



ASPIRE IAS
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PIB

Monthly Magazine

(AUGUST - 2020)

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Production Linked Incentive (PLI) Scheme

About :

The Electronics and Information Technology Ministry had notified the Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing in April 2020.

Detail :

- The scheme offers a production linked incentive to boost domestic manufacturing and attract large investments in mobile phone manufacturing and specified electronic components, including Assembly, Testing, Marking and Packaging (ATMP) units.
- According to the scheme, companies that make mobile phones which sell for Rs 15,000 or more will get an incentive of up to 6 per cent on incremental sales of all such mobile phones made in India.
- In the same category, companies which are owned by Indian nationals and make such mobile phones, the incentive has been kept at Rs 200 crore for the next four years.
- The scheme will attract big foreign investment in the sector, while also encouraging domestic mobile phone makers to expand their units and presence in India.
- The scheme shall extend an incentive of 4% to 6% on incremental sales (over base year) of goods manufactured in India and covered under target segments, to eligible companies, for a period of five years subsequent to the base year as defined.
- The Scheme will be implemented through a Nodal Agency which shall act as a Project Management Agency (PMA) and be responsible for providing secretarial, managerial and implementation support and carrying out other responsibilities as assigned by the Ministry from time to time.
- The target segments include mobile phones and other electronic components such as transistors, diodes, thyristors, resistors, capacitors and nano-electronic components such as micro electromechanical systems.
- **Who all are eligible?**
 - All electronic manufacturing companies which are either Indian or have a registered unit in India will be eligible to apply for the scheme.
 - These companies can either create a new

unit or seek incentives for their existing units from one or more locations in India.

- There has been considerable interest expressed in this scheme by the industry.

Khadi Agarbatti Aatmanirbhar Mission

About :

Union Minister for MSME approves the Khadi Agarbatti Aatmanirbhar Mission.

About the Khadi Agarbatti Aatmanirbhar Mission:

- The idea is to make India aatmanirbhar (self-reliant) in agarbatti production.
- This is an employment generation programme proposed by the Khadi and Village Industries Commission (KVIC).

Objective of the mission:

- The mission aims at creating employment for unemployed and migrant workers in different parts of the country while increasing domestic Agarbatti production substantially.
- The scheme will operate on a PPP model.
- The cost of artisans' training will be shared between KVIC and the private business partner wherein KVIC will bear 75% of the cost while 25% will be paid by the business partner.
- Each automatic Agarbatti making machine makes approximately 80 kg Agarbatti per day which will provide direct employment to 4 persons. One powder mixing machine, to be given on a set on 5 Agarbatti making machines, will provide employment to 2 persons.
- The supply of raw material to the artisans, logistics, quality control and marketing of the final product will be the sole responsibility of the business partner.
- The programme aims at handholding artisans and supporting the local Agarbatti industry. The current consumption of Agarbatti in the country is approximately 1490 MT per day; however, India's per day production of Agarbatti is just 760 MT. There is a huge gap between the demand and the supply and hence, immense scope for job creation.
- Under the scheme, KVIC will provide Automatic Agarbatti making machines and powder mixing machines to the artisans through successful private Agarbatti manufacturers who will sign the agreement as business partners.

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- KVIC has decided to procure only locally made machines by Indian manufacturers which also aims at encouraging local production.
- KVIC will provide a 25% subsidy on the cost of the machines and will recover the remaining 75% of the cost from the artisans in easy installments every month.
- The business partner will provide the raw material to the artisans for making Agarbatti and will pay them wages on a job work basis.
- These were found to prevent cataract formation by inhibiting aggregation of crystallin, and crystallin derived peptide aggregates.
- The targeted disaggregation of the accumulated alpha-crystallin protein and crystallin derived peptide aggregates in aged and cataractous human lenses are considered as a viable therapeutic strategy for the prevention of cataract formation.
- The aspirin nanorods are produced using the process of molecular self-assembly, which is a low cost and high-yield technique to generate the aspirin nanorods as compared to the high cost and laborious physical methods generally used for the synthesis of nanoparticles.

Prevention of cataract

About :

INST scientists develop simple economical nonsurgical prevention of cataracts.

What is Cataract?

- A cataract begins when proteins in the eye form clumps that prevent the lens from sending clear images to the retina. The retina works by converting the light that comes through the lens into signals.
- A cataract is a dense, cloudy area that forms in the lens of the eye.
- A cataract is a form of blindness that occurs when the structure of crystallin proteins that make up the lens in our eyes deteriorates, causing damaged or disorganised proteins to aggregate and form a milky blue or brown layer, which ultimately affects lens transparency.

Thus, prevention of the formation of these aggregates as well as their destruction in the early stage of disease progression is a major treatment strategy for cataracts.

Details :

- A team of scientists from the Institute of Nano Science & Technology (INST), an autonomous institute under the DST, has developed nanorods from the nonsteroidal anti-inflammatory drug (NSAID) Aspirin and found it to be an effective non-invasive small molecule-based nanotherapeutics against cataract.
- The team has used the anti-aggregation ability of self-build aspirin nanorods for this purpose.
- Aspirin nanorods prevent the aggregation of crystallin protein and various peptides derived from its fragmentation, which play a crucial role in cataract formation.

Benefits :

- Many natural compounds have already been reported as potential aggregation inhibitors for crystallin aggregation, but the utility of nonsteroidal anti-inflammatory drugs (NSAIDs) like aspirin in this direction will open a new paradigm.
- In addition, aspirin nanorods due to their nano-size will enhance the bioavailability, improve drug loading, lower toxicity, etc.
- Hence, the delivery of the aspirin nanorods as eye drops is going to serve as an effective and viable option to treat cataract non-invasively.
- This easy to use and low-cost alternative nonsurgical treatment method will benefit patients in developing countries who cannot access expensive cataract treatments and surgeries.

FDI in Commercial Coal Mining

About :

100% FDI under automatic route in coal mining activities allowed.

Details:

- In June 2020, the Ministry of Coal under GOI started the auction process of coal mines for commercial coal mining in India. For more on commercial coal mining, check PIB dated June 11, 2020.
- The government also amended the FDI Policy 2017 to permit 100% FDI under automatic route in coal mining activities including associated

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processing infrastructure, for sale of coal, subject to the provisions of Coal Mines (Special Provisions) Act, 2015 and the Mines and Minerals (Development and Regulation) Act, 1957.

- Associated processing infrastructure – this includes coal washery, crushing, coal handling, and separation (magnetic and non-magnetic).
- As per this FDI policy, 100 per cent FDI under automatic route is allowed for coal and lignite mining for captive consumption by power projects, iron and steel and cement units and other eligible activities permitted under and subject to applicable laws and regulations.
- In addition, 100% FDI under automatic route is also allowed for setting up coal processing plants such as washeries subject to the condition that the company shall not do coal mining and shall not sell washed coal or sized coal from its coal processing plants in the open market and shall supply the washed or sized coal to those parties who are supplying raw coal to processing plants.
- It is also clarified by the government that for FDI on coal mining, an entity of a country, which shares a land border with India or where the beneficial owner of investment into India is situated in or is a citizen of any such country, can invest only under the Government route.
 - Further, a citizen of Pakistan or an entity incorporated in Pakistan can invest, only under the Government route, in sectors/activities other than defence, space, atomic energy and sectors/activities prohibited for foreign investment.

Coal industry in India:

- Coal reserves in India constitute about 9.4% of the world's reserves (which is the fifth-largest).
- In terms of production, India is the second-largest producer of coal next only to China.
- Coal in India is chiefly consumed for electricity generation, by the steel and washery industries, sponge iron industry and cement industry.
- Despite India's large domestic resources, our import dependency has continued to rise from 12% in 2007 to 31% in 2017. This is largely due to high growth in demand and poor quality of our domestic coal which, often does not meet international quality standards.
- Besides playing a crucial role in the energy sector, the coal mining sector has major economic

significance for the country.

- It provides employment to over 355,000 people and is a major source of revenue and generates employment in resource-rich states like Jharkhand, Chhattisgarh and Odisha.
- The coal sector's contribution to the GDP of the country is just about 2%.

Tidbits:

- Major coal mines are located in eastern and south-central India.
- Jharkhand has the largest coal deposits followed by Odisha.
- Dhanbad in Jharkhand is the largest coal-producing city in India.
- Coal was first mined in 1774 when two employees of the East India Company started commercially exploiting the Raniganj Coalfield.
- Coal mines were nationalised in the seventies.

Benefits :

- Allowing 100% FDI and opening up the sector for private players are likely to attract global miners to invest in India.
- Private sector participation would result in faster ramp-up of coal production, helping gradually reduce India's import dependence, especially for thermal coal.
- The ushering in of global players on the scene can also lead to increased technology adoption and mechanisation in mining operations, resulting in better operational efficiency for the industry.

Smart India Hackathon – 2020

About :

Grand Finale of the fourth edition (Software) of Smart India Hackathon – 2020 concludes.

Details:

- The themes included tracking & tracing fake news, UAVs for disaster identification and alerting system, network connectivity in remote areas, etc.
- ISRO was the largest contributor to the problem statements.
- The 36-hour hackathon had prize money for each

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problem statement worth Rs. 1,00,000/-.

- Smart India Hackathon (SIH) 2020 is a nationwide initiative to provide students a platform to solve some of the pressing problems we face in our daily lives, and thus inculcate a culture of product innovation and a mindset of problem-solving.
- In SIH 2020, the students would have the opportunity to work on challenges faced within various Ministries, Departments, Industries, PSUs and NGOs to create world-class solutions for some of the top organizations including industries in the world, thus helping the Private sector hire the best minds from across the nation.
- During the current edition of SIH, more than 240 problem statements based on 11 themes were worked upon by the participants.

misdiagnosis.

- It affects men, women and children of all age groups.
- Easy detection of fluorides in water can help prevent public health hazards.
- There is no treatment for severe cases of skeletal fluorosis, only efforts can be made towards reducing the disability which has occurred.
- However, the disease is easily preventable if diagnosed early and steps are taken to prevent intake of excess fluoride through the provision of safe drinking water, promote nutrition and avoid foods with high fluoride content.
- Dental and skeletal fluorosis is irreversible and no treatment exists, the only remedy is prevention by keeping fluoride intake within safe limits.

Fluorosis

About :

Scientists from the Institute of Nano Science and Technology (INST), an autonomous institute of the DST, have developed an equipment-free paper-strip based naked eye fluoride ion detection and quantification kit in drinking water.

Details:

- It can be operated by non-experts for household use to evade Fluorosis-based disorders.

About Fluorosis

- Dental fluorosis affects children and discolours and disfigures the teeth.
- Fluorosis is a crippling disease resulting from the deposition of fluorides in the hard and soft tissues of the body due to excess intake of fluoride through drinking water/food products/industrial pollutants over a long period.
- It results in dental fluorosis, skeletal fluorosis, and non-skeletal fluorosis.
- Skeletal fluorosis affects the bones and major joints of the body like neck, backbone, shoulder, hip and knee joints resulting in severe pain, rigidity or stiffness in joints.
 - Severe forms of skeletal fluorosis result in marked disability.
- Non-skeletal forms of fluorosis are earlier manifestations, which develop long before the onset of typical changes in teeth and skeletal bones these are seen as gastrointestinal symptoms and may overlap with other diseases leading to

Rashtriya Krishi Vikas Yojana (RKVY)

About :

Ministry of Agriculture funding start-ups under the innovation and 'agripreneurship' component of Rashtriya Krishi Vikas Yojana in 2020-21.

Details:

- In order to promote innovation and agripreneurship by providing financial support and nurturing the incubation ecosystem, the **Innovation and Agri-entrepreneurship Development programme** has been launched as a component under the Rashtriya Krishi Vikas Yojana.
- The programme has roped in five agricultural institutes as knowledge partners. Also, 24 Agribusiness Incubators (R-ABIs) have also been appointed.
- In order to contribute directly and indirectly to enhance the income of farmers by providing opportunities to them and to provide employment to the youth, start-ups are being encouraged in the agriculture sector.

Components under the Innovation and Agri-entrepreneurship Development programme:

- Agripreneurship Orientation – 2 months duration with a monthly stipend of Rs. 10,000/- per month. Mentorship is provided on financial, technical, IP issues,

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etc.

- Seed Stage Funding of R-ABI Incubatees – Funding up to Rs. 25 lakhs (85% grant & 15% contribution from the incubatee).
- Idea/Pre-Seed Stage Funding of Agripreneurs – Funding up to Rs. 5 lakhs (90% grant and 10% contribution from the incubatee).
- In all, more than 300 start-ups in the agriculture and allied sector are being funded under the programme.

Tsunami Ready

About :

UNESCO-IOC Tsunami Ready Recognition to Odisha Communities.

About Tsunami Ready:

- Tsunami Ready is a community performance-based programme initiated by the Intergovernmental Oceanographic Commission (IOC) of UNESCO to promote tsunami preparedness through the active collaboration of public, community leaders, and national and local emergency management agencies.
- The initiative is modelled after the US National Ocean and Atmospheric Administration (NOAA) National Weather Service's successful *TsunamiReady* program.

Objectives :

- To improve the coastal community's preparedness for tsunami emergencies.
- To minimize the loss of life and property.
- To ensure a structural and systematic approach in building community preparedness through fulfilling the best-practice indicators set by the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS) of UNESCO-IOC.
- Fulfilment of the guidelines ensures communities have a strong end-to-end tsunami early warning and mitigation system with a particular focus on community awareness and preparedness to respond.

About the Intergovernmental Oceanographic Commission (IOC):

- IOC-UNESCO was established in 1960 as a body with functional autonomy within UNESCO and is the only competent organization for marine science within the UN system.
- The purpose of the Commission is to promote international cooperation and to coordinate programmes in research, services and capacity-building, in order to learn more about the nature and resources of the ocean and coastal areas and to apply that knowledge for the improvement of management, sustainable development, the protection of the marine environment, and the decision-making processes of its Member States.
- The IOC is recognized through the United Nations Convention on the Law of the Sea (UNCLOS) as the competent international organization in the fields of Marine Scientific Research and Transfer of Marine Technology.

About Tsunami Warning in India:

- The Indian Tsunami Early Warning Centre (ITEWC), INCOIS is the nodal agency to provide tsunami advisories to India.
 - INCOIS is the Indian National Centre for Ocean Information Services, an autonomous body under the Ministry of Earth Sciences.
- INCOIS is also providing tsunami advisories to the Indian Ocean Region (25 countries) as a Tsunami Service Provider under the responsibility assigned by IOC-UNESCO.
- To create awareness and preparedness about tsunamis, INCOIS regularly organizes Tsunami Standard Operating Procedure (SOP) workshops, training sessions and seminars for state and district level Disaster Management Officials (DMOs) of the coastal states.
- ITEWC also conducts tsunami mock exercises (called IOWave) twice a year in coordination with the Ministry of Home Affairs and the national and state-level disaster management agencies.
- To implement and monitor the implementation of Tsunami Ready and IOWave Exercises in India, the Ministry of Earth Sciences established a National Board under the chairmanship of Director, Indian National Centre for Ocean Information Centre (INCOIS).
 - The members of the board are drawn from:
 - Earth Sciences Ministry

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- National Disaster Management Authority (NDMA)
- Ministry of Home Affairs (MHA)
- Odisha State Disaster Management Authority (OSDMA)
- Andaman & Nicobar Islands Directorate of Disaster Management (DDM)
- INCOIS
- Based on the National Board recommendations, UNESCO-IOC has approved the recognition of two communities viz., Venkataipur and Noliasahi as Tsunami Ready Communities. The two communities are villages in Odisha.
- With this recognition, India is the first country to implement Tsunami Ready in the Indian Ocean Region and Odisha is the first state.

Landslides

About :

Landslide in Rajamalai, Idukki.

What is landslides:

- Landslides can be triggered by many factors such as earthquakes, volcanic activity, soil erosion and slow weathering of rocks.
- Landslides are a natural disaster that result in loss of lives and property. South Asian countries and India particularly, are seriously affected by landslides every year.
- They are a major hydrogeological hazard that affect large parts of India including the Himalayas, the north-eastern hill ranges, the Eastern and Western Ghats, the Nilgiris, and the Vindhyas.
- A landslide is defined as the movement of a mass of rock, debris, or earth down a slope.
- Landslides are a type of mass wasting (a geomorphic process), which denotes any down-slope movement of soil and rock under the direct influence of gravity.

National Handloom Day

About :

The sixth National Handloom Day observed on 7th August 2020.

About the National Handloom Day:

- The handloom sector is a symbol of India's glorious cultural heritage.
- It is also an important source of livelihood in India.
- In addition, the sector is vital for women empowerment as more than 70% of the handloom weavers and allied workers are women.
- This year, the Textile Ministry is also going to launch a handloom portal along with a social media campaign.
- In 2015, 7th August was chosen as the National Handloom Day to commemorate the Swadeshi Movement which was launched on the same date in the year 1905.
- The objective is to generate awareness about the handloom industry and its contribution to the socio-economic development of the country amongst the public.
- On this day, the handloom weaving community is honoured and the contribution of this sector in the socio-economic development of this country is highlighted.

Major types of landslides:

- **Topples:** It happens due to the forward rotation of a unit or units about some pivotal point, below or low in the unit, under the actions of gravity and forces exerted by adjacent units or by fluids in cracks.
- **Slides:** Here, rocks, debris or soil slide through slope forming material.
- **Falls:** It happens due to the abrupt movements of masses of geologic materials, such as rocks and boulders that become detached from steep slopes or cliffs.
- **Spread:** It generally happens on very gentle slopes or flat terrain.

Landslide mitigation:

- Restriction or removal of population from landslide-prone areas.
- Restriction of certain types of land use where slopes are vulnerable.
- Installing early warning systems based on the monitoring of ground conditions like slope displacement, strain in soil and rocks, groundwater levels.

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Atma Nirbhar Bharat Abhiyaan/Krishi

About :

Agriculture Mechanization and Technology Division takes various initiatives for farmers' welfare under Atma Nirbhar Bharat Abhiyaan/Krishi.

Under Atma Nirbhar Bharat Abhiyaan/Krishi, the following schemes have been initiated:

Sub Mission on Agricultural Mechanization (SMAM)

- Agricultural Mechanization is one of the key drivers for sustainable development of the agriculture sector which helps in increasing production by timely farm operations, reducing losses, reducing the cost of operations by ensuring better management of costly inputs.
- Mechanization also enhances the productivity of natural resources and reduces drudgery associated with various farm operations.
- For driving mechanization in this sector, the **Sub Mission on Agricultural Mechanization (SMAM)** was launched in 2014.
 - This scheme provides a suitable platform for converging all activities for inclusive growth of agricultural mechanization by providing a 'single window' approach for implementation with a special focus on small & marginal farmers.

CRM (Crop Residue Management) scheme

- With an objective to wean away farmers of Punjab and Haryana from Crop Residue Burning, the scheme of CRM (Crop Residue Management) was initiated since 2018 by the Ministry of Agriculture & Farmers' Welfare.
 - Paddy straw burning is one of the major problems in the Northern Region of the country causing environmental pollution.
 - Paddy straw burning is currently practised on a large scale in Punjab & Haryana to clear the fields for Rabi Crop sowing because the time window available between the harvesting of paddy crop and the sowing of next crops is very short (2-3 weeks).
- Under this scheme, farmers are provided machinery for in-situ management of crop residue through the establishment of CHCs (Custom Hiring Centres).
- Individual farmers are also provided with a subsidy for the procurement of machinery.
- The Ministry has also developed a Multilingual

Mobile App "CHC- Farm Machinery" which connects the farmers with Custom Hiring Service Centres situated in their locality.

- This App has been modified and provided more features and renamed "FARMS-app" (Farm Machinery Solutions-app).

GeM 4.0

About :

Government e Marketplace (GeM) organised the fourth edition of the National Public Procurement Conclave (NPPC) in association with the Confederation of Indian Industry (CII).

What is GeM 4.0:

- GeM 4.0 adds more features to the GeM platform. Some of the new features include:
 - Timely payment to the sellers.
 - Advanced search engine – NLP-based (Natural language Processing).
 - Demand aggregation – Buyers would be able to collate multiple orders of the same product for various consignees across multiple organisations in the same Ministry.
 - Staggered delivery – flexible delivery allowed.
 - Redesigned bidding module by way of item-wise and consignee-wise bidding.
 - Better grievance redressal mechanism in place.
 - Portal is integrated with advanced analytics, artificial intelligence, machine learning and deep learning.
 - Revamped user interface.
 - Price variance included in the platform making cataloguing easy for sellers.
 - Ease of payment – GeM is integrating with multiple banks and ERPs.
 - New categories and services.
 - Seller rating introduced.
 - Vendors and buyers would be able to interact with each other so that suitable requirements can be designed with market research.
 - Central Public Sector Enterprises (CPSEs) will now have dedicated pages.

What is GeM:

- The Government e-Marketplace is a dedicated online platform where goods and services can be

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procured by various organizations and departments under the Government of India, and by the PSUs also.

- GeM is aimed at enhancing the efficiency, speed and transparency in public procurement of goods and services. It also serves the objective of eliminating corruption.
- It is administered by the Ministry of Commerce and Industries under the Directorate General of Supplies and Disposals (DGS&D)
- It is a completely paperless, cashless and system-driven e-marketplace that enables the procurement of common use goods and services with a minimal human interface.
- It is an online marketplace for government officers and others for procurement.

eSanjeevani

About :

1.5 lakh tele-consultations completed through 'eSanjeevani' and 'eSanjeevaniOPD'.

National Teleconsultation Service:

- The Health Ministry launched the National Teleconsultation Service to facilitate telemedicine aiming to provide healthcare services to patients in their homes.
- This offers communication between doctors and patients who are geographically separated.
- There are two types of telemedicine services:
 - **eSanjeevani: Doctor-to-Doctor**
 - This is being deployed in 155,000 Health and Wellness Centres under Ayushman Bharat
 - **eSanjeevani OPD: Doctor-to-Patient (teleconsultation)**
 - This is the government's flagship telemedicine technology developed by the Centre for Development of Advanced Computing in Mohali.
- It has been implemented by 23 states.
- The panel of doctors on the service are drawn by the state governments.
- The patients do not have to pay any fees for the teleconsultation service. They are also given ePrescriptions (electronic prescriptions).

The government has also interlinked 50 government

medical colleges in the country for tele-education, e-Learning and online medical consultation under the National Medical College Network (NMCN) scheme.

Telemedicine

As per the World Health Organisation, telemedicine is the delivery of health care services, where distance is a critical factor, by all health care professionals using IT for diagnosis, treatment and prevention of disease and injuries, research and evaluation, etc., all in the interests of advancing the health of individuals and their communities.

- The term 'telemedicine' was framed in the seventies.
- It involves the use of various types of ICTs (information communication technologies).
- It facilitates patients' and rural practitioners' access to specialist health services and support.
- It comprises videoconferencing, transmission of still medical images, document sharing, remote monitoring of vital signs, etc.

Connecting Chennai – Andaman and Nicobar Islands (CANI)

About :

Prime Minister inaugurated the first-ever undersea optical fibre cable project for Andaman and Nicobar Islands.

Details:

- It will provide high-speed broadband connections in the union territory at par with services in the mainland.
- The PM said that all the Islands of India would be playing an important role under India's new trade strategy for the Indo-Pacific region.
- He also opined that under the Act-East policy, the role of Andaman and Nicobar in India's strong relations with East Asian countries and other countries connected to the sea is very high and is going to increase.
- The submarine Optical Fibre Cable (OFC) connecting Andaman & Nicobar Islands to the mainland was launched.
- The project had started in December 2018 and the laying of the 2300 km submarine cable undersea was completed in record time by BSNL.
- The submarine cable is expected to help the islands in getting cheaper & better connectivity and all the benefits of Digital India, especially in

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improving online education, telemedicine, banking system, online trading and in boosting tourism.

Island Development Agency (IDA):

- The meetings of the IDA are convened by the NITI Aayog's CEO and chaired by the Union Home Minister.
- Other members of the Agency include the secretaries of tourism, tribal affairs, home and environment ministries and the Cabinet Secretary.
- GOI had constituted the IDA in 2017 for the holistic development of the islands of the country.
- The IDA functions under the aegis of the Home Ministry.

Human-elephant conflict

About

Compendium on Best practices of Human-Elephant Conflict Management in India launched on the eve of World Elephant Day.

World Elephant Day:

- World Elephant Day is observed internationally on 12th August every year.
- It is dedicated to the preservation and protection of the world's elephants.
- The goal of the World Elephant Day is to create awareness on elephant conservation, and to share knowledge and positive solutions for the better protection and management of wild and captive elephants.
- The idea of celebrating this day was conceived by Canadian filmmakers Patricia Sims and Michael Clark, and Sivaporn Dardarananda, Secretary-General of the Elephant Reintroduction Foundation in Thailand.
- Officially, the day was launched in 2012 by Patricia Sims and the Elephant Reintroduction Foundation.

What is Human-elephant conflict ?

- Globally, wild Asian elephants are present in 13 countries and India holds the largest population of wild Asian elephants (*Elephas maximus*) with nearly 30,000 animals (60% of the global species population).

- Human habitation is impinging on the boundary of many Protected Areas and shrinking space, shortage of food often forces wild animals towards populated areas.
- Each year, human-elephant conflict results in about 500 human deaths and damage to thousands of houses and millions of hectares of crops, while over 100 elephants die due to human-related activities, which include poaching for ivory or meat, poisoning, electrocution and collision with trains.
- Despite widespread reverence for wild elephants, human-elephant conflict is on the rise as local people attempt to protect their livelihoods.
- To tackle such conflicts and avoid losses on both sides, it is important to strengthen the human-elephant coexistence by active management interventions by the State Forest Departments, the involvement of various stakeholders and sensitization and generating awareness in local communities of forest fringe areas.
- The compendium released includes some best practices such as:
 - Retaining elephants in their natural habitats by:
 - Developing and maintaining perennial water holes.
 - Having solar-powered borewells for ensuring water supply throughout the year.
 - Creating fodder plantations.
 - Managing fire for controlling conflicts.
 - Building elephant-proof trenches, hanging fences, rubble walls, etc.
 - Habitat management activities:
 - Grasslands management (Karnataka)
 - Vayal management (Kerala) – Vayals are microhabitats forming an ecological niche and marshy meadows surrounded by forests. Vayals may be managed to reduce the threat of infestation of exotic/invasive weeds.
 - Removal of weeds, wattles and other invasive species.
 - Habitat improvement activities:
 - Bamboo planting/restocking.
 - Intensive soil working – to improve habitats by adding fodder and canopy.

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- Monitoring elephants by drones, radio-collaring and placing watchtowers.
- Strengthening elephant corridors:
 - Relocation of villages from corridors.
 - Securing corridors.
- Guiding elephants back into their natural habitats.
- Emergency measures to mitigate human-elephant conflicts:
 - Emergency response teams.
 - An open communication channel between the community and the forest department.
 - Capacity building and awareness drives.

water.

About Geothermal springs:

- A geothermal spring is a spring produced by the emergence of geothermally heated groundwater that rises from the Earth's crust.
- They are also called hot springs or hydrothermal springs.
- They form when water deep below the Earth's surface is heated by rocks or other means and rises to the Earth's surface.

Organic Farming

About :

Organic farming in India.

Details:

- India ranks first in the number of organic farmers and ninth in terms of the area under organic farming.
- Sikkim became the first state in the world to become fully organic.
- Uttarakhand and Tripura are also setting similar targets in organic farming.
- North East India has traditionally been organic and the consumption of chemicals is far less than the rest of the country.
- The tribal areas and the islands are also being nurtured for organic farming.
- The **major organic exports from India** are flax seeds, sesame, soybean, tea, medicinal plants, rice and pulses, which were instrumental in driving an increase of nearly 50% in organic exports in 2018-19, touching Rs 5151 crore.
- To encourage organic chemical-free farming, the government launched two schemes in 2015.
 - **Paramparagat Krishi Vikas Yojana (PKVY)**
 - **Mission Organic Value Chain Development for North East Region (MOVCD)**
 - It is a Central Sector Scheme, a sub-mission under National Mission for Sustainable Agriculture (NMSA).
 - It is launched by the Ministry of Agriculture and Farmers' Welfare.
 - It is for implementation in the

Himalayan Geothermal Springs

About :

Himalayan Geothermal Springs release a huge amount of carbon dioxide in the atmosphere.

A study by the Wadia Institute of Himalayan Geology, an autonomous institute under the Department of Science & Technology, Govt. of India, investigated and characterized the gas emissions from these springs.

Details:

- The study suggested that CO₂ in these thermal springs are sourced from metamorphic decarbonation of carbonate rocks present deep in the Himalayan core along with magmatism and oxidation of graphite.
- Most of the geothermal water is dominated by evaporation followed by weathering of silicate rocks. Isotopic analyses further point towards a meteoric source for the geothermal water.
- The Himalayas hosts about 600 geothermal springs having varied temperature and chemical conditions.
- Carbon outflux from Earth's interior to the exosphere through volcanic eruptions, fault zones, and geothermal systems contribute to the global carbon cycle that affects the short and long term climate of the Earth.
- The study found that the Himalayan geothermal springs, which cover about 10,000 square km in the Garhwal region of the Himalayas, show a significant discharge of carbon dioxide (CO₂) rich

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states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.

- The scheme aims at the development of certified organic production in a value chain mode to link growers with consumers and to support the development of the entire value chain starting from inputs, seeds, certification, to the creation of facilities for collection, aggregation, processing, marketing and brand building initiative.
- Natural farming is not a new concept in India, with farmers having tilled their land without the use of chemicals – largely relying on organic residues, cow dung, composts, etc. since time immemorial.
- Organic farming is in sync with **Sustainable Development Goal #2**, which is, 'end hunger, achieve food security and improved nutrition and promote sustainable agriculture'.

Sarthak

About :

Indian Coast Guard Offshore Patrol Vessel 'Sarthak' launched.

About Offshore Patrol Vessel (OPV) Sarthak:

- OPV Sarthak is the 4th in the series of five OPVs.
 - The other five classes of OPVs are: Vikram, Samarth, Vishwast, Sankalp and Samar.
- It has been designed & built indigenously by M/s Goa Shipyard Limited (GSL) in line with 'Make in India'.
- The ship is fitted with state-of-the-art navigation and communication equipment, sensor and machinery.
- Specifications of OPV Sarthak:
 - Length – 105 m
 - Weight – 2350 tons
 - Propelled by – two 9100 KW diesel engines
 - Maximum speed – 26 knots
 - Endurance – 6000 nautical miles
- The ship is designed to embark and carry a twin-engine helicopter, four high-speed boats and one

inflatable boat for swift boarding and Search & Rescue operations.

- The ship is also capable of carrying limited pollution response equipment to undertake oil spill pollution response at sea.
- The ship will be deployed extensively for EEZ surveillance, coastal security and other duties as enshrined in the Coast Guard charter of duties, to safeguard the maritime interests of the nation.

Swasthya Portal

About :

Union Tribal Affairs Minister to launch Swasthya Portal.

About the Swasthya Portal:

- The dashboard presents data curated from multiple sources for the 177 identified high priority tribal districts.
- In addition, the portal also has research studies, innovations and best practices on tribal community curated from multiple sources related to tribal health and nutrition.
- The portal will be managed by the Ministry of Tribal Affairs' Centre of Excellence (CoE) for Knowledge Management in Health and Nutrition.
- The online portal will act as a one-stop solution presenting all information pertaining to tribal health and nutrition-related to Scheduled Tribes.
- It offers health and nutrition information about the tribal population of India.
- It has a dashboard, knowledge repository, partner segment, Sickle Cell Diseases (SCD) support corner.

Omega Centauri

About :

Study by a team of scientists from the Indian Institute of Astrophysics (IIA), an autonomous institute under the Department of Science & Technology (DST) on numerous stars of Omega Centauri.

About Omega Centauri :

- It is at a distance of 15800 light-years from Earth and is visible to the naked eye.
- A **globular cluster** is a spherical collection of stars that orbits a galactic core. Such clusters are

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tightly bound by gravity.

- Stars of a globular cluster are formed from the same gaseous cloud. Therefore, generally, all the stars in a globular cluster would be homogenous in their chemical composition.
- Omega Centauri is an exception to this rule. Its different stars do not show the same metal content.
- It is a globular cluster in the constellation of Centaurus.
- It is the largest globular cluster in the Milky Way at a diameter of roughly 150 light-years.
- It is estimated to contain approximately 10 million stars, making it the most massive globular cluster in the Milky Way.

are:

- Centrally funded institutions
- State-funded universities
- State-funded autonomous institutions
- Private/deemed universities
- Private institutions
- Women-only higher education institutions (this category is included to bring gender parity in the areas of innovation and entrepreneurship)

Criteria for ARIIA ranking :

There are seven parameters with different weightages mentioned below:

1. Budget, Expenses to Support & Revenue Generated (20 Marks)
2. Infrastructures & Facilities to Support Innovations and Start-ups (10 Marks)
3. Awareness Activities for Promoting Idea Generation and Innovation (20 Marks)
4. Promotion and Supporting Entrepreneurship Development (20 Marks)
5. Intellectual Property (IP) Generation, Technology Transfer and Commercialization (14 Marks)
6. Innovative Learning Methods & Courses (10 Marks)
7. Innovations in Governance of the Institution (6 Marks)

Atal Ranking of Institutions on Innovation Achievements (ARIIA)

About :

ARIIA 2020 to be released.

What is ARIIA ?

- This is because innovation is being seen as the key driver of economic growth and social development since it can translate scientific knowledge into products, services and offerings.
- ARIIA ranking is expected to inspire Indian institutions to reorient their mindset and build ecosystems to encourage high-quality research, innovation and entrepreneurship.
- More than quantity, the national ranking will emphasise on the quality of innovations and will try to measure the real impact created by these innovations in the country and also abroad.
- All recognized Higher Educational Institutions of India are eligible to participate in the ARIIA ranking.
- ARIIA is an initiative of the Ministry of HRD to systematically rank higher education institutions and universities in India on indicators related to Innovation, Startup and Entrepreneurship Development amongst students and faculty.
- It is implemented by the AICTE and the Ministry's Innovation Cell.
- The idea behind ARIIA is to encourage innovation and entrepreneurship among the academia and the student community in the country.

ARIIA 2020:

- ARIIA 2020 gives prizes in six categories. They

World Solar Technology Summit

About :

PM to inaugurate the first World Solar Technology Summit to be held in September 2020.

About the Summit:

- The First World Solar Technology Summit will be organized by the International Solar Alliance (ISA) on a virtual platform on the 8th of September.
- Ministers from all member countries of the ISA will attend the summit. It will also be attended by high-level dignitaries from the scientific research and development community, heads of global corporations, financial & multilateral bodies, think tanks and senior government functionaries.
- The summit will include many deliberations on low cost, innovative and affordable solar technologies.
- ISA would also be launching the ISA Journal on Solar Energy that would help authors from across the globe to publish their articles on solar energy, during the event.

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Agricultural Commodities Export

About :

Exports of agricultural commodities from March to June 2020 increased by 23.24% compared to the corresponding period in 2019.

Details:

- Agricultural exports as a percentage of India's agricultural GDP has increased from 9.4 % in 2017-18 to 9.9 % in 2018-19.
- The agricultural imports as a percentage of India's agricultural GDP have declined from 5.7 % to 4.9 % indicating **exportable surplus and decreased dependence on import of agricultural products in India.**
- As per WTO's Trade Statistics, the share of India's agricultural exports and imports in the world agriculture trade in 2017 was 2.27% and 1.90%, respectively.
- Even during the COVID-19 pandemic, India continued to export.

Concerns:

- India has made giant strides in agriculture since independence, both in production and exports.
- While India ranks among the top nations in the production of many agricultural goods, it does not figure in the top when it comes to agri exports.
- For example, India holds the second rank in the world wheat production but ranks 34th in export. Similarly, despite being world No. 3 in the production of vegetables, the export ranking of India is only 14th. The same is the case for fruits, where India is the second-largest producer in the world but the export ranking is 23rd.

Interventions by the DAC&FW:

- The Department of Agriculture Cooperation & Farmers' Welfare (DAC&FW) has prepared a comprehensive action plan/strategy towards the promotion of agri trade.
- A detailed exploration of data and issues of pre-production, production, and post-harvest has been undertaken to evolve an end to end approach for developing a holistic strategy.
- An analysis of product groups and specific commodities has been done with regard to the present status of production & exports, strengths, challenges and thereafter interventions have been identified after consultations with stakeholders.

- The twofold approach addresses boosting Agri Export with emphasis on value addition and focussed action plan for Import Substitution. The interventions so identified have been converted into a timed action plan.
- A few focus areas of agri exports are:
 - Fast evolving niche markets of wellness food/health-conscious food/nutraceuticals.
 - Development of **"Brand India"** in campaign mode to help penetration into new foreign markets and of new products which automatically translates into higher value realisation.
 - Gulf countries have been identified as a focus destination.

Horticulture:

- It also exports fruits and vegetables worth more than Rs5000 crore annually.
- Grapes occupy the premier position in fresh fruit exports followed by Mango, Pomegranate, Banana, and Oranges. In the fresh vegetable export basket, Onions, Mixed Vegetables, Potatoes, Tomatoes, and Green Chillies are the major items.
- However, India's share in the world trade of fruits and vegetables is minuscule. There is a huge potential in this area.
- This is a growing sub-sector.
- India holds the 2nd position in the production of fruits and vegetables.

Drone based surveillance system for Railway Security

About :

Indian Railways introduces drone-based surveillance system for Railway Security.

Details:

- These drones are capable of Real-Time Tracking, Video Streaming and may be operated on Automatic Fail Safe Mode.
- So far, nine drones have been procured by the RPF and there are plans for buying 17 more in the future.
- The Mumbai Division of Central Railway in Indian Railways has recently procured two **Ninja UAVs** for better security and surveillance in railway areas like station premises, railway track sections, yards, workshops, etc.
- A team of four staff of the Railway Protection

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Force (RPF), Mumbai has been trained for drone flying, surveillance and maintenance.

Uses :

- The drones may also be pressed in service at disaster sites for helping in rescue, recovery and restoration and coordination of efforts of various agencies.
- They are very useful while undertaking mapping of railway assets to assess the encroachments on railway property.
- During large scale crowd management efforts, it may give vital inputs like crowd magnitude, probable time of arrival and dispersal based on which crowd regulation efforts may be planned and executed.
- A drone camera can cover a large area that requires 8-10 RPF personnel. Thus, it may lead to substantial improvement in utilization of scarce manpower.
- The purpose of the drone deployment is to provide a force multiplier and aid to the effectiveness of the security personnel deployed.
- It can help in the inspection of railway assets and safety of yards, workshops, car sheds, etc.
- It can be used to launch surveillance on criminal and anti-social activities like gambling, throwing of garbage, hawking, etc. in the railway premises.
- It may be deployed for data collection. Analysis of such data collected may prove to be extremely useful in vulnerable sections for safe operations of trains.

National Recruitment Agency

About :

Cabinet approves setting up of National Recruitment Agency to conduct Common Eligibility Test.

About the National Recruitment Agency (NRA):

- The NRA will be a multi-agency body that will conduct a Common Eligibility Test (CET) to screen/shortlist candidates for the Group B and C (non-technical) posts.
- The NRA will have representatives of the Ministry of Railways, Ministry of Finance/Department of Financial Services, the SSC, RRB & IBPS.
- It is envisioned that the NRA would be a specialist body bringing state-of-the-art technology and best practices to the field of Central Government recruitment.

Need for the NRA:

- At present, candidates seeking government jobs have to appear for separate examinations conducted by multiple recruiting agencies for various posts, for which similar eligibility conditions have been prescribed.
- Candidates have to pay fees to multiple recruiting agencies and also travel long distances for appearing in various exams.
- These multiple recruitment examinations are a burden on the candidates, as also on the respective recruitment agencies, involving avoidable/repetitive expenditure, law and order/security related issues and venue related problems.
- On average, 2.5 crore to 3 crore candidates appear in each of these examinations.
- A common eligibility Test would enable these candidates to appear once and apply to any or all of these recruitment agencies.

Expected benefits of the NRA:

- Enhance access to candidates from far-flung locations.
- Provide relief to economically weaker candidates because of the avoidance of multiple fees, travel, boarding, lodging, etc. It will also help women candidates and candidates from rural areas.
- The CET would be available in a number of languages, making it more accessible to candidates from various backgrounds and regions.
- A single eligibility test would significantly reduce the recruitment cycle.

Standardised testing:

- The NRA shall conduct a separate CET each for the three levels of graduate, higher secondary (12th pass) and the matriculate (10th pass) candidates for those non-technical posts to which recruitment is presently carried out by the Staff Selection Commission (SSC), the Railway Recruitment Boards (RRBs) and by the Institute of Banking Personnel Selection (IBPS).
- Based on the screening done at the CET score level, final selection for recruitment shall be made through separate specialised Tiers (II, III, etc.) of examination which shall be conducted by the respective recruitment agencies.
- The CET score of the candidate shall be valid for a period of three years from the date of declaration of the result. The best of the valid scores shall be deemed to be the current score of the candidate.
- Even though initially the CET scores would be used by the three recruiting agencies, it is expected that eventually, other recruitment agencies of the

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central government would adopt them. Later on, the scores would be open to other public and private agencies if they choose.

- There shall be no restriction on the number of attempts to be taken by a candidate to appear in the CET subject to the upper age limit.
- Relaxation in the upper age limit shall be given to candidates of SC/ST/OBC and other categories.
- Candidates would have the facility of registering on a common portal and give a choice of centres. Based on availability, they would be allotted examination centres.
- The ultimate aim is to reach a stage wherein candidates can schedule their own tests at centres of their choice.

What are flavonoids?

- Flavonoids are a group of phytonutrients present in almost all vegetables and fruits.
- They, along with carotenoids, are responsible for the varied colours of fruits and vegetables.
- There are more than 6000 types of flavonoids.
- They are associated with health benefits being good antioxidants, having anti-inflammatory properties and also offer benefits for the immune system.
- Most ayurvedic products are rich in flavonoids. Flavonoids are mostly present in tomato, onion, lettuce, grape, apple, strawberry, peach, and other vegetables.
- A diet rich in flavonoids protects from diseases related to heart, liver, kidney, brain, and other infectious diseases.

Tuberculosis & Chikungunya inhibiting Flavonoid Molecules

About :

The first synthetic path for tuberculosis & chikungunya inhibiting flavonoid molecules deciphered.

Details:

- Flavonoid molecules, like rugosaflavonoids, podocarpaflavone, and isoflavone, found to inhibit tuberculosis and chikungunya, have so far been isolated from plants.
- A team of scientists from the Agharkar Research Institute (ARI), Pune, an autonomous institute of the DST, have discovered the route to synthesize these molecules in the lab.
- This discovery is the first synthetic route for producing flavonoid molecules related to the treatment of tuberculosis and chikungunya.

Significance of the discovery:

- Flavonoids are normally isolated from plants.
- However, inconsistency in natural products can occur in different seasons, places, and species.
- Along with these hurdles, over-exploitation of medicinal plants puts an extra burden on the environment.
- To overcome these problems, such products can be developed by synthetic protocols in the laboratory by simple and cost-effective methods.
- The synthetic natural products possess a structure and medicinal properties similar to the natural product.

One Nation One Standard scheme

About :

The Union Minister for Consumer Affairs, Food & Public Distribution virtually launched the online system of Registration and Renewal of Jewellers and online system of recognition and renewal of the Assaying and Hallmarking Centres.

What is One Nation One Standard:

- According to the Union Consumer Affairs Minister, the government is working on setting a 'One nation, one standard' system to ensure quality products and services to consumers.
- **Current system:**
 - The Bureau of Indian Standards (BIS) is the only national body that frames standards. It has come out with over 20,000 standards for various products and services so far. **Read more about BIS in the article about Ecomark.**
 - There are also about 50-odd agencies that have framed about 400 standards in the country.
 - There are multiple standards in India today for the same product or service.
 - The BIS only frames standards and cannot regulate its implementation.
- The purpose of the 'one nation one standard' scheme is to converge such standards with the BIS which is a recognised national body for standardisation in the country.
- Currently, various departments have their own standards, like the FSSAI for food products, the

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Automobile Research Organisation of India for the automobile sector and so on.

- These standards need to be converged with BIS and redesignated as one to help in easy implementation and monitoring of standards.
- However, the entire process will take time and it will depend on how soon other agencies are willing to converge with BIS.
- The NITI Aayog has also suggested the setting up of a separate regulator to monitor the implementation of the standards.
- Bringing all standards under one roof will additionally help the country to ensure that imported products also subscribe to Indian standards. Currently, under 10% of all imported goods adhere to BIS standards.

'Ethanol' fuel

About :

Utilization of excess sugarcane for ethanol production to improve the viability of the sugar industry.

Details:

- The state-wise targets for ethanol manufacture have also been fixed.
- Sugar mills/distilleries have been advised to utilize at least 85 % of their existing installed capacity to produce ethanol.
- Sugar mills having distillation capacity have been advised to divert B-heavy molasses and sugar syrup for producing ethanol to utilize their capacity to maximum extent; and those sugar mills which do not have distillation capacity should produce B-Heavy molasses and should tie up with distilleries which can produce ethanol from B-Heavy molasses.
- States have also been requested to ensure smooth movement of molasses & ethanol.
- The government has taken various measures to improve the viability of the sugar industry, thereby enabling sugar mills to make timely payment of cane dues of farmers.
- Diversion of excess sugarcane and sugar is the long term solution for addressing the problem of excess stock and improving viability of the sugar industry.
- Ethanol is a green fuel & its blending with petrol also saves the country's foreign exchange.
- To encourage sugar mills to divert excess sugarcane to produce ethanol for blending with

petrol, the government has allowed production of ethanol from B-Heavy Molasses, sugarcane juice, sugar syrup and sugar; and has also fixed the remunerative ex-mill price of ethanol derived from these feed-stocks.

Fuel from Algae

About :

INSPIRE faculty fellow developing low-cost biodiesel from microalgae.

Details:

- An INSPIRE faculty fellow from the National Institute of Technology, Tiruchirappalli, Tamil Nadu has proposed techniques for enhancing the triacylglycerol content in marine microalgae towards economic biodiesel production.
- This submission by the scientist received the "Innovation in Science Pursuit for Inspired Research" (INSPIRE) faculty fellowship instituted by the Department of Science & Technology, Govt. of India.
- The scientist and his team have isolated predominant strains of marine microalgal species namely *Picochlorum* sp., *Scenedesmus* sp., *Chlorella* sp., from the coastal regions of Tamil Nadu for their potential in terms of total organic carbon content, and Triacylglycerides (TAG) content for biodiesel production.

Fuel potential of algae

- While fossil fuels deplete, the fuel potential of algae residing in the vast marine environment surrounding India remains unexplored.
- Algae fuel, algal biofuel, or algal oil is an alternative to liquid fossil fuels that uses algae as its source of energy-rich oils.
- When made from seaweed (macroalgae) it can be known as seaweed fuel or seaweed oil.
- Like fossil fuel, algae fuel releases CO₂ when burnt, but unlike fossil fuel, algae fuel and other biofuels only release CO₂ recently removed from the atmosphere via photosynthesis as the algae or plant grew.
 - Algae use photosynthesis to convert CO₂ and sunlight into energy-rich chemicals.
- The lipid (oily) part of the algae biomass can be extracted and converted into biodiesel by a process similar to that used for any other vegetable oil.

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- The energy crisis and the world food crisis have ignited interest in algaculture (farming algae) for making biodiesel and other biofuels using land unsuitable for agriculture.
- Out of the over 30000 freshwater and saltwater species of algae, nearly 1000 species have exhibited the potential for producing biofuel.

Advantages of using algae for fuel

- It can be grown more easily than traditional crops. It can also be cultivated on land not suitable for regularly grown crops. It also uses wastewater in its growth. This means arable land used for cultivating food crops need not be spared for algaculture.
- Other feedstocks for biodiesel such as corn and palm are a source of food for humans. So, using them for producing fuel reduces the amount of food available, increasing the cost of both food and fuel. Using algae can thus be a viable option for biodiesel.
- Growing algae as a source of biofuel has huge environmental benefits. Apart from using contaminated water for growth, many species of algae are good bio-fixers as well.

However, the technology is still fairly new and it is said to be years away from being commercially viable.

Gangetic Dolphins

About :

Experts from India, Bangladesh, Nepal and Myanmar come together for enhancing conservation of river dolphins in the region.

River Dolphins:

Gangetic River Dolphin

- River dolphins are aquatic mammals that reside exclusively in freshwater or brackish water.
- There are only five extant species of river dolphins left and all of them are endangered or critically endangered. They are found in regions of Asia and South America.
- The **Ganges River Dolphin** is a type of South Asian river dolphin and is found in the Ganga and Brahmaputra rivers and their tributaries.
 - It is classified as 'endangered' in the IUCN Red List.

- It has been declared the 'national aquatic animal of India'.
- It is also the official animal of the city of Guwahati.
- South Asian river dolphins have poor eyesight and rely on echolocation to catch prey.
 - Echolocation is a phenomenon in which animals emit calls out to the environment and listen to the echoes of those calls that return from various nearby objects. They use these echoes to locate and identify objects.
 - Echolocation is also known as biosonar.
 - Dolphins and sperm whales use echolocation to navigate dark oceans and catch prey.
- River dolphins are at risk because of pollution, dams, shipping and bycatch.
- Dolphins are important indicators for the health of the rivers they live in.

Irrawaddy Dolphins:

- They are a species of oceanic dolphins found in discontinuous subpopulations near sea coasts and in estuaries and rivers in parts of the Bay of Bengal and Southeast Asia.

The Sunderban delta is a unique ecological space where Gangetic as well as Irrawaddy Dolphin are present, spread over India as well as Bangladesh.

The government had announced the initiation of a Project Dolphin along the lines of Project Tiger in order to enhance the number of river dolphins.

Nationally Determined Contributions (NDC) – Transport Initiative for Asia (TIA)

About :

NITI Aayog launches the India component of the Nationally Determined Contributions (NDC) – Transport Initiative for Asia (TIA).

About NDC – Transport Initiative for Asia (NDC – TIA):

- The NDC Transport Initiative for Asia is a joint programme of seven organisations and is funded by the International Climate Initiative (IKI) of the German Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU).

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- It is a regional initiative aimed at a holistic approach to decarbonize the transport sector in China, India, Vietnam, and further Asian countries.
- This includes, for example, the development of a coherent strategy for efficient policy approaches which is coordinated between various sector ministries, civil society and the private sector.
- The NDC-TIA India Component will focus on establishing a multi-stakeholder dialogue platform for decarbonizing transport in India and providing technical support on Green House Gas emission reduction measures.
- The NDC-TIA programme team will work in close cooperation and coordination with India's government agencies, local decision-makers, researchers, industry experts, think tanks, and civil society organisations.

will improve the mechanism to identify fake/duplicate ration cards.

- The ONORC is being implemented under this scheme.
- It provides the technological platform for the inter-state portability of ration cards.
- The scheme was launched in 2018 by the Department of Food & Public Distribution, GOI.

"Chunauti"

About

IT Minister launches "Chunauti"- Next Generation Start-up Challenge Contest.

What is the challenge:

- The contest aims to further boost startups and software products with a special focus on Tier-II towns of India.
- It aims to identify around 300 startups working in identified areas and provide them seed fund of up to Rs. 25 Lakh and other facilities.
- Startups in the following areas of work are being invited under the challenge:
 - Edu-Tech, Agri-Tech & Fin-Tech Solutions for masses
 - Supply Chain, Logistics & Transportation Management
 - Infrastructure & Remote monitoring
 - Medical Healthcare, Diagnostic, Preventive & Psychological Care
 - Jobs & Skilling, Linguistic tools & technologies

Integrated Management of Public Distribution Scheme (IM-PDS)

About :

Secretary, Food & Public Distribution chairs meeting of Empowered Committee on schemes for PDS Reforms.

Details:

- The meeting of the Empowered Committee was held to review and approve the extension of the Integrated Management of Public Distribution Scheme (IM-PDS) under which the 'One Nation One Ration Card' (ONORC) plan is being implemented all over India.

About the Integrated Management of Public Distribution System (IM-PDS):

- It is a central sector scheme.
- The main objective of the scheme is to introduce nation-wide portability of ration card holders under National Food Security Act, 2013 (NFSA), to lift their entitled food grains from any Fair Price Shop (FPS) of their choice in the country without the need of obtaining a new ration card.
- This will be done by integrating the existing PDS systems/portals of States/UTs with the Central systems/portals under the Central Repository of all NFSA ration cards/beneficiaries.
- The new scheme will bring more transparency and efficiency in the distribution of food grains as it

What the selected startups will get:

- Besides seed fund of up to Rs. 25 Lakh, the startups will also be provided cloud credits from leading cloud service providers.
- Start-ups who are in the ideation stage may be selected under the pre-incubation programme & mentored for up to six months to evolve their business plan & solution around the proposed idea.
- Each intern (start-up under pre-incubation) will be paid Rs. 10,000/- per month up to a period of 6 months.
- The startups selected through Chunauti will be provided various support from the Government through the Software Technology Parks of India centres across India.
- They will get incubation facilities, mentorship,

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security testing facilities, access to venture capitalist funding, industry connect as well as advisories in legal, Human Resource (HR), IPR and Patent matters.

National Sports Day

About :

National Sports Day observed on August 29 every year.

Details:

- The day is observed in honour of hockey legend Major Dhyan Chand.
- On this day, the President confers the National Sports and Adventure Awards to the recipients.
- The awards are:
 - Dhyan Chand Award: for lifetime contribution to sports development.
 - Rashtriya Khel Protsahan Puraskar: to corporate entities (both in private and public sector) and individuals who have played a visible role in the area of sports promotion and development.
 - Maulana Abul Kalam Azad (MAKA) Trophy: for the overall top performing university in inter-university tournaments.
 - Tenzing Norgay National Adventure Award: for adventure sports.
 - Rajiv Gandhi Khel Ratna Award: for spectacular and outstanding performance in the field of sports by a sportsperson over a period of four years preceding the award.
 - Arjuna Award: for consistent outstanding performance for four years.
 - Dronacharya Award: to coaches for producing medal winners at prestigious international sports events.

GST Compensation

About :

Borrowing options to meet the GST compensation requirement for 2020-21.

Details:

- The two borrowing options to meet the GST compensation requirement for 2020-21

consequent to the discussions in the 41st meeting of the GST Council held in August 2020 has been communicated to States.

- The shortfall due to the implementation of GST has been calculated at Rs.97,000 crores approximately.

The two options are given below:

1st Option

1. The shortfall arising out of GST implementation will be borrowed by States through the issue of debt under a Special Window coordinated by the Ministry of Finance.
2. The objective is to ensure steady flow of resources similar to the flow under GST compensation on a bi-monthly basis.
3. The GOI will endeavour to keep the cost at or close to the G-sec yield, and in the event of the cost being higher, will bear the margin between G-secs and average of State Development Loan yields up to 0.5% (50 basis points) through a subsidy.
4. A special borrowing permission will be given by the GOI under Article 293 for this amount, over and above any other borrowing ceilings eligible under any other normal or special permission notified by the Department of Expenditure.
5. The interest on the borrowing under the Special Window will be paid from the Cess as and when it arises until the end of the transition period.
6. After the transition period, principal and interest will also be paid from proceeds of the Cess, by extending the Cess beyond the transition period for such period as may be required. The State will not be required to service the debt or to repay it from any other source.
7. The borrowing under the Special Window will not be treated as debt of the State for any norms which may be prescribed by the Finance Commission, etc.
8. The Compensation Cess will be continued after the transition period until such time as all arrears of compensation for the transition period are paid to the States. The first charge on the Compensation Cess each year would be the interest payable; the second charge would be the principal repayment. The remaining arrears of compensation accrued during the transition period would be paid after the interest and principal are paid.

2nd Option

1. The entire shortfall of Rs 235,000 crores (including the COVID-impact portion) may be borrowed by States through issue of market debt.

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The GOI will issue an OM committing to repayment of principal on such debt from Cess proceeds.

2. The interest shall be paid by the States from their resources.
3. To the extent of the shortfall arising due to implementation of GST (i.e. Rs. 97,000 crores approximately in aggregate) the borrowing will not be treated as debt of the State for any norms which may be prescribed by the Finance Commission, etc.
4. The Compensation Cess will be continued after the transition period until such time as all arrears of compensation for the transition period are paid to the states. The first charge on the future Cess would be the principal repayment. The remaining arrears of compensation accrued during the transition period would be paid after the principal is paid.

RORO Services

In The News

The first ever RORO service of South Western Railway was inaugurated.

- Roll On Roll Off (RORO) is a concept of carrying road vehicles loaded with various commodities, on open flat railway wagons.
- RORO services are combination of best features of road and rail transports in the sense that they offer door to door service with minimal handling transported by direct rail link.
- RO-RO train services were first introduced in Indian Railways on Konkan Railways in 1999, and are running successfully since then.

Advantages :

- Faster movement of goods and essentials, reducing Time taken by trucks to reach destinations due to traffic congestion in between cities.
- Reduces congestion on the roads.
- Saves fuel.
- Reduces carbon footprint.
- Seamless Inter-operability between roadways and railways-Inter-modal transport on existing track.
- Ensuring uninterrupted supply of essential commodities.
- Ro-RO will be reckoning force in "vocal for local"
-
- Will boost our local MSME units by

encouraging piecemeal /decentralized loading through trucks.

- RO-RO will help government initiatives like "operation green" to stabilize the prices of TOP (Tomato, Potato and Onion).
- Provides link between agriculture producing regions and agro consumption centres.
- Connects and balances the commodity deficient and surplus markets.

New way for quantum state estimation

About :

RRI Scientists find a new way for quantum state estimation that can make crucial quantum operations simpler.

Details:

- Scientists from the Raman Research Institute (RRI) have found a novel way to estimate and characterise quantum states.
- RRI is an autonomous institute under the Department of Science and Technology, GOI located in Bengaluru.
- Scientists experiment with new ways to manipulate quantum states so that they can be harnessed for computing, communication, and metrology.
- This new method called **Quantum State Interferography**, can help make such manipulations simpler so that several crucial operations in quantum technologies become less cumbersome.
- In this new method, the scientists have found a new way of inferring the state of a system (both two-dimensional qubits, the simplest quantum system as well as higher-dimensional "qubits") from an interference pattern.

Problem with the current method of estimation:

- The determination of an unknown quantum state is usually done by a method known as Quantum State Tomography (QST).
- This involves measuring the projection of the quantum state on various directions in state space and reconstructing the quantum state from the information obtained.
- However, in particular, scenarios where the dimensions are large, the operations needed to perform tomography increase quadratically.
- The experimental settings often need to be

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changed many times, thus making the process very cumbersome.

elevation, road-cut drainage, and lineament.

'Black Box' Approach:

- The RRI team showed that without changing any settings in the experimental setup, it is possible to infer the unknown quantum state of a higher dimensional system.
- The setup requires only two interferometers from which many interferograms can be obtained to reconstruct the state.
- This provides a 'black box' approach to quantum state estimation – between the incidence of the photon and extraction of state information, conditions within the set-up are not changed, thus providing a true single-shot estimation of the quantum state.

Landslide susceptibility mapping of Mussoorie

About :

Study shows that 15 percent of the region (of Mussoorie and its surrounding areas in Uttarakhand Himalaya) is highly susceptible to landslides.

Background:

- Like most hill townships, Mussoorie, a popular hill station in Uttarakhand, has witnessed several landslides, probably resulting from an increased spate of developmental activities.
- The increased disaster hazard has led scientists to map the landslide susceptibility of Mussoorie and surrounding areas, showing that 15 percent of the region is highly susceptible to landslides.

Details of the Study:

- Scientists from Wadia Institute of Himalayan Geology (WIHG), an autonomous institute under the Department of Science and Technology, Govt. of India, carried out the study in Mussoorie township and its surroundings covering 84 square km in the Lesser Himalaya.
- They found that a dominant part of the area falls under very high and high landslide susceptible zone lies in the settlement area – Bhataghat, George Everest, Kempty fall, Khattapani, Library road, Galogidhar, and Hathipaon.
- The area is also covered by highly fractured Krol limestone exhibiting a slope of more than 60 degrees.
- As per the study, the various causative factors of landslides in the area are lithology, land use-landcover (LULC), slope, aspect, curvature,

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