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An Initiative By Pradeep Kumar
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The information in this magazine is intended to provide users with resources and information which they may find useful and of interest.

We take all reasonable steps to keep this information current and accurate, but errors can occur.

We express our gratitude to all our team members and thankful to all the advisors for making first step in publishing a small magazine.

Our Methodology for this Magazine

We have used official website pib.nic.in to collect important press release important for Exam

The topics has been categorised subject wise so that is is easy for aspirants to read in flow and relate the topics

Background information has been provided so static related to current can be covered

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Index

HISTORY & CULTURE	3
TIRANGA UTSAV	3
GLOBAL ENGAGEMENT SCHEME	3
MISTAKEN IDENTITY	4
POLITY & GOVERNANCE	4
PRIVATE PLAYERS CAN USE DRONES FOR DELIVERY PURPOSES	4
NEWS E-WASTE RULES	5
E-COURT MISSION MODE PROJECT	6
CHHATTISGARH GOVT IMPLEMENTS EXTENSION OF PANCHAYAT RIGHTS IN SCHEDULED AREAS	7
NATIONAL E-VIDHAN APPLICATION (NeVA) PROJECT	7
GOVERNMENT NOTIFIES BATTERY WASTE MANAGEMENT RULES, 2022	8
ECONOMY	8
DEVELOPMENT OF AYUSH ENTREPRENEURSHIP	9
ONE NATION ONE RATION CARD SCHEME (ONORC)	9
INDIA HAS SIGNED BILATERAL AIR SERVICE AGREEMENT WITH 116 COUNTRIES	10
INCUBATION CENTRES	10
ODOP INITIATIVE	11
ONE DISTRICT ONE PRODUCT	11
CROP INSURANCE SCHEMES	12
ITU'S REGIONAL STANDARDIZATION FORUM (RSF) FOR ASIA AND OCEANIA REGION	13
NANO UREA	13
GRAMEEN UDYAMI PROJECT	13
SILK MARK EXPO	14
MCA21 VERSION -3	14
SCIENCE & TECH	15
'BLACK WIDOW'	15
E-RAKTKOSH WEB PORTAL	16
SOWING THE 'AI' SEED FOR INTELLIGENT FARMING	16
BIODEGRADABLE BIOPOLYMER NANOCOMPOSITE THAT DETECTS RELATIVE HUMIDITY CAN MONITOR PACKED FOOD FRESHNESS	17
NAVIC SYSTEM	17
NORTH EASTERN SPACE APPLICATIONS CENTRE (NESAC)	18
DGDE-DEVELOPED SOFTWARE TO ENSURE OPTIMUM UTILISATION OF DEFENCE LAND	18
RARE EARTH ELEMENTS	19
DIKSHA PLATFORM	20
HYDROGEN FUEL CELL BUS DEVELOPED BY KPIT-CSIR IN PUNE	20
HPCL COMMENCES ITS FIRST COW DUNG TO COMPRESSED BIOGAS PROJECT	21
HEALTH & MEDICINE	21
ANTI-FRAUD SYSTEM FOR INDIA'S NATIONAL HEALTH INSURANCE SCHEME	21
PHARMACOPOEIA COMMISSION FOR INDIAN MEDICINE	22
AYUSH GRID PROJECT	23
NATIONAL CANCER GRID	23
ECOLOGY & ENVIRONMENT	24
75 RAMSAR SITES IN 75TH YEAR OF INDEPENDENCE	24
AGASTHYAMALAI IN TAMIL NADU DECLARED AS AN ELEPHANT RESERVE	25
AQUACULTURE PROJECT	25
INDIA MAY NEED \$10 TRN INVESTMENT TO ACHIEVE NET-ZERO EMISSION BY 2070	26

THE COAL MINING PROTESTS IN THE HASDEO ARANYA REGION	26
GEO THERMAL ENERGY IN LADAKH	27
WHITE DWARF	28
SCHEMES & POLICIES.....	28
MISSION AMRIT SAROVAR	28
NAGAR VAN YOJANA.....	28
O-SMART SCHEME	29
NIPUN	29
MISSION VATSALYA SCHEME	30
OPERATION YATRI SURAKSHA	30
VILLAGE ENGINEERS PROGRAMME	31
HIM- DRONE-A-THON	31
PRADHAN MANTRI ADI ADARSH GRAM YOJNA	31
THE SMILE 75-INITIATIVE FOR THE REHABILITATION OF BEGGARS IN INDIA	32
NATIONAL INTELLECTUAL PROPERTY AWARENESS MISSION (NIPAM)	32
ARTH GANGA	33
DEFENCE & SECURITY	33
AL NAJAH-IV	34
DEFEXPO	34
EX VAJRA PRAHAR 2022	34
ADVANCED TOWED ARTILLERY GUN SYSTEM (ATAGS)	35
QUANTUM COMMUNICATION TECHNOLOGY.....	35
MISCELLANEOUS	36
PRESIDENT'S POLICE MEDALS	36
INDIAN INSTITUTE OF HERITAGE' (IIH).....	36
NASHE SE AZADI	37
UNESCO TAG FOR BRITISH-ERA ASTRONOMICAL LAB	37
2G ETHANOL PLANT	38
STOCKHOLM WORLD WATER WEEK 2022	38
INDIA'S FIRST SALINE WATER LANTERN	39
150TH BIRTH ANNIVERSARY OF SHRI AUROBINDO	39

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History & Culture

Tiranga Utsav

In News

The Ministry of Culture is organizing “**Tiranga Utsav**” -an evening filled with cultural and musical performances to celebrate the contributions of Pingali Venkayya to the nation on the occasion of his 146th Birth Anniversary in New Delhi.

Tiranga Utsav

- The event will include the release of a commemorative Postal Stamp in honor of Pingali Venkayya for his invaluable contribution to the country followed by the felicitation of his family.
- The Tiranga Utsav will also witness the grand launch of the “Har Ghar Tiranga” anthem and video.
- The cultural evening shall mark a historic day in celebration of India’s 75th year of independence as Azadi ka Amrit Mahotsav and will be a great tribute to one of the nation’s most important gems – Pingali Venkayya.

Pingali Venkayya

- Pingali Venkayya, a freedom fighter and the designer of India’s National Flag was a follower of Gandhian principles, and it was upon the request of Mahatma Gandhi that he designed the Indian National Flag with saffron, white and green colors with chakra in the middle.
- Between 1918 and 1921, Venkayya raised the issue of having an own flag in every session of the Congress. Back then, he was working as a lecturer in the Andhra National College in Machilipatnam.
- He met the Mahatma once again in Vijayawada and showed him his publication with the various designs of the flag. Acknowledging the need for a national flag, Gandhi then asked Venkayya to design a fresh one at the national congress meeting in 1921.
- Initially, Venkayya came up with saffron and green colours, but it later evolved with a spinning wheel at the centre and a third colour-white. (LALA HANS RAJ SONDHU SUGGESTED ADDING A SPINNING WHEEL — SHOWING THE INDEPENDENT INDIANS WHO CAN SPIN THEIR OWN CLOTHING FROM LOCAL FIBRES.)
- The flag was officially adopted by the Indian National Congress in 1931.

Global Engagement Scheme

In News

The Ministry of Culture operates Global Engagement Scheme under which Festivals of India are organized in other countries showcasing folk art and other cultural events as exhibitions, dance, music, theatre, food fest, literary fest, film fest, yoga etc.

About The Scheme

- The Ministry of Culture aims at disseminating Indian Folk Arts and Culture abroad through signing of Cultural Agreements & Cultural Exchange Programme and their implementation by concerned agencies with mutual discussions through diplomatic channels.
- Under this scheme, Ministry of Culture also gives Grant-in-aid to Indo- Foreign Friendship Cultural Societies for organizing programmes and activities including folk art and other cultural activities for their promotion abroad.

- The Government of India has set up seven Zonal Cultural Centers (ZCCs) with headquarters at Patiala, Nagpur, Udaipur, Prayagraj, Kolkata, Dimapur and Thanjavur to protect, preserve and promote various forms of folk art and culture throughout the country.
- The folk artists from all over India are engaged to perform in the festivals and Programmes organized by these ZCCs regularly in all States/Union Territories of India. Besides, the folk artists are also sent abroad to perform in Festivals of India.
- Incentives like Dearness allowance, honorarium, board & lodging, local & international travel are provided to these artists by the respective ZCCs and Ministry of Culture.

Mistaken identity

In News

- The Thalaivetti Muniyappan temple near Salem, where a local deity is worshipped as per Hindu rituals, will be treated as a Buddhist temple hereafter, thanks to a recent Madras High Court order.
- The court order dated July 19 was based on a petition filed by S Sathia Chandran in 2011, which prayed the court to conduct an inspection of the Thalaivetti Muniyappan Temple at Kottai Road, Periyeri Village near Salem, to ascertain the “identity and antiquity” and take appropriate action to restore the status to a Buddha Trust.

Features of Sculpture

- The inspection report said the sculpture was made of hard stone.
- The figure was in a seated position known as ardha-padmasana on a lotus pedestal.
- The hands are posed in ‘dhyana mudra’.
- The figure is Sagati.
- The head shows lakshanas of the Buddha such as curly hair, ushnisha and elongated earlobe.
- Urna is not visible on the forehead.
- The head was severed from the torso which were glued together with cement and lime mixture a few years ago.
- However, due to human error or some other reason, the head was not positioned properly to the torso and consequently, the head slightly twisted towards the left side of the body.
- Height of the image is 108 cm in a cross legged (ardha-padmasana) posture.
- The reverse side of the sculpture was flat without any artistic work.

Polity & Governance

Private players can use drones for delivery purposes

In News

Private players are free to use drones for delivery purposes subject to compliance with Drone Rules, 2021.

Drones Rules 2021

- Every drone, except for those meant for research, development and testing purposes, is required to be registered and should have a Unique Identification Number (UIN).

- An airspace map of the country segregating the entire airspace into red, yellow and green zones is available on the digital sky platform. Operation of drones in red and yellow zones is subject to the approval of the Central Government and the concerned Air Traffic Control (ATC) authority respectively. No approval is required for operation of drones in green zones.
- The State Government, the Union Territory Administration and Law enforcement agencies have been empowered under the Rules to declare a temporary red zone for a specified period.
- Drones are required to have the necessary type certification issued by Directorate General of Civil Aviation (DGCA). No type certification is however required in case of nano drones (up to 250 gram all-up weight) and model drones made for research and recreation purpose.
- The owner and operators of drones are required to furnish the necessary personal details including their Indian passport number etc. for issuance of any registration or licence.
- **Rule 17** of the Drone Rules, 2021, lays down the provision of transfer of drone to another person by way of sale, lease, gift or any other mode, after providing requisite details of the transferor, transferee and unique identification number of the drone on the digital sky platform along with the applicable fees.
- Authorisation of Remote Pilot Training Organisations (RPTO) will be done by DGCA within specified time limits.

PLI Scheme

- The scheme provides for an incentive of Rs 120 crores, spread over three financial years.
- The PLI rate is 20% of the value addition over three financial years. PLI for a manufacturer shall be capped at 25% of total annual outlay.

Benefits of Drones

- Drones offer tremendous benefits to almost all sectors of the economy.
- These include - agriculture, vaccine delivery, surveillance, search and rescue, transportation, mapping, defence and law enforcement to name a few.
- The Government is utilising services of drone service providers for vaccine delivery, inspection of oil pipelines and power transmission lines, anti-locust operations, agricultural spraying, survey of mines, land mapping under SVAMITVA scheme for issuance of digital property cards, etc.
- Many of these have been in remote areas of the country.

News E-waste rules

In News

Government has proposed a new framework for regulating e-waste in India that may upset informal sectors.

E-waste

E-Waste refers to all items of electronic and electrical equipment (EEE) and its parts that have been discarded by their owner as waste without the intent of re-use. India is the third-largest e-waste generator in the world after China and the USA (Global E-waste Monitor 2020).

Status of E-waste in India

- One of the fastest-growing waste streams in the world
- 95% of e-waste in India is recycled by the informal sector

Concerns

- Under E-Waste Management Rules 2016, it is mandatory for the organization to comply with the Extended producer responsibility of recycling e-waste. Complying with that, most firms outsourced recycling to organizations called Producer Responsibility Organization (PRO) (CPCB has registered 74 PROs)
- In May this year, Environment Ministry issued a draft notification that does away with PRO and dismantlers and vests all responsibility of recycling with authorized recyclers, only a handful of whom exist in India.
- Now, Authorized Recyclers will source a quantity of waste, recycle them and generate electronic certificates. Companies can buy these certificates equivalent to their annual committed target and thus do not have to be involved with engaging PROs and dismantlers.

Benefits

- Streamline and standardize the system
- Introduce an Electronic management system that would track the material that went in for recycling
- **Make recycling remunerative:** Currently, the entire system isn't remunerative for recyclers, who actually do the job of recycling.
- **Increase reliability:** The current system managed by PRO isn't always reliable as there have been several instances of double-counting (where the same articles recycled once for one company are credited into the account for multiple companies).

E-Court Mission Mode Project

In News

As part of the National eGovernance Plan, the eCourt project is an integrated Mission Mode Project under implementation since 2007 for ICT development of the Indian Judiciary.

e-Court Project

- The e-Court Integrated Mission Mode Project was launched with the objective of improving access to justice using technology.
- The Phase I of eCourts was concluded in 2015 in which 14,249 Court sites were computerized.
- Under Phase II, 18,735 District & Subordinate courts have been computerised so far.
- Using **National Judicial Data Grid (NJDG)**, developed under the eCourts Project with elastic search technology, lawyers and litigants can access case status information of 20.86 crore cases and more than 18.02 crore orders/judgments.
- **Case Information Software (CIS)** based on customized Free and Open-Source Software (FOSS) has been developed.
- **7 platforms for Citizen centric services** or service delivery channels for providing real time information on case status, cause lists, judgements etc. to lawyers/litigants.
- An **eFiling** system (version 3.0) has been rolled out for the electronic filing of legal papers with advanced features like online submission of Vakalatnama, eSigning, online video recording of oath, online payment, filing of multiple IAs/application, Portfolio Management and bilingual mode etc.
- **eSewa Kendras:** To make justice delivery inclusive and to mitigate handicaps caused by digital divide, eSewa Kendras have been rolled out to provide e-filing services to lawyers and litigants.
- A '**Judgment & Order Search**' portal has been inaugurated for the convenience of its stakeholders in searching judgments easily by providing a repository for Judgments and Final Orders of the High Courts.
- **Secure, Scalable & Sugamya Website as a Service (S3WAAS) Website:** A new divyang friendly website for eCommittee, based on S3WaaS platform is live in 13 regional languages including English & Hindi.

- Using **SMS pull facility** stakeholders can receive case status by sending sixteen characters CNR number of a case to the number 97668-99899
- **SMS push facility** is provided to stakeholders like litigants and advocates to get SMS on the occurrence of each event in a case like filing, registration, adjournment, scrutiny, listing, transfer of the case, disposal, uploading of orders etc., on their mobile registered with the court.
- **Service desk** to be set up for internal stakeholders to get the relevant information.

Chhattisgarh govt implements extension of panchayat rights in scheduled areas

In News

The Chhattisgarh government implemented the extension of panchayat rights in scheduled areas — PESA Rule-2022 on World Tribal Day.

PESA Rules 2022

- Chhattisgarh's PESA Rules mandate that 50% of the members of the Gram Sabha are from Tribal communities (of which 25% will be female members). For PESA Act to be effective, it is important that Rules be framed by the states.
- Out of 10 states (Andhra, Telangana, Chhattisgarh, Gujarat, HP, Jharkhand, MP, Maharashtra, Odisha, and Rajasthan) who have notified 5th Schedule Areas, only 7 states (including Chhattisgarh and Gujarat) have notified Rules to implement the PESA Act.
- States coming in the 6th Scheduled are: Assam, Meghalaya, Tripura, and Mizoram (remember as 'AMTM').

PESA Act, 1996

- It extends the provisions of Panchayats (Part IX of the constitution) to the Fifth Schedule Areas. These areas have a huge tribal population.
- It ensures self-governance through Gram Sabhas (village assemblies) for people living in the Scheduled Areas.
- The 73rd constitutional amendment (1992) gave shape to a three-tier Panchayati Raj Institution, however, its application to the scheduled and tribal areas under Article 243(M) was restricted.
- It was after the **Bhuria Committee** recommendations in 1995 that PESA Act 1996 came into existence.

Powers of Gram Sabha under PESA Act

- Consultation before the land acquisition, prevent land alienation, power to enforce prohibition, prior approval of all developmental projects and control over tribal sub-plan, maintenance of cultural identity and tradition, control over schemes affecting the tribals etc.
- **Judicial powers:** Dispute resolution as per traditional laws and customs: the collective resolution of disputes on the basis of customs, traditional laws and religious beliefs of tribal areas.
- **Ownership and management of natural resources:** E.g. water, forest, common lands ('Jal, Jangal, and Zameen'), minor forest produce, minor minerals, etc.
- **Minor Forest Produce:** It has been defined under FRA 2006, as those including all nontimber forest produce of plant origin, including bamboo, brushwood, stumps, cane, tussar, etc.

National e-Vidhan Application (NeVA) Project

In News

'One Nation-One Application' is being implemented using the National eVidhan Application (NeVA).

About NeVA

- Paperless Assembly or e-Assembly is a concept involving of electronic means to facilitate the work of Assembly.
- It enables automation of entire law making process, tracking of decisions and documents, sharing of information.
- NeVA aims to bring all the legislatures of the country together, in one platform thereby creating a massive data depository without having the complexity of multiple applications.
- NeVA (previously known as e-Vidhan) is a Mission Mode Project (MMP) under the Digital India Programme, under the Ministry of Parliamentary Affairs (MoPA).

e-Vidhan Project

- e-Vidhan is a Mission Mode Project (MMP) included in Digital India Programme and Ministry of Parliamentary Affairs (MoPA) is the 'Nodal Ministry' for its implementation in all the 31 States/ UTs with Legislatures.
- The total project cost of the project is over 738 crores and funding of NeVA is on the pattern of Central Sponsored Scheme i.e. 60:40; and 90:10 for North East & hilly States and 100% for UTs.
- The funding for e-Vidhan is provided by the MoPA and technical support by Ministry of Electronics and Information Technology (MeitY).

Government notifies Battery Waste Management Rules, 2022

In News

Ministry of Environment, Forest and Climate Change, Government of India published the Battery Waste Management Rules to ensure environmentally sound management of waste batteries.

Key Provisions

- These regulations cover all types of batteries such as electric vehicle batteries, portable batteries, automotive batteries and industrial batteries.
- Based on the concept of Extended Manufacturer Responsibility (EPR), battery manufacturers (including importers) are responsible for the collection and recycling/renewal of waste batteries and the use of waste materials in new batteries.
- The EPR mandates the collection of all waste batteries and sends them for recycling/renewal, and prohibits their disposal in landfills and incineration.
- These rules will make it possible to set up a centralized online portal for exchange of EPR certificates between producers and recyclers/renewers to meet the obligations of the producers.
- The rules promote setting up of new industries and entrepreneurship in collection and recycling/refurbishment of waste batteries.
- Mandating the minimum percentage of recovery of materials from waste batteries under the rules will bring new technologies and investment in recycling and refurbishment industry and create new business opportunities.

Economy

Development of Ayush Entrepreneurship

In News

For the purpose of development of the Ayush entrepreneurship Ministry of Ayush had developed a Central Sector Scheme namely Champion Services Sector Scheme for Medical Value Travel for implementation on Pan India basis.

Champion Services Sector Scheme

- Under this scheme, financial assistance in the form of Interest Subsidy is provided to private investors for the establishment of Super Specialty Hospitals/ Day Care Centres of the systems recognized under The National Commission for Indian System of Medicine (NCISM) Act, 2020 or The National Commission for Homeopathy (NCH) Act, 2020.
- Ministry of Ayush signed a MoU with Ministry of Micro, Small & Medium Enterprises (MSME) for the promotion of Ayush enterprises.
- The All India Institute of Ayurveda(AIIA) an autonomous body under Ministry of Ayush has set up an incubation centre i.e. AIIA-ICAINE (Incubation Centre for Innovation and Entrepreneurship) to support new startups in the Ayush sector.
- Academia-industry Research Incubation for Value-chain Up-gradation (ARIVU) has been setup by Central Council of Research in Siddha (CCRS) to promote innovation and entrepreneurship by translating novel ideas and innovation in various disciplines of Siddha Research.

One Nation One Ration Card Scheme (ONORC)

In News

The Department of Food and Public Distribution is observing week-long activities to celebrate “One Nation One Ration Card” (ONORC) Scheme which was launched on 9th August, 2019, as a pilot project in four states.

ONORC

- ONORC is a technology driven scheme which is being implemented by the Central Government for the nation-wide portability of ration cards under National Food Security Act (NFSA).
- This system allows all NFSA beneficiaries, particularly the migrant beneficiaries, to claim either full or part of their entitled food grains from any Fair Price Shop (FPS) in the country through existing ration card with biometric/Aadhaar authentication in a seamless manner.
- The system also allows their family members back home, if any, to claim the balance foodgrains on the same the ration card.
- The Scheme is one-of-its-kind Citizen Centric initiative in the country.
- Presently, the system covers nearly all the (~80 Crore) NFSA beneficiaries (almost the entire NFSA population).
- Moreover, on an average, about ~3 Crore portability transactions per month are being recorded under the scheme.
- **The objective** of this beneficiary centric high-impact program is to empower all NFSA beneficiaries to be Atma Nirbhar for their food security anywhere in the country.
- The scheme has proved to be a tremendous value-added service to each NFSA beneficiary during the COVID-19 pandemic, particularly migrant beneficiary.
- It facilitated them to avail the benefit of subsidised foodgrains with flexibility from any location during the lockdown/crisis period.
- Since inception (in August 2019), about 77.88 Crore portable transactions have taken place under the ONORC.

Mobile App

- A specially customized Android Mobile App on ONORC “**Mera Ration**” has also been launched for the benefit of all NFSA beneficiaries.
- The application provides multiple functionality and makes portability of ration easier, specifically for migrant NFSA beneficiaries.
- The application is now available in 13 languages.
- Besides, a 5-digit ‘14445’ toll-free number is also available in most States/UTs under ONORC.

India has signed Bilateral Air Service Agreement with 116 countries

In News

India has signed a bilateral air service agreement with 116 countries including neighbouring Bangladesh, Afghanistan, and Pakistan along with the US, UK, UAE etc.

Details

- Any designated foreign airline can operate to/from a point in India if it is designated as a point of call in the bilateral Air Services Agreement (ASA) signed between India and the country which has designated the airline.
- Indian designated carriers are free to mount scheduled operations to/from any international airport, including Kannur International Airport, under the ambit of bilateral ASAs concluded by India with foreign countries.

Freedom of Air

- The freedom of air means a country grants airlines of a particular country the privilege to use and/or land in another country’s airspace.
- Freedom of air rule emanates from the Chicago Convention in 1944.
- **First Freedom Right:** It is granted by one State to another State or States to fly across its territory without landing.
In the case of the GoFirst flight (Indian carrier) was using the airspace of Pakistan (the second country) and was landing in the UAE (the third country).
- **Second Freedom Right:** The right or privilege, in respect of scheduled international air services, granted by one State to another State or States to land in its territory for non-traffic purposes.
- **Third Freedom Right:** To put down, in the territory of the first State, traffic coming from the home State of the carrier.
- **Fourth Freedom Right:** To take on, in the territory of the first State, traffic destined for the home State of the carrier.
- **Fifth Freedom Right:** To put down and to take on, in the territory of the first State, traffic coming from or destined to a third State.

Incubation Centres

In News

- Atal Innovation Mission (AIM), NITI Aayog launched Call for Applications for its two leading programs **Atal Incubation Centre (AIC)** and **Atal Community Innovation Centre (ACIC)**.
- Both the programs envision to create and support the innovation ecosystem in the country by establishing world-class institutions which shall help budding entrepreneurs of the country.

AIC

- AIC is an initiative of the AIM, NITI Aayog to foster innovation and entrepreneurial spirit while creating a supportive ecosystem for start-ups and entrepreneurs in India.
- Each AIC is supported with a grant of up to INR 10 crores over a period of 5 years.
- Since 2016, AIM has established 68 Atal Incubation Centres across 18 states and 3 UTs which have supported more than 2700 startups.

ACIC

- ACIC is envisaged to serve the unserved/underserved areas of the country with respect to the start-up and innovation ecosystem.
- Each ACIC is supported with a grant of up to INR 2.5 crores over a period of 5 years.
- AIM has established 14 Atal Community Innovation Centres across the country.

ODOP INITIATIVE

In News

The Central Government has initiated the One District One Product (ODOP) in different States/UTs of the country.

ODOP

- ODOP initiative is operationally merged with '**Districts as Export Hub (DEH)**' initiative of the DGFT, Department of Commerce, with the Department for Promotion of Industry and Internal Trade (DPIIT) as a major stakeholder.
- The ODOP Initiative is aimed at fostering balanced regional development across all districts of the country enabling holistic socio-economic growth across all regions.
- The objective is to convert each District of the country into a manufacturing and Export Hub by identifying products with export potential in the District.

District Export Action Plan

- Districts Export Action Plans are prepared for identified products and services for overseas markets, which includes specific actions required to support local exporters /manufacturers in producing/manufacturing identified products in adequate quantity and with the requisite quality, for reaching potential buyers.
- These plans also include identifying and addressing challenges for exports of such identified products/services, improving supply chains, market accessibility and handholding for increasing exports.
- ODOP/DEH initiatives contribute to the goal of AtmaNirbhar Bharat, Vocal for local and Make in India, by providing opportunities for employment, through significantly increasing the manufacturing and exports of identified products.

One District One Product

In News

Union Minister of Commerce and Industry; Consumer Affairs; Food and Public Distribution and Textiles, Shri. Piyush Goyal unveiled the digital version of the ODOP gift catalogue.

ODOP Gift catalogue

- The ODOP gift catalogue includes a wide range of products like Fragrances and Oils, Indian Spirits, Home Décor products, Fabrics, and Silks and Shawls.

- HCIM highlighted the ways in which the ODOP gift catalogue is a step towards realizing the potential of all districts in India and will give global recognition to the country's diverse indigenous products.
- This will provide a tremendous boost to the local economy and will help promote the livelihood and sustenance of many farmers and artisans.

ODOP Background

- The ODOP Initiative is aimed at achieving the vision of the Hon'ble Prime Minister to foster balanced regional development across all districts of the country.
- The idea is to select, brand, and promote One Product from each District (One District – One Product) of the country for enabling holistic socio-economic growth across all regions.
- The range of chosen products under ODOP, from all 761 districts of the country, spans multiple sectors, Ministries and Departments.

Crop Insurance Schemes

In News

National Crop Insurance Portal (NCIP) is the only source of enrolment for Pradhan Mantri Fasal Bima Yojana (PMFBY), on which farmer applications from various designated sources including banks/financial institutions are entered.

PMFBY

- Launched in 2016 and is being administered by the Ministry of Agriculture and Farmers Welfare.
- It replaced the National Agricultural Insurance Scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS).
- Farmers including sharecroppers and tenant farmers growing notified crops in the notified areas are eligible for coverage.

Objectives:

- To provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crops as a result of natural calamities, pests & diseases.
- To stabilize the income of farmers to ensure their continuance in farming.
- To encourage farmers to adopt innovative and modern agricultural practices.
- To ensure the flow of credit to the agriculture sector.

Premium

- There will be a uniform premium of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops.
- In the case of annual commercial and horticultural crops, the premium to be paid by farmers will be only 5%.
- The premium rates to be paid by farmers are very low and the balance premium will be paid by the Government to provide full insured amount to the farmers against crop loss on account of natural calamities.
- There is no upper limit on Government subsidies. Even if the balance premium is 90%, it will be borne by the Government.

ITU's Regional Standardization Forum (RSF) for Asia and Oceania region

In News

- As a part of the celebrations during Azadi Ka Amrit Mahotsav, Ministry of Communication is hosting the International Telecommunication Union's Regional Standardization Forum (RSF) for Asia and Oceania region in New Delhi.
- The theme of the Forum is "Regulatory and Policy aspects of Telecommunications/ICTs".

About RSF

- The Regional Standardization Forum is a platform for constructive exchange of ideas, discussing standardization topics including inter alia India's experience in various sectors of technology like Sustainable Digital Transformation and the Role of ITU Standards, Harnessing Technologies for Digital and Financial Inclusion in Emerging Markets, evolving Data Value Chain and Digital Health.
- The meeting of Regional Group Asia and Oceania is taking place in physical mode after a gap of three years due to COVID-19.
- The objective of this meeting is to contribute towards Standardization work of ITU-T Study Group 3 and also to secure the interest of Asia and Oceania region.

Nano Urea

In News

India will produce over 6cr bottles of Nano urea and make it available to farmers in 2022-23.

Nano Urea

- Urea is chemical nitrogen fertilizer, white in colour, which artificially provides nitrogen, a major nutrient required by plants.
- Liquid nano urea is essentially urea in the form of a nanoparticle.
- It is a patented chemical nitrogen fertilizer produced by IFFCO.
- Nano urea is cheaper (Rs 240 for half litre without subsidy; the International market price of a bag of urea is between Rs 3,500 and Rs 4,000. A bottle of nano urea can effectively replace at least one bag of urea.
- Reduces fertilizer subsidy bill of government. India is dependent on imports of the widely used fertilizer.
- The efficiency of Nano urea (nutritional use efficiency) can be as high as 85-90 per cent (Conventional urea has an efficiency of about 25 per cent).
- As Nano urea has higher surface-mass ratios that help in releasing nutrients to plants in a controlled manner.
- Nano urea has a shelf life of a year, and farmers need not be worried about "caking" when it comes in contact with moisture.

Grameen Udyami Project

In News

To augment skill training in tribal communities for their inclusive and sustainable growth, National Skill Development Corporation (NSDC) in partnership with Seva Bharti and Yuva Vikas Society, launched the second phase of Grameen Udyami Project.

About the project

- Under the initiative, the endeavour is to multiskill India's youth and impart functional skills to them for enabling livelihoods.

- Grameen Udyami is a unique multiskilling project, funded by NSDC that aims to train 450 tribal students in Madhya Pradesh and Jharkhand.
- The project is being implemented in six states— Maharashtra, Rajasthan, Chhattisgarh, Madhya Pradesh, Jharkhand, and Gujarat.
- This concept was crystallized by MoS, Shri. Rajeev Chandrasekhar and tribal MPs.
- Focus - is on strengthening sustainable livelihood for tribal populations and with this, the central government has sanctioned a budget of 85,000 cr. exclusively for tribal areas.
- The phase-II of the pilot project launched in Ranchi is being implemented by Yuva Vikas Society, through Seva Bharti Kendra in Ranchi.
- NSDC under the aegis of MSDE has supported in setting up of labs and classrooms through Sector Skill Councils (SSCs) in Seva Bharti Kendra Skill Development Center.
- Grameen Udyami Yojana is implemented under Sansadiya Parisankul Yojana.

Objectives

- Increase in Rural/Local Economy
- Enhance employment opportunities
- Reduce forced migration due to lack of local opportunities
- Conservation of natural resources

SILK MARK EXPO

In News

Minster of State for Textiles and Railways Smt. Darshana Vikram Jardosh inaugurated the SILK MARK EXPO.

About Expo

- A scheme has been enacted in the name of “Silk Mark” by the Silk Mark Organization of India.
- Silk Mark is aimed at generic promotion of silk and building brand equity of Indian Silk at home and abroad.
- It is also protecting the interests of not only the silk consumers but all stake holders of silk value chain including farmers, reelers, twistors manufacturers and traders of pure silk.
- Silk Mark is a Quality Assurance Label, which signifies that the product to which it is affixed is made of pure silk.
- It can be affixed to Silk yarn, Sarees, Dress Materials, Made ups, furnishing materials and other silk products which are made up of 100% Natural silk.

MCA21 Version -3

In News

MCA21 version-3.0 is a technology-driven forward-looking project, envisioned to strengthen enforcement, promote Ease of Doing Business and enhance user experience. MCA21 version-3.0 rollout has been planned in phases to ensure minimum disruption in regulatory filings.

MCA 21

- It will leverage the use of latest technologies to further streamline the Corporate Compliance and stakeholders experience. MCA21 is the online portal of the Ministry of Corporate Affairs (MCA) that has made all company related information accessible to various stakeholders and the general public. It was launched in 2006.

- The entire project is proposed to be launched within the Financial Year 2021-22 and will be data analytics and machine learning driven.
- The MCA21 V3.0 in its entirety will not only improve the existing services and modules, but will also create new functionalities like e-adjudication, compliance management system, advanced helpdesk, feedback services, user dashboards, self-reporting tools and revamped master data services.
- It comprises a revamped website, new email services for MCA Officers and two new modules, namely, e. Book and e. Consultation.
- MCA21 is an e-Governance initiative of Ministry of Corporate Affairs (MCA) that enables an easy and secure access of the MCA services to the corporate entities, professionals and citizens of India.
- This will help the business community to meet their statutory obligations.

Science & Tech

'Black Widow'

In News

Scientists have measured the mass of a neutron star named PSR J0952-0607, and found that it's the most massive neutron star discovered yet, clocking in at a whopping 2.35 times the mass of the Sun.

Neutron Star

- A neutron star is like one giant nucleus, but when you have one-and-a-half solar masses of this stuff, which is about 500,000 Earth masses of nuclei all clinging together, it's not at all clear how they will behave.
- Neutron stars are the collapsed cores of massive stars that were between around 8 and 30 times the mass of the Sun, before they went supernova and blew most of their mass off into space.
- These cores, tending to be around 1.5 times the mass of the Sun, are among the densest objects in the Universe; the only thing denser is a black hole.

PSR J0952-0607

- PSR J0952-0607 was already one of the most interesting neutron stars in the Milky Way.
- It's what is known as a pulsar – a neutron star that is spinning very fast, with jets of radiation emitting from the poles.
- As the star spins, these poles sweep past the observer (us) in the manner of a cosmic lighthouse so that the star appears to pulse.
- These stars can be insanely fast, their rotation rate on millisecond scales. PSR J0952-0607 is the second-fastest pulsar in the Milky Way, rotating a mind-blowing 707 times per second.
- It's also what is known as a "black widow" pulsar.
- The star is in a close orbit with a binary companion – so close that its immense gravitational field pulls material from the companion star.
- This material forms an accretion disk that whirls around and feeds into the neutron star, a bit like water swirling around a drain. Angular momentum from the accretion disk is transferred to the star, causing its spin rate to increase.

E-RaktKosh web portal

In News

It is primarily the responsibility of the State/UT Government to take concrete steps to prevent illegal activities taking place in blood banks and during blood transfusion.

About the portal

- The **e-RaktKosh** web portal of Government of India, provides the interface for Blood Banks data management and integration.
- For this, all blood banks have been advised to register on e-RaktKosh web-portal.
- Government has made registration of blood banks mandatory as per the provisions of Drugs and Cosmetic Act and Rules thereunder.
- Further, Government has notified Drugs and Cosmetics (Second Amendment) Rules, 2020 which pertain to functioning of Blood Banks/centres, Blood processing and related matters.
- Government of India through Blood Transfusion Services also supports 1131 Blood Banks in the public and charitable sector in respect of manpower, procurement of Blood Bags and testing kits, conducting Voluntary Blood Donation (VBD) camps and Information Education Communication (IEC) activities etc.

Sowing the 'AI' seed for intelligent farming

In News

John McCarthy, the American computer scientist, first introduced the world to the term “artificial intelligence” at the 1955 Dartmouth Conference.

AI and agriculture

- According to NITI Aayog, AI has the potential to add \$1 trillion to India's economy by 2035. And, as per some experts and academicians, a significant amount of this would be in the agriculture sector.
- Efficient and cost-effective resource and yield management in the agricultural sector.
- **Enable Smart Agriculture:** It refers to the usage of technologies like the Internet of Things, sensors, location systems, robots and artificial intelligence on your farm.
- AI, cloud computing, satellite imagery, and advanced analytics, in combination, can create an ecosystem for smart agriculture.
- **Prediction analysis:** Will ensure the highest possible yields based on the seasonal forecast models.
- Address supply-demand mismatch in real-time. For example, a supply-demand engine or predictor that can map supply and demand can reduce this issue significantly.
- Precision farming by determining whether pesticides and weedicides should be used by detecting and targeting weeds in the identified buffer zone.
- This can lead to higher yields and reduced use of pesticides and weedicides.

Measures taken

- ICAR initiatives for cyber agro-physical systems to make Indian farming a viable, self-sustaining, and internationally competitive enterprise.
- NITI Aayog identifies agriculture as one of the focus areas as part of its national strategy for AI.
- Karnataka has partnered with a leading MNC for agricultural produce, price-related information, and intelligence using predictive modelling.
- Uttar Pradesh is collaborating with the Bill and Melinda Gates Foundation (BMGF) and the Tata Trust to set up the Indian Agri-tech incubation network at IIT-Kanpur.

- Maharashtra has launched the Maha AgriTech project that is aimed at utilizing and promoting the application of satellites and drones to solve various agrarian problems.

Biodegradable biopolymer nanocomposite that detects relative humidity can monitor packed food freshness

In News

A newly developed biodegradable, biopolymer nanocomposite which can detect relative humidity can find application as smart packaging materials, especially for the food industry.

What is the need?

- The food industry has an increasing need for non-toxic, biodegradable, low-cost, and environmentally friendly material for use as packaging material to replace petroleum-based material like plastics.
- Besides, it also needs smart and active packaging materials to detect and report food quality in a real-time fashion.
- Such smart and active packaging systems respond to signals while interacting with the food packaging environment. Perishable packed foods are easily damaged by the change in relative humidity.

Biopolymer Nanocomposite

- Scientists from the Institute of Advanced Study in Science and Technology (IASST), an autonomous institute of the Department of Science and Technology have developed a smart biodegradable biopolymer nanocomposite which can detect relative humidity.
- In this, two biopolymers, Guar Gum (a variety of beans obtained from plant) and Alginate (obtained from brown algae), were blended with carbon dots (nanomaterial) to make a nanocomposite film that was successfully used to detect relative humidity.
- The fabricated nanocomposite film was an excellent smart sensor based on the fluorescence 'on-off' mechanisms against humidity.
- The nanocomposite film shows change in fluorescence in presence of high humidity.
- Hence, the fabricated nanocomposite film can monitor the packed food freshness using just a UV light source.
- Smart and active packaging can help consumers select a fresh product without breaking the pack.

NAVIC System

In News

Government says, India's satellite-based navigation system, NavIC, is as good as GPS of the United States in terms of position accuracy and availability in its service region.

NAVIC

- Navigation in Indian Constellation (NavIC) is an Indian Regional Navigation Satellite System (IRNSS), developed by the Indian Space Research Organization (ISRO).
- IRNSS consists of eight satellites, three satellites in geostationary orbit and five satellites in geosynchronous orbit.
- The main objective is to provide reliable position, navigation and timing services over India and its neighbourhood.
- It works just like the established and popular U.S. Global Positioning System (GPS) but within a 1,500-km radius over the sub-continent.

- It has been certified by the 3rd Generation Partnership Project (3GPP), a global body for coordinating mobile telephony standards.

Benefits

- NavIC can help in navigation on land, air, sea and also in disaster management.
- NavIC satellites are placed at a higher orbit than the GPS of United States. NavIC satellites are placed in geostationary orbit (GEO) & geosynchronous orbit (GSO) with an altitude of about 36,000 km; GPS satellites are placed in medium earth orbit (MEO) with an altitude of about 20,000 km.
- NavIC uses dual frequency bands, which improves accuracy of dual frequency receivers by enabling them to correct atmospheric errors through simultaneous use of two frequencies.
- It also helps in better reliability and availability because the signal from either frequency can serve the positioning requirement equally well.
- The coverage area was designed to cover Indian Territory and surrounding 1500 km of Indian borders.

North Eastern Space Applications Centre (NESAC)

In News

Union Minister of State (Independent Charge) Science & Technology; Dr Jitendra Singh said, North Eastern Space Applications Centre (NESAC), Shillong will execute 110 projects in Eight North Eastern States by 2024.

About NESAC

- Established in 2000, jointly with North Eastern Council (NEC), NESAC is as an autonomous institution under Dept. of Space (DOS) to provide space technology inputs and services for the development of the North Eastern Region.
- NESAC is engaged in executing remote sensing application projects for natural resources management & infrastructure development, satellite communication-based applications in education; health & disaster management support, and training & capacity building in space technology & applications.

NESAC has developed and achieved following major milestones for the North Eastern Region including:

- Implementation of North Eastern Spatial Data Repository (NeSDR)
- Identification of potential areas for development of sericulture & horticulture,
- Remote Sensing based forest working plans & river atlas,
- Geospatial system for monitoring MoDONER sponsored projects & survey of Record of Forest Rights (RoFR),
- Flood Early Warning System (FLEWS) for Assam, and
- Training & capacity building, including for professionals from BIMSTEC region

DGDE-developed software to ensure optimum utilisation of defence land

In News

Raksha Mantri Shri Rajnath Singh has called upon Central and State Government Departments to ensure foolproof management of land for India to become a global manufacturing hub.

CoE- SURVEI

- The CoE-SURVEI was set up by Directorate General Defence Estates (DGDE), Ministry of Defence to promote the use of emerging technologies in land surveys, analysis of data & land management.
- In the last few months, the Centre has developed a number of softwares in collaboration with Bhabha Atomic Research Centre, Visakhapatnam; Bhaskaracharya National Institute for Space Applications and Geo-

informatics, Gandhinagar; National Remote Sensing Centre; IIT Delhi and other Central Government organisations for effective land management.

Land use Analysis Software

- The Land Use Analysis software, developed with active participation of Nascent Infotechnologies Pvt Ltd, can analyse any place located in any part of the country through GIS and Remote Sensing (RS) technologies.
- The Raksha Mantri stated that the tool will prove to be helpful not only for Ministry of Defence, but other Government and State departments as well, ensuring optimum utilisation of existing land.
- The Artificial Intelligence (AI)-based Change Detection Software detects unauthorised constructions & encroachments on defence land.
- The application, which uses National Remote Sensing Centre's satellite imagery, has been installed in all 62 cantonment boards.
- Through the software, Chief Executive Officers (CEOs) of Cantonment Boards are able to identify changes on ground that are of permanent nature, enabling them to check if such changes are authorised or without due sanction of the competent authority.
- According to the **Digital India Land Records Modernisation Programme** (DILRMP-MIS 2.0), land records of about 94% villages have been computerised. With this, people are able to get a clear title of their land.

Rare earth elements

In News

- As part of a global '**China-plus-one**' strategy adopted post the Covid-19 pandemic that caused massive supply-chain disruptions, a group of western nations are cooperating to develop alternatives to China to ensure key industrial supplies.
- A new US-led partnership initiative of 11 nations aims to bolster critical mineral supply chains.
- India is not part of this arrangement called the Minerals Security Partnership (MSP) but is working through diplomatic channels to fetch an entry.

Mineral Security Partnership

- The US and 10 partners — Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea (South Korea), Sweden, the United Kingdom, and the European Commission have come together to form the MSP.
- Catalyzing investment from governments and the private sector: The new grouping is aimed at catalyzing investment from governments and the private sector to develop strategic opportunities.
- Focus on the supply chains of minerals: The new grouping, industry insiders say, could focus on the supply chains of minerals such as Cobalt, Nickel, Lithium, and also the 17 'rare earth' minerals.

Rare Earth Elements

- The 17 rare earth elements (REE) include the 15 Lanthanides (atomic numbers 57 — which is Lanthanum — to 71 in the periodic table) plus Scandium (atomic number 21) and Yttrium (39). REEs are classified as light RE elements (LREE) and heavy RE elements (HREE).
- Some REEs are available in India — such as Lanthanum, Cerium, Neodymium, Praseodymium and Samarium, etc. Others such as Dysprosium, Terbium, and Europium, which are classified as HREEs, are not available in Indian deposits in extractable quantities.
- Hence, there is a dependence on countries such as China for HREEs, which is one of the leading producers of REEs, with an estimated 70 per cent share of the global production.

Importance of Minerals

- **Used in electric vehicles:** Minerals like Cobalt, Nickel, and Lithium are required for batteries used in electric vehicles.
- **Used in consumer products:** REEs are an essential — although often tiny — component of more than 200 consumer products, including mobile phones, computer hard drives, electric and hybrid vehicles, semiconductors, flatscreen TVs and monitors, and high-end electronics.

DIKSHA Platform

In News

DIKSHA is the platform for providing quality e-content for school education in States/UTs and QR coded Energized Textbooks for all grades (**one nation, one digital platform**).

About the platform

- DIKSHA complies with World Wide Web Consortium (W3C) Web Content Accessibility Guidelines (WCAG) 2.0 level AA.
- This enables people with visual impairments to access the website using assistive technologies, such as screen readers.
- Special e-content for visually and hearing impaired is developed on Digitally Accessible Information System (DAISY) and in sign language on NIOS website/ YouTube.

NISHTHA 2.0 (Secondary Level)

- Online on DIKSHA for secondary/senior secondary level teachers was launched on 29th July, 2021.
- The training programme covers around 10 Lakh Teacher and School Heads at Secondary Level across all States and UTs.
- **NISHTHA 2.0** Online on DIKSHA portal has been developed encompassing twelve generic courses and seven pedagogy courses.
- **NISHTHA 3.0**- Foundational Literacy and Numeracy (FLN) in online mode on DIKSHA platform for teachers and school heads of pre-primary to class V were launched on 7th September, 2021.
- **The NISHTHA 3.0** - FLN envisions covering nearly 25 Lakh Teacher and School Heads at Pre-Primary and Primary Level across all states and UTs.
- **NISHTHA 3.0** Online on DIKSHA portal has been developed with the aim to help teachers design experiences for holistic development of each child and comprises of 12 Modules.

Hydrogen Fuel Cell Bus developed by KPIT-CSIR in Pune

In News

Union Minister of State (Independent Charge) Science & Technology; Dr Jitendra Singh launched India's first truly indigenously developed Hydrogen Fuel Cell Bus developed by KPIT-CSIR in Pune.

Hydrogen Fuel Bus

- The fuel cell utilizes Hydrogen and Air to generate electricity to power the bus and the only effluent from the bus is water, therefore making it possibly the most environmentally friendly mode of transportation.
- For comparison, a single diesel bus plying on long distance routes typically emits 100 tons of CO₂ annually and there are over a million such buses in India.

- The high efficiency of fuel cell vehicles and the high energy density of hydrogen ensures that the operational costs in rupees per kilometre for fuel cell trucks and buses are lower than diesel powered vehicles and this can bring freight revolution in India.
- Fuel Cell vehicles also give zero green-house gas emissions.

About BPA

- Bisphenol-A (BPA) is an important feedstock for the production of epoxy resins, polycarbonate and other engineering plastics.
- The global market for Bisphenol-A is projected to reach 7.1 Million Tons by 2027, growing at a CAGR of 2% over the analysis period 2020-2027.
- The entire estimated annual demand of 1, 35,000 tons in India is imported today.
- The Minister hoped that CSIR-NCL's technology will enable import substitution of this important raw material and help in India's Atmanirbhar initiative.

Benefits

- Green hydrogen enables deep decarbonization of difficult-to-abate emissions from the refining industry, fertiliser industry, steel industry, cement industry and also from the heavy commercial transportation sector.
- Green hydrogen has significantly lower carbon emissions than grey hydrogen, which is produced by steam reforming of natural gas, which makes up the bulk of the hydrogen market.

HPCL commences its first Cow dung to Compressed Biogas Project

In News

HPCL commenced its Cowdung to Compressed Biogas Project at Santhore, Rajasthan. This will be HPCL's first project under Waste to Energy portfolio.

Features of the project

- The plant will utilize 100 tons of dung per day to produce biogas, which can be used as automotive fuel.
- The project is being developed under GOBAR-Dhan scheme launched by Government of India in Apr'18 as a part of the Biodegradable Waste Management component under Swachh Bharat Mission (Grameen) to positively impact cleanliness and generate wealth and energy from cattle and organic waste.
- Waste-to-Energy (WtE) or Energy-from-Waste (EfW) is a form of energy recovery and the process of generating energy in the form of electricity and/or heat by the processing of waste into a fuel source.

Health & Medicine

Anti-fraud system for India's National Health Insurance Scheme

In News

National Anti-Fraud Unit (NAFU) is created at NHA for overall monitoring and implementation of anti-fraud framework supported by State Anti-Fraud Units (SAFUs) at State level.

AB-PMJAY

- Ayushman Bharat –Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) is governed on a zero-tolerance approach to any kind of fraud viz. suspect/non-genuine medical treatment claims, impersonation and up-coding of treatment packages/procedures etc.
- The Government of India adopts a pro-active approach towards fraud and abuse.
- It goes on to underscore that several countervailing strategies have been employed under PM-JAY to address various types of fraud and it acknowledges the success of the AI-based technologies deployed under the scheme.
- National Health Authority -the implementing agency of AB-PMJAY has issued a comprehensive set of anti-fraud guidelines.
- The feature of Aadhar-based biometric verification of beneficiary at the time of admission and discharge is launched at all private hospitals.
- Use of artificial intelligence and machine learning is made for a comprehensive fraud analytics solution to detect fraud pro-actively, develop algorithms that can be used on large volume of data to identify suspect transactions and entities and risk scoring of hospitals and claims.
- Around 0.18% of the total authorized hospital admissions under the scheme are confirmed as fraud since its inception.

Features of AB-PMJAY

- It offers a sum insured of Rs.5 lakh per family for secondary care (which doesn't involve a super specialist) as well as tertiary care (which involves a super specialist).
- Under PMJAY, cashless and paperless access to services are provided to the beneficiaries at the point of service.
- Health Benefit Packages covers surgery, medical and day care treatments, cost of medicines and diagnostics.
- Packaged rates (Rates that include everything so that each product or service is not charged for separately).
- They are flexible, but they can't charge the beneficiary once fixed by the hospitals.
- The scheme also has prescribed a daily limit for medical management.

Pharmacopoeia Commission for Indian Medicine

In News

The Government of India has established Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H), as a subordinate office under Ministry of Ayush by merging Pharmacopoeia Commission of Indian Medicine & Homoeopathy (PCIM&H) and the two central laboratories.

Functions of Commission

- The Commission is engaged in development of Pharmacopoeial Standards for Ayurvedic, Unani, Siddha & Homoeopathic drugs.
- PCIM&H is also acting as Central Drug Testing cum Appellate Laboratory for Indian systems of Medicine & Homoeopathy.
- Quality Certifications Scheme implemented by the Quality Council of India (QCI) for grant of AYUSH Premium mark to Ayurvedic, Siddha and Unani products on the basis of third party evaluation of quality in accordance with the status of compliance to international standards.

The components of the AYUSH OushadhiGunvattaEvamUttipadanSamvardhanYojana (AOGUSY) Scheme are as under-

- Strengthening and up-gradation of Ayush Pharmacies and Drug Testing Laboratories to achieve higher standards.

- Pharmaco vigilance of ASU&H drugs including surveillance of misleading advertisements.
- Strengthening of Central and State regulatory frameworks including Technical Human Resource & Capacity Building programs for Ayush drugs.

Ayush Grid Project

In News

The Ministry of AYUSH has initiated steps to set up a nationwide digital platform called “**AYUSH GRID**” which aims to bring onboard all AYUSH facilities including hospitals and laboratories and to promote traditional systems of healthcare.

About the project

- Ayush Grid Project was launched by Ministry of Ayush in 2018 to create a backbone for IT sector.
- Project was launched under Digital India Program that support ‘Information and Technology’ in transforming operational efficiency, enhancing service quality and improving delivery of service.
- It will allow integration of all stakeholders and services or functions related to Ayush systems of health care.
- The project seeks to bring all onboard all the facilities of AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy), including laboratories and hospitals besides promoting traditional healthcare systems.
- As a part of MoU, entire Ayush Sector will be digitalised, that will help in transformation of health care delivery across all levels, including research, education, drug regulations and various health programmes.

National Cancer Grid

In News

The National Cancer Grid (NCG) has established the Koita Centre for Digital Oncology (KCDO) to promote use of digital technologies and tools to improve cancer care across India.

About National Cancer Grid (NCG)

The National Cancer Grid (NCG) is an initiative of the Department of Atomic Energy and Tata Memorial Centre, to create a network of cancer centres, research institutes, patient groups and charitable institutions across India for uniformity in standards, training and facilities.

About KCDO

- KCDO will play an important role in driving digital transformation across the cancer care continuum.
- KCDO will support NCG hospitals in sharing best practices in digital health, adopting digital health tools, and driving many common technology initiatives including EMR adoption, healthcare data interoperability, reporting and analytics.
- KCDO will also enable NCG and NCG hospitals pilot and adopt new technologies – including AI, machine learning, big data, automation, cloud, mobile – which will benefit hospitals, doctors, patients and consumers. Embracing digital tools like tele-medicine and remote patient monitoring will help make care more accessible especially in semi-urban and rural areas.
- AI-assisted clinical decision support tools will help improve doctors’ ability to provide better care, and mobile patient engagement apps will help patients with medication management and better compliance with care guidelines.

Ecology & Environment

75 Ramsar Sites in 75th Year of Independence

In News

Government has added 11 more wetlands to the Ramsar list of wetlands.

Ramsar Sites

- Ministry of Environment, Forests and Climate Change said, the 11 new sites include, four in Tamil Nadu, three in Odisha, two in Jammu and Kashmir and one each in Madhya Pradesh and Maharashtra.
- Designation of these sites would help in conservation and management of wetlands and wise use of their resources.

Ramsar Convention

- India is one of the Contracting Parties to Ramsar Convention, signed in Ramsar, Iran in 1971. India signed it on 1st February 1982.
- During 1982 to 2013, a total of 26 sites were added to the list of Ramsar sites, however, during 2014 to 2022, the country has added 49 new wetlands to the list of Ramsar sites.
- During this year itself, a total of 28 sites have been declared as Ramsar sites. Based on the date of designation mentioned on Ramsar Certificate, the number is 19 for 2022 and 14 for 2021.
- Tamil Nadu has maximum number of Ramsar sites which is 14, followed by Uttar Pradesh which has 10 numbers of Ramsar sites.

Tampara Lake (Odisha)

- Tampara Lake is among the most prominent freshwater lakes in the State of Odisha.
- It is called 'Tampara' as the depression on the ground gradually filled with rainwater from catchment flow and was called "Tamp" by the British and subsequently termed "Tampara" by the locals.
- The wetland is an important habitat for vulnerable species such as Cyprinus carpio, common pochard (Aythya ferina), and river tern (Sterna aurantia).
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Chitrangudi Bird Sanctuary (Ramanathapuram, Tamil Nadu)

- The wetland is a protected area since 1989 and declared a Bird Sanctuary.
- It is an ideal habitat for winter migratory birds.

Suchindram Theroor Wetland Complex (Kanya Kumari, Tamil Nadu)

- It is part of the Suchindram-Theroor Manakudi Conservation Reserve.
- It is declared an Important Bird Area and lies at the southern tip of the Central Asian flyway of migratory birds.
- This is a man-made, inland Tank and is perennial.
- Copper plate inscriptions from the 9th century mention Pasumkulam, Venchikulam, Nedumarthukulam, Perumkulam, Elemchikulam and Konadunkulam.

Agasthyamalai in Tamil Nadu declared as an elephant reserve

In News

The Tamil Nadu government has announced that a new elephant reserve will be established in Tirunelveli and Kanyakumari districts.

About Agasthyamalai Biosphere Reserve (ABR)

- ABR is situated at the southern-most end of the Western Ghats and spread over two southern states Kerala and Tamil Nadu.
- It is named after the Agastya Mala peak that rises up to almost 1868 metres above sea level, in Thiruvananthapuram, Kerala.
- In March 2016, it was included in the World Network of Biosphere Reserves of UNESCO.
- It covers Peppara and Shendurney wildlife sanctuaries and parts of the Neyyar sanctuary in Kerala and the Kalakad Mundanthurai Tiger Reserve of Tamil Nadu.
- It is home to the Kanikaran tribe, one of the oldest surviving ancient tribes in the world.
- This will be the 5th elephant reserve in the state.

Benefits

- The forest department may be eligible for additional financing through the centrally sponsored Project Elephant after notifying the Agasthiyarmalai Elephant Reserve.
- It will help connect the populations to other areas in the Srivilliputhur Meghamalai tiger reserve and with the Periyar landscapes.

Aquaculture project

In News

Technology Development Board(TDB) (a statutory body under the DST) is funding its first ever '**Aquaculture**' project using '**state of the art**' Israeli technology for the production of **Tilapia Fish**'.

Tilapia Fish

- Tilapia' (also called "aquatic chicken" due to its quick growth and low maintenance) is one of the most productive and internationally traded food fish in the world.
- It belongs to the family Cichlidae, native to Africa and the Middle East
- It can adapt to a wide variety of conditions and has omnivorous food habits
- It has also turned 'invasive' in some parts of India.
- Under the project, Tilapia will be grown from the imported parent broodstock 'Hermon' from Israel.
- Hermon is a hybrid of two selected strains of Tilapia, namely Oreochromis Niloticus (Male) and Oreochromis Aureus (Female), and shows:
 - high growth rate
 - resistance to low temperature
 - all hybrid fry progeny of males only

Significance

- Tilapia' has emerged to be one of the most productive and internationally traded food fish in the world.
- The culture of tilapia has become commercially popular in many parts of the world and the fishery experts have dubbed the tilapia as "aquatic chicken" due to its quick growth and low maintenance cultivation.

PMMSY

- PMMSY is a flagship scheme for focused and sustainable development of the fisheries sector in the country as a part of the Aatmanirbhar Bharat Abhiyan.
- Adopt 'Cluster or Area-based Approaches' and create fisheries clusters through backward and forward linkages.
- Focus especially on employment generation activities such as seaweed and ornamental fish cultivation.
- Address critical gaps in fish production and productivity, quality, technology, post-harvest infrastructure and management, modernisation and strengthening of the value chain, traceability, establishing a robust fisheries management framework and fishers' welfare.
- Consolidate the achievements of the blue revolution and bring new interventions such as fishing vessel insurance, support for new/up-gradation of fishing vessels/boats, integrated aqua parks, e-trading/marketing, etc.
- The scheme targets to enhance fish production to 220 lakh metric tons by 2024-25, at an average annual growth rate of about 9%.
- The ambitious scheme also aims to double the export earnings to Rs.1,00,000 crore and generate about 55 lakhs direct and indirect employment opportunities in fisheries sector over a period of next five years.

India may need \$10 trn investment to achieve net-zero emission by 2070

In News

According to the 'Getting India to Net Zero' report, to achieve a net-zero emissions target by 2070, India needs a \$10-trn investment from now.

Major Findings

- Achieving net zero by 2070 would boost annual GDP by up to 4.7% by 2036 and create as many as 15 million new jobs by 2047.
- Set to achieve 2015 target: India's NDC targets set in 2015 are likely to be met early within the next few years through current policies
- India could peak in emissions as soon as 2030.
- Ending new coal by 2023 and transitioning from unabated coal power by 2040 would be particularly impactful for reaching net zero emissions closer to mid-century.
- Acknowledged historical responsibility: Historical responsibility for emissions does lie with the West – and the transfer of finance and technology to developing countries is crucial in this challenge.

Panchamrit pledge

- Reach 500 GW of Non-fossil energy capacity by 2030.
- 50 per cent of its energy requirements from renewable energy by 2030.
- Reduction of total projected carbon emissions by one billion tonnes from now to 2030.
- Reduction of the carbon intensity of the economy by 45 per cent by 2030, over 2005 levels.
- Achieving the target of net zero emissions by 2070.

The coal mining protests in the Hasdeo Aranya region

In News

- The Hasdeo Aranya forests are called the lungs of Chhattisgarh.
- Over the past one year, protests against mining in this region have erupted several times and some still continue to sit-in demanding a complete stop to mining.

Importance of Hasdeo region

- The Hasdeo Aranya (Aranya means forest) lies in the catchment area of the Hasdeo river and is spread across 1,878 sq km in North-Central Chhattisgarh.
- The Hasdeo river is a tributary of the Mahanadi river which originates in Chhattisgarh and flows through Odisha into the Bay of Bengal.
- The Hasdeo forests are also the catchment area for the Hasdeo Bango Dam built across the Hasdeo river which irrigates six lakh acres of land, crucial to a State with paddy as its main crop.
- Besides, the forests are ecologically sensitive due to the rich biodiversity they offer and due to the presence of a large migratory corridor for elephants.

Geothermal Energy in Ladakh

In News

State-run explorer Oil and Natural Gas Corporation (ONGC) will be participating to generate electricity through Geothermal Energy at Puga, a remote valley located in Ladakh, off the road to Chumar on the de-facto border with China.

About the project

- It will be India's first geothermal energy project and also the world's highest at 14,000ft.
- ONGC has started drilling its first well for the project and encountered high-pressure steam at 100 degrees Celsius with a discharge rate of 100 tonne geothermal energy per hour, considered as a good sign for the project.

Puga valley

- Puga Valley is situated in the Changthang Valley in the south-eastern part of Ladakh, about 22 km away from the Salt Lake Valley.
- It is a region of great significance known for its natural beauty and geothermal activities.
- Puga is also visited for its hot sulphur spring.

Significance

- It will boost Ladakh's potential to emerge as one of the country's clean energy bowl by expanding the area's horizon beyond solar or wind power.
- The pilot plant provides power and heating needs of the nearby settlements of Tibetan pastoralist refugee settlements at Sumdo and nearby areas.
- A bigger plant will provide 24X7 supply for the far-flung settlements and the large defence establishment in the eastern sector, reducing their dependence on diesel for running generators.
- The plant can also play a vital role as a stabiliser for the 15-gigawatt solar/wind project being planned in the nearby Morey plains in the southwest.

GeoThermal Energy

- Geothermal energy is the heat from the earth. This heat is used for bathing, to heat buildings, and to generate electricity.
- The word geothermal comes from the Greek words geo (earth) and therme (heat), and geothermal energy is a renewable energy source because heat is continuously produced inside the earth.
- Hot water or steam reservoirs deep in the earth are accessed by drilling.
- Geothermal reservoirs located near the earth's surface, mostly located in the western U.S., Alaska, and Hawaii.
- The shallow ground near the Earth's surface that maintains a relatively constant temperature of 50-60°F.

White dwarf

In News

As per the recent study, a bright explosion born out of the cosmic dance of a white dwarf and its companion star resulting in thick dust around an imploding novae could unravel mysteries behind the start of life.

Novae

- A nova is an astronomical event in which a strong explosion occurs temporarily, thus increasing the brightness and then slowly darkening over weeks or months.
- It generally occurs in a binary system (two stars orbiting around a common centre of mass) consisting of a white dwarf and a main sequence star.
- Space dust out of collisions may have propelled organisms over enormous distances between planets to start life on a planet.
- It has been observed only in a few novae within 30 to 100 days after an outburst, as compared to interstellar dust, which typically takes a few thousand years to form and hence provided opportunity to study the dust formation process in novae.

Schemes & Policies

Mission Amrit Sarovar

In News

The Mission Amrit Sarovar was launched on National Panchayati Raj Day on 24th April 2022 as a part of celebration of Azadi ka Amrit Mahotsav with an objective to conserve water for future.

Features of the mission

- The Mission is aimed at developing and rejuvenating 75 water bodies in each district of the country.
- All the States including States of Assam and Rajasthan are covered under the Mission.
- The Mission works through the States and Districts, through refocusing of various schemes such as Mahatma Gandhi National Rural Employment Guarantee Scheme, XV Finance Commission Grants, Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) sub schemes such as Watershed Development Component, Har Khet Ko Pani besides States' own schemes.
- The Mission encourages mobilisation of citizen and non-govt resources for supplementing these efforts.

Nagar Van Yojana

In News

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.

About the Yojana

- **Aim-** To create 400 Urban Forest and 200 Nagar Vatikas in at least 20 hectares of land in the urban areas in the next five years (2020-2025) (on existing forest land or any other vacant land by Urban local bodies)
- Launched in 2020
- Van will be maintained by State Government
- Funding: CAMPA Fund (under Compensatory Afforestation Fund Act 2016)
- Minister of State for Environment, Forest & Climate Change
- Warje Urban Forest in Pune (Maharashtra) will be considered a role model for the Scheme.

O-SMART Scheme

In News

Ministry of Earth Sciences (MoES) has taken many initiatives to harness the potential of Ocean resources.

O-SMART

- The Ocean Services, Modelling, Applications, Resources and Technology (O-SMART) Scheme was approved by the Union Cabinet in August 2018 and is implemented by the Ministry of Earth Sciences.
- It aims at stepping up ocean research and setting up early warning weather systems.
- It addresses ocean development activities such as services, technology, resources, observations and science and provides necessary scientific and technological background required for implementation of various aspects of Blue Economy.

Other Initiatives

- Government of India signed a 15 year contract with International Seabed Authority (ISA) for exploration of polymetallic nodules from Central Indian Ocean Basin (CIOB) in 2002.
- Extensive survey and other developmental activities have been carried out in 75000 sq km area retained by India in CIOB.
- MoES has undertaken exploration and other developmental activities related to polymetallic sulphides under a 15 years contract signed in 2016 with International Seabed Authority (ISA) for exploration of polymetallic sulphides in the allotted area of 10,000 sq km along Central Indian Ridge (CIR) & Southwest Indian Ridge (SWIR) region of the Indian Ocean.
- National Institute of Ocean Technology (NIOT) under MoES has developed, demonstrated and operated unmanned remotely operated systems to harness ocean resources. Centre for Marine Living Resources and Ecology (CMLRE) of MoES explored the deep-sea living resources under Marine Living Resources Programme (MLRP).

NIPUN

In News

The Ministry of Housing and Urban Affairs has launched on June 20, 2022 an innovative project – **NIPUN** (National Initiative for Promotion of Upskilling of Nirman workers), as part of Deendayal Antyodaya Yojana – National Urban Livelihoods Mission (**DAY-NULM**).

NIPUN

- NIPUN, inter-alia, includes on-site Recognition of Prior Learning (RPL) of construction workers, and fresh skill training in job oriented courses in the construction and related sectors.

- This project aims to skill train over one lakh construction workers in the National Skills Qualifications Framework (NSQF) aligned courses, through a network of industry partners in construction sector and the related Sector Skill Councils (SSCs) i.e. Construction Skill Development Council of India (CSDCI), Water Management & Plumbing Skill Council (WMPSC) and Infrastructure and Equipment Sector skill Council (IESC).
- National Skill Development Corporation (NSDC) has been engaged as the implementation agency.
- The project, which is of 1 year duration, is estimated to cost ₹ 93 crore.

Mission Vatsalya Scheme

In News

Mission Vatsalya Scheme is a roadmap to achieve development and child protection priorities aligned with the Sustainable Development Goals (SDGs).

Features of the scheme

- It lays emphasis on child rights, advocacy and awareness along with strengthening of the juvenile justice care and protection system with the motto to 'leave no child behind'.
- The Juvenile Justice (Care and Protection of Children) Act, 2015 provisions and the Protection of Children from Sexual Offences Act, 2012 form the basic framework for implementation of the Mission.
- Funds under the Mission Vatsalya Scheme are released according to the requirements and demands made by the States/UTs.
- The Scheme is implemented as a Centrally Sponsored Scheme in partnership with State Governments and UT Administrations to support the States and UTs in universalizing access and improving quality of services across the country.
- The fund sharing pattern is in the ratio of 60:40 between Centre and State & Union Territories with Legislature respectively.
- **Mission Vatsalya scheme** supports the children through Non-Institutional Care under Private Aided Sponsorship wherein interested sponsors (individuals/ institutions/ company/ banks/ industrial units/ trusts etc.) can provide assistance to children in difficult circumstances.
- The District Magistrates take measures to encourage individuals or Public/ Private Sector Organisations to sponsor a child or a group of children or an Institution.

Operation Yatri Suraksha

In News

With the aim of improving the security of passengers travelling by Indian Railways, RPF has launched a Pan-India Operation under the code name "Operation Yatri Suraksha".

About operation

- As part of this initiative, several steps are being taken to provide foolproof security to passengers i.e. Train Escorting, visible presence on stations, Surveillance through CCTV, Surveillance on active criminals, collection of intelligence about the criminals and action thereupon, identifying black spots and crime prone trains/sections and enhancing security thereat among others to formulate an actionable strategy to reduce crime against passengers.
- Regular coordination is being made with all the stake holders and joint action is planned to improve passenger security regularly.

Significance

- During the drive, 365 suspects were nabbed by RPF personnel and were handed over to the concerned GRPs for legal action based on which 322 cases of Passenger Crime i.e. theft of Passenger Belongings, Drugging, Robbery, Chain Snatching etc. were detected.
- Stolen property of passengers worth more than Rs. 1 Crore was recovered either from the possession of these criminals or in course of investigation of these offences.

Village Engineers programme

In News

Minister of State for Skill Development and Entrepreneurship (MSDE) Shri Rajeev Chandrasekhar held discussions with Members of Parliament and Ministers from Gujarat on creating targeted skilling opportunities for the tribal youth in their local areas to reduce the pull for migration.

About the programme

- The programme which is consistent with Prime Minister Narendra Modi's vision of Self Reliance or AtmaNirbharta aims to ensure inclusive development for all communities.
- Recently, the village engineer programme was launched from Madhya Pradesh to train the tribal youth by providing them a basket of skills together.
- The first batch of village engineers have also been conferred recognition in form of certification.
- Under the programme, the tribal youth will get multiple skill training so that they can participate in the economic activities in their respective districts.

HIM- DRONE-A-THON

In News

The Indian Army in collaboration with the Drone Federation of India has launched the 'Him Drone-a-thon' programme recently.

About the programme

- This initiative in line with Atmanirbharta in defence manufacturing is aimed to catalyse and provide focused opportunities to the Indian drone ecosystem to develop path-breaking drone capabilities for meeting requirements of frontline troops.
- The Indian Army's support to the indigenous drone ecosystem is based on the principle that 'good available indigenously' is better than the 'best available globally'.
- The 'Him Drone-a-thon' programme is pan India sustained connect between all stake holders including industry, academia, software developers and drone product manufacturers.
- It will be conducted in stages with quantifiable parameters (like altitude, weight, range, endurance etc) being progressively enhanced based on demonstrated capabilities.

Pradhan Mantri Adi Adarsh Gram Yojna

In News

Government has modified the earlier scheme of 'Special Central Assistance to Tribal Sub-Scheme (SCA to TSS) with nomenclature 'Pradhan Mantri Adi Adarsh Gram Yojna (PMAAGY)', for implementation during 2021-22 to 2025-26.

PMAAGY

- Aim- at mitigating gaps and providing basic infrastructure in villages with significant tribal population in convergence with funds available under different schemes in Central Scheduled Tribe Component.
- It is envisaged to cover 36,428 villages having at least 50% ST population and 500 STs across States / UTs with notified STs during the period.
- The main objective of this scheme is to achieve integrated socio-economic development of selected villages through convergence approach.

It includes the following components-

- Preparing Village Development Plan based on the needs, potential, and aspirations;
- Maximizing the coverage of individual / family benefit schemes of the Central / State Governments;
- Improving the infrastructure in vital sectors like health, education, connectivity and livelihood;

The SMILE 75-Initiative For The Rehabilitation Of Beggars In India

In News

The union minister for social justice and empowerment Dr. Virendra Kumar launched the “SMILE-75 Initiative” to mark 75 years of Independence, in which municipal corporations will focus on identifying and rehabilitating persons engaged in begging across India including Delhi, Tirupati, Guwahati, Patna, Ahmedabad, Mumbai, Kolkata, Agra etc.

SMILE-75

- SMILE (Support for Marginalized Individuals for Livelihood and Enterprise Scheme) is aimed at making cities/towns and municipal areas begging-free and comprehensive rehabilitation of the persons engaged in the act of begging.
- Under the initiative, seventy-five (75) Municipal Corporations in collaboration with NGOs and other stakeholders will cover several comprehensive welfare measures for persons who are engaged in the act of begging.
- Rehabilitation, provision of medical facilities, counselling, awareness, education, skill development, economic linkages and convergence with other Government welfare programmes etc.

Beggars in India

- According to the Census 2011 total number of beggars in India is over 4 lakhs.
- West Bengal tops the chart followed by Uttar Pradesh and Bihar
- Though there is no central law on begging, some states have adopted the Bombay Prevention of Begging Act, 1959, which penalises beggary.

National Intellectual Property Awareness Mission (NIPAM)

In News

National Intellectual Property Awareness Mission (NIPAM) has achieved target of imparting Intellectual Property (IP) awareness and basic training to 1 million students on 31st July 2022, ahead of the deadline which was 15 August 2022.

About NIPAM

- It is aimed at imparting IP awareness and basic training for students (class 8 to 12) to inculcate the spirit of creativity and innovations. It was launched in 2021 as part of ‘Azadi Ka Amrit Mahotsav’.

- Intellectual property rights (IPR) are the rights given to persons over the creations of their minds: inventions, literary and artistic works, and symbols, names and images used in commerce.
- Nodal Agency: Intellectual Property Office (under Ministry of Commerce and Industry)
- **National IPR Policy (adopted in 2016)**: It gave an institutional mechanism for the implementation of IPR. CIPAM (cell for IPR promotion and management) is the implementation agency for National IPR Policy.

Arth Ganga

In News

Jal Shakti Ministry unveiled a new initiative under Arth Ganga (under Namami Gange Programme)

Arth Ganga

- **'Arth Ganga'** implies a sustainable development model with a focus on economic activities related to Ganga
- **Aim-** To promote economic activities along the Ganga River bank
- As part of this process, farmers will be encouraged to engage in sustainable agriculture practices, including zero budget farming, planting of fruit trees and building plant nurseries on the banks of Ganga.
- Above practices, along with creation of infrastructure for water sports and development of campsites, cycling and walking tracks etc., would help to tap the 'hybrid' tourism potential of the river basin area- for purposes of religious as well as adventure tourism.
- The income generated from encouraging ecotourism and Ganga wildlife conservation and cruise tourism etc. would help to generate sustainable income streams for cleaning of Ganga.

About Namami Gange Programme

- It was launched in 2014 with twin objectives of effective abatement of pollution, conservation and rejuvenation of the National River Ganga. (Under Ministry of Jal Shakti and supported by World Bank)
- National Ganga Council (headed by the PM) is a decision-making body. Implementation is done by the National Mission for Clean Ganga (NMCG), and its state counterpart organizations i.e., State Program Management Groups (SPMGs).
- Funding: centrally-funded, non-lapsable corpus.
- Main Pillars of NGP: Sewerage Treatment Infrastructure, River Surface Cleaning, Afforestation, Industrial Effluent Monitoring, River-Front Development, Bio-Diversity, Public Awareness, Ganga Gram.

Ganga River

- The Ganges is the longest river (2525 Km) and also the largest river in India followed by Godavari (1465 km).
- States covered: Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal.
- Ganga is the third largest river in the world by discharge.
- The mouth of River Ganga forms the world's largest delta, known as Sunderbans, and was declared a World Heritage Site by UNESCO in 1997.

Defence & Security

AI NAJAH-IV

In News

The 4th Edition of India Oman Joint Military Exercise 'AL NAJAH-IV' between contingents of Indian Army and the Royal Army of Oman is scheduled to take place at the Foreign Training Node of Mahajan Field Firing Ranges (Rajasthan) from 01 to 13 August 2022.

AL- NAJAH-IV Military Exercise

- The joint military exercise aims to enhance the level of defence co-operation between Indian Army and Royal Army of Oman and will further manifest in enhancing the bilateral relations between the two nations.
- The Indian Army is represented by troops from the 18 MECHANISED INFANTRY Battalion.
- The previous edition of Ex AL NAJAH IV was organised at Muscat from 12 to 25 March 2019.
- The scope of the exercise includes professional interaction, mutual understanding of drills & procedures, establishment of joint command & control structures and elimination of terrorist threats.
- The joint exercise would focus on Counter Terrorism Operations, Regional Security Operations and Peace Keeping Operations under United Nations charter apart from organising joint physical training schedules, tactical drills, techniques and procedures.

DefExpo

In News

The 12th edition of DefExpo - India's flagship exhibition on Land, Naval and Homeland Security systems - will be held in Gandhinagar, Gujarat between October 18-22, 2022.

DefExpo 2022

- DefExpo 2022 will be held in a three-venue format across an area of 01+ lakh square metres at Helipad Exhibition Centre; inaugural event and seminars at Mahatma Mandir Convention and Exhibition Centre and Live demo at Sabarmati River Front.
- DefExpo 2022 is in line with the vision of Prime Minister Shri Narendra Modi to achieve self-reliance in defence and achieve export of \$5 billion by 2025.
- India has successfully established itself as an emerging defence manufacturing hub with numerous international orders being bagged by Indian companies in recent years.
- The Indian Defence industry has been keenly anticipating DefExpo-2022 which is Asia's largest event in the defence sector.
- The Ministry of Defence has introduced numerous policy reforms in recent years such as simplifying industrial licensing process; allowing 74% Foreign Direct Investment (FDI) through automatic route.

Ex Vajra Prahar 2022

In News

The 13th Edition of the Indo-US Joint Special Forces exercise "Ex Vajra Prahar 2022" commenced at the Special Forces Training School (SFTS), Bakloh (HP).

Ex Vajra Prahar 2022

- The Vajra Prahar series of joint exercise aims to share best practices and experiences in areas such as joint mission planning and operational tactics as also to improve inter-operability between the Special Forces of both the Nations.

- This annual exercise is hosted alternatively between India and the United States. The 12th edition was conducted at Joint Base Lewis Mcchord, Washington (USA) in October 2021.
- During the course of next 21 days, teams of both armies would jointly train, plan and execute a series of Special Operations, Counter Terrorist Operations, Air Borne operations in simulated conventional and unconventional scenarios in mountainous terrain.
- This joint exercise is a significant step in strengthening the traditional bond of friendship between the special forces of both Nations as well as improve bilateral defence cooperation between India and the USA.

Advanced Towed Artillery Gun System (ATAGS)

In News

On **Independence Day**, ATAG, an indigenously developed howitzer, became part of a 21-gun salute at the Red Fort.

ATAG

- The ATAGS is an indigenous 155 mm x 52 calibre howitzer gun developed by the Defence Research and Development Organisation (DRDO) with its Pune-based facility Armament Research and Development Establishment (ARDE) being the nodal agency.
- Howitzers is an umbrella term for a category of long-range artillery guns.
- The ATAGS project was started in 2013 by DRDO to replace older guns in service in the Indian Army with a modern 155 mm artillery gun.

Features

- The armament system of ATAGS mainly comprises barrel, breech mechanism, muzzle brake and recoil mechanism to fire 155 mm calibre ammunition held by Army with a longer range, accuracy and precision and provides greater firepower.
- The ATAGS is configured with all electric drive to ensure maintenance free and reliable operation over a longer period of time.
- It has advanced features in terms of high mobility, quick deployability, auxiliary power mode, advanced communication system, automatic command and control system with night firing capability in the direct fire mode.
- The specialised gun system is compatible with C4I (command, control, communications, computers, and intelligence) systems like the Artillery Combat Command and Control System (ACCCS) called Shakti for technical fire control, fire planning, deployment management, and operational logistics management of the Army.

Quantum Communication Technology

In News

India is all set to join the league of global leaders with indigenous and more advanced Quantum Communication technology in order to equip its Armed Forces with high end Defence.

About QKD

- QKD is a secure communication technology that allows two parties to generate a shared secret key which can be used to encrypt and decrypt messages.
- Quantum computing takes advantage of the strange ability of subatomic particles to exist in more than one state at any time. Due to the way the tiniest of particles behave, operations can be done much more quickly and use less energy than classical computers.

- Under the aegis of Innovation for Defence Excellence (iDEX) – Defence Innovation Organisation (DIO), the QNu Labs, a Bengaluru-based Deep Tech Start-up, has broken distance barriers by innovating advanced secured communication through Quantum Key Distribution (QKD) systems.
- The project was curated by iDEX-DIO with Indian Army.

About iDEX

- It is an initiative by the government (launched in 2018) to contribute to the modernization of the Defense Industry.
- It aims to promote innovation and technology development in Defense and Aerospace by engaging with Industries, MSMEs, start-ups, individual innovators, R&D institutes & academia
- It will be funded by the Defense Innovation Organization (DIO) (under the Ministry of Defence).

Miscellaneous

President's Police medals

In News

- On the occasion of Independence Day 2022, 1082 police personnel received the “Police Medals”.
- 7 personnel received President’s Correctional Service Medal for Distinguished Service while 38 personnel received the Correctional Service Medal for Meritorious Service.

About President’s Police Medal

- The President’s Police Medal is presented to members of law enforcement in India. The award was established on March 1, 1951. It was initially called as “President’s Police and Fire Service Medal”. It is given for either gallantry or distinguished service. Police Medal for Gallantry is accorded with higher precedence. It is presented on Republic Day and Independence Day, annually. Features of the medal include;
- It is made up of bronze and is circular in shape. It has the diameter of 35 mm.
- The obverse of Police medal comprises of State Emblem of India at the centre, along with words POLICE MEDAL written above and state motto, Satyameva Jayate written below in Devanagari script.
- Two five-pointed stars are present on either side of the medal. They separate the inscription.
- Name of the recipient is inscribed on medal’s rim.

Indian Institute of Heritage’ (IIH)

In News

- Government have decided to set up ‘Indian Institute of Heritage’ (IIH) as a Deemed to be University as per UGC (Institutions deemed to be Universities) Regulations, 2019 at Noida, Gautam Buddha Nagar, Uttar Pradesh.
- It will be one of its kind in the country providing higher education and research in the fields of Indian heritage and conservation and Government have no plan to create more such institutions in the country.

About IIH

- Indian Institute of Heritage will be a world-class university

- IIT would offer Masters and Ph.D courses in History of Arts, Conservation, Museology, Archival Studies, Archaeology
- Indian Institute of Heritage will be a world-class university that would focus on the conservation and research in India's rich tangible heritage, while offering research, development and dissemination of knowledge, excellence in the education of its students and activities associated with heritage that contribute to the cultural, scientific and economic life of India.
- This would be a standalone Institution of its type in the country.

NASHE SE AZAADI

In News

The Ministry of Social Justice and Empowerment is running a flagship campaign known as NashaMukt Bharat Abhiyaan (NMBA) that was launched on 15 August 2020 in 272 districts of India.

Nashe Se Azadi

- Department of Social Justice & Empowerment organized "Nashe se Azaadi" -National Youth and Students Interaction Program on 4th August 2022 under NashaMukt Bharat Abhiyaan.
- Dependence to any substance not only affects the individual's health but also disrupts their families and the whole society.
- It is the responsibility of the Government as well as the community and also the individuals to make India drug sensitised. NashaMukt Bharat Abhiyaan was launched on 15th August 2020, almost 2 years ago with the aim of creating an army of youth, women and community who are self-reliant and well informed about the ill effects of substance use.
- The campaign through its innovative programmes in the form of nukkadnataks, cycle rallies, competitions and wall paintings have penetrated through the existing social conditioning and made a revolution.
- Under the NashaMukt Bharat Abhiyaan, it should be ensured that everyone gets access to treatment & rehabilitation and an inclusive environment for one's betterment without discrimination and stigma.

UNESCO tag for British-era astronomical lab

In News

106-year-old astronomical observatory at the Langat Singh College, Muzaffarpur in Bihar has been added to UNESCO World heritage observatories list. This observatory is first of its kind in eastern part of India.

About Astronomical Observatory

- The Astronomical Observatory in Muzaffarpur was established in 1916 give detailed astronomical knowledge to students.
- Prof Romesh Chandra Sen took initiative to set up the astronomical observatory at the college. In 1914, he talked to an astronomer J Mitchell for guidance.
- In 1915, telescope, chronograph, astronomical clock, and other equipment were procured from England.
- Finally in 1916, astronomical observatory was started.
- In 1946, a planetarium was also established in the college.

UNESCO World Heritage sites

- Sites of cultural and natural importance worldwide are recognised under the UNESCO World Heritage Convention.
- This convention was established in 1972. In India, there are 40 World Heritage Sites, making it the country with 6th largest number of World Heritage Sites.

- It includes 32 cultural sites, 7 natural sites and 1 mixed site.
- The Jantar Mantar in Jaipur is also included among UNESCO World Heritage site.
- Jantar Mantar is a collection of 19 astronomical instruments, constructed by king Sawai Jai Singh II.
- It also features the largest stone sundial of the world.

2G Ethanol Plant

In News

On the occasion of World Biofuel Day, Prime Minister Shri Narendra Modi will dedicate the 2nd generation (2G) Ethanol Plant in Panipat, Haryana to the nation.

2G Ethanol Plant

- The 2G Ethanol Plant has been built at an estimated cost of over Rs. 900 crore by Indian Oil Corporation Ltd. (IOCL) and is located close to the Panipat Refinery.
- Based on state-of-the-art indigenous technology, the project will turn a new chapter in India's waste-to-wealth endeavours by utilising about 2 lakh tonnes of rice straw (parali) annually to generate around 3 crore litres of Ethanol annually.

Benefits

- The Project will provide direct employment to people involved in the plant operation and indirect employment will be generated in the supply chain for rice straw cutting, handling, storage, etc.
- The project will have zero liquid discharge.
- Through reduction in burning of rice straw (parali), the project will contribute to a reduction of Greenhouse Gases equivalent to about 3 lakh tonnes of Carbon Dioxide equivalent emissions per annum, which can be understood as equivalent to replacing nearly 63,000 cars annually on the country's roads.

World Biofuel Day

- World Biofuel Day is observed on 10th August every year.
- This day is observed in honour of Sir Rudolf Diesel. He was the inventor of the diesel engine and was the first to predict the possibility of vegetable oil replacing fossil fuels.
- It is observed to raise awareness of the importance of non-fossil fuels as a substitute for conventional fossil fuels.

Stockholm World Water Week 2022

In News

National Mission for Clean Ganga hosts virtual session on the first day of the Stockholm World Water Week 2022.

World Water Week

- World Water Week is the leading annual event on global water issues, organized by 'Stockholm International Water Institute' (SIWI) since 1991.
- The theme for World Water Week 2022 is **"Seeing the Unseen: The Value of Water."**
- In 1991, a public water festival was held in Stockholm city to celebrate the fact that it was again possible for them to fish and swim in the city.
- As part of this festival, a water conference was held, named Stockholm Water Symposium, attended by leading scientists.
- It is this symposium which became World Water Week.

Arth Ganga

- The central idea of “Arth Ganga” is linking people and Ganga through the bridge of economics in line with the slogan of “Banking on River Ganga”.
- Arth Ganga Model strives to contribute at least 3 percent of the GDP from the Ganga Basin itself.
- Livelihood Generation Opportunities such as ‘Ghat Mein Haat’, promotion of local products, Ayurveda, medicinal plants, capacity building of volunteers like Ganga Praharis is also being done under Arth Ganga.

India’s first Saline Water Lantern

In News

Union Minister of State (Independent Charge) Science & Technology; Dr Jitendra Singh has launched India’s first Saline Water Lantern which uses the sea water as the electrolyte between specially designed electrodes to power the LED lamps.

About Lantern

- It is India’s 1st saline water LED lantern. It uses salty sea water as an electrolyte to power LED lamps
- Developed by: National Institute of Ocean Technology (NIOT), Chennai
- The first-of-its kind lantern named “Roshni” during a visit to SAGAR ANVESHKA, a Coastal Research Vessel, operated and used by the National Institute of Ocean Technology (NIOT), Chennai for coastal research.
- Saline Water Lantern will bring “Ease of Living” to the poor and needy, particularly the fishing community living along the 7500 Kilometres long coastal line of India.
- NIOT developed Low Temperature Thermal Desalination (LTTD) technology for conversion of sea water to potable water, which has been successfully demonstrated in Lakshadweep islands.

150th Birth Anniversary of Shri Aurobindo

In News

To commemorate the 150th birth anniversary of Shri Aurobindo Ghosh, central government is holding spiritual programmes from August 12 to August 15, 2022, across 75 prisons in India.

About Sri Aurobindo

- He was born on August 15, 1872 in Calcutta (Kolkata) and died in Pondicherry (Puducherry). In Puducherry, Sri Aurobindo Ashram was established in 1926.
- He was a yogi, seer, philosopher, poet, and Indian nationalist who propounded a philosophy of divine life on earth through spiritual evolution.
- In Pondicherry he founded a community of spiritual seekers, which took shape as the Sri Aurobindo Ashram in 1926.
- Helped establish the Anushilan Samiti of Calcutta in 1902.
- He and his brother revolutionary Barin Ghose contributed articles to the magazine Jugantar
- He was also a journalist, editing newspapers such as Bande Mataram. In 1914, he started publishing the magazine, Arya.
- In May 1908, Aurobindo was arrested in connection with the Alipore Conspiracy Case.
- He wrote copiously and his greatest literary achievement was ‘Savitri’, an epic poem with about 24000 lines.
- He developed a kind of Yoga called Integral Yoga.