LFINITE
Read LESS Learn MORE

Learn Finite

Apr 2021

PIB

COMPLITATION
PRELIMS 2022

Extra mile towards your preparation

For all competitive exam

AN INITIATIVE BY PRADEEP KUMAR
(SOCIOLOGY EXPERT)

LEARN FINITE READ LESS LEARN MORE

Info@learnfinite.com
+91 9122234717
www.learnfinite.com

Learn FINITE

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

Disclaimer

The Information, news and facts published in the magazine have been duly verified and cross-checked from original source before publishing. Even, if any information or fact is misinterpreted or found to have been published incorrectly, the publisher, editor or printer cannot be held responsible for any loss or damages accruing to any specific person or institution.

© Copyright: Learn FINITE, all rights Reserved. No part of this magazine may be reproduced, stored in a retrieval system or transmitted in any form by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publisher.

All Disputes would be subject to Delhi Jurisdiction Only.

Team Learn FINITE

Editor-in-Chief
Pradeep Kumar

Advisory Board
Suraj Kumar Burnwal
(Founder Learn FINITE)

Sachin Yogi
Atal Tiwari

Editorial Team
Mahesh
Kamesh Mahto
Sourav Sinha
Anamika Kumari

Marketing Team
Nishant Saxena
Raj Burnwal
Puja Shah

Designing Team
Ankit Kumar
Komal Gupta
Deepak Burnwal

Contact

Phone:
+91 9122234717
Email:
info@learnfinite.com
Web:
https://learnfinite.com

Revise 450+ Days Current Affairs In Just 1 Week

₹ 299/-

Learn Bits
20 Months Current Affairs

All Subject Covered Subject Wise Categorzation Useful For Prelims As Well As Mains Special Focus On IR

Jan. 2021 to Mar. 2022

Avail From 01-04-2022

Learn Bits quick supper of all CURRENT AFFAIRS
You're read and revise tool for UPSC PRELIMS 2022

* All subjects of UPSC covered in single PDF
* Subject Wise categorization for organised study and revision
* Useful for Prelims as well as Mains as all facts and Important details are provided for value addition
* It covers all the authentic and important sources of current affairs such as PIB, The Hindu, Indian Express, Down to earth, Live Mint, economic times etc.
* Compiled by
* No repetition of article we do not follow the method of bombarding anything and everything available under the sun.
* Very precise and required information is provided which are relevant to exam

₹ 149/-

Score 35+ Mark's In UPSC Prelims 2022

Environment & Ecology

For UPSC, State PSC, CUCET & All Other Competitive Exams

A Complete & Quick Aid For

Read
Revise
Remember

LEARN FINITE

Salient Features:

* A crisp and quick aid for RRR to Read, Revise and Remember
* Covers all important and significant topics for exam
* Well structured to avoid confusion while reading
* UPSC bouncers can easily be tackled
* Prelims questions has been added
* Tabular Columns, Flow Charts, Diagrams And Maps used for lucid explanation

An Initiative By Pradeep Kumar

91222 34717 | www.learnfinite.com | info@learnfinite.com

INDEX

HISTORY & CULTURE 3

KHAJURAHO – TEMPLES OF ARCHITECTURAL SPLENDOUR 3

POLITY & GOVERNANCE 3

INTERNATIONAL VIRTUAL ELECTION VISITORS PROGRAMME 3
COPYRIGHT (AMENDMENT) RULES, 2021 4
JUDGMENTS & ORDERS PORTAL 5
ONLINE TRAINING PROGRAMME ON ALL INDIA SURVEY OF MIGRANT WORKERS 5
NEW PROCESS FOR RE-ISSUE OF OCI CARDS 6
AMENDMENTS TO THE FINANCE BILL, 2021 7

ECONOMY 7

SENSOR-BASED IOT DEVICES TO MONITOR RURAL DRINKING WATER SUPPLY SYSTEMS 7
MADHU KRANTI PORTAL & HONEY CORNERS 8
DGFT TRADE FACILITATION APP 9
INDIA ENERGY DASHBOARDS (VERSION 2.0) 9
COMMUNITY MENTAL-HEALTH DIGITAL PLATFORM MANAS 10
UN FOOD SYSTEMS SUMMIT 2021 10
STARTUP INDIA SEED FUND SCHEME 11
SUBSIDY POLICY FOR UREA PRODUCED THROUGH COAL GASIFICATION 12
RBI SETS UP COMMITTEE TO REVIEW WORKING OF ARCS 12

SCIENCE & TECH 13

ASTROPHYSICAL JETS AND OBSERVATIONAL FACILITIES 13
CHIRALITY 13
NOVEL TECHNIQUE FOR TRACKING SOLAR ERUPTIONS 14
LIGHT WEIGHT BULLET PROOF JACKET 14
SELF-PROPELLED RAILWAY TRACK SCAVENGING VEHICLE 15
SUPERNOVA EXPLOSION TRACED 15
INDIA EMERGING A LEADER IN SUPERCOMPUTING 16
KALEIDOSCOPES IN THE SKY 17
NEUTRINO EXPERIMENTS 17
NON-UNIFORMITY OF HIMALAYAS AND EARTHQUAKE 18
ITCN TRAINING AND CAPACITY BUILDING PROGRAMME 19
NEW ELECTRONIC NOSE 19
PUNJAB'S NEW NUTRIENT RICH CROP & VEGETABLE VARIETIES 20
40TH SCIENTIFIC EXPEDITION TO ANTARCTICA 21
SPO2 BASED SUPPLEMENTAL OXYGEN DELIVERY SYSTEM 21
FOSS4GOV INNOVATION CHALLENGE 22

HEALTH & MEDICINE 22

'ANAMAYA' 22

ECOLOGY & ENVIRONMENT 23

Learn Finite © 2022 | All Rights Reserved | www.learnfinite.com

KOTA FARMER DEVELOPS NEW MANGO VARIETY 23
THE HYDROGEN ECONOMY 24
PREVENTION OF MARINE LITTER 24
EXPLORING THE HYDROGEN PROSPECTS AND INNOVATIVE TECHNOLOGIES 25

INTERNATIONAL RELATION 26

EXERCISE SHANTIR OGROSHENA-2021 26
FIRST MEETING OF BRICS FINANCE MINISTERS AND CENTRAL BANK GOVERNORS IN INDIA 26
INDIA-SRI LANKA POLICE CHIEFS' DIALOGUE (PCD) 27
RAISINA DIALOGUE-2021 27
JUNTA LEADER SET TO JOIN ASEAN SUMMIT 28
MOU BETWEEN THE INSTITUTE OF CA OF INDIA AND CA AUSTRALIA AND NEW ZEALAND 28
PUTIN SIGNS LAW THAT COULD KEEP HIM IN OFFICE TILL 2036 29
100TH ANNIVERSARY OF THE KINGDOM OF JORDAN 29

SCHEMES & POLICIES 30

AIM-PRIME 30
POSHAN GYAN 31
EATSMART CITIES CHALLENGE AND TRANSPORT 4 ALL CHALLENGE LAUNCHED 31
E-PROPERTY CARDS UNDER SWAMITVA SCHEME 32

DEFENCE & SECURITY 33

INS SARVEKSHAK 33
NANOSNIFFER, A MICROSENSOR BASED EXPLOSIVE TRACE DETECTOR 33
EXERCISE SHANTIR OGROSENA-2021 34
INAS 323 COMMISSIONED AT GOA 34
EXERCISE VARUNA – 2021 34
ONLINE GRIEVANCE MANAGEMENT PORTAL 35
GENDER SAMVAAD EVENT LAUNCHED 36
GENDER SAMVAAD 36

MISCELLANEOUS 37

EARTHQUAKE RECORDING INSTRUMENT 37

LEARN FINITE Read LESS Learn MORE

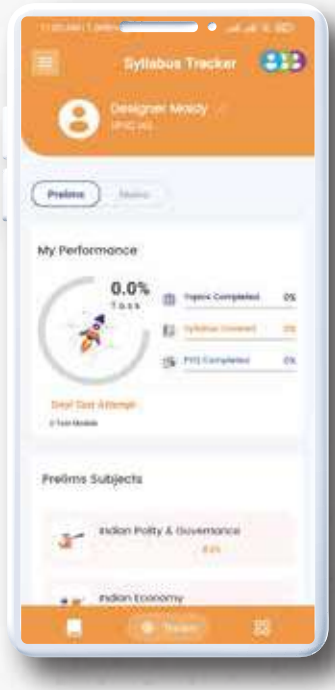
Learn Finite

LFINITE
Read LESS Learn MORE

AI Driven Ed-Tech Platform

Our Premium Features

1



SYLLABUS TRACKER

Track Your Syllabus For UPSC Prelims 2022

Track Your Studies With Us And Know Exactly What To Learn With Our Micro Topic Listing

Lefi Helps You To Get Your Copy

Customized Magazines

2

UPSC Prelims 2021

1. Generate Your Customised Magazine
1. Wait Of Monthly Current Affairs Complilation Is Over
1. Instantly Get Your Copy With A Single Click

Download app From Play Store & App Store

91222 34717 | www.learnfinite.com | info@learnfinite.com

Google Play

History & Culture

Khajuraho – Temples of Architectural Splendour

In news

The Ministry of Tourism's Dekho Apna Desh Webinar series held its 85th webinar titled "Khajuraho-Temples of Architectural Splendour" on17th April 2021

India and its monuments

- India a land resounds with the riches and glories of opulent dynasties, powerful rulers, flourishing civilisations, and profound history.
- India has a splendid heritage that is reflected in its architecture, monuments, arts, crafts & cultures.
- The forts, ancient temples, monuments, grand palaces etc. testifies the grandeur of time gone by and it acts as inventories of India's seamless past.
- The magnificence of the structures in the country that UNESCO has identified several of them as World Heritage Sites and among it is one such architectural marvel and that is temples of Khajuraho.
- Dekho Apna Desh Webinar Series is an effort to showcase India's rich diversity under Ek Bharat Shreshtha Bharat.

Khajuraho

- Khajuraho Temples were built between 950-1050 AD by the Chandela Dynasty.
- The temples are categorised into three groups that is Eastern, Western and Southern.
- These temples display intricate & exceptional carvings and astounding architectural skill which makes Khajuraho one of the most popular tourist destination among domestic as well as international visitors.
- To name few temples are Kandariya Mahadev Temple, Chaunsat Yogini Temple, Brahma Temple, Chitragupta Temple, Devi Jagdamba Temple, Lakshmana Temple, Matangeshwar Temple, Parsvanath Temple.
- The Khajuraho temples are a pinnacle of the North Indian *Nagara* architectural style.
- The Nagara style's primary feature is a central tower (shikhara) whose highest point is directly over the temple's primary deity.
- This is often surrounded by smaller, subsidiary towers (urushringa) and intermediate towers; these naturally draw the eye up to the highest point, like a series of hills leading to a distant peak.

Polity & Governance

International Virtual Election Visitors Programme

In news

Election Commission of India hosted International Virtual Election Visitors Programme (IEVP) 2021 for Election Management Bodies (EMBs) /Organisations from 26 countries and three International Organisations

Highlights

- It was hosted during the ongoing elections for Legislative Assemblies of Assam, Kerala, Puducherry, Tamil Nadu and West Bengal.
- A short film on the glimpse of ongoing elections in the states of Assam, Tamil Nadu, West Bengal, Kerala and UT Puducherry and also on the A-WEB Journal was showcased to the delegates
- Over 106 delegates from over 26 countries across the world including Afghanistan, Australia, Bangladesh, Bhutan, Bosnia & Herzegovina, Cambodia, Georgia, Kazakhstan, Kenya, Republic of Korea, Madagascar, Malawi, Malaysia, Maldives, Mauritius, Mongolia, Nepal, Panama, Philippines, Romania, Russia, South Africa, Suriname, Ukraine, Uzbekistan and Zambia etc.
- 3 international organizations (viz. International IDEA, International Foundation of Electoral Systems (IFES) and Association of World Election Bodies (A-WEB) are participating in the IEVP 2021.
- IEVP 2021 would provide the participants an overview of the large canvas of Indian electoral process, the new initiatives taken by ECI on voter facilitation, transparency and accessibility of electoral system.

Copyright (Amendment) Rules, 2021

In news

The Government of India has notified Copyright (Amendment) Rules, 2021

Highlights

- In India, the Copyright Act, 1957 and the Copyright Rules, 2013 govern the copyright regime.
- The Copyright Rules, 2013 were last amended in the year 2016.
- The amendments have been introduced with the objective of bringing the existing rules in parity with other relevant legislations.
- It aims to ensure smooth and flawless compliance in the light of the technological advancement in digital era by adopting electronic means as primary mode of communication and working in the Copyright Office.

New provisions

- A new provision regarding publication of a copyrights journal has been incorporated, thereby eliminating the requirement of publication in the Official Gazette.
- In order to encourage accountability and transparency, new provisions have been introduced, to deal with the undistributed royalty amounts and use of electronic and traceable
- payment methods while collection and distribution of royalties.
- To reinforce transparency in working of copyright societies a new rule has been introduced, whereby the copyright societies will be required to draw up and make public an Annual
- Transparency Report for each financial year.
- The amendments have harmonised the Copyright Rules with the provisions of Finance Act, 2017 whereby the Copyright Board has been merged with Appellate Board.
- The compliance requirements for registration of software works have been largely reduced, as now the applicant has the liberty to file the first 10 and last 10 pages of source code, or the entire source code if less than 20 pages, with no blocked out or redacted portions.
- The time limit for the Central Government to respond to an application made before it for registration as a copyright society is extended to one hundred and eighty days, so that the application can be more comprehensively examined.

Judgments & Orders portal

In news

A Judgments and Orders Portal for searching past judgments and orders and an e-Filing 3.0 module to allow electronic filing of court documents was inaugurated.

Highlights

- It is aimed to strengthen legal system.
- The Judgments and Orders search portal is a repository of judgments pronounced by various High Courts in the country.
- It provides facility to search judgements and final orders based on multiple search criteria.
- There will be no need for lawyers or clients to visit the court premises for filing of a case.
- The filing process can take place even when the court, client and lawyer are at three different locations.

Features

- Free text search facilitates user to search judgments based on any keyword or combination of multiple keywords
- Users can also search judgments based on various criteria like including bench, case type, case number, year, petitioner/ respondent name, judge name, act, section, disposal nature and decision date. Combination of several search options assist the users to get the desired results.
- The embedded filtering feature allows further filters on available results, thus adding value to the search.

Online Training Programme on All India Survey of Migrant Workers

In news

Labour Bureau, Ministry of Labour, GoI has already initiated the first phase of field work of two surveys namely All India Quarterly Establishment based Employment Survey (AQEES) and All India Survey of Migrant Workers

Why the survey is required?

The importance of these surveys for the Government of India in order to make focused policies for the workers in the country.

Details

- Broadcast Engineering Consultants India Limited (BECIL) is providing the IT as well as the HR support to Labour Bureau in conducting these pan India Surveys.
- A huge number of field enumerators & supervisors are required for conducting these all-India surveys through tablets/ CAPI.
- In order to make these surveys effective, smooth and successful, the training of these investigators and supervisors is of immense importance.

Training Program

- The main focus of the training was to make the participants aware and familiar about Labour Bureau, Objective and purpose of surveys, Method and details of conducting surveys, Roles & responsibilities during the surveys, Stakeholder involved in the survey, the concepts & definitions used in the surveys
- The training programme was of a great success and 900 plus participants remained present and actively participated during all three days
- These trained enumerators and supervisors will start field work in the upcoming few days in all the states of India.

- The first report of the Quarterly Employment (QES) is expected in July 2021 and the report of Migrant Survey is expected in November 2021.

All-India Quarterly Establishment based Employment Survey (AQEES)

- It is launched with the objective of collecting the employment data on quarterly basis form all the establishments.
- It is designed to be an Establishment based Employment Survey which would provide estimates for the demand side conditions of the labour market.
- The AQEES has two parts one is Quarterly Employment Survey (QES) and another is Area Frame Establishment Survey (AFES).
- The Quarterly Employment Survey (QES) under AQEES would provide the employment estimates for the establishments employing 10 or more workers.
- ***The Area Frame Establishment Survey (AFES) has also been launched to cater to need of data driven labour welfare policy formulation,*** as a part of the AQEES, which would provide the employment estimates for the establishments recruiting 9 or less workers.

New process for re-issue of OCI Cards

In news

In a decision which is expected to significantly ease the process for re-issue of Overseas Citizen of India (OCI) cards, the Modi Government has decided to simplify the process

OCI Card

- About 37.72 lakh OCI Cards have been issued by the Government of India.
- The OCI Card has proved to be very popular amongst foreigners of Indian Origin and spouses of foreign origin of Indian citizens or OCI cardholders, as it helps them in hassle free entry and unlimited stay in India. So far about 37.72 lakh OCI Cards have been issued by the Government of India.
- OCI card is a life-long visa for entry into and stay in India with a number of other major benefits attached to it which are not available to other foreigners.

Law regarding OCI card

- As per the extant law, a foreigner of Indian origin or a foreign spouse of an Indian citizen or foreign spouse of an Overseas Citizen of India (OCI) cardholder, can be registered as an OCI cardholder.
- Presently, the OCI card is required to be re-issued each time a new passport is issued up to 20 years of age and once after completing 50 years of age, in view of biological changes in the face of the applicant.

Changes

- With a view to facilitate the OCI cardholders, it has now been decided by the Government of India to dispense with this requirement.
- A person who has got registration as OCI cardholder prior to attaining the age of 20 years will have to get the OCI card re-issued only once when a new passport is issued after his/her completing 20 years of age, so as to capture his/ her facial features on attaining adulthood.
- If a person has obtained registration as OCI cardholder after attaining the age of 20 years, there will be no requirement of re-issue of OCI card.
- With a view to update the data regarding new passports obtained by the OCI cardholder, it has been decided that he/she shall upload a copy of the new passport containing his/her photo and also a latest photo on the online OCI portal, each time a new passport is issued up to 20 years of age and once after completing 50 years of age.

- These documents may be uploaded by the OCI cardholder within 3 months of receipt of the new passport

Amendments to the Finance Bill, 2021

In news

The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi gives ex-post facto approval for the Government amendments to the Finance Bill, 2021 (**enacted on 28th March, 2021 as the Finance Act, 2021).** The amendments were essential to clarify and rationalise the proposals further and address stakeholders concerns arising out of amendments proposed in the Finance Bill.

Objectives

- The Government amendments to the Finance Bill, 2021 shall provide equity and inclusiveness to all the taxpayers by addressing stakeholders concerns arising out of amendments proposed in the Bill.
- The Government amendments to the Finance Bill, 2021 are tax proposals which shall generate timely revenue for the Government and streamline existing provisions by addressing grievances of the taxpayers.

Amendments

- The Finance Bill, which gives effect to tax proposals for FY22, was passed in Parliament in March with 127 amendments.
- Among other changes, it has provided for a 10-year income tax exemption to the National Bank for Financing Infrastructure and Development.
- Private development finance institutions were provided a five-year tax exemption, which can be extended by another five years.
- The amendment also clarified that the equalization levy would not be applicable on consideration of the sale of goods or services which are owned by persons resident in India or by a permanent establishment of a non-resident in India.

Economy

Sensor-based IoT devices to monitor rural drinking water supply systems

In news

Jal Jeevan Mission deploys first-of-its-kind sensor-based IoT devices to monitor rural drinking water supply systems.

Challenges

- One of the key challenges posed to the team was to develop a robust solution at a fraction of the water infrastructure costs (<10-15% of total scheme capex) without compromising on quality or functionality.
- Drinking water supply systems in Indian villages face multiple challenges of drying up of groundwater source, pump failures, irregular and inadequate water supply, etc.
- These challenges invariably aggravate socio-economic disparities, like women transporting water, often on foot over several kilometers; several water-borne diseases, which could easily be avoided; also, economic – wage loss and expenditure on medical care.

Benefits

- Majority of the vendors, including manufacturers, are Indian players, thereby giving a boost to Government's AatmaNirbhar Bharat programme.
- The Internet of Things (IoT) based remote monitoring provides near real-time information without any manual intervention by using sensors.
- This would not only allow effective monitoring and management on-ground, but also enable real-time visibility to State water supply/ PHED officials, and citizens.
- With a futuristic vision to ensure regular tap water to every home, real-time measurement and monitoring is critical for rural drinking water supply schemes, with enormous gains in terms of operational efficiencies, cost reduction, grievance redressal, etc.
- Data will drive improvement in service delivery and instill transparency for precious natural asset such as water.

Sensors

- Several types of sensors have been deployed including flow meters, ground water level sensors, chlorine analyzers, pressure sensors, pump controller etc. to measure all the relevant aspects of water service delivery – quantity, duration, quality, pressure, and sustainability – in addition to providing operational efficiencies.
- The cloud and analytics powered IoT Platform is integrated with a GIS (Geographical Information System) providing a robust decision support system.

Madhu Kranti Portal & Honey Corners

In news

Union Minister for Agriculture and Farmers' Welfare Shri Narendra Singh Tomar launched "Madhu Kranti Portal" and Honey Corners of NAFED

Highlights

- "Madhu Kranti Portal" is an initiative of National Bee Board (NBB), Ministry of Agriculture and Farmers Welfare under National Beekeeping & Honey Mission (NBHM).
- This portal is being developed for online registration to achieve traceability source of Honey and other beehive products on a digital platform.
- The technical and banking partner for development of this digital platform is Indian Bank.
- Honey Mission will lead to increase in income of farmers, employment generation and increase in exports.
- NAFED has developed 14-15 Honey Corners, one each in 5 NAFED Bazaar at **Ashram, New Moti Bagh and East of Kailash, Panchkula and Mussoorie** in their Bazaar/Retail Stores.

Sweet Revolution Or Honey Mission

- India has witnessed many revolutions in its food industry such as the White, Green Revolution and yellow revolution that were related to milk, agriculture and edible oilseed respectively.
- Under the Sweet revolution, the focus is on the beekeeping through scientific methods and production of quality honey and other beehive products.
- The focus is to help increase the income of India's small and marginal farmers.
- India being a country that is rich in poultry and cattle population has a high potential to grow in this sector.

Purpose of sweet revolution

- To make Jharkhand state in the category of developed states by 2022.
- Providing employment by connecting the farmers of the state with bee keeping.

- To increase agriculture and horticulture yield and income of farmers.
- To make the state the leading state in the field of honey production.
- Children free from malnutrition.
- Production of quality honey.

DGFT Trade Facilitation App

In news

Commerce & Industry Minister Shri Piyush Goyal launched DGFT 'Trade Facilitation' Mobile App for promoting ease of doing business and providing quick access to information to importers/exporters.

Significance

- It will ensure the Ease of doing business and the speedy growth in international trade.
- The new Trade Facilitation App is a step in the right direction as it provides easy, omni-channel access to various trade related processes and enquiries at the touch of button.
- It will reduce transaction cost and time for imports and exports related processes, and usher in transparency.

Trade facilitation App is READY for Industry 4.0

- **R**eal-time trade policy updates, notifications, application status alert, tracking help requests.
- **E**xplore item-wise Export-Import policy & statistics, Track IEC Portfolio
- **A**I-based 24*7 assistance for trade queries.
- **D**GFT services made accessible to all.
- **Y**our Trade Dashboard accessible anytime & anywhere.

India Energy Dashboards (Version 2.0)

In news

The India Energy Dashboards Version 2.0 was recently launched

Details

- India Energy Dashboards (IED) is an endeavour to provide single-window access to the energy data for the country.
- Energy data published/provided by Central Electricity Authority, Coal
- Controller's Organisation, and Ministry of Petroleum and Natural Gas is compiled in the Dashboards.
- NITI Aayog launched the Version 1.0 in May 2017.

The key features

- The IED provides time series data from FY 2005-06 until FY 2019-20.
- **Enhanced data download** – It enables easy downloading of data into convenient spreadsheet formats in a cleaner, more intuitive way.
- IED provides data at sub-yearly frequencies as well. This includes monthly data and API linked data from some portals maintained by the government agencies. The monthly data is sourced from the monthly reports that are regularly published for the electricity, petroleum and natural gas sectors. API linked data from Saubhagya.

UJALA, PRAAPTI, and Vidyut PRAVAH has been incorporated in the portal

- A 'Feedback and Suggestions' forum for the engagement of energy data user community has been incorporated;
- A semi-automated workflow/ issue-tracking system for managing periodic updates to the IED.
- The workflow system performs basic checks and data validation, helping to avoid incorrect data entry;
- Addition of technical and financial data of electricity utilities available from the regulatory documents in the state of Maharashtra.
- Regulatory data specifically for the area served by the state-owned distribution utility – MSEDCL has been added.
- The Dashboards will include other states data in future.

Community Mental-Health Digital platform MANAS

In news

The Principal Scientific Adviser to the Government of India Prof. K Vijay Raghavan virtually launched the "MANAS" App to promote wellbeing across age groups

Aim

- The app is aimed to promote wellbeing across age groups.
- The Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC) endorsed MANAS, which stands for Mental Health and Normalcy Augmentation System, as a national program.

Highlights

- MANAS is a scalable, comprehensive, and national digital well-being platform.
- The app integrates the health and wellness efforts of various government ministries of India as well as scientifically validated indigenous tools with gamified interfaces which are developed by various research institutions and national bodies.
- It was initiated by the Indian Government's Office of the Principal Scientific Advisor and was jointly executed by AFMC (Armed Forces Medical College), Pune, NIMHANS Bengaluru, and C-DAC (Centre for Development of Advanced Computing) Bengaluru.
- MANAS App is based on core psychological processes and life skills.

UN Food Systems Summit 2021

In news

The United Nations Secretary General has called for the first ever UN Food Systems Summit to be held in September 2021

Highlights

- It was called to strategize the actions for positive change in Agri-food systems in the World to realize the vision of the **2030** Agenda for Sustainable Development.
- The Summit will focus on levers and pathways to shape food systems nationally and globally to accelerate progress in the SDGs.
- The Summit 2021 is planned to be essentially participatory and consultative and needs the game changing ideas from the experiences through the National, Sub-national (State) and independent consultation for the five Action Tracks related to safe and nutritious food, sustainable consumption patterns, nature-positive production, advance equitable livelihoods, and resilience to vulnerabilities, shocks and stress.

India & Summit

- India with close to 18% humanity on the Globe owes paramount stake in this Food System Summit.
- India has volunteered, but not limited to, to the Action Track 4: Advance Equitable Livelihoods for the UN Food System Summit 2021.
- The prime function assigned to this group is to conduct National Dialogues with all the stakeholders of agri-food systems for exploring national pathways towards creating sustainable and equitable food systems in India and suitably contribute to transformation in global food systems to meet the needs of present and future.

National Level Dialogue on Agri-Food Systems

- The first National Level Dialogue on Agri-Food Systems-Advancing Equitable Livelihoods has been conducted on 12 April, 2021.
- The National Dialogue was facilitated by the Inter departmental Group constituted by Department of Agriculture Cooperation & Farmers Welfare and the representatives from UN Agencies in Delhi.

Startup India Seed Fund Scheme

In news

Minister of Railways, Commerce & Industry, Consumer Affairs and Food & Public Distribution Shri Piyush Goyal today launched the Startup India Seed Fund Scheme (SISFS).

Highlights

- The Fund aims to provide financial assistance to startups for proof of concept, prototype development, product trials, market entry, and commercialization.
- The Scheme was announced by the Hon'ble Prime Minister, Shri Narendra Modi on 16th January 2021 in his Grand Plenary address of 'Prarambh.
- The SISFS will **S**ecure seed funding, **I**nspire innovation, **S**upport transformative ideas, **F**acilitate implementation, and **S**tart startup revolution.
- This Scheme will create a robust startup ecosystem, particularly in Tier 2 and Tier 3 towns of India, which are often deprived of adequate funding.

Significance

Startup India Seed Fund Scheme will act as a bridge between ideas and their implementation. Independent & ambitious thinking in the Startup ecosystem will encourage entrepreneurship and create a culture that will recognise innovation.

Process

- The online portal created by DPIIT, for the scheme, will allow incubators to apply for funds under it.
- An Experts Advisory Committee (EAC) has been created by DPIIT to execute and monitor the Startup India Seed Fund Scheme.
- Grants of upto Rs 5 Crores shall be provided to the eligible incubators selected by the EAC.
- The selected incubators shall provide grants of up to Rs 20 lakhs for validation of Proof of Concept, or prototype development, or product trials to startups.
- Furthermore, investments of up to Rs 50 lakhs shall be provided to the startups for market entry, commercialization, or scaling up through convertible debentures or debt-linked instruments.

Learn Finite © 2022 | All Rights Reserved | www.learnfinite.com

Subsidy policy for Urea produced through coal gasification

In news

The Cabinet Committee on Economic Affairs has given its approval for the proposal of the Department of Fertilizers for the formulation of exclusive subsidy policy for Urea produced through coal gasification route by Talcher Fertilizers Limited (TFL)

Reason

Considering the strategic energy security and urea self-sufficiency of the country, looking into the country's vast coal reserves, it has been decided go ahead with Talcher Fertilizer Limited plant based on coal gasification technology.

Objectives

- The project shall improve availability of fertilizer to farmers thereby boosting development of eastern region and will save transport subsidy for supply of urea in eastern part of the country.
- The project will also give a boost to 'Make in India' initiative and AtmaNirbhar' campaign and would help development of infrastructure like roads, railways water, etc. providing major boost to economy in the eastern part of the country including promoting ancillary industry.
- The project will also provide New business opportunity in form of ancillary industries in the catchment area of the project.

Coal Gasification

- Coal gasification plants are strategically important as coal prices are non-volatile and coal is abundantly available.
- Talcher plant shall also reduce dependence on important Natural Gas for production of urea leading to reduction in LNG import bill.
- The gasification process adopted in Talcher unit is a Clean Coal Technology giving negligible SOx, NOx and free particulate emissions as compared to directly coal fired processes.

RBI sets up committee to review working of ARCs

In News

The Reserve Bank of India (RBI) has constituted a six-member panel to carry out a comprehensive review of the working of Asset Reconstruction Companies (ARCs) in the financial sector ecosystem.

Details

- The panel will be headed by former Executive Director of RBI, Sudarshan Sen.
- Other members of the panel include:
- Vishakha Mulye – Executive Director, ICICI Bank;
- P N Prasad – former Dy. Managing Director, SBI;
- Rohit Prasad – Professor of Economics, MDI, Gurgaon;
- Abizer Diwanji – Partner, Ernst & Young;
- R Anand – Chartered Accountant

Terms of reference for the panel:

- Review existing legal and regulatory framework applicable to ARCs
- Recommend measures to improve the efficacy of ARCs.
- Review business models of ARCs.

- Study role of ARCs in the resolution of stressed assets including under Insolvency & Bankruptcy Code (IBC), 2016.
- Suggest ways for improving liquidity in and trading of security receipts.
- Recommend suitable measures for enabling ARCs to meet the growing requirements of the financial sector.

Science & Tech

Astrophysical jets and observational facilities

In news

Scientists from various institutions throughout the country will discuss some long standing scientific problems in observational astronomy at a national workshop titled 'Astrophysical jets and observational facilities.

Aim

To bring all the stakeholders together to discuss the subject matter at length and review the progress made so far and the proposed path ahead to strengthen the Indian community at large.

Highlights

- This workshop is being organized as a part of the Golden Jubilee Commemoration Year of the Department of Science and Technology (1971-2021).
- One of the first national events to celebrate the 75 years of Independence--'Azaadi ka Amrit Mahotsav'.
- Astrophysical jets are largely known as outflows of ionized matter and are observationally seen as an extended beam of emission among a variety of sources, both Galactic and extra-galactic.

Way forward

ARIES, along with other leading institutions in the country, plans to develop a new generation of large observational facilities to address frontiers of the subject during the coming decades using both indigenous efforts and through international collaborations.

Chirality

In news

Scientists have now found a clue to determine how self-assembled structures can be made using a strange class of particles that do not interact and have non-superimposable mirror images (chiral)

Chirality

Chirality essentially means 'mirror-image, non-superimposable molecules', and to say that a molecule is chiral is to say that its mirror image (it must have one) is not the same as it self. Whether a molecule is chiral or achiral depends upon a certain set of overlapping conditions.

Experiment

- By investigating the role of chiral activity, a group of scientists have for the first time shown that objects can self-recognize even when their shape is not chiral.
- This is the first experimental study to uncover that even when objects are not chiral in shape, chirality inactivity alone can bring about selectivity and recognition between the interacting particles.

- The scientists said that by exploiting 3D printing to design chiral active matter, they can systematically encode different extents of chiral activity and explore its consequences on the emergent dynamical behaviour.
- Chirality-mediated selective interactions are of utmost importance in asymmetric catalysis, supramolecular polymerization, medicinal drug designing, and separation where self-recognition, sorting, and discrimination of molecules are required.

Novel technique for tracking solar eruptions

In news

Scientists have developed a new technique to track the huge bubbles of gas threaded with magnetic field lines that are ejected from the Sun, disrupting space weather and causing geomagnetic storms, satellite failures, and power outages.

Current technology and issue

- Software named Computer Aided CME Tracking Software (CACTus) based on a computer vision algorithm was so far used to detect and characterise such eruptions automatically in the outer corona where these eruptions cease to show accelerations and propagate with a nearly constant speed.
- This algorithm could not be applied to the inner corona observations due to the vast acceleration experienced by these eruptions.
- This severely limited the capability to track the eruptions as CMEs accelerate in the lower corona.
- With the advancement in space technology, there has been a tremendous increase in the amount of data obtained from spacecraft.
- To identify and track the solar eruptions in huge number of images can become tedious if done manually.

New algorithm

- A new algorithm, CMEs Identification in Inner Solar Corona (CIISCO) has been developed to detect and track the accelerating solar eruption in the lower corona.
- CIISCO has been successfully tested on several eruptions observed by space observatories, including Solar Dynamics Observatory and Solar-Terrestrial Relations Observatory.

Light weight Bullet Proof Jacket

In news

DRDO lab develops light weight Bullet Proof Jacket (BPJ) weighing 9.0 kilogrammes, meeting the qualitative requirements of Indian Army

Highlights

- The Front Hard Armour Panel (FHAP) jacket was tested at Terminal Ballistics Research Laboratory (TBRL), Chandigarh and met relevant BIS standards.
- The importance of this vital development lies in the fact that each gram of BPJ weight reduction is crucial in enhancing soldier comfort while ensuring the survivability.
- This technology reduces the weight of the medium sized BPJ from 10.4 to 9.0 kilogrammes.
- Very specific materials and processing technologies have been developed in the laboratories for the purpose.

Learn Finite © 2022 | All Rights Reserved | www.learnfinite.com

Bullet proof jacket

- A ballistic vest or bullet-resistant vest, often called a bulletproof vest, is an item of body armor that helps absorb the impact and reduce or stop penetration to the torso from firearm-fired projectiles and shrapnel from explosions.
- The vest may come in a soft form, as worn by many police officers, prison guards, security guards and some private citizens.
- Prison guards and police may wear soft vests designed to resist stabbing attacks, using metallic or para-aramid components.
- Some Hostage Rescue Teams, and special mission units wear hard armors, either in conjunction with soft armor or alone.
- This allows for protection against rifle ammunition or explosion fragments.

Self-propelled railway track scavenging vehicle

In news

A self-propelled railway track scavenging vehicle may soon replace manual scavenging and cleaning that is still practiced to remove human waste lying on railway tracks

Highlights

- Despite the ban on manual scavenging since 1993 in our country, men and women are seen removing excreta on the tracks with brooms and metal plates.
- Once the garbage is picked up from the tracks, night soil, excessive dirt, oil, and other foreign materials is ineffectively cleaned with high-pressure water jets.
- A national patent has been published for this technology.

Features

- This self-propelled Road cum Rail vehicle equipped with dry and wet suction systems, air and water spraying nozzles, control system, and road cum rail attachment is multifunctional and easy to operate.
- A display unit is provided for real-time control of the cleaning under drastically changing environment.
- It requires only one person along with driver to carry out the automatic cleaning of the railway track.
- Once the dry and wet suction is over, the water nozzles start spraying water jets to clear off any human waste or semi-solid garbage present on the track floor.
- Another set of nozzles spray disinfectants on the track to get rid of flies, rats, and other insects. Water jets completely remove the human waste and other wet garbage from the inter rail space zone.
- Both dry and wet garbage are collected in different tanks, and once filled, it can be decanted at appropriate local municipal garbage collection point.
- A joystick-controlled telescoping suction pipe is fitted to clear the slurry from the trench parallel to the track.
- The telescoping suction pipe can easily be placed at appropriate position in the side trench to suck the sewage slurry.

Supernova explosion traced

In news

Indian astronomers have tracked a rare supernova explosion and traced it to one of the hottest kind of stars called Wolf–Rayet stars or WR stars

Highlights

- The rare Wolf–Rayet stars are highly luminous objects a thousand times that of the Sun and have intrigued astronomers for long.
- They are massive stars and strip their outer hydrogen envelope which is associated with the fusion of Helium and other elements in the massive core.
- Tracking of certain types of massive luminous supernovae explosion can help probe these stars that remain an enigma for scientists.

About the research

- A team of astronomers from **Aryabhatta Research Institute of Observational Sciences** (ARIES), Nainital has conducted the optical monitoring of one such stripped-envelope supernova called SN 2015dj hosted in the galaxy NGC 7371 which was spotted in 2015.
- They calculated the mass of the star that collapsed to form the supernovae as well as the geometry of its ejection.
- The scientists also found that the original star was a combination of two stars – one of them is a massive WR star and another is a star much less in mass than the Sun.

Supernova

- Supernovae (SNe) are highly energetic explosions in the Universe releasing an enormous amount of energy.
- Long-term monitoring of these transients opens the door to understand the nature of the exploding star as well as the explosion properties.
- It can also help enumerate the number of massive stars.

India emerging a leader in supercomputing

In news

India is fast emerging a leader in high power computing with the National Super Computing Mission (NSM)

Details

- NSM is boosting it to meet the increasing computational demands of academia, researchers, MSMEs, and startups in areas like oil exploration, flood prediction as well as genomics and drug discovery.
- Completion in of Phase II of NSM in September 2021 will take the country's computing power to 16 Petaflops (PF).
- MoUs have been signed with a total of 14 premier institutions of India for establishing Supercomputing Infrastructure with Assembly and Manufacturing in India.
- These include IITs, NITs, National Labs, and IISERs.

The National Supercomputing Mission

- It was launched to enhance the research capacities and capabilities in the country by connecting them to form a Supercomputing grid, with National Knowledge Network (NKN) as the backbone.
- The NSM is setting up a grid of supercomputing facilities in academic and research institutions across the country. Part of this is being imported from abroad and part built indigenously.
- The Mission is being jointly steered by the Department of Science and Technology (DST) and the Ministry of Electronics and Information Technology (MeitY) and implemented by the Centre for Development of Advanced Computing (C-DAC), Pune, and the Indian Institute of Science (IISc), Bengaluru.
- PARAM Shivay, the first supercomputer assembled indigenously, was installed in IIT (BHU), followed by PARAM Shakti, PARAM Brahma, PARAM Yukti, PARAM Sanganak at IIT-Kharagpur IISER, Pune, JNCASR, Bengaluru and IIT Kanpur respectively.

Learn Finite © 2022 | All Rights Reserved | www.learnfinite.com

- The mission has also created the next generation of supercomputer experts by training more than 4500 HPC aware manpower and faculties till date.

Kaleidoscopes in the sky

In news

A group of astronomers have discovered a dozen quasars that have been warped by a naturally occurring cosmic "lens" and split into four similar images.

Details

- Quasars are extremely luminous cores of distant galaxies that are powered by supermassive black holes.
- This rare discovery increases the number of known quasars or quads by about 25% and can help determine the expansion rate of the universe and help address other mysteries.

Background

- Quadruply imaged quasars are rare, and the first quadruple image was discovered in 1985.
- Over the past four decades, astronomers had found about fifty of these “quadruply imaged quasars” or quads for short, which occur when the gravity of a massive galaxy that happens to sit in front of a quasar splits its single image into four.

Quads

- The quads are gold mines for all sorts of questions.
- They can help determine the expansion rate of the universe and help address other mysteries, such as dark matter and quasar 'central engines

Cosmological Dilemma

- In recent years, a discrepancy has emerged over the precise value of the universe's expansion rate, also known as Hubble-Lemaître’s constant.
- Two primary means can be used to determine this number: one relies on measurements of the distance and speed of objects in our local universe, and the other extrapolates the rate
- from models based on distant radiation left over from the birth of our universe called the cosmic microwave background.
- The problem is that the numbers do not match. The quasars lie in between the local and distant targets used for the previous calculations.
- The new quasar quads, which the team gave nicknames such as "Wolf's Paw" and "Dragon Kite," will help in future calculations of Hubble-Lemaître’s constant and may illuminate why the two primary measurements are not in alignment.
- "Machine learning along with Augmented Intelligence (AI) tools was key to our study, but it is not meant to replace human decisions," explains Krone-Martins, Lecture at University of California.

Neutrino experiments

In news

Department of Science & Technology (DST), Govt. of India, will unravel the fundamental properties of massive neutrinos and explore the interesting signals of New physics in upcoming high-precision neutrino oscillation experiments.

Neutrino

It is a subatomic particle that is very similar to an electron, but has no electrical charge and a very small mass, which might even be zero. Neutrinos are one of the most abundant particles in the universe. Because they have very little interaction with matter, however, they are incredibly difficult to detect.

Background

- Over the last two decades, several world-class experiments have firmly established the phenomenon of neutrino flavor oscillation which implies that neutrinos have mass and they mix with each other.
- Since neutrinos are massless in the new particle physics, also called Basic Standard Model of particle physics, there is a need to invoke BSM physics to accommodate non-zero neutrino mass and mixing.
- Several interesting BSM scenarios such as sterile neutrinos, non-standard neutrino interactions, neutrino decays, dark matter - neutrino secret interactions, and so on may affect the production, propagation, and detection of neutrinos.

Way forward

- Probing of BSM effects at very high (TeV-PeV) energies (beyond the reach of modern colliders) will be done by detecting astrophysical neutrinos from cosmic distances using giant neutrino telescopes such as Ice Cube at the South Pole, future Ice Cube-Gen2, and KM3NeT in the Mediterranean Sea.
- There are plans to investigate these BSM scenarios at low (MeV-GeV) energies using accelerator and atmospheric neutrinos travelling terrestrial distances.
- Future high-precision accelerator long-baseline neutrino oscillation experiments such as DUNE in USA, T2HK in Japan, and atmospheric neutrino experiment at the upcoming India-based
- Neutrino Observatory (INO) facility are supposed to measure the mass-mixing parameters with a precision of around a few %, and therefore, these upcoming experiments may be sensitive to various sub-leading BSM affects, which Sanjib is going to explore with his group at IOP.
- The research is global and in tune with the international research program in neutrino physics.
- Scientists will investigate the role of high-energy astrophysical neutrinos detected by big neutrino telescopes to reveal new fundamental particles and interactions, probing energy and distance scales far exceeding those accessible in the laboratory.
- Various BSM scenarios will be investigated that may affect the outcome of currently running and upcoming high-precision neutrino oscillation experiments.

Non-uniformity of Himalayas and earthquake

In news

Scientists have found that the Himalayas are not uniform and assume different physical and mechanical properties in different directions – a property present in crystals called anisotropy which could result in significantly large earthquake events in the Himalayas.

Major Earthquakes

Four destructive moderate to great earthquakes have hit the NW region of India, an area covering Garhwal and Himachal Pradesh, since the beginning of the 20th century

- The Kangra earthquake of 1905
- The Kinnaur earthquake of 1975
- The Uttarkashi earthquake of 1991
- The Chamoli earthquake of 1999.
- These seismic activities manifest large-scale subsurface deformation and weak zones, underlining the need for deeper insights into the ongoing deformation beneath these tectonically unstable zones.

Non-Uniformity of Himalayas

- The inhomogeneity along the Himalayas influences the stressing rate is because of variation in the geometry of the Main Himalayan Thrust (MHT) system, and it controls the rupture size during the earthquake.
- This lack of homogenous physical and mechanical properties of the Himalayas could help explore new perspectives about deformations taking place at the Himalaya-Tibet crustal belt involved in the formation of the Himalayan Mountains.

ITCN Training and Capacity Building Programme

In news

The 'Infant Toddler and Caregiver-friendly Neighbourhoods (ITCN) Training and Capacity Building Programme' was recently launched

Highlights

- The Programme is designed to help build capacities of city officials and young professionals for developing young children and family-friendly neighbourhoods within cities in India.
- The programme is a continuation of the long-term partnership between NIUA and BvLF to scale up the efforts and embed the lessons of ITC needs at neighbourhood level within the city level programmes.
- Under the programme, city officials and young professionals are proposed to be skilled through certified training and capacity building modules.

Objectives

- Embedding the learnings from the inventory of knowledge developed by NIUA and BvLF within the on-going and proposed urban development initiatives at neighbourhood and city level.
- Handholding participants to embed learnings into the various initiatives of the cities which take into account the everyday needs of young children and caregivers.

About NIUA

- National Institute of Urban Affairs was established in 1976, it is a premier Institute of Ministry of Housing and Urban Affairs, Government of India for research and capacity building for the urban sector in India.
- The Institution has been actively working on bringing forth key areas of concern for urban India to build the urban discourse at various urban scales and committed towards aligning its efforts towards achieving Sustainable Development Goals (SDGs) through all its initiatives and programs.

About NULP

- The National Urban Learning Platform (NULP) is envisioned as a means of digitally consolidating key skills and knowledge required by urban stakeholders and making these available to all actors on a channel of their choice.
- The NULP will include tools to enable and streamline content creation, content organisation and management, course building, course management, assessment and certification.

New electronic nose

In news

Scientists have developed an electronic nose with biodegradable polymer and monomer that **can detect hydrogen sulphide (H_2S), a poisonous, corrosive, and flammable gas** produced from swamps and sewers

Reason

H_2S is the primary gas produced from the microbial breakdown of organic matter in the absence of oxygen, and this necessitates easy detection of its emission from sewers and swamps.

About the device

- Scientists have developed an exceptionally sensitive and selective H_2S Gas sensor developed by impersonating the neuron responsible for identification of airborne molecules or olfactory receptor neuron (ORN).
- The fabricated sensor consists of a heterostructure consisting of two layers – the top layer a monomer and is realized with a novel chemical tris (keto-hydrazone), which is both porous and contains H_2S specific functional groups.
- The bottom layer is the active channel layer which plays a key role in altering the current and mobility of charge carriers.

Functioning

- The synergistic combination helps to pre-concentrate the H_2S molecules, initiate an acid-base chemical reaction, and thereby brings a change in the majority carriers (holes) of the channel region in the device.
- The capacitance sensor (a sensor that detects nearby objects by their effect on the electrical field created by the sensor) developed by the scientists showed an excellent sensitivity in detecting H_2S gas with an experimental limit of detection of around 25 parts per billion.
- It also has high ambient stability of around 8 months without compromising sensing performance.

Punjab's new nutrient rich crop & vegetable varieties

In news

Punjab, the granary of India has come up with offerings of a bouquet of improved crop and vegetable varieties which are rich in nutrients and can make valuable contributions to the nutritional requirements of India's population

Details

- 'PAU 1 *Chapatti*' with low polyphenols and outstanding processing qualities has been shortlisted for commercialization whereas wheat candidate varieties having high grain protein, high zinc, low phytates and high carotenoids have been developed.
- **Punjab Agricultural University** (PAU) has offered to growers two carotene rich cherry tomato varieties called Punjab Sona and Punjab Kesar and two anthocyanin rich brinjal varieties called Punjab Raunak and Punjab Bharpoor with antioxidant properties. These are also suitable for home/terrace/urban gardening. Inexpensive, nutrient rich home gardening pot mixture providing 40-50% higher productivity along with appropriately designed pots and pot props have also been developed.
- PAU has also identified wild rice accession with high grain protein and genetic stocks with high iron content for breeding rice with enhanced nutritional value. High grain iron and zinc lines have been identified in inter-specific crosses of chickpea.

Other Research

- Protocols have been developed for assessing insecticide resistance and resurgence in rice plant hopper, cotton whitefly and okra mites.
- Studies have been carried out to study pathogen dynamics and molecular level variability in pathogen populations of potato scab, rice sheath blight and wheat yellow rust and have strengthened the resistance breeding based strategy for management of these diseases.

Learn Finite © 2022 | All Rights Reserved | www.learnfinite.com

- Besides environment friendly approaches for pest management, research on efficient rice straw management, promotion of soil health through carbon sequestration and lowering of green house gas emissions has been carried out.

40th Scientific Expedition to Antarctica

In news

The 40th Scientific Expedition to Antarctica (40-ISEA) hosted by the Ministry of Earth Sciences successfully returned to Cape Town on April 10, 2021, after completing a journey of ~12 thousand nautical miles in 94 days, including stopovers

Highlights

- This achievement concludes four successful decades of India's scientific endeavour in the continent of peace and cooperation.
- The 40-ISEA comprised Indian scientists, engineers, doctors, and technicians, who began their journey from the Mormugao Port of Goa to Antarctica on January 07, 2021.
- The team reached its destination station **Bharati** on February 27, 2021, and **Maitri** on March 08, 2021. Bharati and Maitri are India's permanent research base stations in Antarctica.
- The 40-ISEA was conducted under innumerable challenges due to the persisting Corona virus pandemic. Necessary measures were taken to keep the Antarctic free of coronavirus.

Background

- The 40-ISEA comprised Indian scientists, engineers, doctors, and technicians, who began their journey from the Mormugao Port of Goa to Antarctica on January 07, 2021.
- The team reached its destination station **Bharati** on February 27, 2021, and **Maitri** on March 08, 2021. Bharati and Maitri are India's permanent research base stations in Antarctica.
- The stations are approachable only during the austral summer season between November and March.
- On its way to Antarctica, the voyage team deployed four autonomous Ocean Observing DWS (Directional Wave Spectra) wave drifters between 35-degree and 50-degree south latitudes in collaboration with **Indian National Centre for Ocean Information Services** (INCOIS) Hyderabad.

SpO2 based Supplemental Oxygen Delivery System

In news

Defence Research and Development Organisation (DRDO) has developed SpO2 (Blood Oxygen Saturation) supplemental Oxygen Delivery System for soldiers posted at extreme high-altitude areas

Highlights

- Developed by Defence Bio-Engineering & Electro Medical Laboratory (DEBEL), Bengaluru of DRDO,
- The system delivers supplemental oxygen based on the SpO2 levels and prevents the person from sinking in to a state of Hypoxia, which is fatal in most cases, if sets in.
- This automatic system can also prove to be a boon during the current Covid-19 situation.
- The electronic hardware of the system is designed for functioning at extreme altitudes featuring low barometric pressures, low temperatures and humidity.
- The software safety checks incorporated into the system are critical in ensuring the functional reliability of the system in field conditions.

Functioning

- The system reads SpO2 levels of the subject from a wrist-worn pulse oximeter module through wireless interface and controls a proportional solenoid valve to regulate the oxygen supply to the subject.
- The oxygen is delivered from a lightweight portable oxygen cylinder through nasal nares.
- The system is available in various sizes from one litre and one kg weight with 150 litres of oxygen supply to 10 litres & 10 kg weight with 1,500 litres of oxygen supply which can sustain for 750 minutes with a continuous flow of two liters per min (lpm).

Significance

- The system is a boon in the current pandemic as it can be used in the household for moderate Covid patients for Oxygen flow therapy with flow controlled at 2/5/7/10 lpm flow.
- The automatic usage has huge advantage in the household, as the oximeter would give an alarm for lower SpO2 value.
- It will automatically increase/decrease the O2 flow based on SpO2 setting which can be auto adjusted at 2, 5, 7, 10 lpm flow rate.
- The optimal O2 flow rate conserves the O2 resources/O2 management and greatly increases the endurance.

FOSS4GOV Innovation Challenge

In news

MeitY announces #FOSS4GOV Innovation Challenge to accelerate adoption of Free and Open Source Software (FOSS) In Government

Highlights

- To increase awareness about the usage of FOSS in governance and Government functioning, and adoption of FOSS, a virtual roundtable discussion '**Free and Open Source Software (FOSS) in Government**' was organized
- The #FOSS4GOVInnovation Challenge calls upon FOSS innovators, technology entrepreneurs and Indian Startups to submit implementable open source product innovations in CRM and ERP with possible applications for Govtech in Health, Education, Agriculture, Urban Governance etc.
- India is well positioned to become a vibrant hub for Free and Open Source Software (FOSS) innovations, due to the large number of 4G data subscribers in India, 96% of whom access the digital world via open-source based mobile operating systems (primarily Android).
- Some of India's largest-government projects (including Aadhaar) and many technology start-ups have also been built using FOSS.

Health & Medicine

'Anamaya'

In news

Dr. Harsh Vardhan launches Tribal Health Collaborative 'Anamaya

Aim

With this collaborative, the Ministry will work on setting up the National Council on Tribal Health and a Tribal Health Cell to monitor healthcare needs in the tribal areas as well as implement the Tribal Health Action Plan.

About Anamaya

- It is a multi-stakeholder initiative launched by the Union Health Ministry in collaboration with the Union Minister of Tribal Affairs on April 07,2021.
- The collaborative is in association with Bill and Melinda Gates Foundation (BMFG) and Piramal Foundation.
- With this collaborative, the Ministry will work on setting up the National Council on Tribal Health and a Tribal Health Cell to monitor healthcare needs in the tribal areas as well as implement the Tribal Health Action Plan.

Ecology & Environment

Kota farmer develops new mango variety

In news

Shrikishan Suman (55 years), a farmer from Kota, Rajasthan, has developed an innovative mango variety which is a regular and round-the-year dwarf variety of mango called Sadabahar

Highlights

- It is resistant to most major diseases and common mango disorders.
- The fruit is sweeter in taste, comparable to langra and being a dwarf variety, is suitable for kitchen gardening, high-density plantation, and can be grown in pots for some years too.
- The flesh of the fruits, which is bourn round the year, is deep orange with sweet taste, and the pulp has very less fiber content which differentiates it from other varieties.
- The bountiful of nutrients packed in mango are immensely good for health.
- The innovative attributes of the variety have been verified by the **National Innovation Foundation** (**NIF**)
- It is in the process of being registered under the Protection of Plant Variety and Farmers Right Act and ICAR-**National Bureau of Plant Genetic Resources** (**NBPGR**), New Delhi.
- NIF has also facilitated the plantation of Sadabahar mango variety in the Mughal Garden at Rashtrapati Bhawan in New Delhi.

National Innovation Foundation

- The National Innovation Foundation (NIF) - India was set up in March 2000 with the assistance of Department of Science and Technology, Government of India.
- It is India's national initiative to strengthen the grassroots technological innovations and outstanding traditional knowledge.
- Its mission is to help India become a creative and knowledge-based society by expanding policy and institutional space for grassroots technological innovators.
- NIF has pooled a database of over 3,22,000 technological ideas, innovations and traditional knowledge practices (not all unique, not all distinct) from over 608 districts of the country.
- NIF has till date recognised 1093 grassroots innovators and school students at the national level in its various National Biennial Grassroots Innovation Award Functions and annual Dr A P J Abdul Kalam Ignite Children Award functions.

Learn Finite © 2022 | All Rights Reserved | www.learnfinite.com

The Hydrogen Economy

In news

Hydrogen Roundtable being Organised by The Energy Forum and FIPI under the aegis of Ministry of Petroleum and Natural Gas on 15th April 2021

Objective

To understand the progress of Hydrogen ecosystem across continents and contribute to creating synchrony among the thinktanks, Governments and the industry to join forces for developing innovative and sustainable technologies at attractive costs.

Organiser

The Energy Forum (TEF) and the Federation of Indian Petroleum Industry (FIPI), under the aegis of Ministry of Petroleum and Natural Gas, Government of India.

Highlights

- The Hydrogen Roundtable, the first of its kind, will comprise a High-level Ministerial Session, followed by five Panel Discussions by eminent policy makers, experts and industry leaders from different geographical regions of the world, with focus on policy road maps and mapping demand and supply of Hydrogen.
- A separate session is devoted to India's Hydrogen Mission, which will feature a keynote speech from Dr. Indu Shekhar Chaturvedi, Secretary, Ministry of New and Renewable Energy.
- The Hydrogen Roundtable will be having 25 pane lists from15 countries, discussing the potential of Hydrogen from multiple sources and its relevance in national energy transitions.
  The Roundtable is expected to have around 3000 participation around the globe.

Hydrogen economy

- The term **"hydrogen economy"** refers to the vision of using hydrogen as a low-carbon energy source – replacing, for example, gasoline as a transport fuel or natural gas as a heating fuel.
- Hydrogen is attractive because whether it is burned to produce heat or reacted with air in a fuel cell to produce electricity, the only by product is water.
- In 1970, John Bockris coined the term 'hydrogen economy'.
- He mentioned that a **hydrogen economy can replace the current hydrocarbon-based economy, leading to a cleaner environment.**

Prevention of Marine Litter

In news

India and Germany sign agreement on 'Cities combating plastic entering the marine environment.

Aim

The project, aimed at enhancing practices to prevent plastic entering the marine environment, will be undertaken at the national level (at MoHUA), select states.

Issue related to marine litter

- Marine litter threatens ecosystems and adversely affects fishery and tourism industries around the globe.
- In addition to negative economic impact, it affects public health with increased concerns about micro-plastic and risk of particles entering the food chain.

- In recent times, the level of plastic waste that has accumulated in our oceans and marine ecosystems through the increasing production and use of durable synthetic materials has alarmed the public and policy makers alike.
- It is estimated that 15-20% of all plastics are entering oceans via riverine ecosystems of which 10 of the world's most polluting rivers contribute 90%.

Solution

- To this end, cities will be enabled to improve collection, segregation and marketing of plastic waste, to prevent plastic disposal to water bodies, and to improve handling of port and marine waste.
- This will be combined with data management and reporting systems, civil society involvement and increased cooperation with recyclers and the recycling industry through a digital platform.
- This is expected to foster improvements in segregation, collection, transportation, treatment and disposal of waste in municipalities, thereby establishing an efficient system, that ensures no waste finds its way into rivers or oceans.
- The new project is envisaged to be another successful collaborative effort under the Indo-German Bilateral Development Corporation working on sustainable urban transformation.

Exploring the Hydrogen Prospects and Innovative Technologies

In news

Experts from India and Japan discussed possibilities of collaboration for promotion of hydrogen-based technologies as well as related innovations, trends, concerns, and solutions at a webinar on ***De-carbonisation: Exploring the Hydrogen Prospects and Innovative Technologies***

Challenges for India-Japan hydrogen research

- Cost reduction and improved performance for fuel cells, hydrogen storage, challenges for viable green hydrogen process routes.
- Significant investments required for research infrastructure and support for commercialisation,

Hydrogen

- Hydrogen enables high efficiency and zero or near-zero-emissions operations.
- Green hydrogen will be good for industrial processes, production of chemicals, iron and steel, food and semiconductors and refineries and we should explore opportunities for co-innovation in accelerating green hydrogen to reduce dependency on petroleum import.
- Hydrogen gas is a fuel with plenty of potentials. But because it is highly combustible, managing it safely is key.
- Advantages of hydrogen Energy system is that hydrogen gas is generated using a renewable energy source, instead of fossil fuels, it is stored in a safe way, overcomes challenges such as the intermittency of sunshine, and a clean, alternative power source
- The experts agreed that hydrogen could be a good alternative because of its capability of producing lower emissions and less pollution and looked forward to collaborations between groups in India and Japan to that end.

International Relation

EXERCISE SHANTIR OGROSHENA-2021

In news

Indian Army will be participating in a multinational military exercise Shantir Ogroshena 2021 to be held in Bangladesh

Highlights

- It was organized to commemorate the birth centenary of Bangladesh 'Father of the Nation' Bangabandhu Sheikh Mujibur Rahman and mark glorious 50 years of liberation.
- The series of events that began with Bangladesh's tri-services contingent march in India's Republic Day Parade and Prime Minister's visit to Dhak
- Indian Army contingent comprising of 30 personnel including Officers, JCOs and Jawans of a Battalion from The DOGRA Regiment will participate in the exercise along with the contingent of Royal Bhutan Army, Sri Lankan Army and Bangladesh Army.

Theme:

"Robust Peace Keeping Operations"

India-Bangladesh ties

Bangladesh is India's biggest trade partner in South Asia. The trade between the two countries crossed $ ten million.

First Meeting of BRICS Finance Ministers and Central Bank Governors in India

In news

India hosted a Meeting of BRICS Finance Ministers and Central Bank Governors virtually today on April 6, 2021

Highlights

- Participants included Finance Ministers and Central Bank Governors of the BRICS countries.
- This was the first meeting of the BRICS Finance Ministers and Central Bank Governors under India Chairship in 2021.
- BRICS Finance Ministers and Central Bank Governors discussed financial cooperation agenda set by India for 2021 - Global Economic Outlook and Response to COVID-19 pandemic.

BRICS

- It is the acronym coined to associate five major emerging economies: Brazil, Russia, India, China, and South Africa.
- The BRICS members are known for their significant influence on regional affairs.
- Since 2009, the governments of the BRICS states have met annually at formal summits.
- Originally the first four were grouped as "BRIC" (or "the BRICs") before the induction of South Africa in 2010.

Learn Finite © 2022 | All Rights Reserved | www.learnfinite.com

India-Sri Lanka Police Chiefs' Dialogue (PCD)

In news

The first delegation level virtual Police Chiefs' Dialogue between the Police Chiefs of India and Sri Lanka was held today in an environment of positivity and trust".

Details

- Director, Intelligence Bureau while Shri CD Wickramaratne, Inspector General of Police, led the Sri Lankan delegation, led the Indian delegation.
- The two sides emphasized the need for sharing of real time intelligence and feedback. Both sides also agreed to work jointly against the terrorist entities including the Global Terrorist Groups and fugitives, wherever they are present and active.

India–Sri Lanka relations

- The relationship between India and Sri Lanka is more than 2,500 years old. Both countries have a legacy of intellectual, cultural, religious and linguistic interaction.
- In recent years, the relationship has been marked by close contacts at all levels.
- Trade and investment have grown and there is cooperation in the fields of development, education, culture and defence.
- Both countries share a broad understanding on major issues of international interest.

Way Forward

As the way forward, it was decided to strengthen the existing cooperation mechanisms, as also designate 'nodal points' for timely and effective handling of existing as well as emerging security challenges.

Raisina Dialogue-2021

In news

Prime Minister Modi inaugurated the 6th edition of the Raisina Dialogue on April 13, 2021.

Details

- Raisina Dialogue 2021 will be held in a virtual mode from April 13 to April 16.
- The Dialogue is India's flagship conference on geoeconomics and geopolitics and is held annually since 2016.
- The Dialogue is jointly organised by the External Affairs Ministry and Observer Research Foundation.
- The theme of Raisina Dialogue 2021 **is '#ViralWorld: Outbreaks, Outliers, and Out of Control'**.
- The 6th edition of the dialogue will have 50 sessions with the participation of 150 speakers from 50 different countries as well as multilateral organisations.
- More than 2000 attendees from over 80 countries have already pre-registered. A large number of participants are likely to join the dialogue through various social media platforms.

About Raisina Dialogue

- It is a multilateral conference which is held every year in New Delhi, India.
- The Dialogue by India is designed on the lines of the Shangri-La Dialogue of Singapore.
- Raisina Dialogue was first held in 2016 and since its inception, it has emerged as India's flagship conference on geoeconomics and geopolitics.

Goal

- Raisina Dialogue is India's contribution to the global efforts for discovering solutions, providing stability, and identifying opportunities to a century that has already witnessed an eventful two decades.
- Since its inception in 2016, the dialogue has been able to attract leading minds from the global strategic and policy-making community for discussing broader foreign policy as well as strategic issues facing the world.

Junta leader set to join ASEAN summit

In news

Myanmar junta leader Min Aung Hlaing will join a special ASEAN summit next week

- The military has deployed lethal force to quell the anti-coup movement, killing more than 720 people.
- The international community has largely condemned the generals for use of force against unarmed civilians — imposing targeted sanctions against top military brass, their families and army-linked businesses.

ASEAN Summit

- The ASEAN Summit is a biannual meeting held by the members of the Association of Southeast Asian Nations (ASEAN) in relation to economic, political, security, and socio-cultural development of Southeast Asian countries.
- In addition, it serves as a prominent regional (Asia) and international (worldwide) conference, with world leaders attending its related summits and meetings to discuss various problems and global issues, strengthening co-operation, and making decisions.
- World leaders for its success and ability to produce results on a global level have praised the summit.

The usual itinerary are as follows

- ASEAN leaders hold an internal organisation meeting.
- ASEAN leaders hold a conference together with foreign ministers of the ASEAN Regional Forum.
- Leaders of three ASEAN Dialogue Partners (also known as ASEAN +3), namely China, Japan, and South Korea, hold a meeting with the ASEAN leaders.
- And a separate meeting is set for leaders of two ASEAN Dialogue Partners (also known as ASEAN +CER), namely Australia and New Zealand.

MoU between the Institute of CA of India and CA Australia and New Zealand

In news

The Cabinet, chaired by Prime Minister Shri Narendra Modi, has approved a fresh Memorandum of Understanding (MoU) between the Institute of Chartered Accountants of India (ICAI) and Chartered Accountants Australia and New Zealand (CA ANZ)

Impact

- The MRA intends to develop mutually beneficial relationship in the best interest of members, students and their organizations and is expected to provide an opportunity to the ICAI members to expand their professional horizons and to foster working relations between the two accounting institutes.
- The two accountancy institutes will have an opportunity to play the leadership role in addressing new challenges facing the profession in a globalized environment.

Benefits

The engagement between the two Institutes is expected to result in greater employment opportunities for Indian Chartered Accountants and also greater remittances back to India.

Details

- The Memorandum of Understanding (MoU) between the Institute of Chartered Accountants of India (ICAI) & Chartered Accountants Australia and New Zealand (CA ANZ) would mutually recognize the qualification and admit the Members in good standing by prescribing a bridging mechanism between the two Institutes.
- The ICAI and CA ANZ aim to establish a mutual co-operation framework for the advancement of accounting knowledge, professional and intellectual development, advancement of the interests of their respective members and contribute positively to the development of the accounting profession in Australia, New Zealand and India.

Background

- The Institute of Chartered Accountants of India (ICAI) is a statutory body established by an Act of Parliament of India, The Chartered Accountants Act, 1949', to regulate the profession of Chartered Accountancy in India.
- Chartered Accountants Australia and New Zealand (CA ANZ), emerged from the merger of the Institute of Chartered Accountants in Australia and the New Zealand Institute of Chartered Accountants in October 2014.

Putin signs law that could keep him in office till 2036

In news

Russian President Vladimir Putin signed a law allowing him to potentially hold onto power until 2036, a move that formalises constitutional changes endorsed in a vote last year.

Highlights

- He has argued that resetting the term count was necessary to keep his lieutenants focused on their work instead of “darting their eyes in search for successors.”
- The constitutional amendments also emphasised the primacy of Russian law over international norms.
- Nearly 78% of voters approved the constitutional amendments.
- Russian lawmakers have methodically modified the national legislation, approving the relevant laws.
- The opposition criticised the constitutional vote, arguing that it was tarnished by widespread reports of pressure on voters and other irregularities.

100th anniversary of the Kingdom of Jordan

In news

PM congratulates His Majesty King Abdullah II and people of Hashemite Kingdom of Jordan on the occasion of the 100th anniversary of the founding of the state of Jordan

Highlights

- Prime Minister Modi hailed the far-sighted leadership of His Majesty, under whom Jordan has achieved sustainable and inclusive growth, and remarkable developments in economic and socio-cultural fields.
- India and Jordan were united in the belief that moderation and peaceful co-existence were essential for peace and prosperity.
- The two sides would continue to walk side by side in their joint efforts for a greater future for all humanity.

Hashemites

- King Abdullah II and Prince Hamzah belong to the Hashemite royal family responsible for establishing the modern state of Jordan in 1921.
- Hashemites claim to be direct descendants of Prophet Muhammad through his daughter Fatima and her husband Ali bin Abi Talib.
- The Hashemites led the liberation of Arab lands from the Ottomon Empire through the Great Arab Revolt of 1916.
- Al-Hussein bin Ali, the great-great-grandfather of King Abdullah II, led the revolt and freed the lands of Jordan, Lebanon, Palestine, Iraq, Syria and the Hijaz.

Schemes & Policies

AIM-PRIME

In news

Atal Innovation Mission (AIM), NITI Aayog today launched AIM-PRIME (Program for Researchers on Innovations, Market-Readiness & Entrepreneurship), an initiative to promote and support science-based deep-tech startups & ventures across India.

Highlights

- AIM has joined hands with Bill & Melinda Gates Foundation (BMGF) to launch this nationwide program which will be implemented by Venture Center - a non-profit technology business incubator.
- Deep technology is an outcome of very intense research and development (R&D) with high knowledge content.
- The benefits of this program are aimed at addressing specific issues through training and guidance over a period of 12 months.
- Candidates selected for the program will get access to in-depth learning via a comprehensive lecture series, live team projects, exercises, and project-specific mentoring.
- They will also have access to a deep tech startup playbook, curated video library, and plenty of peer-to-peer learning opportunities.
- This initiative builds on the foundation laid by AIM to support startups and provides specialized services to transition research to industry.
- The hallmark of the AIM-PRIME program shall be hands-on practical insights and mentoring from experts and mentors who have been nurturing science-based deep-tech startups in global innovation hotspots as well as in India.

About AIM

Atal Innovation Mission (AIM) is Government of India's flagship initiative to create and promote a culture of innovation and entrepreneurship across the length and breadth of our country.
AIM's objective is to develop new programmes and policies for fostering innovation in different sectors of the economy, provide platforms and collaboration opportunities for different stakeholders, and create an umbrella structure to oversee the innovation & entrepreneurship ecosystem of the country.

Learn Finite © 2022 | All Rights Reserved | www.learnfinite.com

Poshan Gyan

In news

NITI Aayog, in partnership with Bill and Melinda Gates Foundation launched Poshan Gyan, a national digital repository on health and nutrition.

About Poshan Gyan

- It is a trusted and comprehensive online resource for anybody working in the nutrition sector in India.
- It is a collection of effective communication materials created by government agencies and other development organizations to tackle the challenges of knowledge awareness and behaviour change in the nutrition sector.
- The materials cover a range of topics, such as antenatal care, complementary feeding, adolescent health, diet diversity, anemia prevention etc.
- This repository is curated and maintained by NITI Aayog in joint efforts with other development partners.
- Poshan Gyan is designed to be accessible for everybody to use - whether frontline health workers, community leaders, teachers or anyone else seeking to improve nutritional outcomes.
- It contains materials targeted towards different audiences using a variety of media types, such as interpersonal communication, mass media, outdoor advertising etc.

Eatsmart Cities Challenge and Transport 4 All Challenge Launched

In news

Eatsmart Cities Challenge and Transport 4 All Challenge Launched

EatSmart Cities Challenge

The 'Eat Right India' movement initiated by FSSAI under the aegis of Ministry of Health & Family Welfare, has gone a long way in creating awareness amongst the people about eating safe, healthy and sustainably.

Aim

The EatSmart Cities Challenge aims to motivate Smart Cities to develop a plan that supports a healthy, safe and sustainable food environment supported by institutional, physical, social, and economic infrastructure along with the application of 'smart' solutions to combat food related issues.

Detail

- The EatSmart Cities Challenge is envisioned as a competition among cities to recognize their efforts in adopting and scaling up various initiatives under Eat Right India.
- This unique challenge, in partnership with Smart Cities Mission will create an environment of right food practices and habits, strengthen the food safety and regulatory environment, build awareness among the consumers, urge them to make better food choices in India's major cities, and can set an example for other cities to follow.

Transport 4 All (T4All) Challenge

- Indian cities have the golden opportunity to invest in public transport as a social good, completely revamp informal transit services, and prioritise digital innovation to improve user experience.
- The Ministry of Housing and Urban Affairs launched the Transport 4 All challenge in collaboration with ITDP.

Aim

The Challenge aims to bring together cities, citizen groups, and start-ups to develop solutions that improve public transport to better serve the needs of all citizens.

Detail

- The first edition of the Challenge focuses on digital innovation. Cities and start-ups will receive guidance to develop and test various solutions, learn from them, and scale them to build people's trust in public transport and enhance their mobility.
- The solutions will make public transport—formal as well as informal— safe, convenient, and affordable for all.
- All the Smart Cities Mission cities, capitals of states and union territories (UTs), and all cities with a population of over 5 lakhs—are eligible for the Challenge.

Three Stages of the Challenge

- Stage I PROBLEM IDENTIFICATION: Cities, with the support of NGOs, identify key recurring problems that citizens and public transport operators face
- Stage II SOLUTION GENERATION: Start-ups develop prototypes of solutions to improve public transport with inputs from cities and NGOs
- Stage III PILOT TESTING: Cities engage start-ups for large-scale pilots and refine the solutions based on citizen feedback

e-property cards under SWAMITVA scheme

In news

PM to launch distribution of e-property cards under ***SWAMITVA scheme*** on 24th April

About Scheme

- **SVAMITVA Scheme** is a Central Sector scheme launched by Hon'ble Prime Minister of India on National Panchayat Day i.e 24th April 2020.
- The Ministry of Panchayati Raj (MoPR) is the Nodal Ministry for implementation of the scheme.
- In the States, the Revenue Department / Land Records Department will be the Nodal Department and shall carry out the scheme with support of State Panchayati Raj Department.
- Survey of India shall work as the technology partner for implementation.

Aims

- To provide an integrated property validation solution for rural India. The demarcation of rural abadi areas would be done using Drone Surveying technology.
- This would provide the 'record of rights' to village household owners possessing houses in inhabited rural areas in villages which, in turn, would enable them to use their property as a financial asset for taking loans and other financial benefits from Bank

Objectives

- To bring financial stability to the citizens in rural India by enabling them to use their property as a financial asset for taking loans and other financial benefits.
- Creation of accurate land records for rural planning.
- Determination of property tax, which would accrue to the GPs directly in States where it is devolved or else, add to the State exchequer.
- Creation of survey infrastructure and GIS maps that can be leveraged by any department for their use.

- To support in preparation of better-quality Gram Panchayat Development Plan (GPDP) by making use of GIS maps.
- To reduce property related disputes and legal cases

Defence & Security

INS SARVEKSHAK

In news

INS Sarvekshak, a hydrographic survey ship, is on a deployment to Mauritius for undertaking joint hydrographic surveys along with their Mauritian counterparts.

Highlights

- During the deployment, training of Mauritian personnel on advanced hydrographic equipment and practices will also be undertaken.
- The ship visited Port Louis, Mauritius and commenced the hydrographic survey of 'Deep sea area off Port Louis'.
- INS Sarvekshak, a specialised survey ship is fitted with state-of-the-art survey equipment like Deep Sea Multi-Beam Echo Sounder, Side Scan Sonars and a fully automated digital surveying and processing system.
- The ship carries an integral Chetak helicopter, which would be extensively deployed during the survey.
- INS Sarvekshak has undertaken various foreign cooperation surveys over the last few years in Mauritius, Seychelles, Tanzania and Kenya.

NanoSniffer, a Microsensor based Explosive Trace Detector

In news

Union Education Minister, Shri Ramesh Pokhriyal 'Nishank' launches NanoSniffer, a Microsensor based Explosive Trace Detector

Highlights

- Nanosniffer is world's first Explosive Trace Detector using microsensor technology.
- NanoSniffer is a 100% Made in India product in terms of research, development & manufacturing.
- The core technology of NanoSniffer is protected by patents in the U.S. & Europe.
- This affordable device will reduce our dependency on imported explosive trace detector devices.
- Home-grown Explosive trace detector device (ETD) - NanoSniffer can detect explosives in less than 10 seconds.
- It detects all classes of military, conventional and homemade explosives. NanoSniffer gives visible & audible alerts with sunlight-readable color display.
- NanoSniffer provides trace detection of nano-gram quantity of explosives & delivers result in seconds.
- It can accurately detect a wide range of military, commercial and homemade explosives threats. Further analysis of the algorithms also helps in categorization of explosives into the appropriate class.
- With local manufacturing, including its MEMS sensor, it will save a lot of import cost for the country.

Exercise SHANTIR OGROSENA-2021

In news

Exercise SHANTIR OGROSENA-2021, a 10 day long multinational military exercise, which started on 04 April 2021, culminated on April 2021 at Bangabandhu Senanibas (BBS), Bangladesh.

Participants

Troops from four countries participated in this exercise with observers from USA, UK, Russia, Turkey, Kingdom of Saudi Arabia, Kuwait and Singapore.

Aim

The aim of the exercise was to strengthen defence ties and enhance interoperability amongst neighbourhood countries to ensure effective peace keeping operations.

Significance

- The Armies of all participating nations shared their wide experiences and enhanced their situational awareness through robust information exchange platforms.
- The exercise culminated with a validation phase and closing ceremony organised on the theme of Robust Peace Keeping Operations.

INAS 323 commissioned at Goa

In news

Indian Naval Air Squadron (INAS) 323, the first unit of the indigenously built ALH Mk III aircraft, was commissioned into the Indian Navy

Highlights

- The commissioning of INAS 323 marked yet another milestone in the efforts towards enhancing maritime security and safeguarding maritime interests of the nation, as also embodying the spirit of Atma Nirbhar Bharat.
- The squadron will operate three state-of-the-art ALH Mk III, a multirole helicopter with Shakti engine manufactured by Hindustan Aeronautics Limited (HAL).
- The Mk III version of the ALH has an all glass cockpit and will be used for Search and Rescue, Special Operations and Coastal Surveillance.
- 16 aircraft are under procurement and the aircraft are being delivered in a phased manner to the Indian Navy.

ALH MK III

- The Mk III version of the ALH has an all glass cockpit and will be used for search and rescue, special operations and coastal surveillance.
- The squadron will operate three state-of-the-art ALH Mk III, a multirole helicopter with Shakti engine manufactured by Hindustan Aeronautics Limited (HAL).

EXERCISE VARUNA – 2021

In news

The 19th edition of the Indian and French Navy bilateral exercise 'VARUNA-2021' is scheduled to be conducted in the Arabian Sea from 25th to 27th April 2021

Participants

- From the Indian Navy's side, guided missile stealth destroyer INS Kolkata, guided missile frigates INS Tarkash and INS Talwar, Fleet Support Ship INS Deepak, with Seaking 42B and Chetak integral helicopters, a Kalvari class submarine and P8I Long Range Maritime Patrol Aircraft, will participate in the exercise.
- The French Navy will be represented by the Aircraft Carrier Charles-de-Gaulle with Rafale-M fighter, E2C Hawkeye aircrafts and helicopters Caïman M and Dauphin embarked, Horizon-class Air defense destroyer Chevalier Paul, Aquitaine-class multi-missions frigate FNS Provence with a Caïman M helicopter embkared and Command and supply ship Var.

Highlights

- The three day exercise will see high tempo-naval operations at sea, including advanced air defence and anti-submarine exercises, intense fixed and rotary wing flying operations, tactical manoeuvres, surface and anti-air weapon firings, underway replenishment and other maritime security operations.
- Units of both navies will endeavour to enhance and hone their war-fighting skills to demonstrate their ability as an integrated force to promote peace, security and stability in the maritime domain.
- On completion of exercise VARUNA-21, to consolidate accrued best practices and enhance interoperability, Indian Navy's guided missile frigate INS Tarkash will continue to exercise with the French Navy's Carrier Strike Group (CSG) from 28th April to 1st May 2021.
- VARUNA-21 highlights growing bonhomie and showcases increased levels of synergy, coordination and inter-operability between the two friendly navies. These interactions further underscore the shared values as partner navies, in ensuring freedom of seas and commitment to an open, inclusive Indo-Pacific and a rules-based international order.

Online Grievance Management Portal

In news

Union Minister for Communication & IT and Law & Justice Shri Ravi Shankar Prasad launched the "Online Grievance Management Portal of National Commission for Scheduled Castes (NCSC)

Details

- NCSC Grievance Management portal would make it easier for Scheduled Castes population of our country to register their complaint from any part of the country.
- The portal shall enable them to file their application and other atrocity and services related grievances online and to get them addressed in a time bound manner.
- The portal designed in collaboration with the Bhaskaracharya Institute for Space Applications and Geoinformatics (BISAG-N)
- This portal is linked to the Commission's website and one can file one's complaint upon registering on it.

The National Commission for Scheduled Castes (NCSC)

- It was set up under the Article 338 of the Constitution of India with the objective to investigate and monitor all issues pertaining to the safeguards provided for the Scheduled Castes under any law for the time being in force or under any order of the Government of India.
- The Commission also enquires into specific complaints with respect to the deprivation of rights and safeguards provided for the Scheduled Castes.
- The NCSC renews its commitment to serve the cause of the SC community as mandated in the Constitution and policies of the government.

Gender Samvaad event launched

In news

Gender Samvaad event, a joint attempt between DAY-NRLM and the Initiative for What Works to Advance Women and Girls in the Economy (IWWAGE) to create a common platform to share experiences emerging from this effort, was organised

Highlights

- The attempt is to generate greater awareness on gender related interventions under DAY-NRLM across the country and best practices, with a focus on hearing voices from the states and the field.
- The online launch event brought together a distinguished panel of experts, including senior officials of the Ministry of Rural Development.
- In addition, voices of women from the field, who shared their experiences on how gender mainstreaming efforts within the DAY-NRLM have helped enhance their agency were also included.
- A compendium of case studies presenting inspiring stories of SHG members was also released at the event.

Gender Samvaad provides states with opportunities to:

- Understand best practices/initiatives that other states have been undertaking to improve women's agency (e.g. facilitating women's access to land rights, their engagement in farmer producer organizations (FPOs), best practices around Food, Nutrition, Health and Water and Sanitation (FNHW), in establishing strong institutions for public service delivery, and in protecting and providing redress to vulnerable groups within women (e.g. to victims of witch hunting));
- Understand gender interventions globally;
- Engage with experts and other colleagues on suggestions regarding how to handle issues/implementation barriers;
- Contribute to creation of a 'gender repository' with resource materials on best practices for gender interventions across the country/other countries; and
- Build advocacy around the need to focus on gender issues across SRLMs and the NRLM.

Gender Samvaad

Context

Gender Samvaad' was launched on the 16th of April, 2021 in a joint initiative by the Ministry of Rural Development's Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM) and the Initiative for What Works to Advance Women and Girls in the Economy (IWWAGE) by LEAD.

Aim

- To establish a shared platform to generate awareness on NRLM's gender interventions across the country.
- Gender Samvaad's focus remains on hearing voices from the states and of SHG members.

Samvaad will provide states with opportunities to

- Understand best practices/initiatives that other states have been undertaking to improve women's agency (e.g. facilitating women's access to land rights, their engagement in farmer producer organizations (FPOs), best practices around FNHW, in establishing strong institutions for public service delivery, in protecting and providing redress to vulnerable groups within women (e.g. practices against witch hunting) etc.))
- Understand gender interventions globally;
- Engage with experts and other colleagues on suggestions regarding how to handle issues/implementation barriers;

- Contribute to creation of a 'gender repository' with resource materials on best practices for gender interventions across the country/other countries; and
- Build advocacy around the need to focus on gender issues across SRLMs and the NRLM.

Miscellaneous

Earthquake recording instrument

In news

The National Capital Region of Delhi and its surroundings had experienced minor and small magnitude earthquakes during April to August 2020

Details

- The epicentre of these earthquakes were located in areas of NE Delhi, Rohtak, Sonipat, Baghpat, Faridabad and Alwar.
- The **National Center for Seismology** (NCS), has deployed additional earthquake recording instruments for close monitoring of earthquake activity in and around Delhi
- These instruments were also deployed to carry out field studies to characterize the subsurface structures using geophysical techniques such as Magneto tellurics.
- Magneto-telluric (MT) geophysical survey which involves measurement of the time-varying electric and magnetic fields to determine the distribution of electrical conductivity in the subsurface has been carried out in collaboration with the **Wadia Institute of Himalayan Geology** (WIHG), Dehradun.
- The MT survey has been completed across major faults of the Delhi region such as Mahendragarh Dehradun Fault, Sohna Fault, Mathura Fault, Moradabad Fault and Great Boundary Fault.
- Active fault mapping is another study that has been taken up jointly with the Indian Institute of Technology (IIT), Kanpur.