditure can also be introduced.
- Ayushman Bharat has a great promise but the coverage should be extended to the whole population.
- People contributing towards their annual premiums may also be thought of.

- o Drawback-A fairly large proportion of the allocated budget remains, unutilised within the health system on account of poor absorption capacity of States, delays in funds flows, inefficient implementation of activities and weak governance.
- o Improving efficient budget utilisation and health systems performance would make available massive unspent funds for all envisaged growth plans. Removing bottlenecks in allocation, disbursement and timely flow of funds would also enhance utilisation of allocated funds.

Benchmarking Healthcare System

Background

- The right to health has so far not been accorded the status of a Fundamental Right to the Indian citizens.
- It is not even a statutory right, unlike education. Moreover, health is a subject which is assigned to State Governments as per our Constitution.
- This is reflected in the way we finance it, with about two-thirds of the total governmental expenditure on health coming from the State Governments and the balance one-third being provided by the Government of India.
- Despite this, it is also a reality that the Government of India has significant influence in the policy space with pathbreaking schemes such as the National Health Mission (NHM) and Ayushman Bharat, with its twin prongs of the Health and Wellness Centres to deliver comprehensive primary health care and Pradhan Mantri Jan Arogya Yojana (PMJAY).

Challenges

- Despite notable gains in improving life expectancy, reducing maternal and child mortality, and addressing other health priorities, our health system needs a lot of improvement judged by the rather modest benchmark of countries with similar levels of economic development.
- Furthermore, there are huge variations across States in their health outcomes and health systems performance.
- It is unfortunate that by and large, health has not received the kind of political and administrative salience that this vital sector deserves.

Health Index

- NITI Aayog embarked upon it in 2017 in collaboration with the Ministry of Health and Family Welfare (MoHFW) and the World Bank.
- It is the first ever systematic exercise for tracking the progress on health outcomes and health systems performance across all the States and Union Territories (UTs) in India on an annual basis.

The Health Index is a weighted-composite Index based on select indicators in three domains: (a) Health Outcomes (b) Governance and Information (c) Key Inputs and Processes

For generation of ranks, the States are classified into three categories (Larger States, Smaller States and UTs) to ensure comparability among similar entities

Indicators used

- Neo-natal mortality rate (deaths occurring in the first 28 days of life)
- Full immunisation coverage
- Treatment success rate of confirmed tuberculosis cases
- Stability of tenure of key administrators
- Vacancy of doctors and specialists in health facilities
- Functionality of primary health centres, first referral units and cardiac care units, are included in the Index.

Vision behind Health Index

- The vision behind establishing the annual systematic tool is to propel States towards undertaking multi-pronged interventions and drive efforts towards achievement of SDG Goal 3.
- It can be viewed as being akin to an annual health check-up diagnostic report; providing the State Governments to identify parameters in which States have improved, stagnated, or declined.
- The Health Index report provides the direction and magnitude of change at a composite level as well as for each of the indicators of the Health Index.
- An analysis of this can help States in focusing attention on better targeting of interventions and improving the delivery of health services and also an opportunity of sharing best practices.

Room for Improvement for States

- The introspection is useful for all States and UTs, as both the first and second annual Health Index report indicates that even the States and UTs that are doing comparatively well have substantial scope for improvement.

- For example Health Index (June 2019) report on ranks of States and UTs indicates, even Kerala, Mizoram, and Chandigarh, the —healthiest among large states, small states and UTs respectively, all have quite a distance from the frontier and have room for improving their performance.
- The Index is an innovative tool as it not only fosters competition among states by comparing similar states to each other but also nudges them to better their own performance in the previous year.
- For example, though Kerala remained the —healthiest state in 2014-15, 2015-16 as well as 2017- 18, a slight decline in the composite Health Index score value was observed in each of the successive periods.

Large Gap Between the "Healthiest" and the "Ailing" States/UTs

The gap between the best performing states and the least performing states is very wide – Kerala and Uttar Pradesh are separated by 45points, Mizoram and Nagaland by 36points, and Chandigarh and Daman and Diu by 22 points as indicated by the Overall Performance Scores for2017-18 (Health Index, June 2019).

Scope for Improvement

- Based on the composite Health Index scores range for the reference year (2017-18), the States are grouped into three categories: Aspirants, Achievers, and Front-runners.
- Aspirants are the bottom one-third States and six of the eight Empowered Action Group States1 fall in this category. Given the substantial scope for improvement, these States require concerted efforts.
- Achievers represent the middle one-third States. Overall, these States have made good

progress and can move to the next group with sustained efforts.

- Front-runners, the States falling in top one-third score range are the best performing States.

Incentivising Incremental Performance

- The Health Index has the potential to be game-changer as it can shift the focus from budget spends, inputs and outputs to outcomes by shining the light on States that have shown most improvement.
- The MoHFW's decision to link the Index to incentives under the National Health Mission sends a strong signal to States in the shift towards outcome based monitoring and performance linked incentives.
- In 2019-20, 40% of the incentives or INR 3200 crore of the National Health Mission (NHM), MoHFW's flagship federal initiative, was linked to the incremental performance of the states and UTs on the Health Index.
- In 2019- 20, MoHFW has taken a decision to link 70% of the NHM incentives to the incremental performance of the states and UTs on the Health Index.

Conclusion

- The Health Index is a useful tool to measure and compare the overall performance and incremental performance across States and UTs over time.
- It is an important instrument in understanding the variations and complexity of the nation's performance in health.
- The critical factors that contributed to the success of the Health Index include:

(a) Timelines of the report so that it stimulates action and not merely academic discussions
(b)Provision of financial incentives based on the annual incremental performance of states under the National Health Mission
(c) Verification of self-reported data by states by a third party, independent verification agency to enhance credibility.

- However, there are limitations to the Index as no single index can purport to comprehensively capture the complex story of evolution of health system.
- Also, due to constraints of availability of quality data critical areas such as non-communicable diseases, mental health, and private sector service utilisation could not be captured.
- Thus, the Health Index is a work in progress and continuous refinements will be made as additional quality data becomes available and data systems improve.

Artificial Intelligence in Healthcare

Need in India

- The following illustrates the challenges of extremely heavy workloads on Indian doctors and opportunities for AI based solutions to make a difference.
  o India's ratio 0.8 doctors per one thousand head of population (UK: 2.8, Australia: 5, China: 4)
  o The inability to meet World Health Organisation (WHO) guidelines for ratio of skilled healthcare workers
  o Resulting average patient-to-doctor face-to-face contact of just two minutes.
- Healthcare systems in many developing countries are bursting at the seams with as much as 77% of a doctor's time spent on

preventive services that could be safely delegated to non-clinicians.

- Opportunities exist for AI to help in the achievement of good health and well-being within remote communities where access to healthcare and skilled medical professionals are in short supply.

Opportunities and Applications

1. **Assistance to Physicians**
- It will relieve highly-skilled medical professionals from routine activities and truly connect with patients and positively impact cases of medical errors and misdiagnosis.
- A significant part of a doctor's workload could be safely offloaded to carefully-designed AI systems.
- It will lead to reserving the serious cases for more detailed physician's attention.
- It results in speedy diagnosis and therapy selection, reducing medical errors, improving productivity, assessing and modelling risk and stratifying disease.
- Researchers have highlighted the success for AI in healthcare using Machine Learning (ML) image-interpretation methods within radiology, pathology, dermatology.
- Using AI in ophthalmology, diagnosis of atrial fibrillation in cardiology, identifying the best available treatment in oncology and interpreting subtle cues from online communications within mental health with greater efficiency over human medical practitioners are examples of success.

2. **Diagnostics**
- One of the key healthcare challenges in India is acute shortage of radiologists.
- AI based diagnosis can be especially helpful for radiology, pathology, skin diseases, and ophthalmology.

- For example, Aravind Eye Care Systems and Sankara Nethralaya have developed and validated an AI-based algorithm for diabetic retinopathy, which assists the ophthalmologists in screening for diabetic retinopathy on the basis of images of retina set to the doctor from peripheral centres.
- While CT scan, MRI and X-ray facilities have proliferated in India, there are only about 10,000 radiologists available.
- The Tamil Nadu e-Governance Agency is helping the health department with the shortage of radiologists by developing an AI-based system to read CT brain scans and grade them for further interventions.

3. **Optimising Treatment Plans**
- AI can also be used for assisting doctors and patients to choose an optimal treatment protocol.
- ML can be used to mine not only doctor's notes and patient's lab reports, but also link to the extant medical literature to provide optimal treatment options.
- Such technology is in use in India, China and Thailand to provide appropriate recommendation plans for cancer treatment using patient's details linked to medical literature.

4. **Monitoring/Ensuring Compliance**
- The potential for AI application in remote monitoring has enhanced manifolds via the use of wearables.
- These can be used for monitoring various aspects such as movements, physiological parameters, temperature and alerts that can be communicated to healthcare professionals.
- Devices can be used for helping people exercise and adopt healthy eating.
- While these aspects have largely been used for chronic disease management (diabetes,

stroke, epilepsy) and for elderly people, specific aspects can also be designed for monitoring during epidemics.

AI in the COVID-19 Epidemic

- The COVID-19 epidemic highlights the need for an AI based epidemic monitoring system that can model and predict outbreaks and help optimise scarce resources.
- Researchers from Imperial College, London have identified scenarios of up to 40 million deaths in 2020 from COVID-19 if measures are not taken to address the pandemic but highlight that over 38 million lives could be saved if countries across the globe implement high levels of testing, enforced isolation and wider social distancing.
- AI can help fight the virus via Machine Learning-based applications.
- A Chinese tech firm uses AI systems to flag anyone who has a temperature above 37.3 degrees within Beijing's Qinghe Railway Station.
- AI was also used for tracking individuals in China and contacts by combining face recognition technology, GPS tracking and a network of cameras covering the public places.
- A Canada-based firm uses an AI-based platform that tracks infectious diseases around the world using Natural Language Processing (NLP) and machine-learning algorithms to peruse information for early signs of infectious epidemics.
- Another AI-based start-up is offering similar technology to governments and corporations which can trace the contacts of a COVID-19 patient on proprietary software and CCTV footages.

Challenges and Controversies

The major challenges for India to deliver the benefits to its citizens from the adoption of AI technology within healthcare are significant.

Healthcare Industry Issues

- Due to the nature of the industry as well as people dynamics, the healthcare industry has been slow to adopt technological innovations.
- The challenges of migrating to an AI-technology-based healthcare infrastructure are numerous as medical professionals attempt to transition to new ways of working and adopt new systems and processes.
- The changes required to realise the benefits of AI systems must be centred around clinicians and the problems they face, to enhance, not replace the need for highly-skilled medical practitioners.
- The required transformation to an AI-centric healthcare system requires trust from medical professionals, but also from patients unaccustomed to new ways of diagnosis and decision-making.
- The key challenge for policy makers is the engendering of confidence in the outcomes and trust that a human medical practitioner has an active role within the AI system.
- The challenge for the training of doctors is to address the transformational nature of AI-based healthcare, whilst not elongating the period for learning and qualification to integrate these new systems alongside everyday working practices.

Technology-related Issues

- The challenge within India is the disparate nature of healthcare related data. Each state has its own system and working process.
- Initiatives are needed at state and national government levels to ensure shared data standards, data security and exchange processes are incorporated within healthcare systems.
- This is complicated by the mass worker migration between states, but highlights the need for solutions at a national level

Socio-cultural Issues in Technology Implementation

- Within India, access to the internet is primarily undertaken via mobile phones.
- While the penetration of mobile phones would at face value seem to be a positive factor for the adoption of AI, it could inadvertently amplify the gender disadvantage.
- Research highlights that women in South Asia are 38% less likely to own a mobile phone than men and when overlaid with patriarchal and misogynistic social factors, the real access figure could be less.
- Solutions need to take account of the Indian context where pockets of the population are socially and educationally challenged, culturally marginalised and economically disadvantaged.
- Decision-makers need to ensure that public sector healthcare organisations benefit from AI technology rather than default to the private sector reaping the rewards for investment.

Regulatory and Ethical issues

- Data security and privacy is especially important with the increasing use of wearables which can potentially cause identity theft through hacking of devices and data.
- AI is set to alter the traditional relationship between the doctor and the patient as technology plays the role of a third substantial actor.
- Under these circumstances, the regulators need to provide clear and concise user agreement and privacy policies to enhance widespread and safe adoption of these devices.

Recommendations

- AI and its applications should be incorporated within the curriculum for medical and paramedical training.
- Technology should be recognised as socio-culturally embedded; hence the technology design and implementation should take into account cultural practices and address the gender divide in India.
- Ethical guidelines regarding security and privacy of data should be protected, especially as more and more the data is available through wearables and IOT.
- The data should be strictly used for clinical purposes only.
- AI systems when used for healthcare would have to be tested against all 7 DEEP-MAX parameters.
- The AI system must be explainable and auditable.
- AI systems should not exhibit bias.
- AI healthcare systems must conform to human values and ethics.
- Regulatory bodies must ensure that human ethical values are an integral element of AI algorithms and resulting decision-making.
- Adoption of AI based healthcare must be benefits-driven.

- The migration toward greater levels of technology use may not be universally accepted or trusted by the medical staff within healthcare institutions.
- Pilot initiatives should be developed within key states to trial the impact that AI systems could have on existing healthcare systems and infrastructure. Lessons should be learned from these initiatives before, wider rollout at a national level.

IOT in Healthcare

Meaning IoT means Internet of Things.
Context
- In the midst of the current virus outbreak, a dramatic boost in the use of digital and remote technologies is observed.
- Videoconferencing is now ubiquitous, which helps with social distancing while keeping businesses running.
- This has often triggered organisations to adapt new technologies faster than they had planned.
- The usage of personal remote monitoring devices or apps for instance, Hong Kong has issued wrist bands for passengers with a high-risk profile, while Singapore has a monitoring app for those on Stay Home Notice.
- In places like Singapore, temperature measurement at the entrances of almost all public buildings is being carried out since weeks. The connecting apps report their data into a central instance for real time analysis.
- That's a classic IoT scenario.
- The COVID-19 outbreak has shown the new emerging benefits of smart manufacturing, saying Industry 4.0 drives capabilities for remote operations, monitoring and maintenance of production lines and manufacturing plants.

Benefits of IoT

IoT in Hospitals

- Connecting health systems together can reduce a huge amount of manual admin tasks.
- As all hospital resources are being stretched, having a tool to monitor patients all around the hospital and ensure that medication is delivered effectively will be a massive help.
- Devices that monitor glucose levels for diabetic patients can allow hospital staff to take care of these patients remotely while in another section of the hospital.
- Devices for patients at home can also connect to EMRs so that chronically ill patients do not necessarily have to visit the hospital or medical centre while still being attended by medical staff.

Connected Medication & Home Care

- Medical IoT devices for patients staying at home are already being used to improve out-patient care and reduce recurring appointments and these devices are beneficial even during a crisis.
- Glucose and blood pressure monitoring devices can be used by patients at home to make sure their care goes uninterrupted.
- Connected medication is another way to reduce strain on medical staff.
- By giving patients regular alerts to take their medication and encouraging them to stick to the full course, doctors and caregivers have a real-time record of patients taking medication and can track the patient's progress by connecting with other medical records.
- This is especially crucial for at-risk patients or those suffering from Alzheimer's disease or dementia who may struggle to keep track of medication without regular at-home visits.

- Adhering to a regular course of medication is vital at any time, but when medical resources are stretched to their limits, ensuring that patients at home do not require any extra assistance is paramount.
- Apart from reducing the burden on medical services, using connected medication could also help to develop a vaccine faster.
- By measuring patient progress and the effects of new drugs in real-time, researchers could conduct dispersed remote trials and potentially speed up development of a vaccine that would work on a wider base of individuals.

Maximizing Output and Minimizing Stress

Simply by maximising the number of patients that can be attended to by doctors in the hospitals, and reducing the number of people that need to come into the hospital for regular appointments, IoT could take a huge weight off the shoulders of medical staff.

IoT to Manage Patient Care

- The scalability of IoT also comes in handy for monitoring all the patients who are high-risk enough to warrant quarantine but not serious enough to warrant in-hospital care.
- Right now, the daily check-up of the patients is done manually by healthcare workers who go door-to-door.
- With IoT, the patients can have their temperatures taken and upload the data with their mobile devices to the cloud for analysis.
- In addition, IoT can provide relief to the overworked staff at the hospital.
- IoT has already been used in the remote monitoring of in home patients with chronic conditions such as hypertension or diabetes.

- In hospitals, telemetry, the transmission of biometric has been used to monitor a large number of patients with minimal staff.
- Here, IoT can be used to reduce the workload and increase the efficiency of the medical staff, all the while reducing the exposure of healthcare workers to infection.

Conclusion

- It is now the moment for countries to fast-track the construction of new digital infrastructure.
- The year 2020 should have been the start of an exciting decade in medicine and science, with the development and maturation of several digital technologies that can be applied to tackle major clinical problems and diseases.
- These digital technologies include the internet of things (IoT) with next-generation big-data analytics, artificial intelligence (AI) that use deep learning and blockchain technology.
- They are highly inter-related: the proliferation of the IoT in hospitals and clinics facilitates the establishment of a highly interconnected digital ecosystem.
- This is enhanced by blockchain technology.
- The need of the hour is that all citizens of India should accept responsibility to encourage and successfully implement all the efforts taken by the Government of India to effectively utilise the IoT and artificial intelligence in various healthcare industries and services to offer best services to all citizens.

Kurukshetra-May 2020

Role of Women in Agriculture and Rural Prosperity

Significance Women in Indian agriculture

- Agriculture in India is contributing about 15.5 percent of GDP. Women contribute significantly in this direction.
- The Agriculture Census, 2015–16 established that the share of female operational holders has increased from 12.79 % in 2010-11 to 13.87% in 2015-16.
- According to estimates, the agricultural sector employs about 4/5 of all economically active women.
- **Dairying:** Close to 75 million women are engaged in dairying and 20 million in animal husbandry against 15 million men in dairying and 1.5 million in animal husbandry.
- Rural women are part of activities like horticulture, primary food processing, livestock rearing, fisheries, and cottage industries.
- **Poverty reduction:** The women's economic empowerment is closely connected with poverty reduction as women also tend to invest more of their earnings in their children and communities.
- The All India Rural Financial Inclusion Survey 2016–17 indicated that women have equal and very strong financial knowledge. The survey noted that women have a better positive financial attitude than their male counterparts.

Work-related Issues of women in Agriculture and rural areas

1. Wage disparity

Women have been contributing dominantly in the rural labor force. But they are marginalized and disadvantaged in wages, land rights and representations.

2. Schemes not focused

Schemes related to agriculture and rural development is not focused on fulfilling the aspirations of women.

3. Withdrawal from working
- The number of women in the total workforce in India is only 27 percent.
- Almost 20 million women had withdrawn from the workforce during 2005 and2012.
- On a global landscape, India ranked 120thamong 131 countries so far as women work force participation is concerned.

4. Violence at workplaces

Gender-based violence is increasing in India.

5. Lack of self-employment
- All India Rural Financial Inclusion Survey, 2016–17 indicated that the level of participation in major economic activities was dominated by men.
- Over one-fourth of the males were either selfemployed including farmers only one-twentieth (4.8 percent) of women respondents were self-employed.

6. Lack of skilling
- Women are limited to low skilled jobs.
- Lack of skills lowers the employability of women in the job profiles of a particular company or agency.

7. Family pressure

Social researches have established that women drop out due to family pressures even after completing the skill programs.

8. **Unaccounted work**

Agriculture is a female intensive activity in India. However, work carried by women is not accounted for many times.

9. **Yet to show full potential**

China where women contribute about 40 percent in economic activity and development, the contribution of Indian women is about 17–18 percent (World Bank estimates) which is less than half the global average.

Unequal Participation of women across sectors

Indicator	Female	Male
Labour force participation rate (%15+year)	27	80
Representation in Lok Sabha (%)	12.1	87.9
Representation in Rajya Sabha (%)	12.6	87.4
Representation in Supreme court (%)	3.4	96.6
Representation in High court (%)	9.8	90.2

Way forward

- The estimates suggest the GDP growth in India can be boosted by 1.5 percentage points to achieve nine percent growth per annum by facilitating 50percent of women joining the workforce in the country.
- Women's participation in the urban and rural workforce emphasized that it must be driven holistically on the front of education, skilling, connectivity, safety, and social developments.

- India cannot be developed without the significant contribution of half of the population i.e. women. Government, civil societies should take active steps to ensure the active participation of women in the workforce.

Gender Budgeting

What is Gender Budgeting?

- Gender budgeting means preparing budgets or analyzing them from a gender perspective.
- It is not a separate budget for women; rather it is a section of the government budget to establish its gender specific impact of the budget.
- Gender Budget intends to translate gender commitments into budgetary commitments.
- Gender Budgeting is not about simply dividing government money 50-50between the genders. A simple 50-50 division may look equal, but it is often not equitable, because the needs of women and men and girls and boys may be different.
- For example, in the area of health, male and female people will have similar needs in respect to influenza and malaria. But women will have greater needs than men in terms of reproductive health.

Need

- Women in India continue to face disparities in access to and control over resources.
- There are several gender-specific barriers that prevent women and girls from gaining access to their rightful share in the flow of public goods and services.

- Gender Budgeting not only empowers women but also empowers the economy through efficiency gains to the GDP.

Purposes

These include, among others:

1. Identifying the needs of women and reprioritizing expenditure to meet these needs
2. Supporting gender mainstreaming in macroeconomics
3. Strengthening civil society participation in economic policymaking
4. Enhancing the linkages between economic and social policy outcomes
5. Tracking public expenditure against gender and development policy commitments
6. Contributing to the attainment of the Sustainable Development Goals (SDGs).

Components

Generally, budgeting involves four components:

1. The budgetary allocation of resources to various heads
2. The actual Government outlays on various heads
3. An accounting of how resources are utilized for a particular purpose
4. An evaluation of the effectiveness of the resources utilized in delivering the intended results.

Gender budgeting involves looking at all four components from the point of view of women as beneficiaries.

Gender Budgeting in India

- In the 20th century budget was considered a gender-neutral exercise. It was believed that budgetary provisions and policies benefit all genders equally.
- The idea of women's perspective budget was raised by the finance minister in the year 2001.
- Study on Gender-Related Economic Policy Issues by National Institute of Public Finance and Policy (NIPFP) was commissioned by the then Department of Women and Child Development in the year 20014.
- Since 2005–06, the Expenditure Division of the Ministry of Finance has been issuing a note on Gender Budgeting as a part of the Budget Circular every year.
- This GB Statement comprises two parts: Part A and Part B.
  o Part A reflects Women Specific Schemes, i.e. those which have 100 percent allocation for women.
  o Part B reflects Pro-Women Schemes, i.e. those where at least 30 percent of the allocation is for women.
- India is a leading example of Gender Budgeting in the Asia Pacific region, as acknowledged by the United Nations (UNDP Asia Pacific, 2010; UN Women, 2012; UN Women 2016).

Impact of Gender budgeting

- The decrease in spousal violence: One study shows that states with Gender Budgeting showed a significantly greater reduction in spousal violence.
- The gender budget statements have helped to ensure that budgets include allocations in both national and state governments for women's development, and this has led to more transparency and accountability in the budget exercises.

- Improvement in Gender indicators:
o The scores on GDI (Gender Development Index) and GII(Gender Inequality Index) for each country were used as measures of gender equality or inequality.
o It was found that, there is a significant improvement in these indicators by implementing gender-specific targets.

Way forward

- Gender budget at the local level: The Fourteenth Finance Commission of India, integrated —climate change variables in the formula-based fiscal transfers. The gender budget also should have similar transfers from the central government.
- Sectoral gender budgeting cells to carry out specific analysis of gender-related needs and advocate for policies and programs.
- Implementation of the policies should be monitored so that the allocated budget is spent strictly under the head it was allocated for.
- The revenue side of the gender budget should also be strengthened to empower women through innovative taxation policies.
- Finance Ministry has worked hard to mainstream the gender budgeting, now the next step is to commission a quantitative and qualitative study of its impact on the ground level to calibrate the efforts being put in this direction in the future to improve the efficacy of gender-sensitive policies.

Nutrition and Health-Related Empowerment of Women

Women empowerment and nutrition

- Since women are often the primary caregivers, they can influence their children's nutrition indirectly through their own nutrition/health status as well as directly through their childcare practices.
- It has been reported that the health of the mother is positively associated with a child's nutritional status, especially for children aged less than three years.

Statistics

1. Nutrition and health
- National Family Health Servey-4 (NFHS-4;2015–16)indicate that 22.9 percent of the women (15–49years) are underweight (BMI <18.5 kg/m2)
- 53.1percent (15–49 years) are anemic.
- Only21percentof pregnant women had complete antenatal care.

2. Mortality
- Maternal mortality Rate (MMR) is 122per 1,00,000 live births.
- Infant Mortality Rate (IMR) is 41 for every 1000 live births, i.e. 41 infants die before attaining the age of 12months.
- Under-Five Mortality Rate (U5MR) is 50 deaths per 1000 live births.

Some household-level indicators for measuring women empowerment viz. nutrition and health issues:

- Women's involvement in household decision making:
o economic decisions (finance, expenditure, resource allocation)
o social and domestic matters (eg. marriage etc.)
o children related decisions (like schooling, health and nutrition)
- Women's access/control over household resources (including cash, assets, income, freedom

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of mobility)
- Power & money relationship (between the spouses): social hierarchy; appreciation and sense of self-worth (self-esteem)

Ways to empowering women in nutrition and health-related aspects

- Dietary diversification or bringing variety in the household diets.
- Adopting nutrient enhancing techniques like mutual supplementation, germination, fermentation, etc. in their day-today cooking/food preparation for the household.
- Promoting the use of nutrient-rich local/seasonal/underutilized foods or commonly-discarded foods (e.g. radish leaves, pea-peels, cauliflower stalks etc).
- Homestead-gardening to maximize sustainable gain at the household/community level (increasing availability, access, and consumption of a wide variety of nutritious foods).
- Promoting mixed cropping and integrated farming systems.
- Using fortified/bio-fortified foods, esp. micronutrientenriched foods
- Inculcating the habit of food and water conservation among family members with due
- Emphasis on avoiding wastage at all levels.
- Nutrition education to encourage the consumption of nutritious, safe, and healthy diets.

National Policy for Women 2016 (draft) priority areas related to nutrition

- Lowering the Maternal Mortality (MMR) and Infant Mortality (IMR) rates.

- Increasing the outreach/capacity of ASHAs, ANMs, and AWWs and that of the skilled homebirth professionals in backward areas.
- Organizing special health camps for the prevention and treatment of diseases affecting pregnant women/nursing mothers (e.g. anemia, undernutrition, etc.) and launching special drives for imparting nutrition health education.
- Recognizing women's reproductive rights by formulation and implementation of gender-specific health strategies.
- Apart from maternal health, focusing on other health-related problems of women including communicable/non-communicable diseases (CVD, diabetes, cancer, mental health disorders, HIV/AIDS, etc.) with suitable strategies & interventions.
- Under the National Mental Health Policy (2014), systematic approach to facilitate timely screening, care, and treatment particularly at primary level for recognizing women with greater risk of mental disorders owing to discrimination, violence, and abuse, etc.
- Health interventions focusing on the physical and psychological well-being of women.

Women Health: Fundamental for a Healthy Nation

Areas of Concern Pertaining to Women Health

1. Malnutrition

According to World Health Organization, malnutrition refers to the deficiencies, excesses or imbalances in a person's intake of energy or nutrients.

Factors responsible for Malnutrition are:

- Poor socioeconomic conditions resulting from and leading to poor educational status
- Early marriage and pregnancy
- Poor knowledge of birth control measures leading to unplanned pregnancies
- Prolonged lactation

2. Cervical Cancer

Cancer of the cervix contributes to approximately 6–29 percent of all cancers in Indian women.

3. Breast Cancer

- It is the most common cancer in women in India and accounts for 14 percent of all cancers in women.
- It can occur at any age but the incidence rates in India begin to rise in the early thirties and peak at ages 50–64 years.

Risk Factors are:

- Family history
- Presence of breast lumps
- Dense breast tissue
- Diet and lifestyle
- Obesity
- Estrogen exposure

4. Goiter

- Goiter is a swelling of the thyroid gland most commonly resulting from a deficiency of iodine in the diet.
- Women in the reproductive age group are the most vulnerable as there is an increased demand for iodine especially during pregnancy.
- Deficiency of iodine in the pre-pregnant state ultimately leads to hypothyroidism during pregnancy which is associated with adverse maternal and fetal side effects and may even lead to stillbirth.

5. Mental Health Issues

- Depression is not only the most common of women's mental health problems but may be more persistent in women than men.
- Discrimination based on gender and sexual harassment at the workplace constitutes a gross violation of women's right to equality and dignity.

ACCREDITED SOCIAL HEALTH ACTIVIST (ASHA)

Background

- An accredited social health activist (ASHA) is a community health worker instituted by the government of India's Ministry of Health and Family Welfare (MoHFW) as a part of the National Rural Health Mission (NRHM).
- This mission was launched in 2005.

Selection

- ASHA must primarily be a woman resident of the village married/ widowed/ divorced, preferably in the age group of 25 to 45 years.
- She should be a literate woman with due preference in selection to those who are qualified up to 10 standard wherever they are interested and available in good numbers.

Training

- The capacity building of ASHA is being seen as a continuous process. ASHA will have to undergo a series of training episodes to acquire the necessary knowledge, skills, and confidence.

Remuneration

- ASHAs are considered volunteers. They will not get any salary. Rather, remuneration will be paid.
- The ASHAs will receive performance-based incentives for promoting universal immunization, referral and escort services for Reproductive & Child Health (RCH) and other healthcare programs, and construction of household toilets.

Functions

- Maintenance of Village Health Register
- Organization of the Village Health and Nutrition Day
- ASHA will be the first port of call for any health-related demands of deprived sections of the population, especially women and children.
- ASHA will provide information to the community on determinants of health such as nutrition, basic sanitation & hygienic practices, healthy living, and working conditions.
- Coordination with Self Help Groups.
- Monitoring the health status of children in Anganwadi level.

Government Initiatives to Address Women Related Health Issues

- **Beti Bachao Beti Padha** scheme launched to protect the women and improve the sex ratio.
- **Janani Suraksha Yojana** is a safe motherhood initiative under the National Rural Health Mission to reduce maternal and neonatal mortality by promoting institutional delivery among the poor pregnant women.
- **Weekly Iron and Folic Acid Supplementation**, launched by the Ministry of Health and Family Welfare to meet the challenge of high prevalence and incidence of anemia among adolescent girls and boys, aged 10–19 years.
- **Goiter Control Programmes** has been renamed as National Iodine Deficiency Disorders Control Programme to cover a wide range of Iodine Deficiency Disorders ranging from goiter to deaf-mutism, cretinism, mental and physical retardation, abortions, and stillbirths.
- For the prevention of sexual harassment at work, in 2013, the Government of India notified the Sexual Harassment at Workplace (Prevention Prohibition and Redressal) Act. Consistent with the Vishakhajudgment.

Simple Measures for Early Detection and Management of Health Concerns in Women:

- **Weight**: though looks a simple measure; its regular monitoring can help in early detection of malnutrition and on the other end of the spectrum increase in weight may indicate a propensity to develop diseases like Hypertension and Diabetes in later life.
- **Blood Pressure**: regular measurement is simple, cheap, and quick and provides information about many health conditions.
- **Breast Examination**: self-examination of the breast can aid in the early diagnosis of breast cancer and identify the potential candidates who need a mammogram.
- **Pap smear**: easy cheap and reliable for early detection of Carcinoma Cervix.
- **Immunization**: inquiry can be made into the requirement of a tetanus booster, flu shots, and pneumonia vaccine.

Women Empowerment: Milestones and Challenges

Women and Demographic Statistics

- According to the Census 2011, the population of the country is above 121 crores out of which around 48.5 percent are females.
- The sex ratio is 949 females to 1000 males in rural areas vis-à-vis 929 females to 1000 males in the urban areas of the country.

Women and Health

- The Infant Mortality Rate has also decreased steadily from 37 in 2015 to 34 in 2016

- The Maternal Mortality Rate, a crucial index to measure the general health condition of women in India, has declined significantly from 254 in 2004–2006 to 130 in 2014–16.
- life expectancy at birth which has been showing an increasing trend over the last two decades. The life expectancy was 69.3 years for the period 2009–2013 whereas it was 69.6 years for 2010–2014

Women and Literacy

The female literacy rate has increased fast from 53.7 percent in 2001 to 64.6 percent in 2011. It is also remarkable that the gender gap in the literacy rate has declined sharply

Women as Lawmakers

- In the first LokSabha election of 1951–52, only 5 percent of the Lower House of the Parliament consisted of women. But with the winning of 78 women in the last 17th LokSabha elections, this percentage has phenomenally shot up to 14 percent.
- This is the highest ever number of women elected to the prestigious Lower House of the Indian Parliament.
- The provision of reservation of one-third of the seats for women has proved to be the beacon of light for the women living somewhere far from the national development and polity.

Schemes for women nutrition improvement

National Health Mission (NHM)

Objectives

- Reduce Maternal Mortality Rate (MMR) to 1/1000 live births
- Reduce Infant Mortality Rate (IMR) to 25/1000 live births
- Reduce Total Fertility Rate (TFR) to 2.1
- Prevention and reduction of anemia in women aged 15–49 years
- Reduce household out-of-pocket expenditure on total health care expenditure
- Reduce annual incidence and mortality from Tuberculosis by half
- Reduce the prevalence of Leprosy to <1/10000 population and incidence to zero in all districts
- Annual Malaria Incidence to be <1/1000
- Kala-azar elimination by 2015, <1 case per 10000 population in all blocks

Components

Mission has two Sub-Missions:

- The National Rural Health Mission (NRHM)
- o It seeks to provide equitable, affordable, and quality health care to the rural population, especially the vulnerable groups.
- o Focuses on Reproductive, Maternal, Newborn, Child Health, and Adolescent (RMNCH+A) Services.
- The National Urban Health Mission (NUHM).
- o It envisages meeting the health care needs of the urban population with a focus on urban poor.

Funding:

The center-state funding pattern will be 75:25 for all the States except Northeastern states including Sikkim and other special category states of Jammu & Kashmir, Himachal Pradesh, and Uttarakhand, for whom the center-state funding pattern will be 90:10.

Integrated Child Development Service (ICDS) Scheme

Objectives

- To improve the nutritional and health status of children in the age-group 0-6 years.
- To lay the foundation for proper psychological, physical, and social development of the child.
- To reduce the incidence of mortality, morbidity, malnutrition and school dropout;
- To achieve effective co-ordination of policy and implementation amongst the various departments to promote child development
- To enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education.

Target group

- Children in the age group of 0-6 years
- Pregnant women and Lactating mothers

Services

The ICDS Scheme offers a package of six services, viz.

- Supplementary Nutrition
- Pre-school non-formal education
- Nutrition & health education
- Immunization
- Health check-up
- Referral services

Funding

All components of ICDS except the Supplementary Nutrition Programme (SNP) are financed through a 60:40 ratio (central: state). The Supplementary Nutrition Programme (SNP) component was funded through a 50:50 ratio. The North-East states have a 90:10 ratio.

Pradhan Mantri Matru Vandana Yojana

Objectives

- Promoting appropriate practice, care, and institutional service utilization during pregnancy, delivery, and lactation
- Encouraging the women to follow (optimal) nutrition and feeding practices, including early and exclusive breastfeeding for the first six months
- Providing cash incentives for improved health and nutrition to pregnant and lactating mothers.

Target Group

Pregnant women and lactating mothers.

Features

- Pregnant women and nursing mothers receive a cash benefit of Rs. 5,000/- in three installments.
- The benefit will be provided on fulfilling the respective conditionalities:
o early registration of pregnancy,
o ante-natal check-up,
o child-birth registration and completion of the first cycle of vaccination

POSHAN Abhiyaan

Vision

To ensure the attainment of malnutrition free India by 2022.

Targets

- Reduce stunting, under-nutrition, anemia (among young children, women and adolescent girls)

- Reduce low birth weight by 2%, 2%, 3%, and 2% per annum respectively.
- Mission 25 by 2022: Mission would strive to achieve a reduction in Stunting from 38.4% (NFHS-4) to 25% by 2022

Features

Achieve improvement in nutritional status of children from 0-6 years, adolescent girls, pregnant women and lactating mothers in a time bound manner during the three years with fixed targets as under.

Scheme for Adolescent Girls (SAG)

- It provides services to adolescent girls (11–14 years) for their self-development and empowerment.
- It also focuses on improving nutritional & health status; promoting awareness regarding health, hygiene and nutrition;
- The scheme gives support to out-of-school adolescent girls for successfully transiting back to formal schooling or bridge learning/skill training and upgrading their home-based life skills.

<mark>Deen Dayal Upadhyaya Antyodaya Yojana (DAY-NRLM)</mark>

- It is a major project of the Ministry of Rural Development.
- It focuses on rural women and aims to achieve universal social mobilization by involving rural women.
- At least one woman member from each identified poor rural household is to be brought under the Self Help Group (SHG) network in a time-bound manner.
- There are other two important components of Ajeevika.
  o Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY) aims to skill rural youth who are poor and provide them with jobs having regular monthly wages or above the minimum wages. one-third of the persons covered should be women.
  o Mahila Kisan Sashaktikaran Pariyojana (MKSP) is another component that aims to improve the present status of women in agriculture and enhance the opportunities for empowerment.

<mark>Pradhan Mantri Ujjwala Yojana</mark>

- This scheme intends to make cooking gas (LPG) available to women from families that are financially backward.
- It is estimated that the Ujjwala Yojana will assist approximately 1 crore 50 lakh households that presently live below the poverty line.
- The program is also expected to cover five crore such households in all.

The main objectives of Ujjwala Yojana are the following:

- Enhance the status of women and caring for their health.
- Help to decrease air pollution due to the use of fossil fuel.
- Lessening the serious health risks related to cooking based on fossil fuels.
- Reducing the number of deaths due to unclean cooking fuels, which is almost 5 lakh every year in India.
- Preventing young children from acute respiratory illnesses caused due to indoor air pollution by burning fossil fuels.

Rastriya Mahila Kosh (RMK)

- It extends micro-credit to the women in the informal sector through a client-friendly, collateral-free, and hassle-free manner for income generation activities.

Mahila Shakti Kendra (MSK)

- It is a sub-scheme under Mission for Protection and Empowerment for Women'.

National Repository of Information for Women (NARI)

- It is a portal developed by the Ministry of Women and Child Development.
- It will provide citizens easy access to information on government schemes and initiatives for women.
- Rural women can access these schemes on their own or with the help of various frontline workers associated with government schemes at the ground level.

SwadharGreh Swadhar Greh

Scheme was launched to cater to the primary needs of women in difficult circumstances. Women are provided with shelter, food, clothing, medical treatment and care are exclusively provided, meanwhile, legal guidance is also given to enable their readjustment in family/ society. Mahila Police Volunteers (MPVs)

Mahila Police Volunteers

- MPVs will prove to be an effective alternative against the local police for women.
- MPVs were launched in all States and UTs to serve as a publicpolice interface and facilitate women in distress.
- The MPVs report incidences of domestic violence, child marriage, dowry harassment, and violence faced by women in public spaces, initiated in 2016.
- MPVs is operational in 5 states.

SHe-Box

Sexual Harassment electronic Box (SHe-Box) is an effort to provide single window access to everywoman for registration of complaints related to sexual harassment.

One-Stop Centre

- It is envisaged for establishing a single integrated platform across the country to provide holistic support and assistance under one roof to women affected by violence, both in private and public spaces.
- These centers are intended to support women affected by any form of violence, in private and public spaces, within the family, community, and at the workplace

PradhanMantriVidya Lakshmi Karyakram

- It is a fully IT-based Student Financial Aid Authority to administer and monitor scholarship as well as educational loan schemes.
- Students can view, apply and track the education loan applications to banks anytime, anywhere by accessing the portal. The portal also provides linkages to National Scholarship Portal.

Post Graduate Indira Gandhi Scholarship for Single Child

University Grants Commission has introduced this scheme with an aim to compensate direct costs of girl education especially for girls who happen to be the only girl child in their family.

Support to Training and Employment Programme for Women (STEP)

- STEP has been envisaged to train women with no access to formal skill training facilities, especially in rural India.
- The initiative reaches out to all Indian women above16 years of age.
- The program imparts skills in several sectors such as agriculture, horticulture, food processing, handlooms, traditional crafts like embroidery, travel and tourism, hospitality, computer and IT services.

Pradhan Mantri MUDRA Yojana

- Under this scheme, the Government has provided credit upto 10 lakh to small entrepreneurs without the need for collateral or a guarantor.
- Women have made up 70 percent of the beneficiaries under the scheme.
- Over 15 crore loans have been disbursed to women borrowers, amounting to Rs 4.78 lakh

Stand-Up India

- This scheme facilitates loans between 10 lakh and 1 crore to at least one scheduled caste/scheduled tribe and one woman per bank branch for setting up a Greenfield enterprise.
- An amount of Rs. 16712.72 crore has been sanctioned for women account holders and 81percent of the beneficiaries under the scheme have been women.

Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)

- The objective of this scheme is to create a social security system for the poor and underprivileged in the age group of 18–50 years by providing a renewable life insurance cover of Rs. 2 lakh with a premium of just Rs. 330.
- Under this scheme 40.70 percent enrolments are of women members and 58.21 percent of claim beneficiaries are women.

PradhanMantriSurakshaBimaYojana (PMSBY)

- The objective of this scheme is to provide affordable insurance scheme for the poor and underprivileged people in the age group of 18 to 70 years with a bank account at a premium of Rs. 12 per annum.
- It creates a risk coverage of Rs. 2 lakh for accidental death and full disability and Rs. 1 lakh for partial disability.
- Under this scheme, 41.50 percent enrolments are of women members and 61.29 percent of claim beneficiaries have been women providing them with much-needed support.

Chahal Academy has pan India presence

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