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Press Information Bureau (PIB) IAS UPSC – 1st June to 7th June – 2020

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One Nation One Card scheme

(Topic: Government policies and interventions for development in various sectors)

Three more states namely – **Odisha, Sikkim and Mizoram** have been included in the scheme on 'Integrated Management of Public Distribution System' (IM-PDS)

Under this system nation-wide portability of the benefits under NFSA through "One Nation One Ration Card" plan is implemented to enable the NFSA ration card holders to lift their entitled quota of subsidised foodgrains from any ePoS enabled FPS of their choice anywhere in the country, by using the existing/same ration card after Aadhaar authentication on ePoS device.

What is One Nation One Ration Card (ON-ORC)?

- The scheme seeks to provide portability of food security benefits all across the nation.
- Families who have food security cards can buy subsidized food from any ration shop in the country.
- Ration cards should be linked with Aadhar Number to avail this service.
- It was started in mid-2019 with pilot project in 4 states and was supposed to be rolled-out across country by June 2020
- However, the government has extended the deadline of March 2021 in the wake of COVID-19 pandemic

What are the challenges with ON-ORC?

- First, the fiscal implications: ON-ORC will affect how the financial burden is shared between states.
- Second, the larger issues of federalism and inter-state coordination: Many states are not convinced about a "one size fits all" regime.
- This is because States have customised the PDS through higher subsidies, higher entitlement limits, and supply of additional items.
- Third, the technology aspect: ON-ORC requires a complex technology backbone that brings over 750 million beneficiaries, 5,33,000 ration shops and 54 million tonnes of food-grain annually on a single platform.

Learning from GST to resolve above challenges of ON-ORC

1. About Fiscal Challenges – Compensation to States

- Fiscal concerns had troubled GST from the start Ex: States like Tamil Nadu and Gujarat that are "net exporters" were concerned they would lose out on tax revenues to "net consumer" states like UP and Bihar
- Finally, the Centre had to step in and provide guaranteed compensation for lost tax revenues for the first five years
- The Centre could provide a similar assurance to "net inbound migration" states such as Maharashtra and Karnataka that any additional costs on account of migrants will be covered by it for the five years.

2. Issues of Federalism- Creation of inter-state council

- In the spirit of cooperative federalism, the central government created a GST council consisting of the finance ministers of the central and state governments to address the issues of inter-state coordination
- The government could consider a similar national council for ON-ORC.
- To be effective, this council should meet regularly, have specific decision-making authority, and should operate through consensus building.

3. Technology Aspect – A special Vehicle for faster implementation

- GST is supported by a sophisticated tech backbone, housed by the GST Network (GSTN), an entity jointly owned by the Centre and states.
- The Nilekani-led task force recommended setting up of a PDS network (PDSN)
- PSDN would track movement of rations, register beneficiaries, issue ration cards, handle grievances and generate analytics.
- Such a platform should incorporate principles such as inclusion, privacy, security, transparency, and accountability.

4. Learning from the shortcomings and challenges of the GST rollout.

- Delay in GST refunds led to cash-flow issues. Similar delays in receiving food rations could be catastrophic
- **Compliance burden for MSMEs during GST implementation. Likewise, PDS dealers need to be brought on board with adequate training**

Did You Know?

- Portable welfare benefits mean that a citizen should be able to access welfare benefits irrespective of where she is in the country.
- In the case of food rations, the idea was first mooted by a Nandan Nilekani-led task force in 2011.
- 45.36 crore people or 37% of the population is that of migrant labourers.

Discuss: Cooperative Federalism and Competitive Federalism

Energising the MSME Sector through entire gamut of 'Atmanirbhar Bharat Package'

(Topic: Government policies and interventions for development in various sectors)

In the package announcement, the definition of micro manufacturing and services unit was increased to Rs. 1 crore of investment and Rs. 5 crore of turnovers. The limit of small unit was increased to Rs. 10 crore of investment and Rs 50 crore of turnovers. Similarly, the limit of a medium unit was increased to Rs 20 crore of investment and Rs. 100 crore of turnovers.

- It was decided to further increase the limit for medium manufacturing and service units. Now it will be Rs. 50 crore of investment and Rs. 250 crore of turnovers.
- It has also been decided that the turnover with respect to exports will not be counted in the limits of turnover for any category of MSME units whether micro, small or medium. This is yet another step towards ease of doing business. This will help in attracting investments and creating more jobs in the MSME sector.
- Approval for provisioning of Rs 20,000 crore as subordinate debt to provide equity support to the stressed MSMEs. This will benefit 2 lakh stressed MSMEs.

- Approval for equity infusion of Rs. 50,000 crore for MSMEs through Fund of Funds (FoF). This will establish a framework to help MSMEs in capacity augmentation. This will also provide an opportunity to get listed in stock exchanges.

To provide immediate relief to MSME sector, various announcements have been made under the Package-

Rupees Three lakh crore collateral-free automatic loans for MSMEs to meet operational liabilities, buy raw material and restart businesses.

- Revision of MSME definition to render maximum benefits to the sector;
- Disallowing global tenders in procurements upto Rs. 200 crores- to create more opportunities for domestic players,
- And clearing of MSME dues by the Government and Public Sector Units within 45 days.

Policy decisions

The scheme for Rs. 3 lakh crore collateral-free automatic loans was earlier approved by CCEA and has been formally launched.

- Modalities have been worked out for Upward revision of MSME Definition making it more inclusive broad-based providing greater avenues to MSMEs to harness their potentials.
- Similarly, amendments in General Financial Rules mandating no global tenders for procurement upto 200 crore have been carried out. The new rules have already been issued and effected. This will open up new business avenues for Indian MSMEs.
- MSME payments to be released within the timeframe of 45 days
- To further ease the burden on MSMEs, RBI has extended moratorium on repayment of loans for another three months.

To manage all this, a robust ICT based system called CHAMPIONS has also been launched by the Ministry of MSME.

CHAMPIONS: Technology Platform to empower MSMEs

Stands for: Creation and Harmonious Application of Modern Processes for Increasing the Output and National Strength

For making the smaller units big by solving their grievances, encouraging, supporting, helping and handholding

- **Grievance Redressal:** To resolve the problems of MSMEs including those of finance, raw materials, labor, regulatory permissions etc., particularly in the Covid created difficult situation;

- **To help them capture new opportunities:** including manufacturing of medical equipments and accessories like PPEs, masks, etc., and supply them in National and International markets;
- **To identify and encourage the sparks:** i.e. the potential MSMEs who are able to withstand the current situation and can become national and international champions.

As part of the system a network of control rooms is created in a Hub & Spoke Model.

Atmanirbharta in Electronics and IT

(Topic: Government policies and interventions for development in various sectors)

A clarion call for Aatma Nirbhar Bharat – a self-reliant India does not mean India in isolation but India as a major country of the world with appropriate technology, capital including FDI and extraordinary human resource contributing significantly to the global economy.

With a view to building a robust manufacturing ecosystem which will be an asset to the global economy, there is a need to develop a strong ecosystem across the value chain and integrating it with global value chains.

1. **Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing:** The PLI Scheme shall extend an incentive of 4% to 6% on incremental sales (over base year) of goods manufactured in India and covered under the target segments, to eligible companies, for a period of five years subsequent to the base year.
2. **Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS):** The SPECS shall provide financial incentive of 25% on capital expenditure for the identified list of electronic goods, i.e., electronic components, semiconductor/ display fabrication units, Assembly, Test, Marking and Packaging (ATMP) units, specialized sub-assemblies and capital goods for manufacture of aforesaid goods.
3. **Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme:** The EMC 2.0 shall provide support for creation of world class infrastructure along with common facilities and amenities, including Ready Built Factory (RBF) sheds / Plug and Play facilities for attracting major global electronics manufacturers, along with their supply chains.

The triology of Schemes entail an outlay of about Rs. 50,000 crore (approximately USD 7 billion) and will –

- Help offset the disability for domestic electronics manufacturing and hence, strengthen the electronics manufacturing ecosystem in the country

- Enable large scale electronics manufacturing, domestic supply chain of components and state-of-the-art infrastructure and common facilities for large anchor units and their supply chain partners
- Contribute significantly to achieving a USD 1 Trillion digital economy and a USD 5 Trillion GDP by 2025.
- Attract substantial investments, increase production of mobile phones and their parts/ components to around Rs.10,00,000 crore by 2025
- Generate around 5 lakh direct and 15 lakh indirect jobs

Consultation process for new Science, Technology, and Innovation Policy (STIP) initiated

(Topic: Government policies and interventions for development in various sectors)

The fifth S&T policy of India is being formulated at a crucial juncture when India and the world are tackling the COVID-19 pandemic. This is only the latest among the many important changes in the past decade that have necessitated formulation of a new outlook and strategy for Science, Technology, and Innovation (STI). As the crisis changes the world, the new policy with its decentralized manner of formation will reorient STI in terms of priorities, sectoral focus, the way research is done, and technologies are developed and deployed for larger socio-economic welfare.

The STIP 2020 formulation process is organised into 4 highly interlinked tracks:

- **Track I** involves an extensive public and expert consultation process through Science Policy Forum – a dedicated platform for soliciting inputs from larger public and expert pool during and after the policy drafting process.
- **Track II** comprises experts-driven thematic consultations to feed evidence-informed recommendations into the policy drafting process. Twenty-one (21) focused thematic groups have been constituted for this purpose.
- **Track III** involves consultations with Ministries and States, while Track IV constitutes apex level multi-stakeholder consultation. For Track III nodal officers are being nominated in States and in Ministries, Departments and Agencies of Government of India for extensive intra-state and intra-department consultation
- **Track IV** consultation with institutional leadership, industry bodies, global partners and inter-ministerial and inter-state consultations represented at the highest levels are being carried out.

The STI Policy for the new India will also integrate the lessons of COVID-19 including building of an Atmanirbhar Bharat (self- reliance) through ST&I by leveraging our strengths in R&D, Design, S&T workforce and institutions, huge markets, demographic dividend, diversity and data

Cabinet approves MoU between India and Bhutan on Cooperation in the areas of Environment

The MoU will enable establishment and promotion of closer and long-term cooperation between the two countries in the field of environment protection and management of natural resources on the basis of equity, reciprocity and mutual benefits, taking into account the applicable laws and legal provisions in each country.

Keeping in view the bilateral interest of both sides and mutually agreed priorities, a Memorandum of Understanding covering the following areas of environment has been considered:

- Air
- Waste
- Chemical Management
- Climate Change

GS-3

President promulgates two Ordinances with the aim of giving a boost to rural India and agriculture

(Topic: Agriculture)

1. The Farmers' Produce Trade and Commerce (Promotion & Facilitation) Ordinance 2020:

- It will provide for the creation of an ecosystem where the farmers and traders enjoy the freedom of choice relating to sale and purchase of farmers' produce which facilitates remunerative prices through competitive alternative trading channels.
- It will promote efficient, transparent and barrier-free inter–State and intra-State trade and commerce of farmers' produce outside the physical premises of markets or deemed markets notified under various State agricultural produce market legislations.
- Besides, the Ordinance will provide a facilitative framework for electronic trading and matters connected therewith or incidental thereto.

2. The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Ordinance 2020

Will provide for a national framework on farming agreements that protects and empowers farmers to engage with agri- business firms, processors, wholesalers, exporters or large retailers for farm services and sale of future farming produce at a mutually agreed remunerative price framework in a fair and transparent manner and for matters connected therewith or incidental thereto.

The above two measures will enable barrier-free trade in agriculture produce, and also empower the farmers to engage with sponsors of his choice. The freedom of the farmer, which is of paramount importance, has thus been provided.

Agroecology and Natural Farming Could Accelerate Inclusive Economic Growth in India

(Topic: Agriculture)

Agroecology:

- Agroecology is the study of ecological processes applied to agricultural production systems.
- Agroecologists study a variety of agroecosystems recognised worldwide. The field of agroecology is not associated with any one particular method of farming. However, it has much more in common with organic and integrated farming

Agroecology impacts:

- *Enhances fertile landscapes,* Increases yields,
- Restores soil health and biodiversity,
- *Promotes climate resilience and*
- Improves farmers' well-being

Its practices are supported by many agricultural scientists, the Food and Agriculture Organization, the Intergovernmental Panel on Climate Change (IPCC), farmers' groups and several NGOs

Natural farming avoids use of synthetic fertilisers and pesticides, while focusing on reviving the beneficial soil organisms that contribute to fertility and good nutrition of the plants. Experts explained that well-nourished plants lead to well-nourished human beings.

Both together can avoid excessive and wasteful use of water, prevent farmer indebtedness, and contribute to mitigating greenhouse gases while supporting farmer incomes and their ability to adapt to climate change. It is based on cutting-edge science of the future that recognises the need for systemic approaches to dealing with complex adaptive systems that are the basis of a healthy natural world. Working with nature, understanding how to do so will help us 'build back better'

Paramparagat Krishi Vikas Yojana launched in 2015 to promote organic farming among small and marginal farmers has in the last four years covered 7 lakh hectares and 8 lakh farmers.

About 'zero budget natural farming' (ZBNF):

- Pioneered by Subhash Palekar, an innovative farmer from Maharashtra
- The technique replaces fertilisers and pesticides with concoctions of cow dung, cow urine, jaggery and pulse flour, and ensure perfect soil conditions for plant growth.
- It does so by keeping the top soil covered with crop residues to increase water retention, coating of seeds with cow dung and urine, concoction made of dung, urine, jaggery and pulse flour to multiply soil microbes, concoction to protect plants from pests etc.

Is ZBNF useful for the farmers?

- In 2019 annual budget, Prime Minister stressed on ZBNF that it will be an advantage for the farmers to reduce chemical residue in the soil.
- It will help the farmers to grow organic products without any chemicals which fetch more prices in the market than the chemically grown produce.
- Help the farmers to double their farm income.
- Reduces use of chemicals as there are enough nutrients available to plants by air, soil and water, helps to reduce carbon emission rates.

Conclusion

- More research is required to ensure that natural farming could truly live up to its expectations. The need for innovation, science and technology – the importance of regenerating soils and building on biodiversity as two key elements, along with use of natural inputs readily available to farmers in this knowledge intensive approach.
- To protect our planet there is need for change in our attitude towards use of chemical fertilisers and pesticides. Technology can help in changing the way we farm and will enable the poorest of the poor to enhance their nutrition status and livelihoods.
- It is not man vs nature, but man in nature or man with nature. Humans need to realize their responsibility in protecting other species and nature. We need knowledge-intensive agriculture and the metrics need to be redefined where production is not the only criterion for good performance. It has to include the entire landscape and the positive and negative externalities that are generated by alternative forms of agriculture practices

Note: India's first organic State: Sikkim

Discuss: Agroecology-based farming is not regressive, but rather a technology of the future with a traditional idiom.

Mindmap:

Zero Budget Natural Farming

Organic Farming

Major Impact on climate due to extension of Amery Ice Shelf (AIS), NCPOR study

(Topic: Climate Change)

The National Centre for Polar and Ocean Research (NCPOR) predicts that there would be a 24% increase in the expansion of Ameri Ice Shelf (AIS) boundaries by 2021 and another 24% expansion by 2026 from its 2016 positions. The prediction made by NCPOR is based on a 16-year-long satellite-based observation that covered an area of 60,000 sq. km across the AIS. Scientists feel that this study would help understand the ongoing changes in the ocean and atmospheric forces better.

- The floating sheets of ice called the ice shelves play a multi-faceted role in maintaining the stability of a glacier. Ice shelves connect a glacier to the landmass. The ice sheet mass balance, sea stratification, and bottom water formation are important parameters for the balancing of a glacier. Latent and sensible heat processes do play important roles here.
- The insulation of ice shelves from atmospheric forcing is dependent on a temperature gradient that the ocean cavity beneath the ice shelves provides. It is the pressure exerted by the ice shelves upon the ocean cavity that determines this temperature gradient.
- There is always a stress on the sea ice and ice sheets itself plays an indirect role in reducing the amplitude of the ocean swell. This is assisted by the freezing atmospheric temperature, which is capable of promoting a change in the morphology of ice shelves.

The AIS is one of the **largest glacier drainage basins** in the world, located on the east coast of Antarctica, at about 70°S Latitude, 70°E Longitude. The AIS dynamics and mass balance help in understanding the changes in the global climate scenario.

Aerosol characterization and radiative effects at High Altitude site in Western-Trans Himalayas

(Topic: Environment, Climate change)

The study can help better understanding the aerosol optical and microphysical properties and improving the modelling of aerosol effects in view of aerosol-climate implications

Why is the study important: The atmospheric aerosols play a key role in the regional/global climate system through scattering and absorption of incoming solar radiation and by modifying the cloud microphysics. Despite the large progress in quantifying the impact of different aerosols on radiative forcing, it still remains one of the major uncertainties in the climate change assessment. Precise measurements of aerosol properties are required to reduce the uncertainties, especially over the oceans and high altitude remote location in the Himalayas where they are scarce.

The transport of light-absorbing carbonaceous aerosols and dust from the polluted Indo-Gangetic Plain and desert areas over the Himalayas constitutes a major climatic issue due to severe impacts on atmospheric warming and glacier retreat. This heating over the Himalayas facilitates the "elevated-hat pump" that strengthens the temperature gradient between land and ocean and modifies the atmospheric circulation and the monsoon rainfall. A better understanding of the aerosol optical and microphysical properties through the study can improving the modelling of aerosol effects in view of aerosol-climate implications via modifications in atmospheric warming and changes in the snow/glacier albedo over the trans-Himalayan region.

Technology

CeNS develops low-cost catalyst for hydrogen generation from water

- Hydrogen can be generated from water and produces water on energy generation without any carbon footprint.
- Electrolytic splitting of water is a promising method to generate hydrogen but requires energy input that can be brought down in the presence of a catalyst.
- Hydrogen can be directly used as a fuel similar to natural gas or as input for fuel cells to generate electricity. It is the future energy for a clean environment and an alternative to fossil fuels, underlining the necessity of low-cost catalysts for its production.

ARCI develops Rare earth based magnetocaloric material for cancer treatment

- Magnetocaloric materials can provide controlled heating required to kill the tumor cells
- Used in conjunction with radiation therapy, the method would reduce the side effects, and also the treatment time

IASST develops an artificial intelligence-based computer diagnosis framework for rapid and accurate diagnosis of oral cancers

- Around 16.1% of all cancers amongst men and 10.4% amongst women are oral cancer. Oral cavity cancers are also known to have a high recurrence rate compared to other cancers due to the high consumption of betel nut and tobacco.

- The advent of deep learning in AI holds an extraordinary prospect in digital image analysis to serve as a computational aid in the diagnosis of cancer, thus providing help in timely and effective prognosis and multi-modal treatment protocols for cancer patients and reducing the operational workload of pathologists while enhancing management of the disease.

Please Note:

Cyclones in India in 2020

- **Cyclone Amphan: East coast – West Bengal, Odisha**
- **Cyclone Nisraga:** West coast – Maharashtra, Gujarat

World Environment Day: 5th June

- **#iCommit initiative:** A clarion call to all stakeholders and individuals to continue moving towards energy efficiency, renewable energy, and sustainability to create a robust and resilient energy system in the future. The pre-requisite for that goal is to create a flexible and agile power system. A healthy power sector can help the nation in meeting the objective of energy access and security for all.
- **Market Integration and Transformation Program for Energy Efficiency (MAITREE):** This initiative is a part of the US-India bilateral Partnership between the Ministry of Power and USAID and is aimed at accelerating the adoption of cost-effective energy efficiency as a standard practice within buildings, and specifically focuses on cooling.
- **Prevention of Human and Animal Mortality on Highways:** UNDP's initiative
    - Ethics, economy and ecology are the three most important pillars of our country.
    - India witnesses nearly five lakh road accidents every year, in which about 1.5 lakh lives are lost.
    - Ministry of Road Transport & Highways has identified over five thousand black spots, and the process for their rectification including temporary and permanent measures is being carried out on urgent basis – rectification of Black Spots, traffic calming measures, Crash Barriers, Repairing, rehabilitation and reconstruction of dilapidated and narrow bridges, Road Safety Audit, Reduction of fatalities on vulnerable roads, Highway Patrolling, and Safety during Construction
    - "Eco friendly measures to mitigate impacts of linear infrastructure on wildlife" for making road or any linear infrastructure and take care of wildlife accordingly.

Urban Forest scheme to develop 200 'Nagar Van' across the country: On the occasion of World Environment Day, the government announced implementation of the Nagar van scheme to develop 200 Urban Forests across the country in next five years

with a renewed focus on people's participation and collaboration between Forest Department, Municipal bodies, NGOs, Corporates and local citizens.

Malasur- The Demon of Defeca: A toolkit for a communication campaign on **faecal sludge management** which aims to heighten the risk perception of faecal sludge. Conceptualized and designed in support from BBC Media Action, the toolkit has a host of creative outputs in 10 Indian languages along with English.

Launch of pan-India Real Time Market in electricity: This has placed Indian electricity market amongst a league of few electricity markets in the world, which have real time market.

- Real time market is an organized market platform to enable the buyers and sellers pan-India to meet their energy requirement closer to real time of operation.
- Introduction of real time market will bring required flexibility in the market to provide real time balance while ensuring optimal utilization of the available surplus capacity in the system.
- It will also help manage diversity in the demand pattern in the country with an organized market at national level.
- The Government of India's target of 175 GW RE Capacity by 2022 is driving accelerated renewable penetration pan-India. The real time market would help to mitigate challenges to the grid management due to intermittent and variable nature of renewable energy generation and therefore, help to integrate higher quantum of renewable energy resources into the grid.
- The distribution companies would be able to manage their power purchase portfolio optimally and need not tie up excess capacity. It would lead to cost optimization of power purchase and serving the consumers with reliable supply as any last minute requirement of power can easily be bought from the Real Time market.

Government to conduct skill mapping of citizens returning from overseas

- With the aim of making the best of our skilled workforce returning to the country due to the ongoing pandemic, the Government of India has launched a new initiative **SWADES (Skilled Workers Arrival Database for Employment Support)** to conduct a skill mapping exercise of the returning citizens under the Vande Bharat Mission.
- This is a joint initiative of the Ministry of Skill Development & Entrepreneurship, the Ministry of Civil Aviation and the Ministry of External Affairs which aims to create a database of qualified citizens based on their skillsets and experience to tap into and fulfil demand of Indian and foreign companies.

Establishment of Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H) as Subordinate Office under Ministry of AYUSH

The merger is aimed at

- Optimizing the use of infrastructural facilities, technical manpower and financial resources of the three organizations for enhancing the standardization outcomes of Ayurveda, Siddha, Unani and Homoeopathy drugs towards their effective regulation and quality control
- Facilitating focused and cohesive development of standards of AYUSH drugs and publication of pharmacopoeias and formularies

Launch of TULIP – Urban Learning Internship Program for providing opportunities to fresh Graduates in all ULBs & Smart Cities

TULIP is a program for providing fresh graduates experiential learning opportunities in the urban sector. TULIP- "The Urban Learning Internship Program" would help fulfill twin goals of providing interns with hands-on learning experience as well as infusing fresh energy and ideas in the functioning of India's ULBs and Smart Cities.

The Government proposes to start a program whereby the urban local bodies across the country would provide internship opportunities to fresh engineers for a period up to one year." Such a program will help reap the benefits of India's demographic dividend as it is poised to have the largest working-age population in the world in the coming years. India has a substantial pool of technical graduates for whom exposure to real world project implementation and planning is essential for professional development. General education may not reflect the depth of productive knowledge present in society. Instead of approaching education as 'doing by learning,' our societies need to reimagine education as 'learning by doing.'

Land of Rising Sun – Arunachal Pradesh

A. Geography

- Dafla, Miri, Abor and Mishmi hills in Arunachal Pradesh are part of the Shivalik range.
- *Shivaliks are known by different names in different areas. They are called*
    - Jammu Hills in Jammu
    - Dafla, Miri, Abor and Mishmi hills in Arunachal Pradesh.
    - Dhang range
    - Dundwa range of Uttarakhand
    - Chiria Ghat hills of Nepal

- *About Shivaliks:*
    - The Shivalik comprises the outermost range of the Himalayas and is called the outer Himalayas.
    - It assumes a HogBack appearance due to its steep slopes. It runs almost parallel to lesser Himalayas for a distance of about 2400 kms from the Potwar Plateau to the Brahmaputra valley.
    - The width of the Shivaliks varies from 50 kms in Himachal Pradesh to less than 15 kms in Arunachal Pradesh.
    - The Shivaliks have been formed of sands, gravels and conglomerates of the MidPleistocene period.
- *Name of the passes:* Bom Di La, Dihang Pass, Yonggyap Pass, Dipher Pass, Kumjawng Pass, Hpungan Pass, Chankan Pass
- *River Brahmaputra enters India in the Indian state of Arunachal Pradesh where it is known as the* ***Siang river or Dihang*** *locally.*

B. School Categorisation by Arunachal Pradesh:

- In Arunachal Pradesh, State where teacher absenteeism has been a major issue in the public education system, schools will be marked 'hard', 'soft' and 'medium'-— based on topography, accessibility and degrees of difficulty in staying at the place of posting
- Geography, lack of infrastructure and reluctance of teachers to work beyond their comfort zones are the reasons for this categorisation
- According to new teachers posting policy: All new recruits will be given a hard posting for a mandatory three years, inclusive of their probation period
- The next five years will be in schools with levels of medium difficulty, followed by posting in soft schools. This ensures need-based distribution of teachers to protect the academic interest of students and optimise job satisfaction among the teachers in a free and transparent manner

C. Tribal rituals for lockdown

In News: Various tribal communities of Arunachal Pradesh **performed rituals** to observe lockdown in the wake of coronavirus pandemic.

Key takeaways:

- **Arr-Rinam** was performed by the **Galos community**.
- The **Adi community** performed **Motor ritual.**
- The **Nyishi community** observed **Arrue** involving self-quarantine.

Galos community

- They belong to the **Tani group** inhabiting Assam and Arunachal Pradesh, besides Tibet.
- Only the Galos **maintain genealogy** through given names.

- The Galos perform Popir dance.
- They have been recognized as a Scheduled Tribe under the constitution.

Adi community

- They are **one of the most populous groups** of indigenous peoples in the Indian state of Arunachal Pradesh.
- Their **prime festivals** are Aran, Donggin , Solung, and Etor.
- The majority of Adi traditionally follow **Donyi-Polo** religion.

Nyishi community

- It is the largest ethnic group in Arunachal Pradesh **.**
- The Nyishi language belongs to the Sino-Tibetan family.
- *Polygyny is prevalent among the Nyishi.*

D. Chakma and Hajong

The Ministry of Development of the North Eastern Region (DoNER) has directed the Arunachal Pradesh government to include the Chakma and Hajong communities in the COVID-19 relief programme.

- The Chakmas and Hajongs are ethnic people.
- Chakmas are predominantly Buddhists while Hajongs are Hindus.
- They were inhabitants of the Chittagong Hill Tracts of erstwhile East Pakistan (now Bangladesh) who migrated to India due to:
    - Submergence of their land by the Kaptai dam on the Karnaphuli River in the 1960s.
    - Religious persecution they faced in East Pakistan as they were non-Muslims.
- The Indian government set up relief camps in Arunachal Pradesh and a majority of them continue to live there even after 50 years.

E. 'Tawang Monastery':

- Located in Arunachal Pradesh, it is the **largest monastery in India** and second largest in the world after the **Potala Palace in Lhasa**.
- It was founded in 1680-81, by a monk named Merag Lodre Gyatso of the Gelug sect after the 4th Dalai Lama gave him a painting of goddess Palden Lhamo to be kept in the monastery.
- An **8-metre high gilded statue of Lord Buddha** dominates the sanctum of the monastery. It belongs to the **Gelug school of Mahayana Buddhism** and had a religious association with **Drepung Monastery of Lhasa**.
- **The library of the monastery has valuable old scriptures, mainly Kangyur and Tengyur.**

F. Environment and Ecology:

- A new species of green pit viper has been discovered in Arunachal Pradesh recently which was named **Trimeresurus Salazar**. They are distinguished by their heat-sensing pit organs between the eye and the nostril
- It has been collected from the **Pakke Tiger Reserve** in Pakke-Kessang district in Arunachal Pradesh.
    - Lies in the foothills of the eastern Himalaya in the East Kameng district of Arunachal Pradesh. It is also known as Pakhui Tiger Reserve.
    - Falls within the Eastern Himalaya Biodiversity Hotspot.
    - Known for its amazing sightings of four resident hornbill species.
    - India is home to nine species of hornbills. Three of them, the wreathed hornbill (Aceros undulatus), the brown hornbill (Anorrhinus austeni) and the Rufous-necked hornbill (Aceros nipalensis) great hornbill is the state bird of Arunachal Pradesh and Kerala.
    - It is 'vulnerable' under the IUCN Red list. Hornbill festival celebrated in Nagaland is named after the bird – Hornbill which is the most revered and admired bird for the Nagas.

G. Decision on Dibang Multipurpose Project postponed

In News: The **Forest Advisory Committee (FEC)**, has **once again deferred** (postpone) its decision on **Dibang project** in **Arunachal Pradesh.** The project has been delayed for over six years because it requires **diverting** 1,165 **hectares of forest** which is rich in biodiversity.

Dibang Multipurpose Project

- It is located on **river Dibang**, in Lower Dibang Valley District of Arunachal Pradesh.
- The project shall generate 2, 880 MW power.
- This is the **largest** ever **Hydro Electric Project** to be constructed in India.
- The dam will be Concrete Gravity Dam.

Forest Advisory Committee (FEC): It is the apex body of the Environment Ministry responsible for deciding whether forest land can be diverted for industrial projects.

ESSAY TOPIC: Catalyzing Online Dispute Resolution (ODR) in India

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GS-1

World Day against Child Labour

(Topic: Social empowerment (Children); Mechanisms, laws, institutions and Bodies constituted for the protection and betterment of vulnerable sections (Children))

On: 12th June

Theme: 'Covid-19: Protect Children from Child Labour, now more than ever!'

According to the International Labour Organization (ILO), there are about 152 million children globally who are engaged in child labour, 72 million of whom are in hazardous work. With the coronavirus pandemic set to lead the world into a recession, these children are now at an even greater risk of facing circumstances even more difficult and working longer hours.

The Covid-19 crisis has pushed thousands of vulnerable children into child labour. As

the pandemic wreaks havoc on family incomes, without support, many could resort to child labour. In times of crisis, child labour becomes a coping mechanism for many families

India has

- Increased the NCLP training centres stipends to Rs 400 from Rs 150 per month per child
- The ratification of ILO conventions 182 and 138 reflects India's commitment towards this cause
- The Supreme Court said policing alone will not help prevent child labour and suggested that measures should be put in place to prevent contractors from employing children.

Sustainable Development Goal for ending child labour

- **SDG Goal 8** (decent work and economic growth): focuses on promoting sustained, inclusive and sustainable growth and full and productive employment and decent work for all.
- **SDG Target 8.7** aims to "take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms."

Under the SDG agenda, UN member states, employers' and workers' organizations, as well as civil society organizations urged to eliminate child labour by 2025, and forced labour, modern slavery and human trafficking by 2030.

Four systemic failures that underpin the lack of progress:

1. Absence of an effective national legislation: There is a need for an efficient national legislation to give effect to global conventions on the employment of children in hazardous industries, as well as on the minimum age of work.
2. Lack of harmony between global commitments and domestic priorities.
3. Lack of effective labour inspections in the informal economy: A strong legal framework that mandates punitive action against offending firms and recruitment of youth and adults are important tools to guarantee the protection of children.
4. Absence of strong collective bargaining mechanisms and effective social protection policies from the cradle to the end of their lives.

Measures to tackle

- Elimination of school fees
- Boost social protections and provide easier access to credit for poor households
- Better economic opportunities for parents

- Conduct surprise checks at various industrial units and shops to keep child labour in check
- Improving migration governance
- Addressing gender considerations and tackling modern slavery as part of humanitarian actions in areas of fragility, conflict and crisis.

GS-2

All North Eastern States to have e-office

(Topic: e-governance)

E-offices will be set up in all 8 North Eastern States in a stipulated timeframe.

- A part of an initiative on "Minimum Government, Maximum Governance"
- Will ensure ease of administration, transparency and citizen-centric delivery mechanism
- E-office project is also a cardinal pillar of Digital India

Shillong Declaration: Promotion of e-office and quality of its services

The implementation of e-Office in State Secretariats of North Eastern States will result in

- Creation of paperless State Secretariats in a time bound manner where officers would be empowered with virtual private networks, digital signature certificates
- Promotion of less contact governance – work from home will be possible

The infrastructure bottlenecks:

- Network connectivity
- Lack of funds to implement the e-office project

India and Denmark sign MOU for developing cooperation between two countries in the power sector

(Topic: India's relations with other countries)

Aim: To develop a strong, deep and long-term co-operation between two countries in the power sector on the basis of equality, reciprocity and mutual benefit

The MoU provides for collaboration in areas like

- Offshore wind
- Long term energy planning

- Forecasting
- Flexibility in the grid
- Consolidation of grid codes to integrate and operate efficiently variable generation options
- Flexibility in the power purchase agreements
- Incentivize power plant flexibility
- Variability in renewable energy production

GS-3

Efforts to enhance cultivation of Heeng and Saffron

(Topic: Crops)

Saffron and Heeng (asafoetida) are the most valuable spices of the world and widely used in Indian cuisine since time immemorial. In India, the annual demand for Saffron spice is 100 tons per year but its average production is about 6-7 tons per year. Hence a large amount of Saffron is being imported. Similarly, there is no production of heeng in India and currently about 1200 tons of raw heeng worth Rs 600 crore is being imported from Afghanistan, Iran, and Uzbekistan.

- A state-of-the-art tissue-culture lab will be established for large-scale production of quality planting material of these crops.
- Along with reduction in import, it will also lead to increased farm income, improve the farmer well-being by providing better income prospects and the state will be benefited by cultivation of these high-value crops along with rural development.

Streamline the process for import and possession of exotic live species in India

(Topic: Environment and Conservation)

Ministry of Environment, Forest and Climate Change has decided to collect stock information from the holders of exotic species through voluntary disclosure in next six months.

The registration will be done for the stock of animals, new progeny, as well as for import and exchange. The declarer would not be required to produce any documentation in relation to the exotic live species if the same has been declared within six months of the date of issue of the advisory. For any declaration made after 6 months, the declarer shall be required to comply with the documentation requirement under the extant laws and regulations.

This will help in

- Better management of the species and guide the holders about proper veterinary care, housing and other aspects of well-being of the species
- Controlling and management of zoonotic diseases on which guidance would be available from time to time to ensure safety of animals and humans

Why: Exotic live species are animal or plant species moved from their original range (location) to a new one. These species are introduced to a new location most often by people. Many citizen of the country have kept CITES (Convention of International Trade in Endangered Species) enlisted exotic animal species in their possession but there is no unified information system available of such stock of species at the State/Central level.

Indians can make efforts to strengthen the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

- In light of COVID-19, there is a need for greater scrutiny of wet(animal) markets in China, south-east Asia, and many other countries around the world.
- There is also a need to eradicate animal farms that breed and trade exotic species.
- Such wet markets and breeding centres increases the potential for zoonotic transmission of unknown, deadly viruses and hence a need for greater monitoring.
- Efforts need to be made to pass and enforce legislation to control the domestic consumption of wild animals, which also contributes to environmental conservation

About CITES

- It came into force in July 1975 and currently has 183 signatories
- **Aim**: Ensure that international trade in specimens of wild animals and plants does not threaten their survival.
- The CITES Secretariat is administered by UNEP and is **located at Geneva, Switzerland.**
- The CITES is as an **international legally binding agreement** aimed at ensuring “that international trade in specimens of wild animals and plants does not threaten their survival”. However, it does not take the place of national laws.
- Rather, it provides a framework to be respected by each Party, which has to adopt its own domestic legislation to ensure that CITES is implemented at the national level.
- The International Consortium on Combating Wildlife Crime (ICCWC), a consortium of the CITES Secretariat, INTERPOL, UN Office on Drugs and Crime, World Bank and the World Customs Organization has been established to tackle illegal wildlife trade.

Appendix:

- Appendix I includes species “threatened with extinction”. Trade in specimens of these species is permitted only in exceptional circumstances.
- Appendix II provides a lower level of protection.
- Appendix III contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade.

State-of-the-art Flood Warning System for Mumbai Launched

(Topic: Disaster Management)

iFLOWS- Mumbai, a state-of the-art Integrated Flood Warning System for Mumbai has been launched

Mumbai has been facing floods with increased periodicity which brings the city to a standstill in spite of its natural and storm water drainage systems. In a bid to aid in the mitigation of the flood prone city, Disaster Management Department of Municipal Corporation of Greater Mumbai (MCGM) approached the Ministry of Earth Sciences (MoES) to develop an Integrated Flood Warning System for Mumbai, on the lines of a similar system developed for Chennai earlier. MoES initiated the development of the flood warning system in July 2019 using the expertise of Indian Meteorological Department (IMD), National Centre for Medium Range Weather Forecasting (NCMRWF), Indian Institute of Tropical Meteorology (IITM) and National Centre for Coastal Research (NCCR), in close coordination with Disaster Management Department of MCGM.

Features

- The system will help make the city become more resilient, by providing early warning for flooding especially during high rainfall events and cyclones.
- Using this, it will be possible to have an estimate of the flood inundation 3 days in advance, along with 3 hours – 6 hours Now cast (immediate weather updates).
- It will be very useful, especially if people need to be evacuated from low-lying areas as we will be able to forecast 12 hours in advance that a particular spot may get flooded.
- The system will also forecast the rainfall in each pocket.

How does the Prediction System Works?

The sophisticated system has been developed by the Ministry of Earth Sciences using its in-house expertise, in close collaboration with the Municipal Corporation of Greater Mumbai (BMC).

- The system uses rain gauge data and local data such as data on land use, land topography, drainage systems, water bodies in the city, tide levels, infrastructure and population, which has been provided by BMC.

- Using these as inputs, the prediction system models weather, rainfall, runoff and water movement, tide and storm surge impacts based on which early Flood Warnings for the city will be provided.
- It will address the flood inundation due to rainfall, river bank breach, storm surge, obstruction of flow due to roads, buildings, rail lines, high tides and sea level rise.

I-FLOWS is built on a modular structure and comprises seven modules.

- The Data Assimilation Module gathers a variety of dynamic data including IMD weather forecasts and under-water depth of rivers and lakes across Mumbai city.
- The Inundation Module will use the data to forecast flood inundation 3 days in advance, while the Flood Module will predict how the water will move across areas expected to be flooded.
- The Vulnerability and Risk Modules, which together comprise the Decision Support System, enables the administration to take smart decisions to manage the situation based on a scientific and holistic assessment of flooding risks.
- The Dissemination Module makes information available to field officials through various communication channels, enabling them to take prompt and informed field action.

Baghjan fire tragedy

(Topic: Disaster Management)

Location: Tinsukia district of Assam, close to Dibru-Saikhowa National Park

The incident

- On May 26, workover was going on at the Baghjan oil well site to enhance the production of crude oil from the oil field.
- According to the Standard operation Procedure (SOP) drilling can be carried out only after 48 hours. However, the official who was in charge of production and services gave the order for drilling on the said oil well only after 14 hours.
- There was a blowout in the oil well owing to immense pressure when the pipes were inserted for drilling into the Baghjan 5 oil well
- Baghjan and Barekuri oil field in Tinsukia are the two major oil fields of Oil India Limited which produces maximum crude oil.

“The well was planned to be capped by following the advice of experts and taking all safety precautions. While the clearing operations were going on at the well site, the well caught fire on 9 June 2020 around noon time, spreading the fire in an area of about 200 meters around the well site. The cause of the fire has not been ascertained till now,” the petroleum ministry statement said.

Source: https://thekootneeti.in/2020/06/12/fire-at-assams-baghjan-oil-well/

The effect

Ecological: The gas leak has caused extensive devastation in the Dibru-Saikhowa National Park (known for its feral horses) and Maguri-Motapung wetland and forced villagers in the neighbourhood to flee the area — over 7,000 persons are now lodged in relief camps.

No disaster management structure or mechanism in place: India's second-largest hydro-carbon exploration and production PSU did not have an adequate safety and disaster management plan in place. The toll in Tinsukia may not be limited to the two brave firefighters. A biosphere reserve faces the prospect of extinction because of the accident.

Livelihoods: Farmlands with standing crops, as well as ponds and wetlands in the adjoining villages have also been badly affected and the threat is growing with every passing day. People engaged in farming would face fertility issue of land as the land had been contaminated. People who earned their livelihood through fisheries are now left with no option as the water bodies are polluted and aquatic species have died in numbers. Those who are involved in animal rearing have been majorly affected too. This is not just an environmental crisis but has turned to be in an employment crisis for the locals.

Health: Locals have complained of headaches, itching in eyes, blockage of nasal passages, various respiratory problems after this blowout. Locals have been evacuated from the site and have been displaced into relief camps by the concerned authorities. This problem had become graver because of the Covid-19 restrictions as well. People living in the COVID relief camps had to evacuate their places as soon as possible. As the impact spread, the National Disaster Response Force was called and 2,500 people were taken to relief camps.

While Baghjan has been the most affected by the blowout due to its proximity to the well, villages located further downstream like Notungaon, Milanpur, Hatibagh, Bebejia and Barekuri have also suffered. Droplets of condensate (which is the residue from gas condensing after coming in contact with water) have reportedly spread up to a radius of 5 km, falling on trees, tea gardens making them unsuited for the markets, grasslands, water bodies, and on the roofs of houses making it more difficult for people living there.

Indians have not reacted: While each disaster should get its due coverage, the blind eye turned to the Assam oil leak has reignited the old grudge people from the Northeast have regarding mainland India ignoring its issues.

India and Industrial Tragedies

- A toxic gas leak at LG Polymers' facility last month killed 11 people at Vishakhapatnam, in one of the deadliest industrial accidents since the Bhopal tragedy of 1984.
- In November 2017, there was a blast in the boiler area of state-run NTPC Ltd's Unchahar power plant in Raebareli that also claimed many lives.

Conclusion:

Public safety and sensitivity to the local environment have to be an integral part of its managerial vision.

This year has witnessed many natural disasters from a global pandemic to tremors to locust attacks. The rich biodiversity and ecology are in danger and nature calls out for an immediate collective sustainable strategy towards it, not just by people but also government and industrialists.

Scaling up technology for reducing CO2 to methanol & other useful chemicals

(Topic: Environment; Technology)

An agreement has been signed between Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), an autonomous institute of the Department of Science and Technology (DST) and Breathe Applied Sciences, a company incubated at JNCASR for transfer of technology based on lab-scale research on reducing CO_2 to methanol and other useful chemicals and fuels.

- The MOU will help in smooth translation of the research in the area of CO_2 reduction to useful chemicals and fuels from the laboratory scale to pilot scale economically
- Highlight the scientific contribution of a research institute translating to the industry to solve the problems associated with renewable energy and environmental pollution

- It will also help in developing an indigenous technology in line with government policy.

Why is it important: Conversion of CO_2 to clean fuels such as methanol and other useful chemicals on scale with cost-effectiveness is the holy grail of science to address sustainable development, environmental and climate.

Activities that will be undertaken

- Development of efficient catalysts for the conversion of CO_2 to methanol and other chemicals
- Improvisation of the process engineering to enhance the production of chemicals and fuels from anthropogenic CO_2 generated from various sources including coal and natural gas power generation sectors, steel industry, cement industry, and chemical industries
- Integrating multiple components involved in the CCUS (Carbon capture, utilization, and sequestration) to develop a complete solution for the environmental issues due to global warming.

New study may help develop therapeutics for tongue cancer

(Topic: Technology)

A team of researchers have identified a specific microRNA (miRNAs) called 'miR-155' that is over-expressed in tongue cancer. This finding is important in that molecular strategies can potentially be devised to manipulate miR-155 expression to develop therapeutics for tongue cancer.

- MicroRNAs (miRNAs) are small Ribo Nucleic Acid. They are non-coding RNAs involved in the regulation of a variety of biological and pathological processes, including the formation and development of cancer.
- The miRNAs associated with cancer are called 'Oncomirs'."
- The main function of miRNA is to silence the expression of the other genes. If the silence oncogenes then the cancer will be suppressed.
- On the other hand, if they suppress tumour suppressor gene, the cancer will progress. Accordingly, miRNA can act as oncogenes or tumour suppressor genes depending on what they act upon.
- If the miRNA acts as tumour suppressor genes, then you want to introduce to the system so that tumour can be suppressed; such therapy is called miRNA replacement therapy

miRNA manipulation is being combined with conventional cancer treatment methods such as chemotherapy, radiotherapy, and immunotherapy, and the study reported by collaborative team can enable such emerging therapeutics for cancer.

Please Note

World Accreditation Day: 9th June

- To highlight as well as promote the role of accreditation in trade & economy
- The theme for WAD 2020 is "Accreditation: Improving Food Safety", as decided by the International Accreditation Forum (IAF) and the International Laboratory Accreditation Cooperation (ILAC).

National Highway Authority of India (NHAI) under Ministry of Road Transport and Highways has gone 'Fully Digital', with the launch of unique cloud based and Artificial Intelligence powered Big Data Analytics platform – Data Lake and Project Management Software.

Launch of Aarogyapath, a web-based solution for the healthcare supply chain: To provide real-time availability of critical healthcare supplies

- During the present national health emergency arising out of the COVID-19 pandemic, where there is severe disruption in supply chain, the ability to produce and deliver the critical items may be compromised due to a variety of reasons.
- This integrated public platform that provides single-point availability of key healthcare goodscan be helpful to customers in tackling a number of routinely experienced issues.
- These issues include dependence on limited suppliers, time-consuming processes to identify good quality products, limited access to suppliers who can supply standardized products at reasonable prices within desired timelines, lack of awareness about the latest product launches, etc.

DST constitutes joint Science Communication Forum

Aim: To facilitate interaction, cooperation, and coordination amongst various public sector science communication institutions and agencies

- The Forum brings together science communication efforts spread across various institutions and can help adoption of a common policy and best practices at a wider scale, ultimately aiming towards a national science communication framework.
- The Forum would work upon strategies for effective planning and implementation of science communication programmes at macro and micro level in the country to spread scientific awareness and inculcate scientific temper amongst the masses leading to an innovation-driven society that contributes towards an ecosystem for Atmanirbhar Bharat.

Launch of Sahakar Mitra: Scheme on Internship Programme

Initiative by: National Cooperative Development Corporation has embarked upon a series of initiatives in the cooperative sector entrepreneurship development ecosystem through capacity development, paid internship to youth and assured project loans on liberalized terms to young cooperators on start-up mode.

To assist cooperative institutions access new and innovative ideas of young professionals while the interns gain experience of working in the field giving confidence to be self-reliant. It is expected to be a win-win situation both for cooperatives as well as for the young professionals.

Quality Council of India

- A non-profit autonomous society, under the Department of Promotion of Industry and Internal Trade (DPIIT)
- To establish an accreditation structure in the country
- To spread quality movement in India by undertaking a National Quality Campaign
- The Mission of QCI is to lead nationwide quality movement in India by involving all stakeholders for emphasis on adherence to quality standards in all spheres of activities primarily for promoting and protecting interests of the nation and its citizens.

Why is it important today?

- Quality consciousness will have to percolate to the level of the common man, and quality culture imbibed and cultivated in all aspects of our life.
- The quality evaluation and certification should be rational, transparent, reliable, and free from any manipulation or malpractices.
- The quality standards should be of high class and implementable.

Enhanced Import Duty on Bamboo Sticks to give a big boost to Agarbatti and Bamboo Industries in India

- Increase in import duty on bamboo sticks from 10% to 25% – will open up new avenues of self-employment in the country
- Will lead to creation of at least one lakh new jobs in the Agarbatti industry, a major activity under the village industry sector in India

India is the 2nd largest producer of bamboo in the world but ironically, it is also the 2nd largest importer of bamboo and its products. The hike in import duty on bamboo sticks from 10% to 25% will curb heavy import from China and encourage local manufacture in Agarbatti and bamboo industries.

Heavy import of bamboo sticks from China and Vietnam caused huge employment loss in India. This decision will pave the way for setting up of new agarbatti stick manufacturing units to meet the ever-growing demand of Agarbatti in India.

- Consumption of incense sticks in India is pegged at a whopping 1490 tons per day but only 760 tons per day is locally produced. Hence, the huge gap between the demand and supply resulted in heavy import of raw agarbatti.

- Consequently, the import of raw agarbatti increased from just 2% in 2009 to 80% in 2019. In monetary terms, the import of raw agarbatti in India increased exponentially from Rs 31 crore in 2009 to Rs 546 crore in 2019 due to reduction of import duty in 2011 from 30 % to 10 %.
- This hit the Indian agarbatti manufacturers hard and resulted in closure of nearly 25% of the total units

Agarbatti making industry is a part of the Village Industry, which requires a very small capital and less technical skill. This industry employs mostly women workers. In the post Covid scenario, this industry will prove to be a boon for the migrant workers.

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY- PDMC)

Annual allotment of Rs. 4000 crore made to State Governments under 'Per Drop More Crop' component of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY- PDMC) for the year 2020-21.

- Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has been formulated with the vision of extending the coverage of irrigation 'Har Khet ko pani' and improving water use efficiency 'More crop per drop' in a focused manner with end to end solution on source creation, distribution, management, field application and extension activities.
- PMKSY has been formulated amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR,RD&GR), Integrated Watershed Management Programme (IWMP) of Department of Land Resources (DoLR) and the On Farm Water Management (OFWM) of Department of Agriculture and Cooperation (DAC).

The major objective of PMKSY is to –

- Achieve convergence of investments in irrigation at the field level,
- Expand cultivable area under assured irrigation,
- Improve on-farm water use efficiency to reduce wastage of water,
- Enhance the adoption of precision-irrigation and other water saving technologies (More crop per drop),
- Enhance recharge of aquifers and
- Introduce sustainable water conservation practices

Concept of 'more crop per drop'

- As part of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) Government of India has been implementing Centrally Sponsored Scheme on Micro Irrigation with the objective to enhance water use efficiency in the agriculture sector by promoting appropriate technological interventions like drip & sprinkler irrigation technologies and encourage the farmers to use water saving and conservation technologies.
- "Per Drop More Crop", an integral component of PMKSY focuses on maximizing water use efficiency at the farm level. Major activities under Per Drop More Crop can be categorized into "Micro Irrigation" including Drip, Sprinkler, Micro Sprinklers etc; and "Supplementary Water Management Activities (SWMA)/ Other Interventions".
- SWMA activities include farm level secondary storage structures such as individual or community water storage, Drought proofing structures such as water harvesting or recharge or ground water development, renovation of existing water bodies, enhancing water conveyance efficiency and water lifting devices.

Indian Air Force Inducts Indigenous Airborne Rescue Pod for Isolated Transportation (ARPIT): The Indian Air Force has designed, developed and inducted an Airborne Rescue Pod for Isolated Transportation (ARPIT). This pod will be utilised for evacuation of critical patients with infectious diseases including COVID-19 from high altitude area, isolated and remote places.

- The system has been developed as a lightweight isolation system made from aviation certified material.
- It has a transparent and durable cast Perspex for enhanced patient visibility which is larger, higher and wider than the existing models.
- The isolation system caters for suitable number of air exchanges, integration of medical monitoring instruments, and ventilation to an intubated patient.
- In addition, it generates high constant negative pressure in the isolation chamber for prevention of infection risk to aircrew, ground crew and health care workers involved in air transportation.

Jal Jeevan Mission

Government of India has restructured and subsumed the ongoing National Rural Drinking Water Programme (NRDWP) into Jal Jeevan Mission (JJM) to provide Functional Household Tap Connection (FHTC) to every rural household i.e., *Har Ghar Nal Se Jal* (HGNSJ) by 2024.

Proposed Jal Jeevan Mission will be a decentralised, community-managed and sustainable water management scheme –

- Out of 17.87 crore rural households in the country about 14.6 crore which accounts for 81.67 percent are yet to have household tap connections for water.

- JJM envisages a structural change in the provision of drinking water supply services. The service provision should change to 'utility based approach' centered on 'service delivery'
- The government had also integrated different ministries and departments dealing with water into one ministry — the Ministry of Jal Shakti.

Work to be taken up under JJM:

- In-village water supply (PWS) infrastructure for tap water connection to every household
- Reliable drinking water source development/ augmentation of existing sources
- Transfer of water (multi-village scheme; where quantity & quality issues are there in the local water sources)
- Technological intervention for treatment to make water potable (where water quality is an issue, but quantity is sufficient)
- Retrofitting of completed and ongoing piped water supply schemes to provide FHTC and raise the service level
- Grey water management
- Capacity building of various stakeholders and support activities to facilitate the implementation

73rd Amendment of Constitution of India: Gram Panchayats or its sub-committees will play a crucial role in planning, designing, execution, operations and maintenance of the in-village infrastructure under the Jal Jeevan Mission – Every village is to prepare a village action plan (VAP) which will be essentially having three components namely;

1. Water source & its maintenance
2. Water supply and
3. Grey water management

With women playing a leadership role in managing their community's water resources, minus the drudgery of walking for miles to fetch water for their families, the Jal Jeevan Mission will provide a massive fillip to the ease of living for women, and they will no longer be beasts of burden.

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75th anniversary of the victory in the Second World War

(Topic: World History)

In News: India to send Tri-Service contingent to participate in 75th Victory Day Parade of World War II in Moscow.

World War II was different from World War I

- **Causes:** WW-I was to gain more territory and colonial might. WW-II was to assert different ideologies.
- **Method:** War was fought in the battle field and trenches during WW I, it was taken into the cities in WW II and many civilians died. Modern methods of warfare were used including weapons of mass destruction. And for the first time **Nuclear weapon** was used in war.

Area: WW I covered only Europe but WW II covered a much larger arena including Europe, Asia, North America and parts of Africa.

Outcome: Lead to the formation of League of Nations and sowed the seeds of WW II. WW II lead to the formation of UN and sowed the seed for the Cold War.

- After WW II, the world got divided between two power blocks headed by USA and other capitalist countries and USSR and other communist countries.
- Much more participation of women in WW II than in WW I. WW-II indirectly led to women empowerment.

Many nations got decolonised post World War II

1) Colonial Education: Western education in colonies was crucial factor in rise of nationalism and subsequent decolonisation. Education shaped thoughts and made the people familiar with rights. Educated and focussed people led the struggle and fought on behalf of masses

2) Atlantic Charter: The Charter of 1941 that entailed the goals of allied powers after the war asserted that all the people had the right to self-determination.

3) Economic losses: Post Second World War 2 the European powers were economically devastated and exhausted with men and material

4) Assurance of independence to colonies: Many of the colonies gave resources and man power to their respective colonial powers during World War 2 in the hope of achieving autonomy or independence.

5) Cold war period: The rise of two powers USA and USSR also put pressure on European allies to grant independence as both were against colonial rule.

6) Declaration by UN: UN sharply condemned colonial rule as a denial of fundamental human rights.

7) Support of newly decolonised: There was mutual support among nations Ex: India supported the cause of African decolonisation.

However, the struggle for colonies to gain independence was not smooth

1. Some European powers tried to regain colonies after world war 2 and left only much later due to continued struggle of colonies Ex: Dutch tried to regain Indonesia back
2. The decolonisation of Africa was not smooth and has led to long standing issues
3. India though gained independence from British had to suffer the pains of partition

India and World War II

Role of Indian Army

- Approximately 2.5 million Indian soldiers served in World War 2. Over 36,000 Indian soldiers lost their lives, 34,000 were wounded and 67,000 were taken prisoners of war. Indian soldiers of the British Army earned 17 Victoria Crosses, the highest military honour under the British.
- Noor Inayat Khan –The well-known Spy was tortured and executed by Germans.
- The Indian soldiers, on the ground, fought courageously in every battle and built an envious reputation which the Indian Army has carried forward to this day. Their exploits were seen in East and North Africa, Italy, Burma, and as far out as Singapore, Malay Peninsula, Guam, and Indo China. The role played by Air Force pilots from India are legendary and well documented. Pilots like MS Pujji and Prithpal Singh's feats are among many who left their mark. The list of names and achievements is indeed long.
- In the East, the Indian soldiers, as part of the British Indian Army, fought against the Japanese and were responsible for ultimately securing South East Asia that included Singapore, the Malay Peninsula and Burma.

Contributions beyond Army:

- Indian doctors and nurses were deeply involved on the British soil and other countries. In 1939, the Indian Comforts Fund (ICF) was established at India House in Aldwych that was run by Indian and British women. Between 1939 and 1945, the ICF supplied over 1.7 million food packets to soldiers and Asian prisoners of war, besides putting together warm clothes and other supplies.
- The nation contributed by collecting food and other material to support the war. Kolkata was the Allies' Rest and Recreation point, where American and British soldiers stopped to rest and recuperate before heading back to war .
- India was also home to Italian POWs. As early as 1941, a batch of Italian POWs, which included four Generals, arrived by ship at Mumbai. Ranchi, capital of Jharkhand today, had a camp where POWs were housed.

Nationalist leaders views during World War II

On 1 September 1939, 2nd World War broke out. The British Government without consulting the people of India involved the country in the war. The Congress vehemently opposed it.

As a mark of protest the Congress Ministries resigned in all the seven Provinces on 12 December 1939

- The Indian National Congress, led by Mohandas Karamchand Gandhi, Sardar Vallabhbhai Patel and Maulana Azad, denounced Nazi Germany but would not fight it or anyone else until India was independent.
- Congress launched the Quit India Movement in August 1942, refusing to co-operate in any way with the government until independence was granted.
- In Singapore, Bose formed the Azad Hind Fauj (Indian National Army or INA) to conduct a military campaign for the liberation of India.

Sanitary Napkins available for Rs. 1/- per pad at Pradhan Mantri Bhartiya Janaushadhi Kendras

(Topic: Women Empowerment)

Keeping in view the present scenario, as a social drive, Jan Aushadhi Suvidha Sanitary Napkin is being made available in more than 6300 Pradhan Mantri Bhartiya Janaushdhi Pariyojna – PMBJP Kendras across the country at a minimum price of **Rs.1/-per pad**. The market price of the similar Sanitary Napkins is around Rs. 3/- to Rs. 8/- per pad.

Over 3.43 Crore pads have been sold till 10th June, 2020 at Pradhan Mantri Bhartiya Janaushadhi Kendras.

Menstruation and menstrual practices still face some social, cultural, and religious restrictions which are a big barrier in the path of menstrual hygiene management. In many parts of the country especially in rural areas girls and women do not have access to sanitary products or they do not opt for them as most of these items available in the market are bit costly. This step ensured 'Swachhta, Swasthya and Suvidha' for the underprivileged Women of India. Sanitary Napkins are environmental friendly, as these pads are made with Oxo-biodegradable material complying with ASTM D-6954 (biodegradability test) standards.

GS-2

Launch of Garib Kalyan Rojgar Abhiyaan

(Topic: Government schemes and policies for the vulnerable population)

Aim: To boost employment and livelihood opportunities for migrant workers returning to villages, in the wake of COVID-19 outbreak

Objectives

- Provide livelihood opportunity to returning migrants and similarly affected rural citizens
- Saturate villages with public infrastructure and create livelihood opportunities viz. Roads, Housing, Anganwadis, Panchayat Bhavans, various livelihood assets and Community Complexes among others
- The basket of a wide variety of works will ensure that each migrant worker is able to get an opportunity of employment according to his skill, in the coming 125 days. The Program will also prepare for expansion and development of livelihoods over a longer term.

Features

- Abhiyaan focuses on durable rural infrastructure and providing modern facilities like internet in the villages
- Skill mapping of the rural migrant labour being done to help them work closer home
- An amount of Rs 50,000 Crores would be spent for building durable rural infrastructure under the Garib Kalyan Rojgar Abhiyaan.
- 25 work areas have been identified for employment in villages, for development of various works. These 25 works or projects are related to meet the needs of the villages like rural housing for the poor, Plantations, provision of drinking water through Jal Jeevan mission, Panchayat Bhavans, community toilets, rural mandis, rural roads, other infrastructure like Cattle Sheds, Anganwadi Bhavans etc.
- High speed and cheap internet be provided in every rural household to help the youth and children. Hence the laying of fibre cable and provision of internet are also made a part of the Abhiyan.
- Farmers are being directly linked to the market and that the Government has provided an investment of Rs 1,00,000 Crore for linkages like cold storage etc. This Abhiyaan of 125 days, will work in mission mode, will involve focused implementation of 25 categories of works/ activities in 116 districts, each with a large concentration of returnee migrant workers in 6 states of Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan, Jharkhand and Odisha. Public works to be undertaken during this campaign will have a resource envelope of Rs. 50,000 crores.

The Abhiyaan will be a convergent effort between 12 different Ministries/Departments, namely; Rural Development, Panchayati Raj, Road Transport & Highways, Mines, Drinking Water & Sanitation, Environment, Railways, Petroleum & Natural Gas, New & Renewable Energy, Border Roads, Telecom and Agriculture, to expedite implementation of 25 public infrastructure works and works relating to augmentation of livelihood opportunities.

Scheme of Special Micro-Credit Facility launched for Street Vendors

(Topic: Government schemes and policies for the vulnerable population)

PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi) – a Special Micro-Credit Facility for Street Vendors

Launched by the Ministry of Housing and Urban Affairs for providing affordable Working Capital loan to street vendors to resume their livelihoods that have been adversely affected due to Covid-19 lockdown

- This scheme targets to benefit over 50 lakh Street Vendors.

- Under the Scheme, the vendors can avail a working capital loan of up to Rs. 10,000, which is repayable in monthly instalments in the tenure of one year.
- On timely/ early repayment of the loan, an interest subsidy @ 7% per annum will be credited to the bank accounts of beneficiaries through Direct Benefit Transfer on quarterly basis.
- There will be no penalty on early repayment of loan.
- The scheme promotes digital transactions through cash back incentives up to an amount of Rs. 100 per month.
- Moreover, the vendors can achieve their ambition of going up on the economic ladder by availning the facility of escalation of the credit limit on timely/ early repayment of loan.

SIDBI will implement the PM SVANidhi Scheme under the guidance of MoHUA

- Manage the credit guarantee to the lending institutions through Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)
- Develop and maintain a customized and integrated IT Platform providing end-to-end solutions, including documentation of all the processes and workflows for an end-to-end solution, through a Portal and a Mobile App, to ensure engagement and information flow between Urban Local Bodies (ULBs), Lending Institutions, Digital Payment Aggregators and other stakeholders.

India-China stand-off: Ladakh Border situation

(Topic: Border disputes)

The unresolved situation on the disputed Sino-Indian border in Ladakh has been ongoing for more than a month, and tensions have not subsided. The tragic deaths of 20 soldiers of the Indian Army on Monday in the Galwan Valley, the first casualties of conflict along the India-China border in 45 years, underline the scale of the problem and the challenge ahead.

- The first official acknowledgment of tensions on the border came on May 10, when the Army issued a statement about clashes between Indian and Chinese patrols at two places.
- In Naku La in Sikkim, on May 9, a Chinese patrol on the Indian side of the LAC was confronted by an Indian patrol which led to a clash. The Army also acknowledged a more serious incident that took place on the night of May 5-6 in the Pangong Tso lake area, during which soldiers from both sides were injured.

The Situation

- There is a mobilisation of a significant number of Chinese soldiers and military equipment in some areas on the LAC in Ladakh.

- The most serious issue is in the area of Pangong Tso and its northern banks, where Chinese soldiers have moved up to the line they perceive to be the LAC.
- Satellite images show they have also undertaken some construction activities in the areas that are claimed by India. In the area of Hot Spring, Chinese soldiers have moved into three areas of PP14, PP15, and Gogra, backed by a large number of troops and heavy equipment on their side.
- There are similar reports of a massive Chinese deployment on their side in the Galwan river valley area.

'Indian side' of the LAC

The border is not fully demarcated and the LAC is neither clarified nor confirmed by the two countries. Except for the middle sector, even the mutual exchange of maps about their respective perceptions has not taken place between India and China. This has led to different perceptions of the LAC for the two sides, and soldiers from either side try to patrol the area up to their perception of the LAC. Essentially, what Indians believe to be 'their side' is not the same as what the Chinese believe to be 'their side' – this is different from the Line of Control (LoC) between India and Pakistan where everything was agreed upon by the two armies following the 1971 War.

A higher number indicates that the Chinese soldiers are coming to the Indian side more often, and their movements are being observed and recorded by the Indian soldiers. This can be seen as an indicator of increased Chinese assertiveness, but as long as there are no major incidents, it means that the established border mechanisms between the two sides are working. So far, there has been no major standoff between the two sides after the 73-day Doklam standoff on Sikkim-Bhutan border in 2017.

What triggered China's recent LAC moves?

China is responding to India's efforts to bolster border-area infrastructure in Ladakh after the completion of the DSDBO road. After India's move into Doklam in 2017, China is perhaps especially sensitive to Indian activity along the disputed border. Around Galwan, in particular, China may be seeking to pre-empt an Indian effort to improve its links to the LAC

Pattern change in Chinese behaviour on the border:

- They have reportedly come in large numbers into a new area (Galwan river valley) which had not been contentious in terms of the alignment of the LAC
- They are staying put, dug down and in tents and not just as a short-term patrol
- These incursions are happening in multiple locations
- They have become more assertive and aggressive in their behaviour

This is part of a larger pattern of behaviour from the Chinese and should not be seen as localized and isolated incidents in pockets along the India-China border.

- It is reflective of increased Chinese assertiveness. The activation of border areas by China could also be part of its pressure tactics and its desire to gain leverage vis-a-vis India with regard to issues in bilateral relations and matters like Covid and WHO.
- It is also quite possible that China is eyeing the waters of the Shyok, Galwan and Chang-Chenmo rivers, to divert them to the arid Aksai Chin and its Ali region.

Are all these areas on the LAC disputed?

In certain areas on the border, India and China have different "perceptions" of the LAC. These disputed areas are where both the armies try and patrol up to their LAC, often resulting in face-offs between soldiers.

Based on various inputs, India has identified 23 areas on the border which are disputed by both sides. India also records transgressions by the Chinese side, which are often in these disputed areas. Data for transgressions during the past five years, as reported by this paper, broadly conforms with the areas identified by the government.

As per both these data points, only Pangong Tso is an area where the two sides have different "perceptions" of the LAC. In Galwan and Hot Spring, China and India have in the past never disagreed on the location of the LAC.

Why Ladakh matters to India, China

Ladakh is of vital strategic importance. The Kargil conflict occurred here, the icy heights of the Siachen glacier are here. During the Congress regime led by Indira Gandhi, Indian forces had launched "Operation Meghdoot" in 1984 to capture the Siachen Glacier which has been playing a pivotal role in view of our security spectrum given the hostile terrain of the Himalayas. West of the Glacier lies Pakistan-occupied Gilgit Baltistan, East of it lies China-occupied Aksai Chin.

The strong presence of the Indian Army in the Glacier has ensured that this space is protected. Indeed, it was during the Kargil war when the Indian Army was busy driving out Pakistani intruders, that China exploited the situation to extend a 5-km road into Indian territory along the banks of Pangong Lake.

Conclusion

- India should continue its endeavours to consolidate its solidarity and amity among neighbours and all democratic powers of the world. China is the only non-democratic major power in the world. It will leave no stone unturned in order to make India vulnerable both externally and internally.
- Defence preparedness should be vigorously pursued to insulate us from unpleasant surprises. And powder must be kept dry to meet any eventualities, promptly.

- We should not budge even an inch from restoring status quo ante in east Ladakh where the transgressions have taken place. China must realise that there are limits to what fear and intimidation can achieve.

India joins Global Partnership on Artificial Intelligence (GPAI) as a founding member to support the responsible and human-centric development and use of AI

(Topic: Global partnerships and Convening)

India today joined the league of leading economies including USA, UK, EU, Australia, Canada, France, Germany, Italy, Japan, Mexico, New Zealand, Republic of Korea, Singapore to launch the Global Partnership on Artificial Intelligence (GPAI or Gee-Pay).

Global Partnership on Artificial Intelligence (GPAI)

GPAI is an international and multi-stakeholder initiative to guide the responsible development and use of AI, grounded in human rights, inclusion, diversity, innovation, and economic growth.

- A first initiative of its type for evolving better understanding of the challenges and opportunities around AI using the experience and diversity of participating countries
- In order to achieve this goal, the initiative will look to bridge the gap between theory and practice on AI by supporting cutting-edge research and applied activities on AI-related priorities.
- In collaboration with partners and international organizations, GPAI will bring together leading experts from industry, civil society, governments, and academia to collaborate to promote responsible evolution of AI and will also evolve methodologies to show how AI can be leveraged to better respond to the present global crisis around COVID-19.

GPAI will be supported by a Secretariat, to be hosted by Organization for Economic Cooperation and Development (OECD) in Paris, as well as by two Centers of Expertise- one each in Montreal and Paris

India and Artificial Intelligence

- India has recently launched National AI Strategy and National AI Portal
- Has started leveraging AI across various sectors such as education, agriculture, healthcare, e-commerce, finance, telecommunications, etc. with inclusion and empowerment of human being approach by supplementing growth and development.

- By joining GPAI as a founding member, India will actively participate in the global development of Artificial Intelligence, leveraging upon its experience around use of digital technologies for inclusive growth.

Government of India & AIIB sign an Agreement for $750 Million for COVID-19 support for India

(Topic: India and Multilateral organisations)

The Government of India and the Asian Infrastructure Investment Bank (AIIB) here today signed a $750 million "COVID-19 Active Response and Expenditure Support Programme" to assist India to strengthen its response to the adverse impacts of the COVID-19 pandemic on poor and vulnerable households. This is the first ever budgetary support programme from the AIIB to India.

- The Programme will provide the Government of India with budget support to mitigate the severe adverse social and economic impact of COVID-19.
- The current loan will be the second to India from AIIB under its COVID-19 crisis recovery facility apart from the earlier approved $500 million loan for the COVID-19 Emergency Response and Health Systems Preparedness Project.
- The Primary Programme beneficiaries would be families below the poverty line, farmers, healthcare workers, women, women's self-help groups, widows, people with disabilities, senior citizens, low wage earners, construction workers and other vulnerable groups.

The Asian Infrastructure Investment Bank (AIIB) is a multilateral development bank with a mission to improve social and economic outcomes in Asia, began operations in January 2016. AIIB has now grown to 102 approved members worldwide.

GS-3

Coal sector reforms

(Topic: Energy)

India has taken a major decision to fully open the coal and mining sectors for competition, capital, participation and technology. Coal sector reforms will make eastern and central India, our tribal belt, into pillars of development – under *AtmaNirbhar Bharat campaign*

Coal sector committed to a massive capital expenditure and employment plan for coal bearing regions. State governments will get more revenue and a huge population of the country will get employment. There will be a positive impact on every sector.

Aspirational Districts have not been able to reach the desired level of progress and prosperity.

- 16 aspirational districts in the country have a huge stock of coal but people of these areas have not got adequate benefit of this.
- People from these places have to migrate to far-flung cities for employment.
- Steps taken towards commercial mining will be very helpful to eastern and central India by providing the local population with employment near their homes.
- Government has taken a decision to spend 50 thousand crore rupees on creating infrastructure for coal extraction and transportation, which will also create employment opportunities.

Indian Gas Exchange

(Topic: Energy)

Launch of: Indian Gas Exchange (IGX), first nationwide online delivery-based gas trading platform, in an e-ceremony

What is it: A delivery-based trading platform for delivery of natural Gas

- Incorporated as a wholly owned subsidiary of the IEX – India's energy market platform, IGX will enable market participants to trade in standardised gas contracts.
- The platform is fully automated with web-based interface to provide seamless trading experience to the customers.
- Through IGX, India's vision on mega investments on Liquefied Natural Gas (LNG) terminals, gas pipelines, CGD infrastructure and permission for market driven price mechanism will be materialized.

Significance: The launch of the new electronic trading platform for natural gas has opened a new chapter in the energy history of India and will help the nation move towards free market pricing of natural gas. With this landmark, India is joining the club of progressive economies. As there will be a market driven pricing mechanism, India Gas Exchange (IGX) will play a bigger role towards realizing a free market for gas.

The new electronic trading platform for natural gas is the biggest indicator of the centre's progressive policy as it completes the entire energy value chain from gas production from multiple sources and imports of LNG from different parts of globe to having a transparent price mechanism.

Other initiatives taken to make India a gas-based economy:

- Petroleum and Natural Gas Regulatory Board (PNGRB) is also working on rationalization of tariff to make natural gas affordable in every part of the country

- Indian gas market has multiple price bands for assets including pre-NELP, NELP, High Temperature and High pressure (HTHP) and Deepwater and Ultra Deep Water blocks.
- The country will soon have 50 MMT LNG terminal capacities
- The country has long-term gas contracts with many countries like Qatar, Australia, Russia and the US, and has made investments abroad in strategic assets in Mozamibque, Russia and other countries.
- Various ongoing projects to strengthen the gas infrastructure in the country: Urja Ganga, Eastern India grid, Indradhanush project in the North-east, Dhamra-Dahej pipeline, coal gasification and CBM policy.
- India will have more than 30,000km of pipeline in next few years

Vision: To provide energy justice to the people of India – they must have universal access to clean, affordable, sustainable and equitable supply of energy.

SERB supported study shows that collapse of respiratory center in the brain may cause breakdown of COVID-19 patients

(Topic: Science and Technology)

After exploration of the neuro-invasive potential of SARS-CoV-2 scientists have suggested that the virus may infect respiratory centre of the brain and attention should be focused on the respiratory centre of the central nervous system to search for mortality due to COVID 19.

- SARS-CoV-2 virus might enter the human brain through the nose and reaches the olfactory bulb of the brain.
- From there, SARS-CoV-2 virus might infect PreBötzinger complex (PBC), the primary center of the brain that controls the respiratory rhythm generation
- PreBötzinger complex functions as the primary respiratory oscillator and it has been proposed as a center of respiration. It has been earlier shown that disruption of PBC causes lethality due to respiratory failure, suggesting its central role in respiratory rhythm generation.
- It is possible that SARS-CoV-2 may shut down respiratory center, and in turn breathing by infecting and destroying the PBC of the brainstem. Although this underline hypothesis needs to be validated for SARS-CoV-2, another recent study from a group of scientists at King's College London, UK highlighting loss of smell was one of main symptoms of COVID-19 patients, hinting at the involvement of the same route through which SARS-CoV-2 may enter the brain.

For better understanding: Erebrospinal fluid of COVID-19 patients and postmortem brain of deceased patients should be assessed to better understand the route of SARS-CoV-2 entry and its spread to respiratory center of brain.

New drug for amoebiasis in the offing

(Topic: Science and Technology)

According to the World Health Organization (WHO), Entamoeba histolytica is the third-leading cause of morbidity and mortality due to parasitic disease in humans. It causes amoebiasis or amoebic dysentery, which is highly prevalent in developing countries.

This protozoan is anaerobic or micro-aerophilic in nature such that it cannot survive high concentrations of oxygen. However, during infection, it faces a high surge of oxygen inside the human body.

- The organism synthesizes large amounts of cysteine to counter oxidative stress.
- This pathogen deploys cysteine as one of the essential molecules in its defence mechanism against high oxygen levels. Entamoeba expresses two crucial enzymes for synthesizing cysteine.

A team of researchers from the Jawaharlal Nehru University (JNU) has developed new drug molecules against the protozoa that causes amoebiasis. Researchers from JNU has characterized and determined the molecular structures of both these crucial enzymes, and has also successfully screened for potent inhibitors for one of the enzymes, O-acetyl L-serine sulfhydrylase (OASS). Some of these inhibitors can check the growth of this organism with high efficacy.

Please Note

Bye-election: By-elections are elections conducted to fill elected offices that have become vacant between general elections. This may happen due to

- Resignation
- Death or dismissal of the person holding the office until then

Raja Parba

- Odisha; also known as Mithuna Sankranti
- A three-day-long festival celebrated in Odisha, India. The second day of the festival signifies beginning of the solar month of Mithuna from, which the season of rains starts.
- It is believed that the mother Goddess Earth or the divine wife of Lord Vishnu undergoes menstruation during the first three days. The fourth day is called Vasumati Snana, or ceremonial bath of Bhudevi. The term Raja came from the Sanskrit word ‘Rajas’ which means menstruation and when a woman menstruates, she is called ‘Rajaswala’ or a menstruating woman, and in medieval times the festival became more popular as an agricultural holiday marking the worship of Bhudevi, who is the wife of lord Jagannath. A silver idol of Bhudevi is still to be found in the Puri Temple beside Lord Jagannath.

Annular Eclipse of the Sun- 21 June, 2020

The first solar eclipse of this year takes place on the summer solstice, which is the longest day in the Northern Hemisphere.

- A solar eclipse occurs on a new moon day when the Moon comes in between the Earth and the Sun and when all the three objects are aligned.
- When Moon comes between the Sun and Earth, the shadow falls on the surface of the Earth. The Sun is entirely covered by the Moon for a brief period. Those places that are engulfed by the dark, dense umbral shadow of the Moon experience the total solar eclipse.

  When the three celestial bodies happen to be in a straight line, we have Total solar eclipse.

  Annular solar eclipse is a particular case of the total solar eclipse. Like the total solar eclipse, the Moon is aligned with the Sun. However, on that day, the apparent size of the Moon happens to be a wee smaller than the Sun. Hence the Moon covers the central part of the Sun, and the rim of the Sun appear like a 'ring of fire' in the sky for a very brief momen

The distance between the Earth and the Moon at the moment of the eclipse can dictate the type of eclipse that will take place. The distance between the Earth and the Moon is always changing due to the egg-shaped elliptical orbit of the Moon. This means that there are times where it is closer to the Earth and appears slightly bigger in the sky and times where it is farther away and appears somewhat smaller in the sky. Coincidentally, during the eclipse that takes place on June 21, 2020, the apparent size of the Moon is smaller than that of the Sun by 1%.

Eclipsed Sun should not be viewed with the naked eye, even for a very short time. It will cause permanent damage of the eyes leading to blindness even when the moon covers most portion of the Sun. Safe technique to observe the solar eclipse is either by using proper filter like aluminized Mylar, black polymer, welding glass of shade number 14 or by making projection of Sun's image on a white board by telescope.

Sickle Cell disease

Sickle cell disease is a group of disorders that affects hemoglobin, the molecule in red blood cells that delivers oxygen to cells throughout the body.

Normally, the flexible, round red blood cells move easily through blood vessels. In sickle cell anemia, the red blood are shaped like sickles or crescent moons. These rigid, sticky cells can get stuck in small blood vessels, which can slow or block blood flow and oxygen to parts of the body. People with this disorder have atypical hemoglobin molecules called hemoglobin S, which can distort red blood cells into a sickle, or crescent, shape.

Anaemia: Sickle cells break apart easily and die, leaving you with too few red blood cells. Red blood cells usually live for about 120 days before they need to be replaced. But sickle cells usually die in 10 to 20 days, leaving a shortage of red blood cells (anemia). Without enough red blood cells, your body can't get enough oxygen, causing fatigue.

Episodes of pain: Periodic episodes of pain, called pain crises, are a major symptom of sickle cell anemia. Pain develops when sickle-shaped red blood cells block blood flow through tiny blood vessels to your chest, abdomen and joints. Pain can also occur in your bones.

The pain varies in intensity and can last for a few hours to a few weeks. Some people have only a few pain crises a year. Others have a dozen or more pain crises a year. A severe pain crisis requires a hospital stay. Some adolescents and adults with sickle cell anemia also have chronic pain, which can result from bone and joint damage, ulcers, and other causes.

Swelling of hands and feet: The swelling is caused by sickle-shaped red blood cells blocking blood flow to the hands and feet.

Frequent infections: Sickle cells can damage your spleen, leaving you more vulnerable to infections. Doctors commonly give infants and children with sickle cell anemia vaccinations and antibiotics to prevent potentially life-threatening infections, such as pneumonia.

Delayed growth or puberty: Red blood cells provide your body with the oxygen and nutrients needed for growth. A shortage of healthy red blood cells can slow growth in infants and children and delay puberty in teenagers.

> **Vision problems.** Tiny blood vessels that supply your eyes can become plugged with sickle cells. This can damage the retina — the portion of the eye that processes visual images — and lead to vision problems.

Treatment:

Genome sequencing is figuring out the order of DNA nucleotides, or bases, in a genome—the order of As, Cs, Gs, and Ts that make up an organism's DNA. The human genome is made up of over 3 billion of these genetic letters. In a sense, a genome sequence is simply a very long string of letters in a mysterious language.

The genetic maps form the basis of positional cloning, the ability to isolate disease genes based on patterns of inheritance. This will help in identification of genetic disorders like cystic fibrosis or sickle cell anaemia. Using gene editing technique such diseases can also be treated.

Induced Pluripotent Stem Cells (Ips Cells)

- iPS are adult stem cells are adult stem cells, like in umbilical cord cells or bone marrow cells, that can be induced to show properties of stem cells.
- They are mostly use in therapeutic cloning to treat degenerative diseases like diabetes, Parkinson's, Alzhiemers etc.
- They are created by stimulating mature, already specialised cells back into a juvenile state without the need for an embryo.
- These can be derived from the patient themselves, making them less likely to be rejected.
- The cells can be transformed into a range of different types of cells, and their use is a key sector of medical research.
- Further owing to ethical issues embryonic cells are banned in countries such as Ireland and in Latin America. Therefore use of iPS cells in therapeutic cloning is rather significant.

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Date July 8, 2020

Press Information Bureau (PIB) IAS UPSC –28th June to 5th July, 2020

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Dharma Chakra Diwas

(Topic: History)

Dharma Chakra Diwas: 4th July

In India, we see Buddhism as a fresh expression of the sublime truth. Lord Buddha's enlightenment, and the subsequent preaching by hima for over four decades, were in line with India's tradition of respect for intellectual liberalism and spiritual diversity. In modern times, two exceptionally great Indians – Mahatma Gandhi and Babasaheb Ambedkar – found inspiration in the words of the Buddha and went on to shape the destiny of the nation.

"Buddhism was not just a religious revolution, but a social revolution too."

Buddha did not intend to establish new religious or social order. But the simplicity of his teaching of truth connected with masses in such a manner that Buddhism became a completely new approach to look at religion and society. It became a new religious and social order.

Religious Revolution

- Explanation of Sufferings through 4 simple noble truths and the the wheel of dhamma was understandable by ordinary people unlike the scriptures interpreted by priests only.
- Focus was on ethical living of astangika marga rather than rituals, animal sacrifices, etc.
- A great stress was led to individual search of the truth and authority of Vedas was challenged. Faith was given rational basis.
- It preached atheism that is, there is no God that will help us in Moksha but we ourselves are the makers of our destiny.
- Further proliferation of multiple sects (Hinayana, Mahayana, etc) in Buddhism brought out characteristically new religious approaches

Social Revolution

- Intimate connection between religion and society in those times led to the manifestation of Buddhism as egalitarian doctrine. It opposed caste and varna system, any form of hierarchy and discrimination.
- Women were given equal status as men which was against the Shastras like Manusmriti (social code).
- Use of Pali language as opposed to Sanskrit which could be read only by Priests, broke the monopoly over knowledge
- Emphasis on ahimsa, avoidance of extremes led to establishment of peaceful society.
- It became conducive to the progress in the areas of art, architecture, sculpture, literature.
- Trade flourished and India's political power spread far and wide in subcontinent.

GS-2

Pradhan Mantri Garib Kalyan Ann Yojana Extended

(Topic: Welfare schemes)

PM Garib Kalyan Anna Yojana will be extended by five months till the end of November. The scheme was announced as part of the first relief package during the COVID-19 pandemic for a three-month period.

Rationale behind the scheme –

- To ensure that the poorest of the poor were not left hungry.
- Under this scheme, for the next five months, 5 kg of free rice or wheat, and 1 kg of chana will be provided free.
- 80 crore individuals would be covered under this scheme.

- It is a Rs 1.7-lakh crore financial package announced by the government to minimise the impact of Covid-19 lockdown on economy and poor.

Do you know?

- The existing National Food Security Act provides 5kg of foodgrain per person monthly at a subsidised rate of Rs 2-3 per kg to the country's poor.
- Under the PMGKY, the ration quota was enhanced by another 5 kg for free for the next three months in March. (and now extended till November)

National Food Security Act

- Government of India enacted the National Food Security Act, 2013 (NFSA).
- The Act covers upto 75% of the rural population and upto 50% of the urban population.
- The targeted population shall receive subsidized foodgrains under Targeted Public Distribution System, thus covering about two-thirds of the population.
- Ministry involved: Ministry of Consumer Affairs, Food & Public Distribution.

Bamboo sector to propel the Atmanirbhar Bharat Abhiyan in the North Eastern Region

(Topic: Welfare schemes)

Bamboo is essentially a type of grass, but its classification as a tree for 90 years prevented the northeast, which grows 67% of India's bamboo, from exploiting it commercially unlike China, the only country with richer bamboo genetic resources.

Though bamboo comes from the grass family (Poaceae), it is considered a woody grass and qualifies as a structural material far superior in strength than timber yielded by several species of trees. In fact, it excels over steel when it comes to volume versus strength ratio.

- Northeast part of India grows 67% of India's bamboo.
- India has the world's largest fields of bamboo. It grows on nearly 13% of the country's forest land.
- The eight North-eastern States – Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura – grow 67% of India's bamboo and have 45% of global bamboo reserves.
- Nearly 35 species of superior quality bamboos are found in the region.

Called the green gold, bamboo's multiple uses as well as rapid regeneration make it the ideal agro-forestry choice, vis-a-vis monoculture plantations.

Bamboo cultivation yields enormous environmental dividends.

- It is known to produce 35% more oxygen than trees. It yields enormous amount of biomass ideal for pulp industry.
- Research in Japan has shown that bamboo can absorb as much as 12 tonnes of carbon dioxide per hectare per year.
- Dense planting of bamboo on the banks of the Yamuna will not only absorb CO_2 but also bring down particulate matter.
- The plant is an "excellent scavenger,"; its roots do not go below two feet, so it can absorb rich nutrients in raw sewage that flow untreated into the rivers like Yamuna and raise its biological oxygen demand.
- During the monsoon, the clumps will slow the flow and reduce the chances of flooding downstream.
- Submergence does not affect the plants. There will be economic benefits in the form of employment and income.

Though its role in purifying the air is well known, the plantation owners would like more economic uses of the material for expanding the area under its cultivation.

- More than Rs 400 crore worth of roundly cut bamboo sticks are imported from China and Vietnam by agarbatti manufacturers. This can be substituted by bamboo from Northeastern states
- Bamboo plays an important role in the preparation of food items and traditional cuisines; from blending raw bamboo shoot, fermented bamboo shoot to dry bamboo shoot, almost every tribe is familiar with these dishes.

About restructured NBM: The Mission is expected to establish about 4000 treatment/ product development units and bring more than 100000 ha area under plantation during the period 2018-19 & 2019-20. The restructured NBM strives to –

- To increase the area under bamboo plantation in non forest Government and private lands to supplement farm income and contribute towards resilience to climate change.
- To improve post-harvest management through establishment of innovative primary processing units, treatment and seasoning plants, primary treatment and seasoning plants, preservation technologies and market infrastructure.
- To promote product development at micro, small and medium levels and feed bigger industry.
- To rejuvenate the under developed bamboo industry in India.
- To promote skill development, capacity building, awareness generation for development of bamboo sector

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PM FME (PM Formalization of Micro Food processing Enterprises) Scheme

(Topic: Welfare schemes)

The PM FME (PM Formalization of Micro Food processing Enterprises) scheme would leverage organic food production, and the food processing industry in the North East states stand to benefit immensely.

- Launched under Atmanirbhar Bharat Abhiyan, it would directly benefit farmers and micro entrepreneurs who contribute significantly to the Indian economy.
- Under this scheme, facilities of warehouses, cold storage and marketing and branding will be provided in the clusters of fruits and vegetables

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GS-3

PM Formalization of Micro Food Processing Enterprises (PM FME) scheme

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(Topic: Food Processing)

As a part of "Atmanirbhar Bharat Abhiyan"

The unorganized food processing sector comprising nearly 25 lakh units contribute to 74% of employment in food processing sector.

Nearly 66% of these units are located in rural areas and about 80% of them are family-based enterprises supporting livelihood rural household and minimizing their migration to urban areas. These units largely fall within the category of micro enterprises.

Why?

The unorganised food processing sector faces a number of challenges which limit their performance and their growth, and ends up contributing much less in terms of value addition and output despite its huge potential.

- Lack of access to modern technology & equipment
- Lack of training
- Lack of access to institutional credit
- Lack of basic awareness on quality control of products
- Lack of branding & marketing skills etc

The Scheme: With a view to providing financial, technical and business support for upgradation of existing micro food processing enterprises, the Ministry of Food Processing Industries (MoFPI) has launched an all India "Centrally Sponsored PM Formalisation of Micro food processing Enterprises (PM FME) scheme" to be implemented over a period of five years from 2020-21 to 2024-25 with an outlay of Rs 10,000 crore.

- The Scheme adopts One District One Product (ODODP) approach to reap benefit of scale in terms of procurement of inputs, availing common services and marketing of products.
- The States would identify food product for a district keeping in view the existing clusters and availability of raw material.
- The ODOP product could be a perishable produce based product or cereal based products or a food product widely produced in a district and their allied sectors.
- The Scheme also place focus on waste to wealth products, minor forest products and Aspirational Districts.
- The Scheme places special focus on capacity building and research.

Hope from the scheme:

- Generate total investment of Rs 35,000 crore
- Generate 9 lakh skilled and semi-skilled employment
- Benefit 8 lakh units through access to information, training, better exposure and formalization

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Clean Energy Can Support India's Economic Recovery post-Covid-19 – NITI Aayog

(Topic: Energy)

Report: Towards a Clean Energy Economy: Post-Covid-19 Opportunities for India's Energy and Mobility Sectors

- Advocates for stimulus and recovery efforts that work towards building a clean, resilient, and least-cost energy future for India; these efforts include electric vehicle, energy storage, and renewable energy programs.
- Identifies how Covid-19 is beginning to influence the clean energy transition in India, specifically for the transport and power sectors, and recommends principles and strategic opportunities for the country's leaders to drive economic recovery and maintain momentum towards a clean energy economy.
- India's transport sector can save 1.7 gigatonnes of cumulative carbon dioxide emissions and avoid about 600 million tonnes of oil equivalent in fuel demand by 2030 through shared, electric, and connected passenger mobility and cost-effective, clean, and optimized freight transport. Significant savings are also achievable in the power sector through the adoption of renewable energy, energy storage, efficiency, and flexible generation and demand.

The report lays out **four principles** as a framework for policymakers and other key decision-makers considering programmes to support India's clean energy future:

1. Invest in least-cost-energy solutions
2. Support resilient and secure energy systems

3. Prioritize efficiency and competitiveness
4. Promote social and environmental equity

India needs to identify strategic opportunities for economic recovery in the short, medium, and long terms that can translate challenges posed by the pandemic into clean energy transition opportunities

- Opportunities in the transport sector include making public transport safe, enhancing and expanding non-motorized transport infrastructure, reducing vehicle kilometres travelled through work-from-home where possible, supporting national strategies to adopt electric vehicles in the freight and passenger segments, and making India an automotive export hub.
- In the power sector, opportunities include improving the electricity distribution business and its operations, enabling renewables and distributed energy resources, and promoting energy resilience and local manufacturing of renewable energy and energy storage technologies.

Development in Medical Technology

A. Eco-friendly Synthesis of Gold Nanoparticles from Antarctic Bacteria for Therapeutic Use

The National Centre for Polar and Ocean Research (NCPOR) and the Goa University (GU) have successfully synthesized gold nanoparticles (GNPs) using psychrotolerant Antarctic bacteria through a non-toxic, low-cost, and eco-friendly way.

Through this study, NCPOR and GU have established

- 20-30-nm-sized spherical-shaped GNPs could be synthesized in a controlled environment.
- These GNPs can be used as a composite therapeutic agent clinical trials, especially in anti-cancer, anti-viral, anti-diabetic, and cholesterol-lowering drugs.
- Revealed genotoxic effect of GNPs on a sulphate reducing bacteria (SRB). The GNPs displayed enough anti-bacterial properties by inhibiting the growth of SRB and its sulphide production by damaging the genetic information of the DNA of the bacterial cell. Genotoxicity describes the property of a chemical agent that is capable of damaging the genetic information of DNA and thus causing mutation of the cell, which can lead to cancer.

Nanoparticles (NPs) have wide variety of potential applications in the fields of biomedical, optical and electronics research. Metallic NPs have been efficiently exploited for biomedical applications and among them GNPs are found to be effective in biomedical research.

B. INST synthesises inorganic-organic hybrid compound that can inhibit breast, lung & liver cancer cells

- The solid compound based on phosphomolybdate cluster, an inorganic salt of phosphomolybdic acid, belongs to the Polyoxometalates (POMs) family. The team has chalked out the mechanism by which the compound kills the cancer cells.
- POMs are an evolving class of inorganic metal oxides, which over the last decades, established promising biological activities by the virtue of their great diversity in structures and properties.
- In the past few decades, POMs have evolved as a promising candidate for future metallodrugs for combating cancer. The compound synthesized by the INST team could open new avenues for antitumor applications.

C. A non-caloric natural sweetener that can make cancer therapy using magnetic nano particles more efficient

- Stevioside (STE), isolated from the leaves of Honey yerba and widely used as the non-caloric natural sweeteners, can sweeten our lives in more ways than one
- Stevioside, a natural plant-based glycoside found in leaves of Honey yerba ('Stevia rebaudiana Bertoni') when coated on nanoparticles can increase the efficiency of Magnetic hyperthermia-mediated cancer therapy (MHCT).
- MHCT method of cancer therapy is based on heating the tumor tissues using magnetic nanoparticles in comparison to the routinely used surfactant moieties (oleic acid and polysorbate-80) and is based on generation of localised heat at the tumour site on exposure to AMF (alternating magnetic field) in the presence of magnetic nanoparticles.

D. Genetics could help diagnose type-1 diabetes in Indians: study reveals

A genetic risk score is effective in diagnosing type-1 diabetes in Indians.

What is this genetic risk score?

Developed by the University of Exeter, the genetic risk score takes into account detailed genetic information that are known to increase the chance of developing type-1 diabetes. The score may be used at the time of diabetes diagnosis to help decide if someone has type-1 diabetes.

The escalating epidemic of diabetes in young Indians makes it imperative that we diagnose the type of diabetes correctly to avoid mistreatment and its long-term biological, social, and economic implications. The new genetic tool will be a great help in this. It will help decide the contribution of failing pancreatic B-cells against reduced action of insulin due to excess fat and smaller muscle mass in the body of Indians ('thin-fat Indians').

RRI comes up with simulation toolkit to ensure safety in secure quantum communication platforms

(Topic: Awareness in the field of IT)

There is an increasing need for measures to ensure security in the virtual world as Covid-19 confines most day to day activities to the digital space.

The secure part of any information transfer protocol is in the distribution of the key used to encrypt and decrypt the messages. Such standard key distribution schemes, usually based on mathematical resolution of problems, are vulnerable to algorithmic breakthroughs and possibility to run new codes on the up and coming quantum computers. The solution to ensuring the security of the key transfer process lies in using the laws of quantum physics, wherein any eavesdropping activity will leave tell-tale signs and hence will be easily detected. This is achieved by using Quantum Key Distribution or QKD.

Researchers have come up with a unique simulation toolkit for end-to-end QKD simulation named as 'qkdSim', which is based on modular principles that allow it to be grown to different classes of protocols using various underpinning technologies.

Status of India's first human space mission "Gaganyaan"

(Topic: Awareness in the field of Space)

The launch of India's first human space mission "Gaganyaan" will not be affected by COVID pandemic and preparation are carrying on in the right direction. The training of astronauts has now been resumed and the launch is scheduled to take place as planned, before the 75th anniversary of India's independence in 2022.

- It is a ₹10,000-crore Indian human space flight scheduled for 2022.
- The chosen astronauts will be sent to space on-board Gaganyaan, a crew capsule, to be launched with the help of Geo-Synchronous Launch Vehicle (GSLV)
- If Gaganyaan is successful, India would become the fourth nation to achieve the feat
- India has signed agreements with Russia and France for cooperation on the Gaganyaan mission.
- DRDO signed MoUs with ISRO to offer technologies for the mission, including space food, survival kits for crew, radiation protection equipment and parachutes.

Other developments

- A regulatory body called "Indian National Space Promotion & Authorization Centre (IN-SPACe)" is to be established. This will help provide a level playing field to private players and encourage their participation.
- Besides enhancing the capacity and resources of our space missions, increased participation of private players will also discourage the brain drain of talented space scientists and experts who were otherwise moving out of India in search of a break.

Must Read: Link

Government Bans 59 mobile apps which are prejudicial to sovereignty and integrity of India, defence of India, security of state and public order

(Topic: Steps taken by Government for sovereignty and integrity of India)

The Ministry of Information Technology, invoking it's power under section 69A of the Information Technology Act read with the relevant provisions of the Information Technology (Procedure and Safeguards for Blocking of Access of Information by Public) Rules 2009 and in view of the emergent nature of threats has decided to block 59 apps since in view of information available they are engaged in activities which is prejudicial to sovereignty and integrity of India, defence of India, security of state and public order.

The Ministry of Information Technology has received many complaints from various sources including several reports about misuse of some mobile apps available on Android and iOS platforms for stealing and surreptitiously transmitting users' data in an unauthorized manner to servers which have locations outside India. The compilation of these data, its mining and profiling by elements hostile to national security and defence of India, which ultimately impinges upon the sovereignty and integrity of India, is a matter of very deep and immediate concern which requires emergency measures.

Nine individuals Declared as designated terrorists under provisions of UAPA Act

(Topic: Security)

Government had amended the Unlawful Activities (Prevention) Act, 1967 in August 2019, to include the provision of designating an individual as a terrorist. Prior to this amendment, only organizations could be designated as terrorist organizations.

By invoking the said amended provision, in September 2019, the Central Government designated four individuals as terrorists, viz. Maulana Masood Azhar, Hafeez Saeed, Zaki-ur-RehmanLakhvi and Dawood Ibrahim.

Reinforcing the commitment to strengthening national security and its policy of zero tolerance to terrorism, the Union Home Ministry has declared the following nine individuals as designated terrorists under the provisions of the UAPA Act 1967 (as amended in 2019) and included their names in the Fourth Schedule of the said Act. Their details are as under:-

1. Wadhawa Singh Babbar: Pakistan based Chief of terrorist organization, "BabbarKhalsa International".

2. Lakhbir Singh: Pakistan based Chief of terrorist organization, “International Sikh Youth Federation”.
3. Ranjeet Singh: Pakistan based Chief of terrorist organization, “Khalistan Zindabad Force”.
4. Paramjit Singh: Pakistan based Chief of terrorist organization “Khalistan Commando Force”.
5. Bhupinder Singh Bhinda: Germany based key member of terrorist organization, “Khalistan Zindabad Force”.
6. Gurmeet Singh Bagga: Germany based key member of terrorist organisation, “Khalistan ZindabadForce”.
7. Gurpatwant Singh Pannun: USA based key member of Unlawful Association, “Sikh for Justice”.
8. Hardeep Singh Nijjar: Canada based Chief of “Khalistan Tiger Force”.
9. Paramjit Singh: United Kingdom based Chief of terrorist organization,“BabbarKhalsa International”.

About Unlawful Activities (Prevention) Act

- The UAPA, an upgrade on the Terrorist and Disruptive Activities (Prevention) Act TADA (lapsed in 1995) and the Prevention of Terrorism Act – POTA (repealed in 2004) was passed in the year 1967
- It aims at effective prevention of unlawful activities associations in India.
- Till 2004, “unlawful” activities referred to actions related to secession and cession of territory.
- The **2004** amendment, added “terrorist act” to the list of offences.
- Under the act, the investigating agency can file a charge sheet in maximum 180 days after the arrests and the duration can be extended further after intimating the court.
- **Powers to Union Government:** If Centre deems an activity as unlawful then it may, by way of an Official Gazette, declare it so.
- It has death penalty and life imprisonment as highest punishments.

2019 Amendment of UAPA

- The act was amended to **designate individuals as terrorists** on certain grounds provided in the Act.
    - Earlier only organisations could be declared as such
    - Not designating individuals as terrorists, would give them an **opportunity to circumvent the law** and regroup under different name
- It empowers the Director General of NIA to grant approval of **seizure or attachment of property** when the case is investigated by NIA
    Earlier it required the consent of State Police which delayed the process
- It empowers the officers of the NIA, of the **rank of Inspector or above**, to investigate cases of terrorism
    This will help solve the human resource crunch in the NIA.

Criticism of UAPA

- Experiences of Anti-terror laws in India such as POTA and TADA reveals that they are **often misused and abused.**
- The law could also be used against political opponents and civil society activists who speak against the government and **brand them as "terrorists."**
- Critics argue that the law, especially after 2019 amendment gives **unfettered powers to investigating agencies**.
- Some experts feel that it is **against the federal structure**, given that 'Police' is a state subject under 7th schedule of Indian Constitution.

Do you know?

- NIA was created after the 2008 Mumbai terror attacks with the enactment of the National Investigation Agency Act 2008.
- NIA is the Central Counter Terrorism Law Enforcement Agency of India and it works under overall guidance of Ministry of Home Affairs.

Please Note:

COVID-19 Recovery Rate increases; touches 59.43%: As a result of the coordinated steps taken by Government of India along with States/UTs for prevention, containment and management of COVID-19, there are 1,27,864 recovered cases more than the active COVID-19 cases, as on date. This has resulted in the recovery rate further increasing to 59.43%.

Drug Discovery Hackathon 2020 (DDH2020):

- A first of its kind National Initiative for supporting drug discovery process
- Will be focussing on identifying potential drug molecules through the Hackathon while CSIR will take these identified molecules forward for synthesis and laboratory testing for efficacy, toxicity, sensitivity and specificity

Unique Urban Forest

- CAG of New Delhi has taken steps to establish an Urban Forest in the Office Park.
- Keeping in view the limited area, local material was adopted to enable intensive afforestation.
- The forest is made up of trees which are native to the area and are three dimensional, multi-layered communities having 30 times the surface area of the greenery of single-layered lawns, and have more than 30 times the ability to protect against natural disasters and to conserve the environment.

Road Transport Ministry notifies standardised transport vehicles dimesions on international norms: These amendments would provide for standardization in the dimensions of the Motor Vehicles which would be in line with

international standards and further a step by the Ministry to improve the logistics efficiency in the country as the enhanced dimensions would provide for extra passengers or extra carrying capacity within the prescribed weight.

Plan to kick start cashless treatment of motor accident victims:

- Ministry of Road Transport and Highways has prepared a blue print for implementing the scheme of cashless treatment of motor accident victims, as contemplated under the MV Act 2019. This includes treatment of victims during the crucial Golden hour.
- It has been envisaged in the scheme to provide compulsory insurance cover to all Road users in the country.
- The Fund would be utilised for treatment of road accident victims and for payment of compensation to the injured or to the family of person losing life in hit and run cases.
- The proposed modalities of the scheme have been designed in a way that they allow access to quality care at the right time for all individuals, irrespective of their capability to pay.

In Detail: Buddhism

Buddhism and Art

- **Stupas:** were to commemorate important events or mark important places associated with Buddhism or to house important relics of Buddha. The best examples of stupas are those constructed at Amaravati, Sanchi, Barhut, Saranath and Gaya. One of the most striking architectural remains of ancient India and the earliest and largest of the three stupas found in Sanchi was built by Ashoka (273-236 B.C.)
- **Viharas or monasteries:** constructed for prayer with a running verandah on three sides or an open courtyard surrounded by a row of cells and a pillared verandah in front. These cells served as dwelling places for the monks. These monastic buildings had a Chaitya hall or Chaitya mandir attached to a stupa – the chief object of worship. Some of the important Buddhist viharas are those at Ajanta, Ellora. Nasik, Karle, Kanheri, Bagh and Badami.
- **Paintings:** Paintings which has been an accepted art since early times attained heights of excellence in Gupta period. These exquisite paintings or frescos are to be seen in the caves of Ajanta. The entire surface of the caves is exquisitely painted and shows the high standard reached in mural painting.
- **Sthambas or Pillars:** with religious emblems were put up by pious Buddhists in honour of Buddha or other great Buddhists. Fragments of sthambas belonging to Mauryan times and later were found at Sanchi, Sarnath, Amaravati and Nagarjunkonda.
- **Literature:** The canonical literature is best represented by the “Tripitakas”, that is, three baskets -Vinaya Pitaka, Sutta Pitaka and Abhidhamma Pitaka. The non-canonical literature is best represented by the Jatakas.

Role played by Indian sculptures to express the ideas of Buddhism

- Jataka stories became part of stupa decoration in post mauryan phase. Depiction of showing Queen Mayadevi's dream; mother of Siddhartha Gautam indicates ideas of Buddhist symbolism used in sculpture.
- The empty seat was meant to indicate the meditation of the Buddha, and the stupa was meant to represent the mahaparinibbana. Another frequently used symbol was the wheel. This stood for the first sermon of the Buddha, delivered at Sarnath. As is obvious, such sculptures cannot be understood literally – for instance, the tree does not stand simply for a tree, but symbolises an event in the life of the Buddha.
- The shalabhanjika motif suggests that many people who turned to Buddhism enriched it with their own pre-Buddhist and even non-Buddhist beliefs, practices and ideas.
- Various schools of Buddhist sculpture emerged in India like Mathura school in which, abhayamudra of Buddha or depiction of bodhisattvas, in Gandhara school depiction of meditated peace and in Amravati school depiction of jataka tales propagate lessons of Buddhism.
- With the rise of Vajrayana Buddhism many Boddhisattva images were added as a part of the personified representations of certain virtues or qualities as propagated by the Buddhist religious principles for the welfare of the masses.

Caves

- Lomus rishi caves of 3rd century BCE exhibit Chaitya- prayer hall of Buddhists.
- Buddhist caves of Viharas and Chaityas included sculptures, paintings with frescos. Sculptures in the caves gives idea of religious traditions of those times. For examples, Hinayana Buddhist caves lacked sculpture of Buddha, whereas Mahayana caves have enormous sculpture of Buddha.
- Caves on the trade routes give idea of economic linkages of caves to the traders, who used to give donations to the monasteries of Buddhists, Jains or Hindus. For example density of caves in the western ghat is quite high.
- Painting of the caves depicts stories from the Jatakas, which are based on previous births of Buddha. Ajanta caves are the most elaborated cave complex significant for painting.

Bojjannakonda: Buddhist site in Andhra Pradesh

- Bojjannakonda and Lingalametta are twin Buddhist monasteries dating back to the 3rd century BC.
- These sites have seen three forms of Buddhism —
    - The **Theravada** period when Lord Buddha was considered a teacher;
    - The **Mahayana**, where Buddhism was more devotional; and
    - **Vajrayana**, where Buddhist tradition was more practised as Tantra and in esoteric form

- The site is famous for many votive **stupas**, **rock-cut caves,** brick-built edifices, early historic pottery, and Satavahana coins that date back to the 1st century AD.

The Fourth Buddhist Council

- Held in Kashmir under the patronage of king Kanishka in 1st Century A.D
- It was presided over by Vasumitra
- Its main purpose was to settle the difference between all the 18 sects of Buddhism and to compose the commentaries.
- It led to the division of Buddhism into two sects, the Hinayanism and the Mahayanism.
- Codification of Sarvastivadinn Doctrines into Mahavibhasa
- The whole Council was conducted in Sanskrit instead of Pali as was done earlier.
- It led to the spread of Hinayanism to Burma and Sri lanka and Mahayanism to Central Asia, China and Japan.

Buddhist Tripitakas

- The Tripitaka was compiled and arranged in its present form by those Arahants who had immediate contact with the Buddha.
- Immediately after the final passing away of the Buddha, 500 distinguished Arahants held a convention known as the First Buddhist Council to rehearse the Doctrine taught by the Buddha.
- Ananda, the faithful attendant of the Buddha who had the special privilege of hearing all the discourses the Buddha ever uttered, recited the Dhamma, whilst the Upali recited the Vinayapitaka, the rules of conduct for the Sangha. The Tripitaka consists of three sections of the Buddha's Teachings.
- They are the Discipline (Vinaya Pitaka), the Discourse (Sutta Pitaka), and Ultimate Doctrine (Abhidhamma Pitaka).
- The Sutta Pitaka consists chiefly of discourses delivered by the Buddha Himself on various occasions.
- The Abhidhamma is, to a deep thinker, the most important and interesting, as it contains the profound philosophy of the Buddha's teaching in contrast to the illuminating but simpler discourses in the Sutta Pitaka.
- It was composed at a later stage than the other two Pitakas, which were compiled at the First Council itself.

The Original Pipal tree at Boudh Gaya was cut down by: Pushyamitra Sunga

- Pushyamitra Sunga was the founder of Sunga Dynasty of Magadha. Pushyamitra Sunga was a military general in the Mauryan Army. He became the King by killing King Brihadratha, the last Mauryan emperor.
- Pusyamitra was a staunch Hindu, a champion of Brahmanism and that is why the Buddhist texts show him as a cruel man.
- The tree was again cut down by King Pushyamitra Shunga in the 2nd century BC, and by King Shashanka in 600 AD.

Symbol and Event:

Lotus or Bull: Birth of Buddha

Horse: The Great Renunciation (Mahabhinishkramana)

Bodhi tree: Enlightenment (Nirvana)

Wheel: First Sermon (Dhammachakraparivartan)

Stupa: Death of Buddha (Mahaparinirvana)

Pavarana ceremony in Buddhism

- Pavarana is a Buddhist holy day celebrated on Aashvin full moon of the lunar month. It marks the end of the 3 lunar months of Vassa.
- During the three-month rainy season, the Monks live indoors, at the end of rainy season, Pravarana ceremony takes place where every monk irrespective of rank, accept, if any, violation of the code of conduct on their part.

Guru Padmasambhava (also known as second Buddha): Founder of Tibetan Buddhism

There is a 19-foot-high statue of **Guru Padmasambhava** at Jirang in Gajapati district, Odisha. The statue is placed in the middle of 'Padma Sarovar', a large tank near Padmasambhava Mahavihara, the largest Buddhist monastery in eastern India. The Dalai Lama had inaugurated this monastery in 2010. Tibetan refugees settled in this region over six decades ago.

- Padmasambhava, also known as **Guru Rinpoche**, is considered to be the **founder of Tibetan Buddhism**.
- Historians claim that Guru Padmasambhava, also known as **second Buddha**, was born and brought up in Odisha before he left for Tibet.
- An International Conference on 8th century Himalayan sage Guru Padmasambhava was held in New Delhi.
- The conference was organised as part of events to commemorate **50-years of formalization of diplomatic ties between India and Bhutan**.
- There is an image or painting of the Guru Padmasambhava in every Bhutanese home or temple.
- Guru Padmasambhava is also considered to be the founder of Nyingma tradition, oldest of the four major schools of Tibetan Buddhism.

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