



DR. M. MOHAN RAO
IAS (Retd)
CHAIRMAN

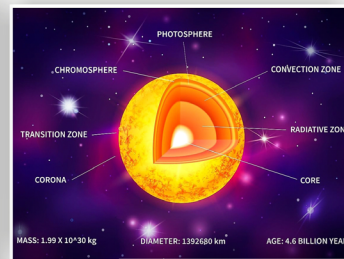
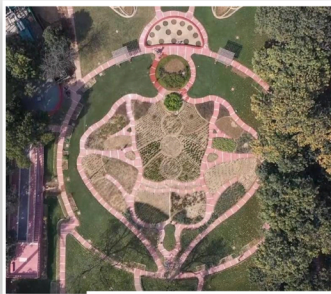


M. ARUNA MOHAN RAO
IPS (Retd)
DIRECTOR (ACADEMICS)

April-2022

CURRENT AFFAIRS MAGAZINE

- **Economy**
- **Social Issues**
- **Miscellaneous**
- **Art and Culture**
- **Science & Technology**
- **International Relations**
- **Polity and Governance**
- **Environment & Ecology**



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Current Affairs

April , 2022

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Madhva Navami

Recently, Madhva Navami, or Madhva Navami was observed, an auspicious day dedicated to Madhvacharya, the great religious reformer and commentator on the [Brahma Sutras](#) and the Upanishads.

About Madhvacharya

- Madhvacharya was the third of the trinity of philosophers who influenced Indian thoughts.
 - He came after Sri Shankaracharya and Shri Ramanujacharya.
- He propounded the philosophy of Dvaita or Dualism.
- Shri Madhvacharya was born to Narayana Bhatta and Vedavati in Pajaka, a small place near Udupi.
- He was born in 1238, on the auspicious day of Vijayadashami, and he was named Vasudeva.
- Madhvacharya is traditionally considered as the third prominent incarnation of Vayu after Hanuman and Bhima.
 - He was very strong and was a fine wrestler and loved sports like swimming and weight-lifting.
- He was initiated into Sanyasa by Achyutapreksha, a great teacher belonging to the Advaita School of Philosophy.
- At the time of initiation, he was given the name Purnaprajna.
- It was also Achyutapreksha who gave him the title 'Madhva' by which he was more famously known.
- During this period, the Advaita school of Sri Shankara dominated Indian thoughts and teachings.
- But Madhvacharya was never satisfied with the Non-Dualistic interpretations of the scriptures.

- The basic tenet of Dvaita philosophy is the refutation of the Mayavada of Sri Shankara.
 - Dvaita emphasizes that the world is real and not just an illusion.

- Some of Sri Madhvacharya's teachings fall along these lines:

- The soul is bound to this world through ignorance
- The way for the soul to release itself from this bondage is to seek the grace of Sri Hari
- To reach Sri Hari, one has to practice Bhakthi, there is no other way.

- Madhvacharya declared that the path to salvation was open to all and was not limited by birth.

President of India Inaugurates ArogyaVanam

The President of India, Shri Ram Nath Kovind, inaugurated a newly developed ArogyaVanam at the President's Estate in the presence of the Prime Minister.

- The concept of ArogyaVanam has been conceived with the aim of publicising the importance of Ayurvedic plants and their effects on human body.

Key Points

Its purpose is also to spread awareness so that guests coming to visit Rashtrapati Bhavan can become aware of the properties of various types of medicinal plants, their aroma and their importance.

- The structure of ArogyaVanam is made in the shape of a human sitting in yoga

posture (ArogyaManav).

- Along with it, there are fountains, a yoga platform, a viewpoint, water channels, a lotus pond, and a greenhouse.
- Spread in 6.6 acres, the ArogyaVanam consists of around 215 herbs and plants used for therapeutic purposes in Ayurveda.
- The help of the forest department of Gujarat, which created the Arogya Van in Kevadia, was taken for conceptualisation, selection and procurement of plants.
- Interestingly, the location of the plants on the 'body' of ArogyaManav corresponds to their benefits for that specific organ of the human body.



Pandit Deendayal Upadhyaya

The nation paid tribute to PanditDeendayalUpadhyaya Ji on his PunyaTithi.

About PanditDeendayalUpadhyaya Ji

- PanditDeendayalUpadhyaya was born on 25th of September, 1916, at NaglaChandrabhan village in Mathura district.
- He had a very difficult childhood as he lost both his parents at very early age.
- In his high school at Sikar, Rajasthan he stood first in the board examination and the then ruler, Maharaja Kalyan Singh of Sikar, presented him with a Gold Medal, a monthly scholarship of Rs.10 and Rs.250 towards his books, as recognition of his merit.
- Deendayalji went to Pilani to study for his Intermediate where he not only topped the board exam in 1937, but also obtained

distinction in all subjects.

- Deendayalji did BA in first division from Sanatan Dharma College, Kanpur in 1939 and joined St. John's College, Agra for pursuing his master's degree.
- Deendayalji was a creative writer and a renowned editor.
- He was a journalist in 'Rashtra Dharma' daily, worked as editor for 'Panchjanya' and wrote a column named 'Political Diary' for the weekly 'the Organiser'.
- He wrote a number of books including SamratChandragupt, JagatguruShankaracharya, Political Diary, Integral humanism, and an analysis of the Five Year plans in India.
- He joined RSS in 1937 and came under the influence of Shri Nana jiDeshmukh and Shri BhauJugade.
- He became the General Secretary of the Bharatiya Jan Sangh, from its inception 1951 till 1967 and later became the president of Jan Sangh on 29th December 1967.
- Just after 43 days of becoming President he was found dead by a railway track in Mughal Sarai on February 11, 1968 under mysterious circumstances at the age 52.
- Main ideas of PanditDeendayalUpadhyaya may be seen in his conceptualization of Bharatiyata, Dharma, Dharmarajya and Antodaya.
- His vision of 'education for all' and 'har hath kokam, harkhetkopani' was seen culminating in his idea of Economic Democracy.

Saint Shri Ravidasji

The nation paid tribute to Saint ShriRavidasji on his birth anniversary.

About Saint Shri Ravidasji

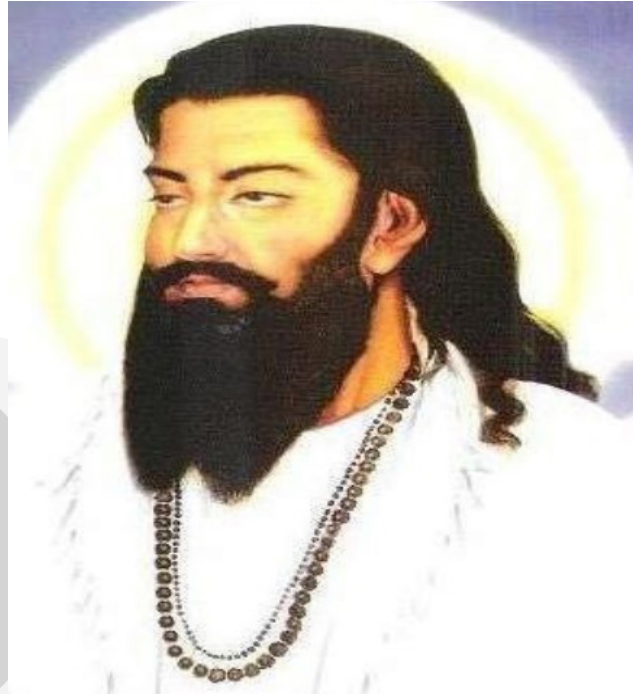
- Shri Guru SantRavidas Ji was a great Saint, philosopher, poet, and social reformer in India during the 15th century.
- He was one of the most famous and leading stars of the nirgunasampradaya

(santparampara).

- He was also one of the prominent leaders of the North Indian Bhakti movement.
- Sant Ravidas Jayanti or birthday anniversary is celebrated every year on Magh Purnima on full moon day of Magh month.
- He was born in 15th century (estimated) at Seer Goverdhanpur, Varanasi, U.P.
- His father was working as a Sarpanch at Raja Nagar Mal's Kingdom and has his own business of shoemaking and repairing.
- Sant Guru Ravidas Ji is considered as a spiritual Guru of Meera Bai who was the queen of Chittoor.
- He dedicated his whole life to the abolition of the caste system and openly despised the notion of a Brahminical society.
- He had given a variety of spiritual and social messages through his great writings of poetry.

Ravidas's devotional verses are also included in the [Sikh](#) scriptures ([Guru Granth Sahib](#)).

The Panch Vani text of the [Dadu Panthi](#) tradition within [Hinduism](#) also includes numerous poems of Ravidas.



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2

Polity and Governance

SMILE scheme

Union Minister for Social Justice & Empowerment launched the Central Sector scheme “SMILE: Support for Marginalized Individuals for Livelihood and Enterprise”.

- This umbrella scheme is designed to provide welfare measures to the Transgender community and the people engaged in the act of begging.

Key Points

- The scheme is being implemented under the aegis of Department of Social Justice & Empowerment.
- The scheme includes two sub-schemes-
 - ‘Central Sector Scheme for Comprehensive Rehabilitation for Welfare of Transgender Persons’ and
 - ‘Central Sector Scheme for Comprehensive Rehabilitation of engaged in the act of Begging’.
- The scheme strengthens and expands the reach of the Rights that give the targeted group the necessary legal protection and a promise to a secured life.
- It keeps in mind the social security that is needed through multiple dimensions of identity, medical care, education, occupational opportunities and shelter.
- The Sub-scheme - ‘Central Sector Scheme for Comprehensive Rehabilitation for Welfare of Transgender Persons’ includes the following components-
 - Scholarships for Transgender Students
 - Skill Development and Livelihood under PM-DAKSH scheme of the Department.
 - Composite Medical Health in convergence with PM-JAY

- Housing in the form of ‘GarimaGreh’
- Provision of Transgender Protection Cell
- The focus of the sub-scheme ‘Comprehensive Rehabilitation of persons engaged in the act of Begging’ is as follows-
 - Survey and Identification of beneficiaries shall be carried out by the Implementing Agencies.
 - Outreach work will be done to mobilize the persons engaged in begging to avail the services available in the Shelter Homes.
 - The shelter homes will facilitate education for children engaged in the act of Begging and children of persons engaged in the act of Begging.
 - Comprehensive resettlement.
- Skill development/vocational training will also be provided so that they can engage in self-employment.

National Land Monetization Corporation

The Union Cabinet has approved the setting up National Land Monetization Corporation (NLMC) as a wholly owned Government of India company.

- NLMC will be established with an initial authorized share capital of Rs 5000 crore and paid-up share capital of Rs 150 crore.

Key Points

- NLMC will undertake monetization of surplus land and building assets of Central Public Sector Enterprises (CPSEs) and other Government agencies.
- The proposal is in pursuance of the Budget Announcement for 2021-22.
- With monetization of non-core assets,

Government would be able to generate substantial revenues by monetizing unused and under-used assets.

- At present, CPSEs hold considerable surplus, unused and under used non-core assets in the nature of land and buildings.
- NLMC will support and undertake monetization of these assets.
- This will also enable productive utilization of these under-utilized assets to trigger private sector investments, new economic activities, boost local economy, etc.
- NLMC is also expected to own, hold, manage and monetize surplus land and building assets of CPSEs under closure,
 - and the surplus non-core land assets of Government owned CPSEs under strategic disinvestment.
- This will speed up the closure process of CPSEs and smoothen the strategic disinvestment process of Government owned CPSEs.

Captive Employment Policy under DDU-GKY

Union Rural Development Secretary chaired a webinar promoting the 'Captive Employer' initiative under the DeenDayalUpadhyayaGrameen-KaushalyaYojana (DDU-GKY).

- More than 16 Sector Skill Councils participated in today's webinar, which also saw participation from more than 180 stakeholders.

About Captive Employment

'Captive Employer', is a first of its kind initiative aimed at addressing the vision of a dynamic and demand-based skilling ecosystem.

- It will cater to the requirements of industry partners assuring sustainable placements for rural poor youth.
- The initiative is a shot in the arm for the DDU-GKY programme, assuring post-training placement of candidates for a minimum of six months with a minimum

CTC of Rs. 10,000/-.

- The model will allow the industry to source trainees as per their requirement with active support from States/UTs.
- They can then train them as per the requirement of their own organizational/ industry/ subsidiaries /operational need and provide candidates with assured placement.
- It will also allow employers to select rural youth and skills & deploy them in one of their establishment/subsidiaries.

About DDU-GKY

The Ministry of Rural Development (MoRD) announced the DeenDayalUpadhyayaGrameen-KaushalyaYojana (DDU-GKY) on 25th September 2014.

- DDU-GKY is a part of the National Rural Livelihood Mission (NRLM).
 - And is tasked with the dual objectives of adding diversity to the incomes of rural poor families and cater to the career aspirations of rural youth.
- DDU-GKY is uniquely focused on rural youth between the ages of 15 and 35 years from poor families.
- Over 180 million or 69% of the country's youth population between the ages of 18 and 34 years, live in its rural areas.
- Of these, the bottom of the pyramid youth from poor families with no or marginal employment number about 55 million.

The [National Policy for Skill Development & Entrepreneurship 2015](#) has identified a skills gap of 109.73 million in 24 key sectors by the year 2022.

Also, a FICCI and Ernst – Young study published in 2013 identified a shortage of over 47 million skilled workers across the globe by 2020.

- DDU-GKY bridges this gap by funding training projects benchmarked to global standards, with an emphasis on placement, retention, career progression and foreign placement.
- DDU-GKY is present in 28 States and

UTs, across 689 districts, impacting youth from over 7,426 blocks.

- It currently has over 1,575 projects being implemented by over 717 partners, in more than 502 trades from 50 industry sectors.
- Cumulatively 11.44 lakh youth have been trained and 7.15 lakh youth have been placed till 31st Jan, 2022.
- Implementation Model
 - DDU-GKY follows a 3-tier implementation model.
 - The DDU-GKY National Unit at MoRD functions as the policy-making, technical support and facilitation agency.
 - The DDU-GKY State Missions provide implementation support; and
 - the Project Implementing Agencies (PIAs) implement the programme through skilling and placement projects.

Judges in High Court

Judges of various High Courts are appointed as per the procedure laid down in the Memorandum of Procedure (MoP) prepared in 1998 pursuant to the Supreme Court Judgment.

- As per MoP, initiation of proposal for appointment of Judges in the High Courts vests with the Chief Justice of the concerned High Court.
- Chief Justice of the High Court is required to initiate the proposal to fill up of vacancy of a High Court Judge six months prior to the occurrence of vacancy.
- As on 07.02.2022, against the sanctioned strength of 1098 Judges in the High Courts, 687 Judges are in position, leaving 411 vacancies of Judges to be filled.
- At present, 172 proposals are at various stages of processing between the Government and the Supreme Court Collegiums.
- Further recommendations from High

Court Collegiums are yet to be received in respect of remaining 239 vacancies in High Courts.

About High Court

In the Indian single integrated judicial system, the high court operates below the Supreme Court but above the subordinate courts.

- The high court occupies the top position in the judicial administration of a state.
- The institution of high court originated in India in 1862 when the high courts were set up at Calcutta, Bombay and Madras.
- In 1866, a fourth high court was established at Allahabad.
- In the course of time, each province in British India came to have its own high court.
- After 1950, a high court existing in a province became the high court for the corresponding state.
- The Constitution of India provides for a high court for each state, but the Seventh Amendment Act of 1956 authorised the Parliament to establish a common high court for two or more states or for two or more states and a union territory.
- The territorial jurisdiction of a high court is co-terminus with the territory of a state.
- Similarly, the territorial jurisdiction of a common high court is co-terminus with the territories of the concerned states and union territory.
- Delhi is the only union territory that has a high court of its own (since 1966).
- Articles 214 to 231 in Part VI of the Constitution deal with the organisation, independence, jurisdiction, powers, procedures and so on of the high courts.

Appointment of Judges

- The judges of a high court are appointed by the President.
- The chief justice is appointed by the President after consultation with the chief justice of India (collegium) and the governor of the state concerned.
- For appointment of other judges, the chief

justice of the concerned high court is also consulted.

Qualifications of Judges

- He should be a citizen of India
- He should have held a judicial office in the territory of India for ten years; or
- He should have been an advocate of a high court (or high courts in succession) for ten years.

From the above, it is clear that the Constitution has not prescribed a minimum age for appointment as a judge of a high court.

Tenure of Judges

- He holds office until he attains the age of 62 years.
- He can resign his office by writing to the president.
- He can be removed from his office by the President on the recommendation of the Parliament

Removal of Judges

- A judge of a high court can be removed from his office by an order of the President.
- The President can issue the removal order only after an address by the Parliament has been presented to him in the same session for such removal.
- The address must be supported by a special majority of each House of Parliament
- The grounds of removal are two—proved misbehaviour or incapacity.

It is interesting to know that no judge of a high court has been impeached so far.

Guidelines for the scheme “Strengthening of Pharmaceutical Industry (SPI)”

Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers has released the guidelines for the scheme “Strengthening of Pharmaceutical Industry (SPI)”.

- The scheme comes with a total financial outlay of Rs.500 Cr for the period from FY 21-22 to FY 25-26.

Key Points

The scheme will address the rising demand in

terms of support required to existing Pharma clusters and MSMEs across the country to improve their productivity, quality and sustainability.

- This will help in making India a global leader in the Pharma Sector.
- Under the Scheme, financial assistance to pharma clusters will be provided for creation of Common Facilities.
- This will not only improve the quality but also ensure the sustainable growth of clusters.
- Further, in order to upgrade the production facilities of SMEs and MSMEs so as to meet national and international regulatory standards (WHO-GMP or Schedule-M),
 - interest subvention or capital subsidy on their capital loans will be provided, which will further facilitate the growth in volumes as well as in quality.
- The Scheme has 3 components / sub-schemes:
 - Assistance to Pharmaceutical Industry for Common Facilities (APICF)- to strengthen the existing pharmaceutical clusters’ capacity for their sustained growth by creating common facilities.
 - Pharmaceutical Technology Upgradation Assistance Scheme (PTUAS)- to facilitate Micro, Small and Medium Pharma Enterprises (MSMEs) of proven track record to meet national and international regulatory standards.
 - Pharmaceutical & Medical Devices Promotion and Development Scheme (PMPDS)- to facilitate growth and development of Pharmaceutical and Medical Devices Sectors through study/survey reports, awareness programs, creation of database, and promotion of industry.

Scheme for Economic Empowerment of DNTs (SEED)

Union Minister for Social Justice and Empowerment recently launched the Scheme for Economic Empowerment of DNTs (SEED).

- The scheme is intended for the welfare of De-notified, Nomadic and Semi Nomadic Communities.

Background

- De-notified Tribes (DNTs), Nomadic Tribes (NTs), Semi Nomadic (SNTs) are the one of the most deprived and economically weaker communities in India.
- The misery of these communities began with the enactment of the Criminal Tribes Act, 1871 during the British rule.
- These communities were subjugated, persecuted and neglected.
- This led to the forcible alienation from their traditional occupations and habitations.
- They remained hunter gatherers and pastoral/peripatetic.
- Even after the Independence; they have not benefitted much from the planned development of over seven decades.
- Accordingly, the first commission was set up in October 2003 to look into the problems of these communities.
- The Renke Commission was then set up in 2008.
- To give impetus for planned development of these communities, the National Commission was constituted in 2015 under the chairmanship of Shri Bhiku Ramji Idate.
- Based on the recommendation of this commission, the Government of India set up the Development and Welfare Board for DNTs, SNTs &NTs (DWBDNCs) in 2019.

About the Scheme

The Government also decided to create an umbrella scheme for empowerment of these communities.

- Accordingly, the Scheme for Economic Empowerment of DNTs, SNTs &NTs (SEED) has been formulated with four components that affect their livelihood.
- The four component of the SEED scheme are:
 - Educational empowerment- Free coaching to students from these communities for Civil Services, entry to professional courses like medicine, engineering, MBA, etc.
 - Health Insurance through PMJAY of National Health Authority.
 - Livelihoods to support income generation, and
 - Housing (through PMAY/IAY)
- The scheme will ensure expenditure of Rs.200 crore to be spent over five years beginning 2021-22.
- The DWBDNCs has been tasked with the implementation of this scheme.
- One important feature of this scheme is the online portal which has been developed by the Department.
- This portal will ensure seamless registration and will also act as a repository of the data on these communities.

New India Literacy Programme

Government approved a new scheme “New India Literacy Programme (नवभारत साक्षरता कार्यक्रम) for the period FYs 2022-2027.

- It will cover all the aspects of Adult Education (age of >15 years) to align with National Education Policy 2020 and Budget Announcements 2021-22.

Key Points

The National Education Policy 2020 has recommendations for Adult Education and Lifelong Learning.

- The objectives of the scheme is to impart not only foundational literacy and numeracy but also to cover other components which are necessary for a citizen of 21st century such as:
 - critical life skills (including

- financial literacy, digital literacy, commercial skills, health care and awareness, child care and education, and family welfare);
- o vocational skills development (with a view towards obtaining local employment);
 - o basic education (including preparatory, middle, and secondary stage equivalency); and
 - o continuing education including engaging holistic adult education courses in arts, sciences, technology, culture, sports, and recreation, as well as other topics of interest.
- The scheme will be implemented through volunteerism through online mode.
 - The training, orientation, workshops of volunteers, may be organized through face-to-face mode.
 - All material and resources shall be provided digitally for easy access to registered volunteers through easily accessible digital modes, viz, TV, radio, cell phone-based free/open-source Apps/portals, etc.
 - The scheme will cover non-literates of the age of 15 years and above in all state/UTs in the country.
 - The target for Foundational Literacy and Numeracy for FYs 2022-27 is 5 (five) crore learners @ 1.00 crore per year.
 - This can be done by using “Online Teaching, Learning and Assessment System (OTLAS)” in collaboration with National Informatics Centre, NCERT and NIOS.
 - A learner may register him/herself on the platform with essential information like name, date of birth, gender, Aadhaar number, mobile number etc.
 - The estimated total outlay of “New India Literacy Programme” is Rs.1037.90 crore which includes:
 - o Central share of Rs.700 crore and State share of Rs.337.90 crore respectively for the FYs 2022 -27.
- Salient Features of the scheme:
 - o School will be Unit for implementation of the scheme.
 - o Schools to be used for conducting survey of beneficiaries and Voluntary Teachers (VTs).
 - o Flexibility for States/UTs will be provided to undertake innovative activities.
 - o Use of Technologies to impart Adult Education for wider coverage of the scheme.
 - o Performance Grading Index (PGI) for State/UT and district level will show the performance of States and UTs.
 - o CSR/Philanthropic Support may be received.
 - o Priority and Saturation in Literacy- The age cohort of 15-35 will be saturated first followed by ages 35 and above.
 - o Priority will be given in terms of categories to the Girls and women, SC/ST/OBC/Minorities, Persons with Special Needs (Divyangjans), Marginalized/ Nomadic/ construction workers/ laborers/etc. who can substantially and immediately benefit from adult education.
 - In terms of location/area, the focus shall be on:
 - o all aspirational districts of NITI Aayog,
 - o districts with literacy rates less than the National/State average,
 - o districts with female literacy rates less than 60% as per the 2011 Census,
 - o Districts/ Blocks with large SC/ST/ Minority population, Educationally Backward Blocks,

Left Wing Extremism Affected districts.

- New India Literacy Programme will be used as Janandolan to spread literacy.
 - o The three crores students/children of around 7 lakh schools registered under UDISE along with about 50 lakh teachers of Government, Aided and Private schools will participate as volunteer.
 - o An estimated 20 lakh students from Teacher Education and Higher Education Institutions will be actively involved as volunteer.
 - o Support will be garnered from PRIs, Anganwadi workers, ASHA workers.
 - o There will be involvement of community, participation of philanthropic/CSR organizations through volunteerism and through Vidyanjali portal.
- Assessment of Literacy will be conducted using scientific format to capture the real-life learnings and skills for functional literacy.
 - o Assessment on demand will also be made through OTLAS and e-certificate jointly e-signed by NIOS and NLMA will be issued

to the learner.

Other Changes:

Adult Education (**प्रौढशिक्षा**) is now ‘Education for All’ in the country.

- As a progressive step, it has also been decided that from now onwards that the term “Education For All” will be used in place of “Adult Education” by the Ministry.

About UDISE+

Unified District Information System For Education Plus” (UDISE+) is an application under the Ministry of Education.

- UDISE+ has a mandate of collecting information from all recognized and unrecognized schools imparting formal education from Pre-primary to XII.
- Information collected through the digital platform of UDISE+, is utilized for the planning, optimized resource allocation and implementation of various education-related programs and assessments of progress made.

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Warming In High Altitude Himalayas Due To Water Vapor

A recent study has shown that water vapour exhibits a positive radiative effect at the top of the atmosphere (TOA), suggesting an increase in overall warming in the High Altitude Himalayas due to it.

- The recent research has been led by researchers from Aryabhata Research Institute of Observational Sciences (ARIES).

Key Points

- The research shows that Precipitable Water Vapour (PWV) exhibits a positive radiative effect at the top of the atmosphere (TOA) in high altitude remote locations in the order of about 10 watts per square metre ($W m^{-2}$).
- The atmospheric radiative effect due to PWV is about 3-4 times higher compared to aerosols, resulting in even more atmospheric heating.

Note: The precipitable water vapour (PWV) is equivalent to the depth of liquid water that would result if all the water vapour in the atmospheric column is condensed and precipitated.

Source: pib.gov.in and aanda.org

ARCI Scientists Develop Energy-Efficient Method For Hydrogen Production

Indian Scientists have developed a method to produce hydrogen with high purity (99.99%) from methanol-water mixture.

- Moreover, this can be done at ambient pressure and temperature that uses only one-third of the electrical energy required in water electrolysis.

Key Points

- Scientists have developed a method which combines both the processes of electrolysis and reformation to produce hydrogen from methanol-water mixture by electrochemical methanol reformation (ECMR) at ambient pressure and temperature.
- The main advantage of this process is that the electrical energy needed to produce hydrogen is 1/3rd of water electrolysis.
- This technology has been patented by ARCI.
- In the ECMR process, which uses polymer electrolyte membrane (PEM), hydrogen can be produced at a lower temperature (25-60°C) and pressure, unlike chemical reformation.
- The core components of the PEM-based ECMR electrolyser stack were fabricated indigenously and integrated with other components in the system.
- This method will significantly reduce the hydrogen cost compared to the water electrolysis method and can be easily integrated with renewable energy sources.

What are the advantages of Hydrogen as a Fuel?

- With near-zero or zero end-use emissions and continually replenished fossil fuel resources, hydrogen can be an ideal sustainable energy carrier.
- Hydrogen also has a high specific energy value of 40 kWh/kg as compared to chemical fuels like gasoline, diesel, liquid petroleum gas (12-14 kWh/kg).
- For India's energy transition to clean fuels, adoption of green hydrogen from

renewable energy, integrated water electrolysis process to generate energy would bring in significant benefits.

Note: ACRI is International Advanced Research Centre for Powder Metallurgy & New Materials (ARCI), an autonomous institute of the Department of Science & Technology, Govt. of India



Process diagram and image of PEM based ECMR developed at ARCI with a hydrogen production capacity of 5.0 kg/day

Coal Ministry on Coal Gasification

Four pilot projects for coal gasification and conversion of coal into chemicals is being set up to evolve technical and financial viability.

- The Ministry of Coal is also organising a webinar on Coal Gasification so as to involve experts from Industry, Academia, Research organisations and Engineering Consultants in the process.

Key Points

- India has total reserve of 307 Billion Tonnes of thermal coal and about 80% of coal produced is used in thermal power plants.
- Coal is a resource India is well endowed with and intends to use it for purposes other than energy generation in environmentally sustainable manner.
 - Coal gasification is considered a cleaner option.
- Gasification facilitates utilization of chemical properties of coal.
- Syn Gas produced from coal can be used to produce Gaseous Fuels such as:
 - Hydrogen (Blue coupled with

CCUS),

- Substitute Natural Gas (SNG or Methane),
- Di-Methyl Ether (DME),
- Liquid Fuels such as Methanol, Ethanol, Synthetic diesel and
- Chemical like Methanol derivatives, nitrogenous fertilizers including Ammonia, DRI, Industrial Chemicals along with Power Generation.
- These products will help move towards self-sufficiency under Atmanirbhar Bharat Abhiyaan.

Note: In line with the above objective, Ministry of Coal has taken initiatives for coal gasification and it has prepared National Mission document to achieve 100 MT coal gasification by the year 2030.

Historic resolution on Plastic Pollution adopted

The resumed session of fifth United Nations Environment Assembly (UNEA 5.2) in Nairobi, considered three draft resolutions to address plastic pollution.

- One of the draft resolutions under consideration was that of India.
- The draft resolution submitted by India called for immediate collective voluntary action by countries.

Key Points

After long protracted negotiations, the resolution on “End plastic pollution: Towards an international legally binding instrument” was adopted in the resumed fifth session of UNEA.

- Historic resolution on Plastic Pollution was adopted by 175 countries at the fifth United Nations Environment Assembly.
- The UNEA 5.2 will be remembered for agreeing for collective global action while respecting national circumstances and capabilities.
- Under the resolution the Member States were called to continue and step up activities and adopt voluntary measures

to combat plastic pollution.

- The measures discussed in the resolution include:
 - measures related to sustainable consumption and production,
 - to include circular economy approaches, and
 - developing and implementing national action plans.

About UNEA 5.2

The resumed fifth session of the United Nations Environment Assembly (UNEA-5.2) took place online and in Nairobi on 28 February – 2 March 2022.

- The overall theme for UNEA-5 is "Strengthening Actions for Nature to Achieve the Sustainable Development Goals".
 - This highlights the pivotal role nature plays in our lives and in social, economic and environmental sustainable development.
- UNEA-5 was an opportunity for Member States to share best practices for sustainability.

UNEP

- Since its inception in 1972, the United Nations Environment Programme (UNEP) has been the global authority that sets the environmental agenda.

Headquartered in Nairobi, Kenya, UNEP works through its [divisions](#) as well as regional, liaison and out-posted offices.

UNEP works closely with its 193 Member States and representatives from civil society, businesses, and other major groups and stakeholders.

The main aim is to address environmental challenges through its governing body UN Environment Assembly.

Source: pib.gov.in and unep.org

Summit on Plastics Recycling & Waste Management

Union Minister of State for MSME inaugurated International Summit on Plastics Recycling & Waste Management.

- It is being organized by Ministry of MSME in association with The All-India Plastics Manufacturers' Association (AIPMA).

Key Points

The Mega International Summit emphasizes on "Know your Waste and how Recycling is the right thing to do, which is to be done in a right way".

- Ministry of MSME also launched two special initiatives - 'Sambhav' and 'Svavlamban' to promote entrepreneurship amongst youth, especially in aspirational Districts.
 - Sambhav is a National Level Awareness Program (NLAP) in Webinar Mode in 1300 colleges across the country through its field offices.
 - Svavlamban is aimed to promote entrepreneurship amongst youth population and spreading awareness on Schemes of Ministry and its Initiatives.

One Ocean Summit

The fifth edition of the One Planet Summit was entirely dedicated to the Ocean named 'One Ocean Summit' and was held in Brest from February 9 to 11, 2022.

- 37 international leaders from all sea basins and representing more than half of the world's exclusive economic zones took part in the high-level segment.

Key Points

It was organised in the context of the French presidency of the Council of the European Union with the support of the United Nations.

- Objective: to better anticipate "the ocean crisis and technologic, scientific and environmental changes through the

- sharing of knowledge”
- This segment was marked by solutions, commitments and coalitions, in order to move forward collectively and concretely on the main issues:
 - Protecting and restoring marine ecosystems
 - Fight against illegal fishing and promote sustainable fishing
 - Fight against pollution, especially plastic
 - Deploying marine solutions to climate change, in particular through the decarbonization of shipping and "blue carbon"
 - Strengthen international governance of the ocean, based on science
 - To meet these major challenges, 13 commitments have been formulated in the form of the "Brest Commitments for the Ocean".
 - UNESCO's Commitment:
 - On the occasion of the One Ocean Summit, UNESCO has announced that at least 80% of the seabed will be mapped by 2030, compared to 20% currently.

About One Planet Summit

The first One Planet Summit was held in Paris on 12 December 2017, exactly two years after the Paris Climate Agreement had been adopted.

- More than 4,000 participants joined a panel of political leaders, private sector executives, and international organizations, among others.
- They all committed to take further action, based on 12 transformative climate commitments.
- The event established the One Planet method, the scope of which was extended at subsequent summits.
- The second One Planet Summit took place in New York, in September 2018.
- A new tool was introduced during this summit, to contribute to the One Planet

momentum: the One Planet Lab.

- In March 2019, a regional One Planet summit was organized in Nairobi, to identify innovative solutions for the energy transition and the preservation of forests in Africa.
- In January 2021, biodiversity took centre stage for the first time, at the One Planet Summit organized in Paris.

Detailed Project Reports On Rejuvenation of 13 Major Rivers

The Union Minister for Environment Forest and Climate Change released the Detailed Project Reports (DPRs) on Rejuvenation of thirteen Major Rivers through Forestry Interventions.

- The 13 rivers for which DPRs were released are Jhelum, Chenab, Ravi, Beas, Sutlej, Yamuna, Brahmaputra, Luni, Narmada, Godavari, Mahanadi, Krishna, and Cauvery.

Key Points

The DPRs were funded by National Afforestation & Eco-development Board, (MoEF&CC) and prepared by Indian Council of Forestry Research & Education(ICFRE), Dehradun.

- Thirteen rivers collectively cover a total basin area of 18,90,110 sq. km that represents 57.45% of the geographical area of the country.
- The length of 13 rivers including 202 tributaries within the delineated riverscapes is 42,830 km.
- The rivers along with their tributaries are proposed for forestry interventions in the riverscape under different landscapes.
- The different models of forestry plantations include timber species, medicinal plants, grasses, shrubs and fuel fodder and fruit trees.
 - These are aimed to augment water, ground water recharge and contain erosion.
- A total of 667 treatment and plantation models are proposed in all the 13 DPRs meant for the proposed forestry.

- In all, 283 treatment models have been proposed for the natural landscapes, 97 treatments models in Agriculture Landscapes and 116 different treatment models in Urban Landscapes.
- Each DPR incorporates:
 - detailed geospatial analysis of the delineated Riverscape,
 - exhaustive review on the river environment,
 - factors responsible for the current state and
 - prioritization of areas using Remote sensing and GIS techniques along with field verification for proposed forestry interventions.
- The DPRs focuses on protection, afforestation, catchment treatment, ecological restoration, moisture conservation, livelihood improvement, income generation, and ecotourism by developing river fronts, eco-parks and bringing awareness amongst the masses.
- The DPRs are expected to be executed through the State Forest Departments as nodal department.
- The treatments are proposed to be spread over a period of five years with a provision for additional time for maintenance of plantations.
- Steering and Executive Committees at the National Level and State level have also been proposed in the DPRs.
- The proposed interventions would help to sequester 50.21 million tons CO₂ equivalent in 10-year-old plantations and
 - 74.76 million tons CO₂ equivalent in 20-year-old plantations.
- The proposed interventions in thirteen riverscapes would help in ground water recharge to the extent of 1,889.89 million m³ per year and
 - reduction in sedimentation to the tune of 64,83,114 m³ per year.
- It will also strengthen the country's

progress towards Panchamrit commitment at CoP-26.

What are India's Panchamrit commitment at CoP-26?

- India promised to reduce its projected carbon emission by one billion tonnes by 2030,
- Meet 50 per cent of energy requirements with renewable energy by 2030,
- Enhance non-fossil energy capacity to 500 gigawatt by 2030,
- Reduce the carbon intensity of its economy by 45 per cent by 2030 and
- Achieve net zero emission by 2070.

Protection of Great Indian Bustards

The information related to protection efforts of Great Indian Bustards (GIB) was discussed recently in Parliament.

About GIB

- The Great Indian Bustard is listed in Schedule-I of the Wild Life (Protection) Act, 1972.
- The species has been identified for conservation efforts under the component 'Species Recovery Programme' of the Centrally Sponsored Scheme (CSS)-Development of Wildlife Habitat.
- Ministry of Environment, Forest & Climate Change has taken up an initiative on conservation breeding of the Great Indian Bustard.
 - These efforts are in collaboration with Rajasthan, Gujarat and Maharashtra Forest Departments and technical support from Wildlife Institute of India, Dehradun.
- The Ministry has also received financial support from National Authority for Compensatory Afforestation Funds.
- The Great Indian Bustard has been included in the Appendix I of Convention on Migratory Species (CMS) of the basis of proposal submitted by India.
- Also added in Appendix I of CITES, and

Critically Endangered on the IUCN Red List.

- The biggest threat to this species is hunting.
- Other threats include habitat loss and alteration as a result of widespread agricultural expansion, etc.
- WWF-India, is undertaking initiatives towards conservation of GIB in and around Desert National Park.
- Great Indian Bustard is the state bird of Rajasthan.



About Desert National Park

- The Desert National Park (DNP) covers an area of 3162 km² of which 1900 km² is in Jaisalmer district and remaining 1262 km² is in Barmer district of Rajasthan State.
- The area falls in the extreme hot and arid region of very low rainfall zone (<100mm) of the country.
- Desert National Park was gazetted in the year 1980.

The Desert National Park is an excellent example of the [ecosystem](#) of the Thar Desert.

Sand dunes form around 20% of the Park.

The vegetation is quite sparse with open grassland, thorny bushes, plantation and dunes as the broad habitat types.

About WWF-India

- Established as a Charitable Trust in 1969, WWF India set out with the aim

of reducing the degradation of Earth's natural environment.

- In 1987, the organization changed its name from the World Wildlife Fund to World Wide Fund for Nature India.
- Mission:
 - Conserving the world's biological diversity
 - Ensuring that the use of renewable natural resources is sustainable
 - Promoting the reduction of pollution and wasteful consumption.

Management of E-waste

Under the E-Waste (Management) Rules, 2016, twenty-one (21) types of electrical and electronic equipment (EEE) have been notified.

- These notified EEE at the end of their life becomes E-Waste.

Key Points

- The input data for estimation of generation of e-waste is available only from Financial Year (FY) 2017 - 18 and for national level generation only.
- Information on national level e-waste generation for the financial year 2017-18, 2018-19 and 2019-20 is given in the table below:

S.No.	Financial Year	Generation (Tonnes)
1.	2017-2018	7,08,445
2.	2018-2019	7,71,215
3.	2019-2020	10,14,961.2

- The import and export of hazardous and other wastes is regulated under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 notified by the Ministry.
- Government had banned import of e-waste in the country by listing e-waste in the Schedule VI (Basel No. A1180) of the said rules.
- The increase in generation of e-waste is due to increase in the sales of EEE in the

- Country in previous years.
- The management of e-waste in the Country is regulated under the E-Waste (Management) Rules, 2016.
- Under the said Rules, the responsibility of disposal of e-waste in a scientific and environmentally sound manner has been assigned to Producers of notified Electrical & Electronic Equipment (EEE)
 - This has been listed in Schedule – I of the said rules under the principle of Extended Producer Responsibility (EPR).
 - Under EPR regime producers of EEE, have given annual e-waste collection and recycling targets based on the generation from the previously sold EEE or based on sales of EEE as the case may be.
- The compliance monitoring is done through Action Plan developed by Central Pollution Control Board (CPCB) for enforcement of E-Waste (Management) Rules, 2016.
- Under the action plan, monitoring and compliance of producers are ensured through State Pollution Control Boards and Pollution Control Committees.

Disposal of Medical Waste

The Central Pollution Control Board (CPCB) compiles country-wide annual data of bio-medical waste (BMW) generation, collection and treatment.

- This data on based on the annual reports submitted by respective State Pollution Control Boards/ Pollution Control Committees (SPCBs/ PCCs).

Key Points

- About 656 Tons/Day (TPD) of BMW was generated in the year 2020, out of which 590 TPD was collected and treated by the Common Bio-medical Waste Treatment facilities (CBWTFs).
- Further, about 84.61 TPD of incremental COVID-19 BMW was generated between May 2020 to February 2022 in the country

from healthcare facilities.

- The CPCB had issued guidelines for handling, treatment and disposal of waste generated during COVID.
- There are 208 Common Bio-medical Waste Treatment Facilities (CBWTFs) operational in the country.
- There are no operational CBWTFs in nine (9) States/ Union Territories.
 - The BMW treatment and disposal in these areas is done through captive treatment facilities operated by healthcare facilities themselves.

India, Australia, And Singapore Come Together To Address Marine Pollution

The Government of India, in partnership with the Government of Australia and the Government of Singapore, conducted an international workshop on combating marine pollution focusing on marine plastic debris.

- The workshop is aimed to discuss research interventions toward monitoring and assessing marine litter and plausible sustainable solutions.

Key Points

- The workshop had four major sessions;
 - the magnitude of the marine litter problem-monitoring program and research on plastic debris in the Indo-Pacific Region;
 - best practices and technologies;
 - solutions to prevent plastic pollution; and
 - polymers and plastics: technology and innovations and opportunities for regional collaboration to remediate or stop plastic pollution.
- The workshop, held virtually, brought together the world's leading experts, scientists, government officials with policy expertise, and representatives from industry, innovation and informal sectors.
- Earlier, the Prime Minister of India had announced the agenda of promoting maritime cooperation in the wider Indo-

Pacific region at the 14th EAS held in Bangkok in November 2019.

- India, Singapore, and Australia are committed to implementing the EAS decisions.

TERI's World Sustainable Development Summit

The Twenty First Edition of the annual flagship event of The Energy and Resources Institute (TERI), the World Sustainable Development Summit (WSDS) was recently held.

- The Summit deliberations focused on the umbrella theme: Towards a Resilient Planet: Ensuring a Sustainable and Equitable Future.

Key Points

The Summit deliberations aims to examine topics such as climate change, sustainable consumption and production, energy & resource security, resilience, and global commons.

- The Summit also saw the launch of 'Act4Earth Manifesto' and 'Act4Earth Strategy Paper'.
- The strategy paper will also serve the function of guiding activities under WSDS such as the COP27 Compass and SDG Charter.



About WSDS

The World Sustainable Development Summit (WSDS) is the annual flagship Track II initiative of The Energy and Resources Institute (TERI).

- Instituted in 2001, the Summit series has marked 20 years in its journey of making 'sustainable development' a globally shared goal.

- The Summit series has established itself as a responsible and an effective platform for mobilizing opinion-makers to identify and advance pioneering actions to address some of the most relevant issues concerning sustainable development.
- Over the years, the Summit series has brought together 52 Heads of State and Government, 13 Nobel Laureates, 78 Ministers, 1827 Business Leaders, 2418 Speakers, and 26091 Delegates.

About TERI

TERI is an independent, multi-dimensional organization, with expertise in research, policy, consultancy and implementation.

- Established in 1974, it was formerly known as the Tata Energy Research Institute.
- As the scope of its activities widened, it was renamed The Energy and Resources Institute in 2003.
- TERI's work across sectors is focused on:
 - Promoting efficient use of resources.
 - Increasing access and uptake of sustainable inputs and practices.
 - Reducing negative impact on environment and climate
- Headquartered in New Delhi, TERI has regional centres and campuses in Gurugram, Bengaluru, Guwahati, Mumbai, Panaji, and Nainital.

Ministry of Power notifies Green Hydrogen/ Green Ammonia Policy

Government of India is taking various measures to facilitate the transition from fossil fuel / fossil fuel based feed stocks to green hydrogen / green ammonia.

- The green hydrogen / green ammonia notification policy is one of the major steps in this endeavour.

Key Points

The central government had launched the National Hydrogen Mission on India's 75th Independence Day (i.e. 15th August, 2021).

- The Mission aims to aid the government in meeting its climate targets and making India a green hydrogen hub.
- This will help in meeting the target of production of 5 million tonnes of Green hydrogen by 2030 and the related development of renewable energy capacity.
- The current policy notification is also a step in that direction.

Policy Details

The policy provides as follows:

- Green Hydrogen / Ammonia manufacturers may purchase renewable power from the power exchange or set up renewable energy capacity themselves.
- Open access will be granted within 15 days of receipt of application.
- The Green Hydrogen / Ammonia manufacturer can bank his unconsumed renewable power, up to 30 days, with Distribution Company and take it back when required.
- Distribution licensees can also procure and supply Renewable Energy to the manufacturers.
- Waiver of inter-state transmission charges for a period of 25 years will be allowed to the manufacturers for the projects commissioned before 30th June 2025.
- The manufacturers of Green Hydrogen / Ammonia and the renewable energy plant shall be given connectivity to the grid on priority basis.
- To ensure ease of doing business a single portal for carrying out all the activities will be setup.
- Manufacturers of Green Hydrogen / Green Ammonia shall be allowed to set up bunkers near Ports for storage of Green Ammonia for export / use by shipping.
 - The land for the storage for this purpose shall be provided by the respective Port Authorities at applicable charges.

This will reduce dependence on fossil fuel and

also reduce crude oil imports. The objective also is for our country to emerge as an export Hub for Green Hydrogen and Green Ammonia.

IPCC Sixth Assessment Report (AR6)

India welcomes the release of the Working Group II (WG2) contribution to the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC).

- A delegation from India participated in the final discussions on the Summary for Policymakers of the Report.

Key Points

The following are the key findings of the Report and its Summary for Policymakers:

- The Report affirms that climate change due to historical emissions is leading to serious impacts which are already being felt globally.
- These impacts will rise as warming proceeds and will rise rapidly at higher levels of warming.
- The Report emphasizes that action on adaptation is urgently needed – as urgently as action on mitigation.
- The Summary for Policymakers (SPM) underlines the need for climate action on the basis of equity and climate justice.
- Further, the SPM clearly acknowledges the importance of Indigenous and Local Knowledge in adaptation to climate change.
- Vulnerable and marginalized communities, regions and populations face rising exposure to hazards.
 - The SPM notes that vulnerability is enhanced by lack of development, social and economic inequalities.
- The Report is a clarion call for the world to abandon their unsustainable production and consumption and move urgently to climate resilient development.
- The Report notes that the impacts and the consequent limitations to adaptation would rise beyond 1.5 degree warming above pre-industrial levels.

- India notes that the Working Group I contribution to AR6 released in August, 2021 had made clear that developed countries need to rapidly decrease their emissions and reach net zero by 2050.
- Provision of finance is critical for helping developing countries and vulnerable populations act quickly and effectively.
- The Report re-affirms that the balance between adaptation and mitigation.
- Inadequate adaptation due to lack of financial and technological resources, capacity building and other constraints lead to losses and damages.
- Adaptation suffers from a tremendous lack of finance, with only a small proportion of climate finance devoted to it.
- The Report recognizes the key role of agriculture and the great importance of food security in adaptation.

Note: India's cumulative and per capita current emissions are significantly low and far less than its fair share of the global carbon budget.

About Intergovernmental Panel on Climate Change (IPCC)

The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change.

It was created in 1988 by the [World Meteorological Organization](#) (WMO) and the United Nations Environment Programme (UNEP).

The IPCC currently has 195 members.

It has its headquarters in Geneva, Switzerland.

The IPCC is an internationally accepted authority on climate change, and its work is widely agreed upon by leading climate scientists as well as governments.

- The IPCC prepares comprehensive Assessment Reports about the state of scientific, technical and socio-economic knowledge on climate change, its impacts and future risks.

Its Sixth Assessment Report is named Climate Change 2022: [Impacts, Adaptation and Vulnerability](#).

YOUR SUCCESS IS OUR PRIORITY

RAO'S ACADEMY

NW2 gets connected with NW1 via Indo Bangladesh Protocol Route

Union Minister of Ports, Shipping & Waterways and AYUSH received the maiden voyage of food-grains from Patna to Pandu via Bangladesh in Guwahati.

- Self-propelled vessel MV Lal Bahadur Shastri carrying a total of 200 MT of foodgrains for Food Corporation of India (FCI) completed the maiden pilot run.

Key Points

Inland Waterways Authority of India (IWAI) is planning to run a fixed schedule sailing between NW1 and NW2 heralding a new age of inland water transport for Assam & the Northeast India.

- The vessel started its sail from Patna on National Waterway-1 (river Ganga) and
 - passed through Bhagalpur, Manihari, Sahibganj, Farakka, Tribeni, Kolkata, Haldia, Hemnagar;
 - Indo Bangladesh Protocol (IBP) route through Khulna, Narayanganj, Sirajganj, Chilmari and
 - National Waterway-2 through Dhubri, and Jogighopa
 - covering a distance of 2,350 km.
- It has been envisioned that Northeast will slowly turn & convert into a connectivity hub.
- The sustained effort to rejuvenate the historical trade routes via Bangladesh got a fillip under PM Gati Shakti.
- The integrated development plan, under PM Gati Shakti, has been envisioned in order to ramp up swift movement of cargo over Brahmaputra.

- To improve the navigability, two stretches of IBP routes, i.e., Sirajganj-Daikhowa and Ashuganj-Zakiganj are also being developed.
 - The development of these stretches is expected to provide seamless navigation to NER via the IBP route.
- The Inland Water Transport distance connecting NW1 to NW2 (North Eastern Region) will further reduced by nearly 1000 km, which will reduce time and cost to a great extent.

About Inland Waterways Authority of India (IWAI)

The Inland Waterways Authority of India (IWAI) came into existence in 1986 for development and regulation of inland waterways for shipping and navigation.

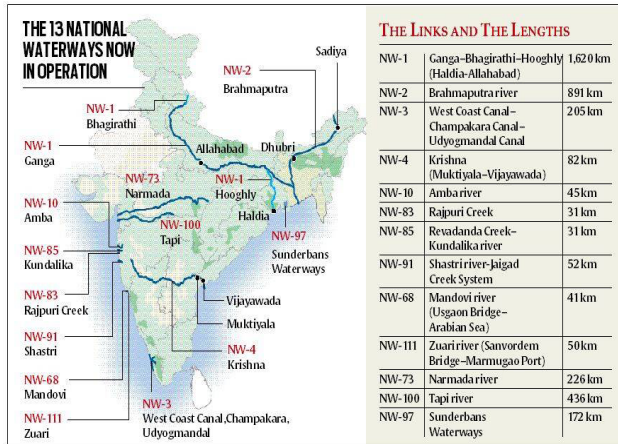
- The Authority primarily undertakes projects for development and maintenance of IWT infrastructure on national waterways through grant received from Ministry of Shipping.
- The head office of the Authority is at Noida.

About NATIONAL WATERWAY (NW-1)

The Ganga - Bhagirathi - Hooghly river system between Haldia (Sagar) and Allahabad (1620 km) was declared as National Waterway-1 (NW-1) in 1986.

About NATIONAL WATERWAY (NW-2)

The river Brahmaputra having a length of 891 Km between Bangladesh Border and Sadiya was declared as National Waterway no. 2 (NW-2) in September, 1988.



NIESBUD signs an MoU with Ministry of Rural Development

National Institute of Entrepreneurship and Small Business Development (NIESBUD) signed a Memorandum of Understanding (MoU) with the Ministry of Rural Development (MoRD).

- MoU is aimed to develop a sustainable model for promoting entrepreneurship at the grass roots by initiating the Start-up Village Entrepreneurship Programme (SVEP).

Key Points

- SVEP is a sub-component of DeendayalAntyodayaYojana – National Rural Livelihoods Mission (DAY-NRLM) of the Ministry of Rural Development.
- It aims to support entrepreneurs in rural areas to set-up enterprises at the village-level in non-agricultural sectors.
- The partnership will enable the rural community by helping them set up their trades and provide complete support till they are stabilized.
- This pragmatic intervention will provide knowledge, advisory and financial support to the public and will help create village-level community cadre.
- Under the partnership rural entrepreneurs will be able to access banking systems for receiving financial support for starting their enterprises, including support from MUDRA bank.

- The beneficiaries of the project are from the Self-Help Group (SHG) ecosystem of DAY-NRLM and the scheme not only supports existing enterprises but new enterprises as well.

About Start Up Village Entrepreneurship Programme

SVEP is a sub component of DeendayalAntyodayaYojana – National Rural Livelihoods Mission (DAY-NRLM) of the Ministry of Rural Development.

- SVEP aims to support entrepreneurs in rural areas to set up local enterprises.
- The long term vision of the SVEP is to provide support for start-up to 1 crore village enterprises and provide direct employment to 2 crore people.
- In its first phase of validating the concept, SVEP is expected to support creation and strengthening of about 1.82 lakh village.
 - This is expected to be done in first four years of its commencement i.e. 2015-19.
- Implementation of SVEP shall be managed by NRLM through the State Rural Livelihood Missions.
- These enterprises may be individual or group enterprises and should cover manufacturing, services and trading.
 - These enterprises should cover traditional skills as well as new skills.

Key elements of the programme of SVEP

- Create a Block Resource Centre – Enterprise Promotion (BRC-EP).
 - The BRC should act as a nodal centre to implement SVEP.
- Cluster Level Federation (CLF) /VOs shall hold the entity till BLF comes into existence.
- BRC should follow a self-sustaining revenue model.
- BRC to be assisted by CRP-EP (Community Resource Persons) and the Bank Coordination System (Bank Mitra).
- Community Investment Fund (CIF)

will be used to provide seed capital for starting the business till it reaches a size where bank finance is needed.

Substantial Reduction in Coal Imports

With increase in domestic production of coal, India has achieved significant reduction in import despite surge in power demand.

- Imports of all grades of Non Coking Coal has come down to 117.507 Million Ton (MT) leading to a decline of about 20.52%.

Key Points

- The overall import of coal has also reduced to 160.84 MT in the period April to December 2021 as compared to 186.65 MT during the corresponding period of FY 20.
 - This is a decrease of about 13.82% which has resulted in significant savings of forex reserves.
- All efforts are on to further enhance domestic coal production as availability of additional coal will aid in import-substitution of coal.
- The domestic coal based power generation up to December 2021 is 727.39 BU (Billion Units) with an increase of 12.10%.
- Imported coal based power generation which was 69.56 BU during April to Dec 2019 has reduced by 53.10% to 32.62 BU.

Note: The financial year 2020-21 is not being taken for comparison purpose due to industrial production getting severely affected because of Covid-19 pandemic.

- India is the world's third largest energy consuming country and electricity demand grows by 4.7% every year.
- To reduce dependence on imports of coal, major reforms have been carried out by the Ministry of Coal with the vision of "AtmaNirbhar Bharat".
- The Ministry has also amended the Mineral Concession (Amendment) Rules,

1960 under MMDR (Amendment) Act, 2021:

- to allow lessee of captive mines to sell coal or lignite up to 50% of the total excess production after meeting the requirements of the end-use plant.
- With this amendment, the Ministry has paved the way for releasing of additional coal in the market by greater utilization of mining capacities of captive coal blocks

About Coking Coal and Non Coking Coal

- Coking Coal or Metallurgical coal is used in manufacturing steel, where carbon must be as volatile-free and ash-free as possible.
 - Coking coal is also heated to produce coke, a hard porous material which is used to blast in furnaces for the extraction of iron from the iron ore.
- Non Coking Coal does not have any caking properties and it is mainly used as thermal coal for power generation.
 - It has a higher ash content and also used in industries like cement, fertilizer, glass, ceramic, paper, chemical and brick manufacturing.

MSME Champions Scheme

Union Minister for MSME launched the MSME Innovative Scheme (Incubation, Design and IPR) along with the MSME IDEA HACKATHON 2022 under the MSME Champions Scheme.

About MSME Innovative

MSME Innovative is a holistic approach to unify, synergize and converge 3 sub-components and interventions with a single purpose.

- It is a new concept for MSMEs with a combination of innovation in incubation, design intervention and by protecting IPR in a single mode approach.
- This will create awareness amongst

MSMEs about India's innovation and motivate them to become MSME Champions.

- Incubation: The primary objective of the scheme is to promote and support untapped creativity and to promote adoption of latest technologies.
 - Financial assistance up to Rs. 15 lakh per idea and up to Rs. 1.00 crore for relevant plant and machines will be provided.
- Design: The objective of this component is to bring Indian manufacturing sector and Design expertise/ Design fraternity on to a common platform.
 - Financial assistance up to Rs. 40 lakh for design project and up to Rs. 2.5 lakh for student project will be provided.
- IPR (Intellectual Property Rights): The objective of the scheme is to improve the IP culture in India with a view to enhance the awareness of Intellectual Property Rights (IPRs) amongst the MSMEs.
 - Financial assistance upto Rs. 5 lakh for Foreign Patent, Rs. 1.00 lakh Domestic Patent, Rs. 2.00 lakh for GI Registration, Rs. 15,000/- for Design Registration, Rs.10,000/- for Trademark in the form of reimbursement.

Indian Railways' 1st Gati Shakti Cargo Terminal

In pursuance to Ministry of Railways' Policy regarding 'Gati Shakti Multi-Modal Cargo Terminal' (GCT), Asansol division of Indian Railways has successfully commissioned private siding of Maithan Power Limited at Thaparnagar.

- This is the FIRST such GCT commissioned in Indian Railways since publication of GCT policy in Dec.'2021.

Key Points

- The Maithan Power Project was initiated in the year 2009 and subsequently the power generation was started in the year

2011

- Till now the requirement of coal to the power project was being made through road which is expected to convert into 120 inward coal rakes per month.
- Also 02 to 04 outward rakes of Fly Ash is projected to be handled from the siding.
- This will enhance Railways' earnings by approximately Rs. 11 crores per month.

National Rail Plan (NRP) for India – 2030

Indian Railways have prepared a National Rail Plan (NRP) for India – 2030.

- The Plan is to create a 'future ready' Railway system by 2030.

Key Points

The NRP is aimed to formulate strategies based on both operational capacities and commercial policy initiatives to increase modal share of the Railways in freight to 45%.

- The objective of the Plan is to create capacity ahead of demand, which in turn would also cater to future growth in demand right up to 2050 and
 - also increase the modal share of Railways to 45% in freight traffic and to continue to sustain it.
- To achieve this objective all possible financial models including Public Private Partnership (PPP) are being considered.

To achieve this objective, following main features of the National Rail Plan have been identified:-

- Reduce transit time of freight substantially by increasing average speed of freight trains to 50Kmph.
- As part of the National Rail Plan, Vision 2024 has been launched for accelerated implementation of certain critical projects by 2024 such as:
 - 100% electrification,
 - multi-tracking of congested routes,
 - upgradation of speed to 160 kmph on Delhi-Howrah and Delhi-Mumbai routes,
 - upgradation of speed to 130kmph

on all other Golden Quadrilateral-Golden Diagonal (GQ/GD) routes and

- o elimination of all Level Crossings on all GQ/GD route.
- Identify new Dedicated Freight Corridors.
- Identify new High Speed Rail Corridors.
- Assess rolling stock requirement for passenger traffic as well as wagon requirement for freight.
- Assess Locomotive requirement to meet twin objectives of 100% electrification (Green Energy) and increasing freight modal share.
- Assess the total investment in capital that would be required along with a periodical break up.
- Sustained involvement of the Private Sector in areas like:
 - o operations and ownership of rolling stock,
 - o development of freight and passenger terminals,
 - o development/operations of track infrastructure etc.

High Speed Rail Corridors

Presently, the Mumbai-Ahmedabad High Speed Rail is the only sanctioned High Speed Rail project in the Country.

Status of Mumbai-Ahmedabad Corridor

The current status of Mumbai-Ahmedabad High Speed Rail (MAHSR) Project is as under:

- All Statutory Clearances relating to wildlife, Coastal Regulation Zone (CRZ) and Forest clearance have been obtained.
- Out of total land requirement of approx. 1396 ha., about 1193 ha. Land has been acquired.
- The entire project has been divided into 27 Contract packages.
- At present, 12 packages have been awarded, 3 are under evaluation and Tenders has been invited for 4 packages.
- Out of total 352 KM length in Gujarat and Dadra & Nagar Haveli (DNH), civil

works in 342 KM length have started.

Further, the Ministry of Railways (MoR) has decided to undertake survey and prepare the Detailed Project Report (DPR) for seven High Speed Rail Corridors as under:

- Delhi - Varanasi.
- Delhi - Amritsar.
- Delhi - Ahmedabad.
- Mumbai - Nagpur.
- Mumbai - Hyderabad.
- Chennai - Bangalore - Mysore.
- Varanasi – Howrah.

Consumers can get un-hallmarked jewellery tested

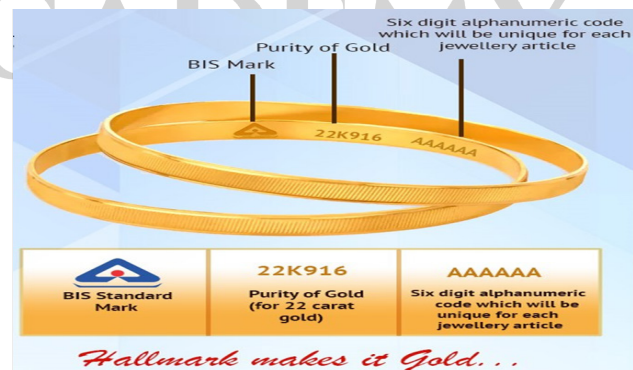
After successful implementation of Mandatory Hallmarking, Bureau of Indian Standards (BIS) has now made provision to allow a common consumer to get the purity of their un-hallmarked gold jewellery tested.

- This can be done at any of the BIS recognized Assaying and Hallmarking Centres (AHCs).

Key Points

- The AHC shall undertake the testing of gold jewellery from common consumers on priority and provide a test report to the consumer.
- The test report issued to the consumer will assure the consumer about the purity of their jewellery and will also be useful if the consumer wishes to sell the jewellery lying with him.

Note: The authenticity and purity of the hallmarked gold jewellery items with HUID number, purchased by consumer, can also be verified by using 'verify HUID' in BIS CARE



app which can be downloaded from play store.

APEDA celebrated 36th Foundation Day

Agricultural Products Export Development Authority (APEDA) celebrated its 36th Foundation Day recently.

About APEDA

The Agricultural and Processed Food Products Export Development Authority (APEDA) was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act passed by the Parliament in December, 1985.

- The Authority replaced the Processed Food Export Promotion Council (PFEPCC).
- The Authority, with its headquarters at New Delhi, is headed by a Chairperson.
- The APEDA had been undertaking most of the activities as per its mandate and scope of work allocated spanning its 14 product categories such as:
 - Fruits, Vegetables and their Products.
 - Meat and Meat Products
 - Dairy Products
 - Honey, Jaggery and Sugar Products
 - Cocoa and its products, chocolates of all kind
 - Floriculture and Floriculture Products
 - Herbal and Medicinal Plants, etc.
- In addition to this, APEDA has been entrusted with the responsibility of monitoring the import of sugar as well.
- APEDA also functions as the Secretariat to the National Accreditation Board (NAB) for implementation of accreditation of the Certification Bodies under National Programme for Organic Production (NPOP) for organic exports.

Facts and Figures: APEDA exports

- APEDA actively supported the Government in taking the export of agricultural products to USD 20.67

billion in 2020-21 from USD 0.6 billion in 1986 when it was founded.

- APEDA also helped expand the export basket to 205 countries.
- The share of APEDA exports (USD 20.67 billion) constituted 49% of overall agri-product exports in 2020-21 out of which,
 - Cereals and fresh horticulture comprised 59%,
 - Cereal preparations and miscellaneous processed items 23% and
 - animal products 18%.
- A Farmer Connect Portal has also been set up by APEDA on its website for providing a platform for Farmer Producers Organisations (FPOs).
 - Around 3,295 FPOs/FPCs and 3,315 exporters have been registered in the portal so far.
- APEDA has integrated a Blockchain solution into its GrapeNet traceability platform.
 - The GrapeNet is a web-based certification and traceability software system for monitoring fresh grapes exported from India to the European Union.
 - The Blockchain solution, called APEDA Trust Chain, helps track all the details of the export consignment, right down to the location of the vineyards.

KVIC's Products Price Adjustment Reserve Fund

In 2018, KVIC had decided to create a Products Price Adjustment Account (PPA), a Reserve Fund for its 5 Central Sliver Plants (CSPs), to meet market-driven eventualities.

- The PPA fund was created by transferring just 50 paise to it from each kilogram of the total sliver/roving sold by these CSPs.

Key Points

Because of the cushion provided by the PPA, KVIC has decided not to increase the cost

of sliver/roving being supplied to the Khadi institutions by its sliver plants across the country.

- This is despite the cotton prices surging by over 110 percent.
- Instead, KVIC will bear the excess cost of Rs 4.06 crore on procurement of raw cotton bales at the increased rates from the PPA Fund.
- This decision of KVIC, which has been taken for the first time to create such reserve fund, comes as a big relief for over 2700 registered Khadi institutions
- KVIC largely purchases cotton bales from Cotton Corporation of India (CCI) for its 5 CSPs located at Kuttur, Chitradurga, Sehore, Raebareli and Hajipur.
- The reserve fund has ensured that the Khadi institutions in the country remain unaffected by the price rise and the prices of Khadi cotton apparels also do not go up.

North Eastern Development Finance Corporation

North Eastern Development Finance Corporation Ltd. (NEDFi), has organized a Startup Investment Festival.

- This event will provide a platform to local entrepreneurs to showcase their business ideas and to pitch for investment through access to capital for scaling up their businesses.

Key Points

The reason for organizing this event is to reach out to start-ups and first generation entrepreneurs of North Eastern Region (NER) and boost the start-up ecosystem in the region.

- North East Venture Fund (NEVF) is a dedicated venture fund for the NER promoted by NEDFi, Ministry of Development of North Eastern Region (MDoNER) and Small Industries Development Bank of India (SIDBI).
- It was launched in September, 2017 with a corpus of Rs. 100 crore, with contributions of Rs. 45 crore as interest free loan from

MDoNER, Rs. 30 crore by NEDFi itself and Rs. 25 crore from SIDBI.

About NEDFi

- NEDFi is notified as a Public Financial Institution under Section 4A of the Companies Act 1956 and was registered as an NBFC in 2002 with RBI.
- NEDFi provides financial assistance to micro, small, medium and large enterprises for setting up industrial, infrastructure and agri-allied projects in the North Eastern Region of India.

INCREASING EMPLOYMENT OPPORTUNITIES IN MSMEs

As per the information received from Ministry of Statistics & Programme Implementation, share of MSME Gross Value Added (GVA) in All India GDP at current prices for the year 2019-20 was 30.0%.

Various initiatives of government to help MSME sector:

The Ministry of Micro, Small and Medium Enterprises (MSMEs) implements various schemes to increase employment opportunities of MSME sector in the country. Some of the schemes are:

- Prime Minister Employment Generation Programme (PMEGP),
- Micro and Small Enterprises-Cluster Development Programme (MSE-CDP),
- Scheme of Fund for Regeneration of Traditional Industries (SFURTI),
- Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) and
- A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE).

Global Entrepreneurship Monitor (GEM)

The Global Entrepreneurship Monitor (GEM) is an international project which seeks to provide information on the entrepreneurial landscape of countries.

- GEM carries out survey-based research entrepreneurship ecosystems around the world and is being led by

Entrepreneurship Development Institute of India, Ahmedabad.

Key Points

- As per Global Entrepreneurship Monitor (GEM) India Report (21-22), India's entrepreneurial activity expanded in 2021.
- The Total Entrepreneurial Activity rate (TEA) increased to 14.4% in 2021, up from 5.3% in 2020.
- Further, Established Business Ownership rate (EBO) increased to 8.5%, from 5.9% in 2020.

Note: TEA means percentage of adults (aged 18–64) who are starting or running a new business.

Note: EBO means percentage of adults (aged 18–64) who are currently the owner-manager of an established business, i.e. owning and managing a business that has paid salaries, wages or any other payments to the owners, for more than 42 months.

- Ministry of Skill Development and Entrepreneurship (MSDE) is implementing various programmes to encourage entrepreneurship in the country such as:
 - Economic Empowerment of Women Entrepreneurs and Startups by Women (WEE)
 - Pilot Project on Entrepreneurship Development (PM YUVA)
 - Entrepreneurship Promotion and Mentoring of Micro and Small Businesses in Six Holy Cities, etc.

Fintech Open Hackathon

As a part of the Fintech Open Month, NITI Aayog in association with PhonePe hosted the first-ever open-to-all Hackathon event.

- The Hackathon will provide an opportunity for innovators, digital creators and developers from all over India to think, ideate and code.

Key Points

Participants at the hackathon need to use any open-data APIs like PhonePe Pulse along with frameworks such as Account Aggregator as a foundation to power the following use cases:

- Alternate risk models for Lending, Insurance or Investments with focus on financial Inclusion

- Innovative Products that use the power data signals for various demographics and Geos for broader adoption of financial services
- Improved Visualisation and Derived intelligence based on the Digital payments data
- The final app that participants come up with must incorporate one of the above.

Participants can use data sources like PhonePe Pulse, the Open Government Data Platform and RBI reports on payments to build on their submission.

Union Bank MSME RuPay Credit Card

Union Minister for Micro, Small & Medium Enterprises launched the UnionMSME RuPay Credit Card of Union Bank of India.

- The card is being offered by Union Bank of India in association with National Payments Corporation of India (NPCI).

Key Points

- The card provides a simplified payment mechanism to MSMEs to meet their business-related operational expenses.
- The RuPay Card offers benefits like anytime digital payments, interest-free period and will carry interest rate similar to the rate charged for loans.
- MSME borrowers will be able to enjoy an interest-free credit period of up to 50 days on their business spends.
- The card also offers the EMI facility to the customers on their business-related purchases.
- MSMEs will also get specially curated efficient business services on this card
 - This will help them in taking their business on most of the digital platforms.
- The RuPay Credit card will simplify and expedite payment mechanism for MSMEs while enabling banks to monitor the transactions at granular level.
- The Credit card will also reduce the demand for cash withdrawal by the businesses due to availability of the digital payment tool.
- Other benefits include accidental insurance coverage, lounge access, and other rewards being offered by NPCI on

National Startup Awards 2022

The Department for Promotion of Industry and Internal Trade (DPIIT) has launched the third edition of the National Startup Awards.

- The National Startup Awards 2022 will acknowledge startups and enablers who have been instrumental in revolutionising the development story of India to further fuel the spirit of Aatmanirbhar Bharat.

Key Points

- The first National Startup Awards were announced in 2020 and witnessed applications from over 1,600 startups and ecosystem enablers across India.
- The recently concluded National Startup Awards 2021 saw participation from over 2,200 startups and ecosystem enablers.
- The 2022 awards for startups will be given in 17 sectors classified into 50 sub-sectors.
- In addition, there are seven special categories of awards for startups:
 - o Women-led startups
 - o Impact in rural areas
 - o Campus startups
 - o Manufacturing excellence
 - o Innovation tackling the pandemic (preventive, diagnostic, therapeutic, monitoring, digital connect, work from home solutions, etc.)
 - o Solution delivery or business operations in Indic languages
 - o Startups from North-East.
- The National Startup Awards 2022 will also reward exceptional incubators and accelerators as key building blocks of a robust startup ecosystem.

BEE observes its 20th foundation day

The Bureau of Energy Efficiency (BEE),

commemorated its 20th Foundation Day by organising the National Innovation Conclave on Low Carbon Technologies on 1st March.

- The conclave aims to present the innovations showing benefits of energy savings and greenhouse gas emission reduction potential when deployed at a large scale in industrial and commercial sectors.

About Facility for Low Carbon Technology Deployment (FLCTD)

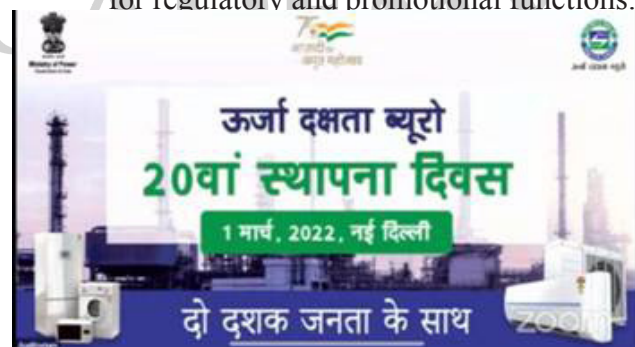
Facility for Low Carbon Technology Deployment (FLCTD) Project was launched in 2016 with an objective to identify innovative energy efficiency and low carbon technology solutions.

- The idea was to address the existing technology gaps in Indian industrial and commercial sectors.
- FLCTD project is financed by the Global Environment Facility (GEF).
- It is implemented by the United Nations Industrial Development Organisation (UNIDO) in collaboration with the Bureau of Energy Efficiency (BEE).

About Bureau of Energy Efficiency (BEE)

The Government of India set up Bureau of Energy Efficiency (BEE) on 1st March 2002 under the provisions of the Energy Conservation Act, 2001.

- The primary objective of BEE is to reduce energy intensity of the Indian economy.
- The Energy Conservation Act provides for regulatory and promotional functions.



About GEF

The Global Environment Facility (GEF), established on the eve of the 1992 Rio Earth Summit.

Through its strategic investments, the GEF works with partners to tackle the planet's biggest environmental issues.

The GEF is A UNIQUE PARTNERSHIP of 18 agencies — including United Nations agencies, multilateral development banks, national entities and international NGOs.

It is a FINANCIAL MECHANISM for five major international environmental conventions:

- o the Minamata Convention on Mercury,
- o the Stockholm Convention on Persistent Organic Pollutants (POPs),
- o the United Nations Convention on Biological Diversity (UNCBD),
- o the United Nations Convention to Combat Desertification (UNCCD) and
- o the United Nations Framework Convention on Climate Change (UNFCCC).

Tech Conclave 2022

NIC has been organizing Tech Conclave focused on Emerging Technologies applicable especially in e-Governance.

- The Theme for Tech Conclave this year is “Next Gen Technologies for Digital Government”.

Key Points

- National Informatics Centre (NIC) is partnering with Governments in their digital initiatives for the last four decades.
- 3rd edition of ‘NIC Tech Conclave 2022’, a two-day event is being organized by the National Informatics Centre (NIC).
- Benefits accruing can range from understanding the ICT best practices being adopted by the industry to spreading awareness about the latest technologies and trends, effective in the major digital

transformation of the society.

About NIC

- National Informatics Centre (NIC) under the Ministry of Electronics and Information Technology (MeitY) is the technology partner of the Government of India.
- NIC was established in the year 1976 with the objective to provide technology-driven solutions to Central and State Governments.

India signs Host Country Agreement with the ITU

Union Minister of Communications signed the Host Country Agreement (HCA) for the establishment of an Area Office & Innovation Centre of International Telecommunication Union (ITU) in New Delhi.

Key Points

- The Host Country Agreement provides the legal and financial framework for establishment and operations of the Area Office.
- The Area Office and Innovation Centre of ITU at New Delhi is expected to serve South Asian countries namely Afghanistan, Bangladesh, Bhutan, Iran, Maldives, Nepal, Sri Lanka and India.
- The Area Office shall also have an Innovation Centre, which is expected to give impetus to research and development in telecommunication technologies in South Asia.
- The Innovation Centre will provide opportunities to academics, start-ups and SMEs to showcase their innovation at a global stage.
- With signing of the Host Country Agreement, the Area Office and the Innovation Centre is expected to be operational by mid-2022.
- The agreement was signed in a virtual ceremony during the World Telecommunications Standardisation Assembly-20 (WTSA-20) being held in

Geneva, Switzerland.

India's first Start-up in latest Daylight Harvesting Technology

Ministry of Science & Technology has decided to promote a unique Start-up in latest Daylight Harvesting Technology in order to reduce carbon footprint and improve the building energy efficiency.

Key Points

- The only Start-up company in India for Daylight Harvesting Technologies “Skyshade Daylights Private Limited”, Hyderabad.
- The company signed an MoU with Technology Development Board, a statutory body of Department of Science & Technology.
- TDB will give Rs 5 Crore of the 10 Crore project to Skyshade company for developing new technologies for basement illumination on 24x7 basis.

What is Daylight Harvesting Technology?

- Daylighting Harvesting Technology’s objective is to minimize the amount of artificial light thereby reducing electricity costs.

This is accomplished using [lighting control systems](#) that are able to dim or switch electric lighting in response to changing daylight availability.

Daylighting also includes the practice of placing windows or other openings and reflective surfaces so that during the day, natural light provides more effective internal lighting.

How does the system work?

- The daylight harvesting system employs light sensors, also known as photocellsensors, to detect the prevailing light level in the environment.
- It then sends the intensity of light received to a controller, which is connected to the lighting control system.
- The control system in turn adjusts the electric lights automatically according to the measured light level.

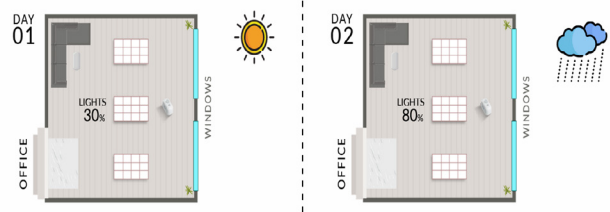


Image showing the amount of lighting required inside the room depending upon the weather (light) conditions outside.

SARAS 3 radio telescope

Indian researchers have conclusively refuted a recent claim of the discovery of a radio wave signal from cosmic dawn.

- In 2018 a team of researchers from Arizona State University (ASU) and MIT in the US detected a signal from stars emerging in the early universe using data from the EDGES radio telescope.

Key Points

- ASU/MIT team had claimed the discovery of a radio wave signalling the birth of the First Stars.
- Utilising the indigenously invented and built; SARAS 3 radio telescope, researchers from Raman Research Institute (RRI) has refuted this claim.
- The RRI findings are now published in Nature Astronomy.

About SARAS: Experiment And Science

- SARAS is a niche high-risk high-gain experimental effort of RRI initiated and led by Prof. Ravi Subrahmanyam.
- It was a courageous attempt to design, build and deploy in India a precision radio telescope to detect extremely faint radio wave signals.
 - The aim was to detect signals from the depths of time, from our “Cosmic Dawn” when the first stars and galaxies formed in the early Universe.
- The radio telescope is designed to detect faint cosmological signals, especially radiation emitted by hydrogen atoms at

- the 21-cm wavelength (1.4 GHz).
- The signal from Cosmic Dawn is expected to arrive on Earth stretched in wavelength to metres and lowered in frequency by the expansion of the Universe to lie in the radio frequency band 50-200 MHz.
 - Besides, this cosmic signal is in a radio wavelength band used by numerous terrestrial communications equipment and TV and FM radio stations, which makes detecting the extra-terrestrial signal extremely difficult.
 - The telescope was first deployed in rural Timbaktu Collective in Anantapur district.
 - The subsequent deployment took place in the wilderness of trans-Himalayan Ladakh.
 - Recently, RRI astronomers came up with the idea of floating the radio telescope on a raft on water.
 - An intelligent design that substantially enhanced telescope performance and had never been conceived of in the world.
 - This helped provide a homogenous medium of high dielectric constant below the antenna improving sensitivity and reducing confusing radio waves emitted by the very ground beneath radio telescopes.
 - Having rejected the ASU/MIT claim, the SARAS experiment is geared towards discovering the true nature of Cosmic Dawn.

GSI Celebrates 172nd Foundation Day

Geological Survey of India (GSI), the premier Geological organisation of India, celebrated its 172nd Foundation Day.

About GSI

- The Geological Survey of India (GSI) was set up in 1851 primarily to find coal deposits for the Railways.
- Over the years, GSI has not only

grown into a repository of geo-science information required in various fields in the country,

- But has also attained the status of a geo-scientific organisation of international repute.
- Its main functions relate to creating and updating of national geoscientific information and mineral resource assessment.
- GSI's chief role includes providing objective, impartial and up-to-date geological expertise and geoscientific information of all kinds.
- GSI also emphasises on systematic documentation of all geological processes derived out of surface and subsurface of India and its offshore areas.
- An attached office of the Ministry of Mines, GSI has six regional offices located in Lucknow, Jaipur, Nagpur, Hyderabad, Shillong and Kolkata.

HANSA-NG successfully completes sea level trials

India's first indigenous Flying Trainer HANSA-NG designed and developed by CSIR has successfully completed the sea level trials at Puducherry.

Key Highlights

- The objectives of sea level trials were to evaluate handling qualities, climb / cruise performance, balked landing, structural performance including positive & negative G, power plant and other systems performance.
- HANSA-NG is one of the most advanced flying trainer powered by Rotax Digital Control Engine with unique features.
- HANSA-NG is designed to meet the Indian flying club needs and it is an ideal aircraft for Commercial Pilot Licensing (CPL) due to its low cost and low fuel consumption.



Plasma Jets over Sun's chromosphere

Scientists have unravelled the science behind the jets of plasma that occur just about everywhere in the sun's chromosphere.

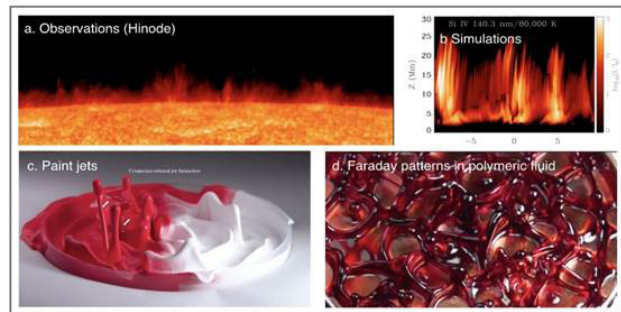
- These jets, or spicules, appear as thin grass-like plasma structures that constantly shoot up from the surface and are then brought down by gravity.

Key Points

The amount of energy and momentum that these spicules can carry is of fundamental interest in solar and plasma astrophysics.

- Led by astronomers at the Indian Institute of Astrophysics, an autonomous institute of the Department of Science & Technology (DST),
 - Researchers from India and UK have explained the origin of 'spicules' on the Sun, using laboratory experiments as an analogy.
- They found that the physics underlying paint jets when excited on a speaker is analogous to the solar plasma jets.
- When a liquid is placed above such a speaker and the music is turned on, the free surface of the liquid becomes unstable beyond a particular frequency and starts vibrating.
- The scientists elaborated that the plasma right below the visible solar surface (photosphere) is perpetually in a state of convection, much like boiling water in a vessel heated at the bottom.

- This is ultimately powered by the nuclear energy released in the hot-dense core.

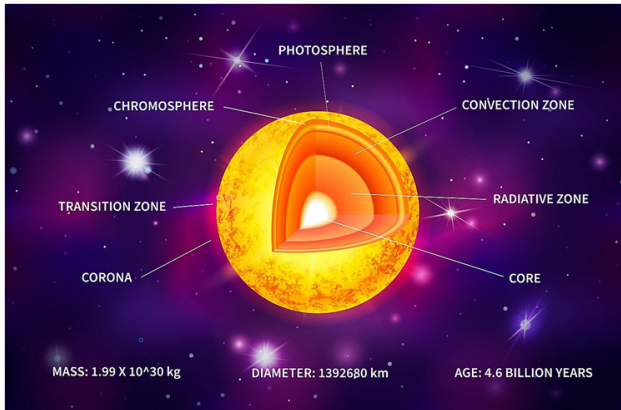


Layers of the Sun

The layers of the Sun are divided into two larger groups, the outer and the inner layers.

- The outer layers are the Corona, the Transition Region, the Chromosphere, and the Photosphere,
 - While the inner layers are the Core, the Radiative Zone, and the Convection Zone.
- There are three inner layers of the Sun, and the Convection zone is the outermost one.
- It completely surrounds the next layer, the Radiative zone, after which we have the Core, as the innermost layer of the Sun.
- There are four outer layers of the Sun, and the Corona is the outermost one.
- It starts at about 1300 miles above the photosphere, and its temperature is measured to be around 900,000 degrees Fahrenheit.
- It is impossible to see the Corona with the naked eye, but there is an exception.
 - We are able to see it during a solar eclipse.
- It is followed by the Transition region, which is an extremely narrow layer that divides the Chromosphere from the Corona.
- This layer marks the spot where the temperatures rise tremendously since the Corona layer is much hotter than the Chromosphere.

- The Photosphere is the last, innermost layer of the outer layers of the Sun.
 - We are able to observe this layer directly, and its temperatures vary between 11,000 and 6,700 degrees Fahrenheit.



“PARAM Ganga” established at IIT Roorkee

Petascale Supercomputer “PARAM Ganga” has been established at IIT Roorkee under National Supercomputing Mission.

- Availability of the supercomputer will help to accelerate R&D activities in multidisciplinary domains of science and engineering

Key Points

- NSM has deployed “PARAM Ganga”, a supercomputer at IIT Roorkee, with a supercomputing capacity of 1.66 Petaflops.
- The system is designed and commissioned by C-DAC under Phase 2 of the build approach of the NSM.
- Substantial components utilized to build this system are manufactured and assembled within India along with an indigenous software stack developed by C-DAC.

About National Supercomputing Mission

The National Supercomputing Mission (NSM) is being steered jointly by Ministry of Electronics & Information Technology (MeiTY) and the Department of Science and Technology (DST).

- It is being implemented by Centre for

Development of Advanced Computing (C-DAC) and Indian Institute of Science (IISc), Bangalore.

- The four major pillars of the NSM, namely, Infrastructure, Applications, R&D, HRD, have been functioning efficiently to realize the goal of developing indigenous supercomputing eco system of the nation.
- C-DAC has been entrusted the responsibility to design, development, deployment and commissioning of the supercomputing systems under the build approach of Mission.
- The Mission plans to build and deploy 24 facilities with cumulative compute power of more than 64 Petaflops.
- Till now C-DAC has deployed 11 systems at IISc, IITs, IISER Pune, JNCASR, NABI-Mohali and C-DAC under NSM Phase-1 and Phase-2 with a cumulative compute power of more than 20 Petaflops.
- C-DAC has also designed and developed a compute server “Rudra” and high-speed interconnect “Trinetra” which are the major sub-assemblies required for supercomputers.

Preservation of Quality of Native Indian Seeds

There is well established system available for analysis of seed quality of native Indian crop and trees in the Country.

- 161 State Seed Testing Laboratories and six Central Seed Testing Laboratories are functioning in the Country.

Key Points

- At COP 26, there was a call for greater biodiversity in agriculture sector, however, no consensus was reached on the proposal of biodiversity in agriculture.
- Hence, India has not committed anything on the biodiversity during the COP 26.
- However, the Government has a policy to encourage conservation of the seeds of

native Indian varieties of various crops and trees.

- The National Bureau of Plant Genetic Resources (NBPGR) has conserved 94,609 native Indian varieties of different crops and trees in Gene Banks located in different States.
- The Protection of Plant Varieties and Farmer's Rights Authority (PPV & FRA) has also registered 1896 native Indian varieties of different crops.
 - This helps in enabling the farmer to commercialize these varieties.
- In addition, in order to ensure availability of native seeds and improve their usage by farmers, Indian Council of Agricultural Research is developing high yielding and multi stress tolerant varieties of different crop.
 - This includes cereals, millet, pulses, oilseeds and fruits suited to different agro-climatic condition.
- In order to enhance indigenous species of trees, a Scheme called Sub-Mission on Agro-forestry since 2016-17 is being implemented to encourage and expand tree plantation.
 - This is under Ministry of Agriculture & Farmers Welfare.

Green technology producing medicinally important compound

Dr E. Poonguzhali, a single parent and woman scientist at the Department of Chemistry, Indian Institute of Technology Madras, Chennai, has been granted a patent.

- The patent is for developing a green methodology for producing a medicinally important compound called Benzo[b] thiophene.

Key Points

- The compound is present in a range of medicines such as:
 - raloxifene (used in osteoporosis),
 - zileuton (used in asthma), and
 - sertaconazole (antifungal

medication).

- The one-step synthesis of the 2-substituted benzo[b]thiophene can replace hazardous industrial production of the compound.
- Currently, available synthesis methods of the compound all give yields ranging from good to excellent, but these are not environmentally friendly.
 - Besides, it involves the use of very high temperatures.
- The disadvantages include sulphur emission with an unpleasant smell, expensive starting materials and so on.
- Apart from this, the reactions are carried out in closed vessels exposing the process to the risk of explosion and use of OLED lights required in the reaction increased the cost of the process.
- Dr Poonguzhali has successfully transferred commercially available starting materials to medicinally important 2-acylbenzo[b]thiophenes.
- Her one-step synthesis of the compound reduces risk of explosion, decreases cost of process & obviates toxic steps involved in current method.
- The new method uses water medium, room temperature, is odourless and carried out in open air.

Note: She worked under the WOMEN SCIENTISTS SCHEME (WOS-A) Programme of the Department of Science & Technology (DST), Govt. of India.

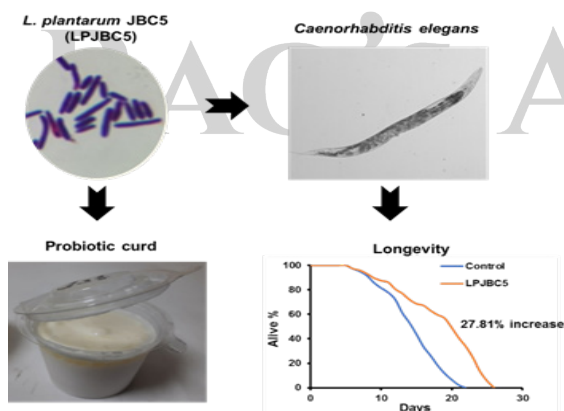
Next-Generation Probiotic

A team of Indian Scientists has recently identified the next-generation probiotic bacterium Lactobacillus Plantarum JBC5 from a dairy product that showed great promise in promoting healthy aging.

- The team has also developed a yogurt using this probiotic bacterium which can be consumed to derive all these health benefits.

Key Points

- The recent advances in medical science have increased life expectancy and have led to the rapid growth of the aging population.
- The United Nations forecasts that one in every eleven people will be older than 65 by 2050.
- However, aging is generally associated with a higher risk of age-related health issues.
- Therefore, it raises concerns in highly populated countries like India and flags the need for scientific ways to promote healthy aging.
- A team of scientists from India searched for healthy bacteria to promote healthy living in fermented dairy products following the proposal of Nobel laureate Dr. Elie Metchnikoff.
- They discovered the next-generation probiotic bacterium *Lactobacillus Plantarum* JBC5 from a dairy product.
 - It showed great promise in promoting healthy aging on a model organism called *Caenorhabditis Elegans* --- a free-living, transparent nematode living temperate soil environments.
 - The bacterium demonstrated a 27.81% increase in the life span of the model organism.
- The study was recently published in the journal 'Antioxidant'.



Note: The team of scientists belonged to Institute of Advanced Study in Science and Technology (IASST), Guwahati, an autonomous institute of the Department of Science & Technology, Govt. of India.

PSLV-C52/EOS-04 Mission

India's Polar Satellite Launch Vehicle PSLV-C52 injected Earth Observation Satellite EOS-04, into an intended sun synchronous polar orbit of 529 km altitude, from Satish Dhawan Space Centre, SHAR, Sriharikota.

- After a flight of about 17 minutes 34 seconds three satellites namely EOS-04, INSPIRESat-1 and INST-2TD were injected successfully.

Key Points

- This was the 80th launch vehicle mission from SDSC SHAR, Sriharikota; 54th flight of PSLV; and the 23rd flight of PSLV in XL configuration.
- The satellite EOS-04 is realised at U R Rao Satellite Centre, Bengaluru.
- It is a Radar Imaging Satellite designed to provide high quality images under all weather conditions for applications such as:
 - Agriculture,
 - Forestry & Plantations,
 - Soil Moisture & Hydrology and Flood mapping.
- Weighing about 1710 kg, it generates 2280 W power and has a mission life of 10 years.
- The vehicle also placed two small satellites:
 - a student satellite (INSPIRESat-1) from Indian Institute of Space Science & Technology (IIST) in association with Laboratory of Atmospheric & Space Physics at University of Colorado, Boulder and
 - a technology demonstrator satellite (INS-2TD) from ISRO, which is a precursor to India-

Bhutan Joint Satellite (INS-2B).

- o Co-passenger satellites were successfully separated from the PSLV in a predetermined sequence.

India's Space Program

India decided to go to space when Indian National Committee for Space Research (INCOSPAR) was set up by the Government of India in 1962 under the Department of Atomic Energy.

- With the visionary Dr Vikram Sarabhai at its helm, INCOSPAR set up the Thumba Equatorial Rocket Launching Station (TERLS) in Thiruvananthapuram.
- Indian Space Research Organisation, formed in 1969, superseded the erstwhile INCOSPAR.
- The Government of India constituted the Space Commission and established Department of Space (DOS) in June 1972 and brought ISRO under DOS.
- In 1967, the first 'Experimental Satellite Communication Earth Station (ESCES)' located in Ahmedabad was operationalized.
- The first Indian spacecraft 'Aryabhata' was developed and was launched using a Soviet Launcher in 1975.
- Bhaskara-I - an experimental satellite for earth observations was launched on June 7, 1979.
- First Experimental launch of SLV-3 with Rohini Technology Payload on board (August 10, 1979).
 - o Satellite could not be placed in orbit.
 - o Satellite Launch Vehicle-3 (SLV-3) is the first launch vehicle of India.
- Second Experimental launch of SLV-3, Rohini satellite successfully placed in orbit. (July 18, 1980).
- Ariane Passenger Payload Experiment (APPLE), an experimental geo-stationary communication satellite was successfully launched on June 19, 1981.
 - o It became the forerunner for future communication satellite system.
- Indian National Satellite system (INSAT)-1A was launched on April 10, 1982.
 - o This system was for the communication, broadcasting and meteorology.
- On April 2, 1984, the first Indo-Soviet manned space mission was launched.
 - o Rakesh Sharma became the first Indian citizen to go into space.
- Launch of first operational Indian Remote Sensing Satellite, IRS-1A happened on March 17, 1988.
- Second developmental launch of Polar Satellite Launch Vehicle (PSLV) with IRS-P2, on board took place on October 15, 1994.
 - o PSLV went on to become a favoured carrier for satellites of various countries due to its reliability and cost efficiency.
- The first developmental launch of Geosynchronous Satellite Launch Vehicle (GSLV)-D1 with GSAT-1 on board took off from Sriharikota on April 18, 2001.
- PSLV-C11 successfully launches CHANDRAYAAN-1 from Sriharikota on October 22, 2008.
- November 5, 2013 - PSLV - C25 successfully launches Mars Orbiter Mission (Mangalyaan) Spacecraft from Sriharikota.
- On February 15, 2017, PSLV-C37, the 39th mission of the workhorse launch vehicle of ISRO, launched 104 satellites in one go.
- Gaganyaan Programme - Cabinet has approved Indian Human Spaceflight Initiative - Gaganyaan Programme.
 - o Two unmanned & one manned flight has been planned.
- Geosynchronous Satellite Launch Vehicle, GSLV MkIII-M1 rocket, carrying Chandrayaan-2 spacecraft was launched in 2019.

- o It comprised a fully indigenous Orbiter, Lander (Vikram) and Rover (Pragyan).
- o The lander, however, failed to land successfully as it deviated from its intended trajectory.

Flood Forecasting System

Central Water Commission (CWC) is currently formulating Five Day Advisory Flood Forecast for 20 major flood prone river basins in the country.

- These advisories are shared with concerned stakeholders on a public domain GIS dashboard.

Key Points

- The forecast advisory has been developed in-house and utilizes global rainfall products like:
 - o GPM (Global Precipitation Measurement),
 - o GsMAP (Global Satellite Mapping of Precipitation- a product of Japan Aerospace Exploration Agency) and
 - o IMD (India Meteorological Department).
- For formulation of flood forecasts based on these rainfall products, 1-D Mathematical Flood Forecasting Models have been developed for 20 major river basins.
- Flood Forecasting System in the country also includes Development of Water Resources Information System (DWRIS).
 - o DWRIS is a Central Sector Scheme, has multiple components including inter-alia Hydrological Observations (which are also used for Flood Forecasting).
- Also, under the National Hydrology Project (NHP), a central sector scheme with support from World Bank,
 - o The Real Time Data Acquisition System (RTDAS) and other Discharge measurement equipment are being installed to

support the Flood Early Warning Systems across the country.

- Apart from this, some of the states facing flood issues on regional and local level are being supported for establishing Flood Forecasting Systems.

Atmospheric pressure on surface of Pluto

A team of scientists, including Indian and International collaborators, have derived the accurate value of Pluto's atmospheric pressure at its surface.

- It is more than 80,000 times less than the atmospheric pressure at mean sea level on Earth.

Key Points

- The pressure was calculated from data obtained by observation of stellar occultation by Pluto on 6 June 2020 using two telescopes.
 - o 3.6-m Devasthal optical telescope (DOT) (India's largest optical telescope) and 1.3-m Devasthal Fast Optical Telescope (DFOT) telescopes located at Devasthal, Nainital.

In astronomy, an occultation happens when a celestial object gets hidden from the view of the observer due to another celestial object passing in between them

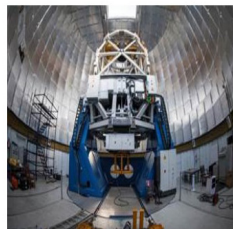
- A compilation of twelve stellar occultations by Pluto observed between 1988 and 2016 showed a three-fold monotonic increase of atmospheric pressure during this period.
- Signal-to-noise ratio light curves were obtained from the sophisticated instruments used in the observations to derive an accurate value of Pluto's atmospheric pressure at its surface.
- It was found to be 12.23 μ bar -- 80,000 times less than the atmospheric pressure at mean sea level on Earth.
- They also found that the pressure at the

surface is close to the seasonal peak of Pluto.

- Pluto's atmosphere is in a plateau phase close to peak and is in excellent agreement with the model values calculated earlier by the Pluto volatile transport model in 2019.
- The team explained further that this occultation was particularly timely as it can test the validity of the current models of Pluto's atmosphere evolution.
- The study also confirms earlier findings that Pluto suffers intense seasonal episodes because of large depression on Pluto, known as Sputnik Planitia.
- Pluto's poles remain, for decades, in permanent sunlight or darkness over its 248-year long orbital period leading to strong effects on its Nitrogen (N₂) atmosphere.



a) 1.3m DFOT



b) 3.6 m DOT

C-DOT bags 3 awards

Centre for Development of Telematics (C-DOT), the premier Telecom R&D centre of the Government of India has bagged three awards at 12th Annual Aegis Graham Bell Awards.

- The awards won was for its indigenously designed & developed innovative Telecom solutions in various categories.

Key Points

CDOT is declared TOP WINNER in three categories as below:

1. Indigenous Early Warning Platform for Disaster Management & Preparedness based on ITU's Common Alerting Protocol (CAP) in the "Tech for Social Good" category.

- This system can effectively send location-based disaster alerts in vernacular language to the people in disaster-prone

areas during various natural hazards.

- C-DOT's cost-effective solution has been successfully deployed in the Integrated Alerting System project of National Disaster Management Authority (NDMA) for nationwide implementation.
2. C-DOT SAMVAD – A Unified Platform for Secure Messaging and Calling Solution.
- This solution also secured first position in the category for "Innovative in Lockdown Management".
 - C-DOT SAMVAD offers secured messaging, voice and video calls, video conferencing in a secured manner.
 - It has been exclusively designed to cater to various security concerns with a set of unique features to enhance its usability for official communication/meeting.
 - Additionally, SAMVAD ensures data protection against cyber-attacks with its rich security and encryption capabilities.
3. C-DOT Quarantine Alert System (CQAS) has won the first prize in the category of "Preventive measures to combat Covid 19".
- CQAS is a comprehensive solution for effective monitoring of the Covid quarantined persons and detection of quarantine breaches based on geofencing.
 - The entire project has been conceptualized and implemented by the Department of Telecommunications (DoT) and C-DOT.

About Centre for Development of Telematics (C-DOT)

The Centre for Development of Telematics is an Indian Government owned telecommunications technology development centre.

- It was established in August 1984 as an autonomous body.
- It was vested with full authority and total flexibility to develop state-of-the-art telecommunication technology to meet the needs of the Indian telecommunication network.

National Science Day

28th February is celebrated as National Science Day (NSD) in India.

- NSD is celebrated to commemorate discovery of the ‘Raman Effect’, which led to Sir C.V. Raman winning the Noble Prize.

Key Points

- In 1986, the National Council for Science and Technology Communication (NCSTC) asked the Government of India to designate 28 February as National Science Day.
- The first National Science Day was celebrated on February 28, 1987.

What is Raman Effect?

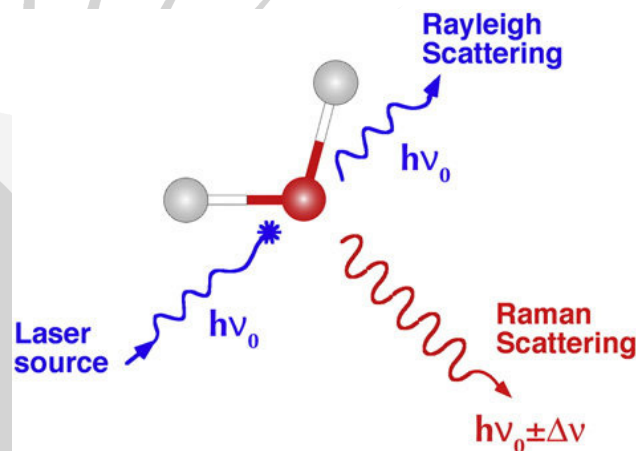
Raman Effect is a phenomenon in spectroscopy discovered by the eminent physicist Sir Chandrasekhara Venkata Raman in 1928.

- Raman Effect is a change in the wavelength of light that occurs when a light beam is deflected by molecules.

When light encounters molecules in the air,

the predominant mode of scattering is elastic scattering, called [Rayleigh scattering](#).

- Ex: This scattering is responsible for the blue color of the sky.
- It is also possible for the incident photons to interact with the molecules in such a way that energy is either gained or lost so that the scattered photons are shifted in frequency.
 - Such inelastic scattering is called Raman scattering.



RAO'S ACADEMY

6

Social Issues

Janaushadhi Diwas

The entire nation on March 7 observes Jan Aushadhi Divas or Generic Medicine Day with an aim to create awareness about the use of generic medicines among the people.

- The day was first celebrated in the year 2019 making it the fourth-celebration this year.

About Jan Aushadhi Divas

- Ministry of Chemicals and Fertilizers kicked off the Janaushadhi Diwas Week from 1st March to 7th March 2022.
- The theme for 2022 is 'Jan Aushadhi-Jan Upyogi'.
- The Government has set a target to boost the number of Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJKs) to 10,500 by the end of March 2025.

About Pradhan Mantri Bhartiya Janaushadhi Pariyojana

Pradhan Mantri Bhartiya Janaushadhi Pariyojana is a noble ambition by Indian Department of Pharmaceuticals to deliver quality medicines at an affordable price.

- Under this scheme dedicated outlets such as Janaushadhi Kendras are opened which conducts Health Checkup Camps across the country.
- These camps include Blood Pressure checkup, Sugar level checkup, free doctor consultation, free medicine distribution.
- This initiative is done mainly to inform and educate about the price benefits and quality of the medicines being sold at Jan Aushadhi Kendras.
- The generic medicines can be easily availed from more than 7,500 stores enfolding all the districts of the country

under the scheme.

- Sales in the financial year 2020-21 led to total savings of approximately Rs 3,700 Crore for common citizens.

Note: As on 31st January 2022, the number of stores has grown to 8,676 with all 739 districts of the nation being covered.

Source: newsonair.com

NCPCR Celebrates its 17th Foundation Day

The National Commission for Protection of Child Rights (NCPCR) celebrated its 17th Foundation Day on 1st March.

On the occasion the Union Minister for Women and Child Development launched the new motto of NCPCR ' :

About NCPCR

The National Commission for Protection of Child Rights (NCPCR) was set up in March 2007 under the Commissions for Protection of Child Rights (CPCR) Act, 2005.

- It is a statutory body under CPCR Act, 2005 under the administrative control of the Ministry of Women & Child Development.
- The Commission's Mandate is to ensure that all Laws, Policies, Programmes, and Administrative Mechanisms are in consonance with the Child Rights perspective:
 - As enshrined in the Constitution of India and also the UN Convention on the Rights of the Child.
- The Child is defined as a person in the 0 to 18 years age group.

Field assessment of SwachhSurvekshan 2022

The field assessment for seventh consecutive edition of world's largest urban cleanliness survey, SwachhSurvekshan (SS), was launched on 1st March 2022.

- This is being done under the aegis of Ministry of Housing and Urban Affairs (MoHUA) and is designed with 'People First' as its driving philosophy.

Key Points

- SwachhSurvekshan 2022 is curated towards capturing the initiatives of cities for the overall welfare and well-being of frontline sanitation workers.
- The survey, will also give priority to the voices of senior citizens and young adults alike, and reinforce their participation towards upholding the cleanliness of urban India.
- SS was introduced by MoHUA in 2016.
- The journey that started in 2016 with only 73 cities with million plus population, had grown manifold to 4,320 cities in SS 2021, including 62 Cantonment Boards.
- The scope of the survey has been expanded to now cover 100% wards for sampling, as compared to 40% in previous years.
- SS 2022 is committed to creating a level playing field for smaller cities by introducing two population categories under 15K and between 15-25K.

Swacchagraha: celebrating Swachhta and Swadhinta

Ministry of Culture, Ministry of Jal Shakti, Ministry of Housing and Urban Affairs in collaboration with Sulabh International organized an event "Swacchagraha".

- The event was aimed to bring about the mass awareness with the core thought of "Swachhta, Swadhinta and Sulabh"

About Sulabh International

- Sulabh International was founded in 1970 by Dr. Bindeshwar Pathak.
- Dr. Pathak's foray into sanitation was

in response to tackle the deep rooted discrimination, abuse and stigma faced by a community of people – known as manual scavengers.

- 1968, whilst working as a volunteer for a committee set up to commemorate Mahatma Gandhi's centenary celebrations, Dr. Pathak witnessed first-hand the sufferings of the community in the state of Bihar.
- The community was systematically denied access to mainstream education, health or employment opportunities.
- In its 50 years of public service, Sulabh International has worked to achieve equitable sanitation and hygiene for all.
- It has been in the forefront of Government of India's flagship Swachh Bharat Abhiyan with a focus on ending open defecation.
- RURAL SANITATION:
 - It has built over 1.5 million household toilets and has been awarded the Gandhi Peace Prize for 2016.
 - In the context of rural sanitation, Sulabh has adopted a community-based behaviour change approach.
 - It has converted dry latrines into two-pit pour flush latrines in 1749 towns and built approximately over 160835 toilets.
 - In most villages, Sulabh has worked with women – mainly mothers – to achieve total sanitation by making them the agents of change.
- URBAN SANITATION (PUBLIC TOILETS):
 - In 1974, Dr. Bindeshwar Pathak introduced the concept of pay and use public toilets in India. Since then over 9000 public toilets have been built across India.
 - Now Sulabh toilets are seen in all major public places including

36 railway stations which are used by approximately 20 million people every day.

- FAECAL SLUDGE MANAGEMENT (FSM): Sulabh has 190 biogas plants installed in public toilet complexes in India and five in Kabul, Afghanistan.
- Sulabh has also built 19603 toilets blocks covering 6241 schools across India.
- Apart from above initiatives, Sulabh International has been involved in various other social reforms and initiatives such as:
 - education for the under-privileged,
 - care services for the widows of Vrindavan and Varanasi among other things.

Special Entrepreneurship Promotion Drive for Women – “SAMARTH”

On the occasion of International Women’s Day 2022 a Special Entrepreneurship Promotion Drive for Women -"SAMARTH" was launched.

- "SAMARTH" is being implemented by the Ministry of Micro, Small and Medium Enterprises.

Key Points

Under the Samarth initiative of the Ministry, following benefits will be available to aspiring and existing women entrepreneurs:

- 20% Seats in free Skill Development Programs organized under skill development schemes of the Ministry will be allocated for Women.
 - More than 7500 women will be benefitted.
- 20% of MSME Business Delegations sent to domestic & international exhibitions under the schemes for Marketing Assistance will be dedicated to women owned MSMEs.
- 20% Discount on annual processing fee on NSIC’s Commercial Schemes.
- Special Drive for registration of women-owned MSMEs under Udyam

Registration.

- Besides, thousands of women will be getting marketing opportunities to showcase their products in domestic and international exhibitions.

Note: To celebrate International Women’s Day, Ministry of MSME also organised an international conference - “Empowering Women Entrepreneurs”.

Campaign ‘KanyaShikshaPraveshUtsav’

On the eve of International Women’s Day, the Ministry of Women and Child Development (MoWCD), launched a landmark campaign KanyaShikshaPraveshUtsav.

- This campaign is in partnership with the Ministry of Education and UNICEF.

Key Points

KanyaShikshaPraveshUtsav aims to bring back out of school adolescent girls in India to the formal education and/or skilling system.

- The campaign has been launched with the objective of enhancing enrolment and retention of girls between 11-14 years of age in school.
- The initiative intends to build on the existing schemes and programmes like Schemes for Adolescent Girls (SAG), BetiBachaoBetiPadhao (BBBP) and National Education Policy (NEP).
- The campaign will be rolled out under the umbrella of MoWCD’s BBBP initiative by targeting more than 400,000 out of school adolescent girls as primary beneficiaries.

‘Nari Shakti Puraskar’ – 2020 and 2021

The President of India conferred the ‘Nari Shakti Puraskar’ - 2020 and 2021, at a special ceremony held at Rashtrapati Bhavan on occasion of International Women’s Day.

- The award was conferred on 29 outstanding and exceptional women achievers for the years 2020 and 2021.
- Ministry of Women and Child Development confers Nari Shakti Puraskar on women and institutions in recognition

of their relentless service towards the cause of women empowerment.

Report on Unified District Information System for Education Plus

Ministry of Education will be releasing a detailed report on Unified District Information System for Education Plus (UDISE+) 2020-21 on school education of India.

- In UDISE+ system, improvements have been made particularly in the areas related to data capture, data mapping and data verification.

Key Points

- The UDISE+ system of online data collection from the schools was developed by Department of School Education & Literacy in the year 2018-19.
- This was done to overcome the issues related to erstwhile practice of manual data filling in paper format and subsequent feeding on computer at the block or district level in the UDISE data collection system since 2012-13.

Students and Teachers in schools:

- In 2020-21 total students enrolled in school education from primary to higher secondary stood at 25.38 crore.
 - There is an increase of 28.32 lakh enrolments as compared to the 25.10 crore enrolment in 2019-20.
- Gross Enrolment Ratio (GER) which measure the general level of participation has improved in 2020-21 at all levels of school education compared to 2019-20.
- Level wise GER in 2020-21 as compared to 2019-20 are:
 - 92.2% from 89.7% in upper primary,
 - 99.1 % from 97.8% in elementary,
 - 79.8% from 77.9% in secondary and
 - 53.8% from 51.4% in higher secondary.
- 96.96 lakh teachers are engaged in school education during 2020-21.

- This is higher by about 8800 in comparison with number of teacher in school education in 2019-20.
- In 2020-21 the Pupil Teacher Ratio (PTR) stood at 26 for primary, 19 for upper primary, 18 for secondary and 26 for higher secondary, showing an improvement since 2018-19.
 - The PTR for primary, upper primary, secondary and higher secondary was 28, 20, 21, and 30 respectively during 2018-19.
- In 2020-21 over 12.2 crore girls are enrolled in primary to higher secondary showing an increase of 11.8 lakh girls compared to the enrolment of girls in 2019-20.

School Infrastructure:

- Schools with functional electricity have made impressive progress during 2020-21.
 - Now 84% of the total schools have functional electricity facility in comparison with 73.85% in 2018-19.
- Percentage of the schools with functional drinking water has increased to 95.2 % in 2020-21 from 93.7 % in 2019-20.
- Percentage of the school with functional girl's toilet facility has increased to 93.91 % in 2020-21 in comparison with 93.2 % in 2019-20.
- Percentage of schools with hand wash facilities has also improved during 2020-21 and now stands at 91.9 %.
- Number of schools having functional computers increased to 6 lakh in 2020-21 from 5.5 lakh in 2019-20.
 - Now, 40% of the schools have functional computers.
- Number of schools having internet facility increased to 3.7 lakh in 2020-21 from 3.36 lakh in 2019-20 with an increase of 2.6%

Pusa Krishi Mela

KrishiVigyanMela is being organized by the Indian Agricultural Research Institute.

- More than 100 ICAR Institutes, KrishiVigyanKendras and other institutes are showcasing advanced technologies through 225 stalls.

Key Points

The main theme of the fair is “Self-reliant farmer with technical knowledge”.

- About 12000 farmers from across the country participated and more than 1100 quintals of Pusa seeds were purchased by the farmers.
- Seeds of three varieties of Basmati rice; Pusa Basmati 1847, Pusa Basmati 1885, Pusa Basmati 1886 are also being distributed to the farmers.
- Apart from this, display and sale of agricultural products and agrochemicals, display and sale of products developed by innovative farmers also attracted the crowd.
- There were 4 technical sessions on the second day of the fair.
- In four technical sessions, farmers were informed about Smart agriculture; Natural Farming; Hydroponic and Aeroponic Agriculture for High Productivity; and Agriculture exports for prosperity.

Atal Innovation Mission, NITI

Aayog&KidEx collaborate

Atal Innovation Mission, NITI Aayog announced partnership with KidEx Venture Private Limited to leverage KidEx’s existing technology platform “IKIGAI”.

- This will help to host AIM’s flagship programs “Tinkerpreneur”, “ATL Marathon” and other similar ATL related challenges.

Key Points

- The programs will be available to 1 Crore+ school students on the AIM network across India.
- These programs would be accessible

to every student affiliated with ATL’s network of schools in a digital, convenient manner at zero cost.

- Over a two-year timeframe, AIM & KidEx will outreach at least 10 Lakhs+ young learners & enable them to get exposure to AIM proprietary programs on Innovation & Entrepreneurship.
- KidEx technology platform has been evaluated over last 1 year during which 1 lakh+ students from 1,500+ schools have used the platform & found it convenient & engaging resulting in a Net Promoter Score of 85%+.
- KidEx shall be adopting 100 schools under Atal Tinkering Labs (ATL) initiative.
- KidEx shall be offering free licenses for company’s flagship products for implementation of National Education Policy (NEP) 2020 to these 100 schools.
- Launched in 2020, KidEx’s flagship product aims at enabling holistic development of children through experiential learning of age-appropriate activities and discovery of innate potential of children.

About KidEx

- KidEx is a Startup India recognized company, started by alumni of IIT Kharagpur & IIM Calcutta.
- They are working on improving holistic development of each & every child, through extracurriculars & real life skill learning programs.
- The company’s flagship product includes “National All Rounder Championship” & “Age Appropriate Holistic Development Report Card”.

India Water Pitch-Pilot-Scale Start-up Challenge

Union Minister of Housing and Urban Affairs (MoHUA) & Petroleum and Natural Gas launched the ‘India Water Pitch-Pilot-Scale Start-up Challenge’ under Ministry’s Atal mission for Rejuvenation and Urban Transformation

(AMRUT) 2.0.

- Under this initiative, Ministry will select 100 start-ups which will be provided Rs.20 lakhs as funding support as well as mentorship.
- The Mission aims to empower startups in the water/ used-water sector to grow through innovation and design that will drive sustainable economic growth and generate employment opportunities.

About AMRUT

Atal Mission for Rejuvenation and Urban Transformation (AMRUT), first focused national water Mission was launched in June 2015.

- It was launched to facilitate ease of living to citizens in 500 cities by providing tap connections and sewer connections.
- Objectives:
 - Ensure that every household has access to a tap with the assured supply of water and a sewerage connection.
 - Increase the amenity value of cities by developing greenery and well maintained open spaces, and
 - Reduce pollution by switching to public transport or constructing facilities for non-motorized transport.

About AMRUT 2.0

The Atal Mission for Rejuvenation and Urban Transformation 2.0 (AMRUT 2.0) up to 2025-26 was approved by the Cabinet in October 2021.

- It aims to make the cities ‘water secure’ and ‘self-sustainable’ through circular economy of water.
- Taking forward the remarkable strides made under AMRUT, AMRUT 2.0 targets universal coverage of water supply by providing household tap connections in all 4,378 statutory towns.
- 100% coverage of household sewerage/ septage management in 500 AMRUT cities is other objective.
- Mission targets to provide 2.68 crore tap connections and 2.64 crore sewer/ septage connections to achieve the intended outcomes.
- Mission will be monitored on a robust technology based portal.
 - The projects will be geo-tagged.
- Other key features of AMRUT 2.0 (U) include Pey Jal Survekshan which will encourage competition among cities for benchmarking urban water services.

RAO'S ACADEMY

SRI LANKA - INDIA BILATERAL MARITIME

The Ninth Edition of India - Sri Lanka Bilateral Maritime Exercise SLINEX (Sri Lanka-India Naval Exercise) was held at Visakhapatnam.

- The exercise is being conducted in two phases; the Harbour Phase at Visakhapatnam followed by the Sea Phase in the Bay of Bengal.

Key Points

- Sri Lanka Navy will be represented by SLNS Sayurala, an advanced offshore patrol vessel and the Indian Navy by INS Kirch, a guided missile corvette.
- SLINEX aims to enhance inter-operability, improve mutual understanding and exchange best practices and procedures for multi-faceted maritime operations between both navies.
- The Harbour Phase would include professional, cultural, sporting and social exchanges.
- Exercises during Sea Phase will include surface and anti-air weapon firing exercises, seamanship evolutions, aviation operations, etc.
- The exercise is in consonance with India's policy of 'Neighbourhood First' and Hon'ble PMs vision of 'Security and Growth for All in the Region (SAGAR)'.

Indo-Pacific Military Health Exchange conference

Defence Minister virtually inaugurated Indo-Pacific Military Health Exchange (IPMHE) conference co-hosted by Armed Forces Medical Services (AFMS) and US Indo-Pacific Command (USINDOPACOM).

- The theme of the conference is 'Military

Healthcare in a Volatile, Uncertain, Complex and Ambiguous (VUCA) World'.

- Armed Forces of various countries and the USINDOPACOM have created an important platform in the form of this conference for sharing experiences and facilitate gainful learning.

India and Australia sign MoU on Tourism cooperation

India and Australia have signed Memorandum of Understanding (MoU) on Tourism cooperation in the field of Tourism.

- The Memorandum of Understanding (MoU) in the field of tourism will enhance cooperation and encourage Expansion of bilateral relations in tourism.

Key Points

- Australia is one of the most important tourism generating markets for India.
- It is ranked 4th in terms of Foreign Tourist Arrivals to the country in 2019 and contributed 3.4% in total tourism share of foreign tourists in the country.
- The signing of Memorandum of Understanding with Australia will be instrumental in increasing tourists' arrival from this important source market.
- The MoU will facilitate promotion of tourist traffic between two countries.
- Presently, Ministry of Tourism has MoUs with 45 countries.

India – Canada to re-launch CEPA

India and Canada recently held the fifth Ministerial Dialogue on Trade & Investment (MDTI).

- The Ministers at the dialogue agreed to formally re-launch the negotiations for India-Canada Comprehensive Economic

Partnership Agreement (CEPA).

Key Points

At the meeting, it was also proposed to consider an Interim Agreement or Early Progress Trade Agreement (EPTA) that could bring early commercial gains to both the countries.

- The Interim Agreement would include high level commitments in goods, services, rules of origin, sanitary and phytosanitary measures, technical barriers to trade, and dispute settlement, and may also cover any other areas mutually agreed upon.
- Canada also agreed to examine expeditiously the request for Conformity Verification Body (CVB) status to APEDA.
 - This will help in facilitating Indian organic export products.

SINGAPORE AIR SHOW -2022

A 44 member contingent of Indian Air Force reached Changi International Airport in Singapore to participate in the ‘Singapore Air Show-2022’.

- Singapore Air Show is a biennial event which provides a platform for the Global Aviation Industry to showcase their products.

Key Points

- IAF will be pitching the indigenous Tejas MK-I alongside participants from across the world.
- The Tejas aircraft will be enthralling the audience with its display of low level aerobatics displaying its superior handling characteristics and maneuverability.
- The participation of Indian Air Force in the Air Show provides India with the opportunity to showcase the Tejas aircraft and
 - to interact with counterparts from RSAF (Royal Singapore Air Force) & other participating contingents.
- In the past, Indian Air Force had participated in similar Air Shows like LIMA-2019 in Malaysia and Dubai Air

Show-2021 to exhibit indigenous aircraft and formation aerobatic teams.



India's G20 Presidency

The Union Cabinet approved the setting up of a G20 Secretariat and its reporting structure.

- The Secretariat will be responsible for implementation of overall policy decisions and arrangements needed for steering India's forthcoming G20 Presidency.

Key Points

India will hold the Presidency of the G20 from 1 December 2022 to 30 November 2023, culminating with the G20 Summit in India in 2023.

- As per practice, a G20 Secretariat is being established to handle work relating to substantive / knowledge / content, technical, media, security and logistical aspects of India's G20 Presidency.
- It will be manned by officers and staff from the Ministry of External Affairs, Ministry of Finance, and other relevant line Ministries / Departments and domain knowledge experts.
- The Secretariat will be functional till February 2024.
- The Secretariat will be guided by an Apex Committee headed by Prime Minister, and comprising:
 - Finance Minister, Home Minister, External Affairs Minister,
 - and G20 Sherpa (Commerce & Industry, Textiles, Consumer Affairs, Food and Public Distribution Minister),
 - to provide overall guidance to India's G20 Presidency.

- Further, a Coordination Committee will also be set up to oversee all G20 preparations and report to the Apex Committee.
- The G20 Secretariat will enable long term capacity building, including knowledge and expertise, for India's leadership on global issues in multilateral fora.

About G20

The G20 is made up of 19 countries and the European Union.

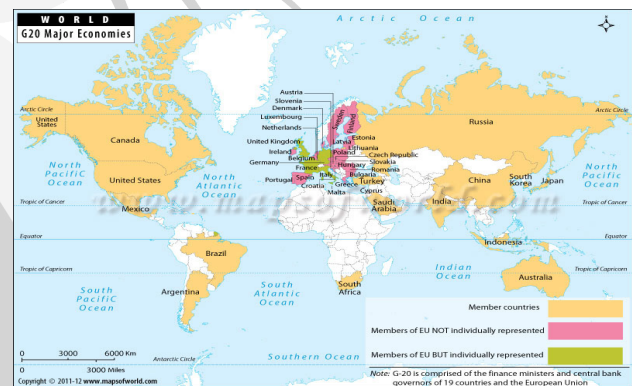
- The 19 countries are Argentina, Australia, Brazil, Canada, China, Germany, France, India, Indonesia, Italy, Japan, Mexico, the Russian Federation, Saudi Arabia, South Africa, South Korea, Turkey, the UK, and the US.
- The G20 is a strategic multilateral platform connecting the world's major developed and emerging economies.
- The G20 was formed in 1999 with the aim of discussing policies in order to achieve international financial stability.
- This forum was formed as an effort to find a solution to the global economic conditions hit by the global financial crisis in 1997-1999.
- On the advice of the G7 Finance Ministers, the G20 Finance Ministers and Central Bank Governors began holding meetings to discuss the response to the global financial crisis.
- Nine years later, on November 14-15 2008, the leaders of the G20 countries gathered for the first G20 Summit in United States.
- Together, the G20 members represent more than 80 percent of world GDP, 75 percent of international trade and 60 percent of the world population.
- Starting in 1999 as a meeting for the finance minister and central bank governors, the G20 has evolved into a yearly summit involving the Head of State and Government.
- In addition to that, the Sherpa meetings

(in charge of carrying out negotiations and building consensus among Leaders), working groups, and special events are also organized throughout the year.

- The presidency of the G20 rotates every year among its members.
- The country that holds the presidency works together with its predecessor and successor, also known as Troika, to ensure the continuity of the agenda.
- Currently Italy, Indonesia, and India are the Troika countries.
- The G20 has no permanent secretariat.
- The 17th Group of 20 (G20) Heads of State and Government Summit will take place in October 2022 in Bali, Indonesia.
- Under the Indonesian Presidency, the G20 in 2022 will focus on the theme "Recover Together, Recover Stronger".

Historic Visit of Commander of Royal Saudi Land Forces to India

In a historic and landmark visit, the Commander of the Royal Saudi Land Forces, Lieutenant General Fahd Bin Abdullah Mohammed Al-



Mutair, arrived in India.

- This is the first ever visit by a serving Royal Saudi Land Forces Commander to India.

Key Points

- This visit marks a deepening bilateral defence cooperation between the two countries.
- General MM Naravane had visited Saudi Arabia in December 2020 in a historic visit which marked the first time that

an Indian Army Chief had visited Saudi Arabia.

- The aim of the visit is to bolster bilateral defence cooperation between the two countries.

India-Saudi Arabia Bilateral Relations

India and Saudi Arabia enjoy cordial and friendly relations reflecting the centuries old economic and socio-cultural ties.

- The establishment of diplomatic relations in 1947 was followed by high-level visits from both sides.
- The historic visit of King Abdullah to India in January 2006 was a watershed moment that resulted in the signing of the ‘Delhi Declaration’.
- The reciprocal visit by Prime Minister Dr. Manmohan Singh to Saudi in 2010, elevated the bilateral relationship to a ‘Strategic Partnership’.
- Prime Minister Narendra Modi visited Riyadh in 2016 which led to signing of US\$100 billion investment deal and six MoUs/Agreements were signed.
- Prime Minister Modi visited Riyadh again in 2019, during which the Strategic Partnership Council (SPC) Agreement was signed.
 - This led to the establishment of a high-level council to steer the Indo-Saudi relationship.
- Saudi Arabia is India’s fourth largest trading partner.
- More than 18% of India’s crude oil imports are sourced from Saudi Arabia.
- During FY22 (Apr-Dec), bilateral trade was valued at US\$29.28 billion.
- During this period, India’s imports from Saudi Arabia were valued at US\$22.65 billion and exports to Saudi Arabia were worth US\$6.63 billion.
- There are around 745 Indian companies registered as joint ventures/100% owned entities with investments worth approximately US\$2 billion in the Kingdom.
- Saudi Investments in India, as of March 2021, amounted to US\$3.13 billion.
- Major Saudi investment groups include

ARAMCO, SABIC, ZAMIL, E-holidays, and Al Batterjee Group.

- Cultural Relations:
 - India participated as the ‘Guest of Honour’ at the 32nd edition of the prestigious Saudi National Festival of Heritage and Culture in 2018.
 - Yoga has also become a very popular activity in Saudi Arabia, particularly after it was recognized as a ‘sports activity’ in November 2017.
 - On International Day of Yoga 2021, a MoU on Yoga Cooperation was signed between the Saudi Ministry of Sports and India’s Ministry of AYUSH.
 - The approximately 2.2 million strong Indian community is the largest expatriate community in the Kingdom.

4th India - Australia Energy Dialogue

The 4th India – Australia Energy Dialogue was held recently.

- The dialogue was co-chaired by Hon’ble Minister for Power and New & Renewable Energy from the Indian side.

Key Points

- Energy Transition was a major area of discussion in the dialogue.
- The need of Climate Finance was also highlighted by India for meeting the Energy Transition goals of developing countries.
- A Letter of Intent (LoI) between India and Australia on New and Renewable Energy Technology was signed during the Dialogue.
- The focus of this LoI will be scaling up manufacture and deployment of ultra low-cost solar and clean hydrogen.
- The Co-chairs of the five Joint Working Groups under the India – Australia Energy Dialogue viz. Power; New & Renewable Energy; Coal & Mines; Critical Minerals; and Oil & Gas, presented the progress till date and the forward action plan under the respective JWG.

India's tightrope walk between the West and Russia

Amid the [Russian attack on Ukraine](#), Prime Minister [Narendra Modi](#) appealed for an “[immediate cessation of violence](#)” in his phone call to Russian President Vladimir Putin.

- India is in a diplomatic dilemma with key strategic partners on both sides.

Key Points

- India has a historical relationship with Russia, spanning seven decades.
- While the relationship has stagnated in some areas, its strongest pillar is of the defence basket.
- Although India has diversified its new purchases from other countries, almost 60-70% of its military supplies are from Russia.
- India can't afford to alienate Russia particularly when Indian and Chinese troops remain in a border stand-off.
- India is worried about the Russia-China axis too.

Its purchase of the [S-400](#) air defence system from Russia is aimed at preventing attacks from China and Pakistan.

India is also conscious that the hostility between the West and Russia is likely to push Moscow further in the direction of Beijing.

The West's approach towards Russia after the annexation of Crimea in 2014 brought Moscow closer to Beijing.

The Sino-Russian quasi-alliance has been possible due to anti-Chinese rhetoric from Washington, collapse of oil prices, and Russia's growing dependence on Chinese consumption.

Beijing and Moscow, however, do not always see eye to eye with each other.

China does not recognise Crimea as part of Russia, and Moscow, formally speaking, takes a neutral stance on Beijing's claims in the South China Sea.

India's ties with the West, led by the US, are crucial as well.

Many American platforms have been used for reconnaissance and surveillance along the India-

China border.

History of Russia-Ukraine conflict

Russian President Vladimir Putin has been trying to assert control over Ukraine, which was once part of the Russian empire and the USSR (Soviet Union).

Ukraine: Geography and Other Details

- Ukraine is in the east of Europe, and is bound by Russia to its northeast, east, and southeast, and the Black Sea in the south.
- In the southwest, west, and north, Ukraine shares borders, in the clockwise direction, with Moldova, Romania, Hungary, Slovakia, Poland, and Belarus.
- It is the largest country in Europe after Russia itself, with an area of 603,550 sq km, or about 6% of the continent.
- In July 2021, Ukraine's population was estimated at 43.7 million.
 - Of this, 77.8% was of Ukrainian ethnicity and 17.3% was Russian.
 - Ukrainian and Russian speakers made up 67.5% and 29.6% of the population respectively.
- The Russian speakers live mostly in the east, close to the border with Russia.
- Ukraine is the poorest country in Europe in terms of gross domestic product and gross national income per capita.
- It has deposits of iron ore and coal, and exports corn, sunflower oil, iron and iron products, and wheat.
- India is Ukraine's largest export destination in the Asia Pacific region.
 - Ukraine's major import from India is pharmaceutical products.

Early history of Ukraine

- A millennium ago, what is Ukraine today lay at the heart of the KyivanRus' (Rus' land).
- It was a federation of the East Slavic, Baltic, and Finnic peoples of eastern and northern Europe, with its capital in Kyiv.
- During the late 18th century, Empress

Catherine the Great (1762-96) of Russia absorbed the entire ethnic Ukrainian territory into the Russian Empire.

- After WWI, in 1922, Ukraine became part of the Union of Soviet Socialist Republics (USSR).

After the Soviet collapse

- In 1991, the USSR was dissolved.
- Demands for independence had been growing in Ukraine for a couple of years previously.
- On August 24, 1991, after the failure of the coup to remove President Mikhail Gorbachev and restore the communists to power, the parliament of Ukraine adopted the country's Act of Independence.
- In December 1991, the leaders of Belarus, Russia, and Ukraine formally dissolved the Soviet Union and formed the Commonwealth of Independent States (CIS).
- However, Ukraine's parliament, the Verkhovna Rada, never ratified the accession, so Ukraine was legally never a member of the CIS.

Historic relations

- When the Soviet Union broke up in the early 1990s, Ukraine, had the third largest atomic arsenal in the world.
- Anticipating a friendly relationship with Moscow moving forward, Kyiv gave its considerable nuclear stockpile back to Russia.
 - This was in exchange for security guarantees that protected it from a potential Russian attack.
- However, between then and 2014, Russia ramped up its global standing and emerged as a considerable military power once again.
- As Ukraine veered towards the West, Moscow grew increasingly concerned that its strategic interests in Crimea were being threatened.
- In 2014, Kremlin-leaning Ukrainian President Viktor Yanukovich rejected

an association with the European Union (EU) in favour of closer ties with Moscow.

- This resulted in a series of protests across Ukraine, ending with Yanukovich's removal from power the same year.
- Russia in turn responded by annexing Ukraine's Crimean Peninsula and throwing its weight behind a separatist rebellion that broke out in eastern Ukraine.
- Immediately after the annexation, Ukraine seemed to have the upper hand.
- In response, Russia was forced to send a large part of its regular troops to Donbas in eastern Ukraine, succeeding in causing huge casualties on the Ukrainian side but ultimately failing to capture the Donetsk and Luhansk regions.
- In a show of compromise, Ukraine and Russia adopted the Minsk Agreements in 2015.

The Current Conflict?

Russia announced that its recognition of independence for areas in eastern Ukraine extends to territory currently held by Ukrainian forces.

Russia has recognised the rebel regions' independence "in borders that existed when they proclaimed" their independence in 2014.



Later on, Putin issued a series of demands on Ukraine and NATO ranging from:

- the removal of NATO forces in Eastern Europe,
- a guarantee that Ukraine will not

- be allowed to join the alliance,
 - the granting of autonomy to the Donbas and
 - a recognition that the conflict in Ukraine is a civil war.
- Those demands have been rejected by both Ukraine and US led NATO.

Exercise Dharma Guardian-2022

A joint military exercise, “EX DHARMA GUARDIAN-2022”, between India and Japan was conducted at Foreign Training Node, Belagavi (Belgaum, Karnataka).

- Exercise DHARMA GUARDIAN-2022 is an annual training event which is being conducted in India since 2018.
- The scope of this exercise covers platoon level joint training on operations in jungle and semi urban/urban terrain.
- “Exercise Dharma Guardian” will enhance the level of defence co-operation between Indian Army and Japanese Ground Self Defence Forces.

Exercise Eastern Bridge -Vi

The Indo-Oman exercise, Eastern Bridge-VI (2022) was successfully conducted at Air Force Station in Jodhpur.

- Royal Air Force of Oman (RAFO) participated with Indian Air Force (IAF) in the exercise.
- The exercise was aimed at providing operational exposure and undertaking mutual exchange of best practices, towards enhancing operational capabilities of both the Air Forces.
- The exercise provided an opportunity for fruitful interaction between IAF and RAFO elements through mutual exchange of experience and operational knowledge.
- It also provided avenues of cultural exchanges between the personnel of both countries.

YOUR SUCCESS OUR SUCCESS

RAO'S ACADEMY

MoD signs contract with M/s BEL for T-90 Tanks

The Acquisition Wing of the Ministry of Defence has signed a contract for Rs. 1075 crore with M/s Bharat Electronics Limited (BEL) for the retro-modification of Commander Sight of Battle Tanks-T-90.

- The retro-modification will be carried out in 957 T-90 tanks of the Indian Army.

Key Points

- Commander sight of Battle Tank T-90, India's premier battle tank, is presently fitted with Image Converter (IC) tube-based sight for night viewing.
- Based on the requirement projected by the Indian Army, DRDO and BEL have jointly designed and developed an advanced Mid Wave Thermal Image (MWIR) based sight as a replacement for the existing IC-based sight.
- The new retro-modified Commander sight employs a thermal imager capable of detecting the targets at 8 Kms during day and night, and
 - A Laser Ranger Finder (LRF) to find the ranges accurately up to 5 Kms, thereby enhancing its capability to engage target at longer ranges.
- With the corrections from ballistic software and LRF, the Commander of T-90 can detect, engage and neutralize the targets with phenomenal accuracy.
- The indigenously developed sight completed extensive evaluations under field conditions successfully.

About Bharat Electronics Limited (BEL)

- BEL was set up in 1954 in association with CSF, France (now, Thales), to

manufacture basic communication equipment.

BEL is one of nine PSUs under the Ministry of Defence of India.

It has been granted Navratna status by the Government of India.

BEL now produces a wide range of state-of-the-art equipment in fields such as Defence Communication, Radars, Naval Systems, Weapon Systems, Homeland Security, Tank Electronics, etc.

Civilian products from BEL include Electronic Voting Machines, Tablet PC, solar-powered traffic signal systems and Access Control Systems.

Starting from a single Unit in Jalahalli, Bangalore, BEL has established its presence across the country by setting up eight other Units.

It has also been able to successfully partner as production agency with many DRDO labs.

Ministry of Defence signs MoU for SPARSH
Defence Accounts Department (DAD) of Ministry of Defence has signed an MoU with CSC e-Governance Services India Limited, a special purpose vehicle (SPV) under Ministry of Electronics and Information Technology.

- MoU was signed to onboard pension services under the System for Pension Administration (Raksha) {SPARSH} initiative across more than four lakh Common Service Centres (CSCs) all over the country.

Key Points

- The MoU will provide last mile connectivity to pensioners, especially those who reside in remote areas of the country.
- For these pensioners, the Service Centres will become an interface for SPARSH and provide an effective medium for pensioners to perform profile update

requests, register grievances and seek redressal.

- SPARSH initiative will promote ease of living and resolve pension-related issues in a time-bound manner.

SPARSH is an initiative of Ministry of Defence which aims at providing a comprehensive solution to the administration of pension to the defence pensioners. The system is administered by DAD through the Principal Controller of Defence Accounts (Pensions), Prayagraj and caters to all the three Services and allied organisation.

Operation Ganga

'Operation Ganga' is the initiative launched by the government of India to bring back Indians stranded in Ukraine.

As Russian invasion into [Ukraine](#) has left its major cities, including its capital Kyiv, under siege, India is making efforts to evacuate its citizens stuck in the war-torn country.

Key Points

India has also set up 24×7 control centres to assist in the evacuation of Indians through the border crossing points with Hungary, Poland, Romania and Slovak Republic.

- A Twitter handle, 'OpGanga Helpline', has also been dedicated to the mission.
- Even as Air India flights were being used to carry out the rescue initiative, Spicejet, Indigo and Air India Express have now joined the mission.
- The government has also identified an alternate train route to help evacuate the students, from Uzhhorod in western Ukraine to Budapest, Hungary's capital city.
- Prime Minister also decided to send four Union Ministers to Poland and Romania to oversee the evacuation.

Joint Security Exercise at Port Blair Airfield

Andaman & Nicobar Command (ANC)

conducted a joint security exercise at Port Blair airfield.

- The aim of the drill was to test the preparedness of all security agencies during various contingencies like terrorist attack, hostage crisis and hijack situation at the airfield or elsewhere.

Key Points

- Day and night drills were conducted at INS Utkrosh and Veer Savarkar International Airport.
- Quick Reaction Teams (QRTs) from the Army, Navy and CISF were deployed to counter portrayed terrorist threats at various places inside the airfield.
- Simultaneously, Special Forces elements from the NSG, Ghatak Platoons and Marine Commandos (MARCOS) were also mobilised for synchronised operation along with the Quick Reaction Teams.
- The Andaman & Nicobar Command has recently promulgated a Joint Standard Operating Procedures for Security at Port Blair Airfield.

About Andaman & Nicobar Command

The Andaman and Nicobar Command (ANC) is the first integrated theatre command in India with headquarters at Port Blair.

- It operates directly under the COSC (Chairman of the Chiefs of Staff Committee).

About COSC

The Chairman of the Chiefs of Staff Committee is the title given to the four-star military officer that heads the Chiefs of Staff Committee of the Indian Armed Forces and presides over the committee's meetings.

When the post of the Chief of Defence Staff (CDS) was established, its holder was also made the permanent chairman of the Chiefs of Staff Committee (COSC).

Currently, General Manoj Mukund Naravane is the chairman of COSC.

DefExpo 2022

12th edition of DefExpo-2022, on Land, Naval & Homeland Security Systems Exhibition was to be held from 10th to 14th March 2022 at Gandhinagar, Gujarat, India.

- The Exhibition will be held at Helipad Exhibition Centre (HEC) and Inaugural/official functions & seminars will be held at Mahatma Mandir Convention and Exhibition Centre (MMCEC).



India : The Emerging Defence Manufacturing Hub

DEFEXPO22

INDIA 10th-14th MARCH, 2022 | GANDHINAGAR

Ministry of Defence

Key Points

- Objective: To achieve self-reliance in defence & increase exports.

- To make India a major destination of land, naval, air & homeland security systems and defence engineering
- To build upon the vision to achieve 'AtmaNirbharta' in defence and reach USD five billion defence exports target by 2024.

- The event is expected to provide some impetus to the defence manufacturing that is currently at a nascent stage with a handful of players.
- Spread over 1 lakh sq m., this year's defexpo was to be the largest since its inception in 1996.

Note: The 11th edition of DefExpo was held at Lucknow (Uttar Pradesh) in 2020.

YOUR SUCCESS OUR PRIORITY

RAO'S ACADEMY

Sagar Parikrama

“SagarParikrama” is a program by Ministry of Fisheries, Animal Husbandry and Dairying, saluting our great freedom fighters, sailors and fishers, beginning from Gujarat.

Key Points

The Country has a coastline of 8118km, covering 9 maritime States/4UTs and providing livelihood support to millions of coastal fisher folk.

- As a mark of gratitude to our seas it is proposed to organize “SagarParikrama” program on occasion of 75th AzadiKaAmritMahotsava.
- The first leg of ‘SagarParikrama’ shall begin from Gujarat on 5th March 2022 for 2 days.
- SagarParikrama program is proposed to be celebrated in all coastal states/UTs through a pre-decided sea route.
 - This will include Gujarat, Diu, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odisha, West Bengal, Andaman & Nicobar and Lakshadweep Islands.
- The initiative will also have interaction programme with fishermen, fisher communities and stakeholders in these locations and districts as a part of 75th “AzadiKaAmritMahotsava” in order to know the problems of Coastal Fisher folk.
- The voyage SagarParikrama as Phase – I programme shall start on 5th March 2022 from Mandvi and end at Porbandar on 6th March 2022.

Arunachal Pradesh to get a Greenfield Airport

Considering the importance of air connectivity to

the capital city of Arunachal Pradesh, AAI has undertaken the work of constructing a Greenfield Airport in Hollongi, 15 Kms from Itanagar.

Key Points

- With an estimated cost of Rs.645 crore, the project includes the development work i.e. construction of airport pavements, air side work, terminal Building and city side works.
- The proposed airport is designed for operations of A-320 category of air craft and future extension of Runway by 500m length to cater A-321 type of aircraft.
- With an area of 4100 sqm, the terminal building of the airport will be able to handle 200 passengers during peak hours.
- Equipped with eight check-in counters, the terminal building will have all modern passenger facilities.
- The airport is planned for operationalization on 15th August 2022.
- The terminal will be an energy efficient building provisioned with Rain Water Harvesting system and sustainable landscape.

WHO Global Centre for Traditional Medicine in India

The Union Cabinet has approved the establishment of the WHO Global Centre for Traditional Medicine (WHO GCTM) in Jamnagar, Gujarat.

- This has been done by signing a Host Country agreement between the Government of India and the World Health Organization (WHO).

Key Points

This would be the first and only global outpost Centre (office) for traditional medicine across the globe.

- The WHO Global Centre for Traditional Medicine (GCTM) is a knowledge centre for traditional medicine.
- Benefits:
 - to position AYUSH systems across the globe.
 - to provide leadership on global health matters pertaining to traditional medicine.
 - To ensure quality, safety and efficacy, accessibility and rational use of traditional medicine.
 - To develop specific capacity building and training programmes
- A Joint Task Force (JTF) is constituted for coordination, execution and monitoring of activities for the establishment of this Centre.
- JTF comprises representatives from the Government of India, Permanent Mission of India, Geneva and the World Health Organization.

World Radio Day

On the occasion of World Radio Day 2022, UNESCO calls on radio stations worldwide to celebrate this event's 11th edition.

- February 13 is celebrated across the globe as World Radio Day (WRD).

Key Points

UNESCO World Radio Day is a global celebration of radio and how it shapes our lives.

- Radio continues one of the most trusted and accessible media in the world, according to different international reports.
 - The theme of the 2022 edition of World Radio Day is thus devoted to "Radio and Trust".
- World Radio Day was first proposed by Spain in September 2010.
- The day was proclaimed in 2011 by the Member States of UNESCO and was adopted by the United Nations General Assembly in 2012.

Background

- Italian inventor Guglielmo Marconi proved the feasibility of communication over the radio.
 - He sent and received a telegram over the first radio signal in history from Italy in 1895.
- The first radio station in America was established in Pittsburgh in 1919, and the FM radio debuted in 1939.
- Broadcasting over radio went digital in 1994, when radio streaming started via the internet.
 - This was accompanied by the first internet-only 24-hour radio station.
- In 2011, at the 36th session of UNESCO's General Conference, February 13 was proclaimed as World Radio Day.
- This date was chosen by UNESCO's director general as it was the anniversary date of the United Nations international broadcasting service, which was created on February 13, 1946.

Bhasha Certificate Selfie campaign

Ministry of Education launched a campaign 'Bhasha Certificate Selfie to encourage cultural diversity and promote multilingualism and to foster the spirit of Ek Bharat Shreshtha Bharat.

- Bhasha Certificate Selfie initiative aims to promote BhashaSangam mobile app, developed by Ministry of Education and MyGov India.
- Using the app, people can learn 100+ sentences of daily use in as many as 22 scheduled Indian languages.
- The initiative, under the aegis of Ek Bharat Shreshtha Bharat will aim to ensure that people acquire basic conversational skills in Indian languages.
- To achieve this, a target of 75 lakh people acquiring basic conversational skills has been set.

“ विद्याधनं सर्व धनं प्रधानम् ”



RAO'S ACADEMY
for Competitive Exams
(A unit of **RACE**)

आपकी सफलता हमारी प्राथमिकता

ADDRESS: R-26, Zone-II, Opp, Railway Track, M.P. Nagar, Bhopal
CONTACT: 0755-7967814, 7967718, +91 83196 18002
EMAIL: info@theracefoundation.com
WEBSITE: www.theracefoundation.com