



UPSC

MONTHLY

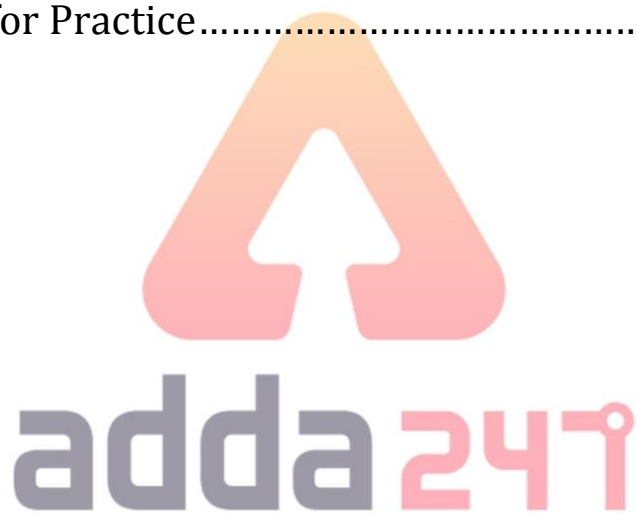
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AFFAIRS**

CAPSULES

OCTOBER 2020

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The West Bengal (Prevention of Lynching) Bill, 2019

- The West Bengal Assembly has passed the West Bengal (Prevention of Lynching) Bill, 2019 to prevent and punish mob assaults and lynching. The legislation has provision for the death sentence. The Bill also, while defining terms such as “lynching” and “mob”, says the West Bengal Lynching Compensation Scheme may be framed under this Act.
- The bill aims to protect the constitutional rights of vulnerable persons and prevent incidents of lynching. It also proposes action against those involved in perpetrating the crime. It also says that nodal officers will be appointed to monitor and coordinate prevention of lynching.
- It proposes a jail term from three years to life for those involved in assaulting and injuring a person. In case of death of the victim, persons responsible for the incident would be punished with rigorous life imprisonment and fine up to Rs 5 lakh.
- The bill also has provisions for punishment to those who obstruct the legal process by threatening the victims or witnesses. Those held guilty of such activity can be sentenced to jail for 3 to 5 years.

Former President Bharat Ratna Shri Pranab Mukherjee Passed Away

- The Prime Minister, Shri Narendra Modi has condoled the passing away of former President Bharat Ratna Shri Pranab Mukherjee. During his political career that spanned decades, Shri Pranab Mukherjee made long-lasting contributions in key economic and strategic ministries. He was an outstanding Parliamentarian, always well-prepared, extremely articulate as well as witty.

Index of Eight Core Industries

- The Department for Promotion of Industry and Internal Trade is releasing Index of Eight Core Industries for the Month of July, 2020. The eight core industries are; Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement, and Electricity.
- The combined Index of Eight Core Industries stood at 119.9 in July, 2020, which declined by 9.6 (provisional) per cent as compared to the Index of July, 2019. Its cumulative growth from April to July, 2020-21 was -20.5%.
- The final rate of growth of Index of Eight Core Industries for April 2020 is revised at -37.9%. The Eight Core Industries comprise 40.27 per cent of the weight of items included within the Index of Industrial Production (IIP).

Rashtriya Khel Protsahan Puraskar 2020

- Air Force Sports Control Board was conferred with 'Rashtriya Khel Protsahan Puruskar 2020' for the outstanding contribution in helping sportsperson to excel in their respective disciplines and implement robust sports welfare measures.
- The award is for sustained efforts towards encouragement and promotion of sports within the country and IAF especially. Air Marshal MSG Menon, Air Officer-In-Charge Administration and President, Air Force Sports Control Board received the award from Hon'ble President of India in an organized online ceremony at Vigyan Bhawan on 29 August 2020.
- Air Force Sports Control Board (AFSCB) is the apex body for planning and conduct of sports activities within the IAF and at Inter-Services level. It has been the constant endeavor of AFSCB to enhance standards of IAF teams and to guide them in career progression as sportsmen in IAF. The promotion of sports at grass root level aims at encouraging sports culture within the environment and motivates young Air Warriors to incorporate sports activities as a way of life.

Ministry of Defense signed contracts with Indian Companies

- To boost the 'Make in India' initiative within the Defense Sector, the Ministry of Defense (MoD) has signed contracts with M/s. Bharat Earth Movers Ltd. (BEML), M/s. Tata Power Company Ltd. (TPCL) and M/s. Larsen & Toubro (L&T) for supply of Six Pinaka Regiments to the Regiment of Artillery of the Indian Army at an approximate cost of Rs. 2580 Crores. This project under Buy (Indian) categorization, with 70% Indigenous Content.
- These Six Pinaka Regiments comprise 114 Launchers with Automated Gun Aiming & Positioning System (AGAPS) and 45 Command Posts to be procured from M/s TPCL and M/s L&T and 330 Vehicles to be procured from M/s BEML.
- These Six Pinaka Regiments are going to be operationalized along the Northern and Eastern Borders of our country further enhancing the operation preparedness of our Armed Forces. Induction of Six Pinaka Regiments is planned to be completed by 2024.
- This is a flagship project showcasing public-private partnership under the aegis of Government of India (DRDO & MoD) enabling "Aatmanirbharta" in cutting edge Defense technologies.

Good Samaritans

- The Ministry of Road Transport and Highways has published the rules for the protection of Good Samaritans vide GSR 594 (E).
- The rules provide for the Rights of Good Samaritan which include that a Good Samaritan shall have the rights as detailed in the rules and shall be treated respectfully without any discrimination on the grounds of religion, nationality, caste or sex.

- No police officer or any other person shall compel a Good Samaritan to disclose his/her name, identity, address or any such other personal details. However, he may voluntarily choose to disclose the same.
- The Rules also provide that every public and the private hospital shall publish a charter in Hindi, English and vernacular language, at the entrance or other conspicuous location, and on their website, stating the rights of Good Samaritans under the Act and the Rules made thereunder.

Six years of Swachh Bharat Mission

- The Ministry of Housing & Urban Affairs (MoHUA) is celebrating the sixth anniversary of Swachh Bharat Mission-Urban (SBM-U) by organizing a webinar titled 'Swachhata Ke 6 Saal, Bemisaal' on 2nd October 2020.
- The Minister will release a compendium and a dynamic GIS portal showcasing innovative practices for effective solid waste management (SWM) practices from across India.
- Alongside, a document on Response of Indian Cities Towards Covid-19: A Sanitation Perspective prepared by NIUA, 'Frontline Stories of Resilience: India's Sanitation Champions' – a collection of inspirational stories of sanitation workers compiled by the National Faecal Sludge and Septage Management (NFSSM) Alliance and a Toolkit for Safety of Sanitation Workers prepared by Urban Management Centre (UMC) will also be released by the Ministry.

Atal Tunnel

- Prime Minister Narendra Modi dedicated to the nation the World's longest Highway tunnel namely Atal Tunnel at its south portal in Manali.
- The 9.02 Km long tunnel connects Manali to Lahaul-Spiti valley throughout the year. Earlier the valley was cut off for about 6 months each year owing to heavy snowfall.
- The Tunnel is built with ultra-modern specifications in the Pir Panjal range of Himalayas at an altitude of 3000 Mtrs (10,000 Feet) from the Mean Sea Level (MSL).
- The tunnel reduces the road distance by 46 Kms between Manali and Leh and the time by about 4 to 5 hours.
- It has state of the art electromechanical systems including semi transverse ventilation, SCADA controlled fire fighting, illumination and monitoring systems. The Tunnel has ample safety features built into it.
- Farmers, Horticulturists, Youth, Tourists, Security Forces to benefit from the project and the Tunnel would empower Himachal Pradesh, J&K Leh and Ladakh.

Slogan "To fight COVID-19 strengthen your immunity"

- Goa Postal Division released a Special Cancellation with the slogan "To fight COVID-19 strengthen your immunity" to create awareness among the public regarding boosting the immune system against ongoing COVID-19 pandemic.
- The Special Cancellation highlights the need to boost the immune system of the human being by having a healthy diet, say no to tobacco products and staying fit by doing regular exercise during this COVID-19 pandemic.

Discovering the Heritage of Assam

- Union Minister of State (Independent Charge) Development of North Eastern Region (DoNER), MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh released a Coffee Table Book on “Discovering the Heritage of Assam”, with a foreword by Amitabh Bachchan and published by Penguin.
- The voluminous coffee table book with pictures and photographs on glaze paper presents an absorbing compilation of heritage, faith, beliefs and traditions of different ethnic tribes and subtribes living in the largest State of the North Eastern Region.
- The author of the book is Padampani Bora, who is by profession an officer of the Indian Revenue Service (IRS-2009 batch), but has over the years established himself as an accomplished author.

Charkhe pe Charcha

- To mark the birth anniversary of Mahatma Gandhi, Ministry of Tourism organised a webinar on “Charkhe pe Charcha” under Dekho Apna Desh Webinar Series on 02nd October 2020.
- The Webinar titled “Charkhe pe Charcha” focused on spinning wheel and Khadi.
- Khadi, the moral fabric of the nation is a metaphor for swarajya and swavalamban.
- The webinar seeks to explore the dimensions of khadi in the freedom struggle of India and explores the journey of NIFT, Bengaluru in contemporizing khadi and spreading the message of Bapu.

- In 1918, Mahatma Gandhi started his movement for Khadi as a relief programme for the poor masses living in India's villages. Spinning and weaving were elevated to an ideology for self-reliance and self-government.
- On his second visit to Madurai on September 20, 1921, Gandhi stayed in the West Masi Street and when he saw the daily wage laborers going to work without a shirt he was deeply moved by their plight, he removed his attire and adorned the four-metre Khadi dhoti on the night of September 21.
- On, September 22, 1922, when he went to address the people at a place in Kamaraj Street, now called as Gandhi Pottal dressed only in his khadi veshti. The place where he stayed in 1921 is now a Khadi Kraft store, but a stone tablet in the building records the historic change of attire.
- In 1934-35 he expanded the idea from helping the poor individual to the self-reliance of whole villages.
- In 1942-43 he had sessions with workers groups and village organizers to re-organize the whole programme on a bigger country-wide scale. Thus Khadi became not merely a piece of cloth but a way of life.
- The Dekho Apna Desh Webinar Series is presented in technical partnership with National e-Governance Department, Ministry of Electronics and Information Technology.

Guidelines for reopening of schools

- Department of School Education and Literacy, Ministry of Education has issued SOP/Guidelines for reopening of schools.
- Union Education Minister Shri Ramesh Pokhriyal 'Nishank' announced regarding SOP/Guidelines of DoSEL for reopening of schools.

Brief Highlights

- States/UT Governments may take a decision in respect of reopening of schools and coaching institutions after 15.10.2020 in a graded manner in consultation with the respective school's/institutions management and based on the local situation.
- Healthy and safety measures would be taken.
- Learning with physical/social distancing and the academic aspects related to the delivery of education, like curriculum transactions, instructional load, timetables, assessment, etc.

42nd GST Council Meeting

- The 42nd GST Council met under the Chairmanship of Union Finance & Corporate Affairs Minister Smt Nirmala Sitharaman.
- The meeting was also attended by Union Minister of State for Finance & Corporate Affairs Shri Anurag Thakur besides Finance Ministers of States & UTs and senior officers of the Ministry of Finance & States/ UTs.
- The GST Council has made the following recommendations:
- Levy of Compensation Cess to be extended beyond the transition period of five years i.e. beyond June, 2022, for such period as may be required to meet the revenue gap. Further details to be worked out.
- The center is releasing compensation of ₹20,000 crore to States towards loss of revenue during 2020-21 and an amount of about ₹25,000 crore towards IGST of 2017-18 by next week.

Chardham Project

- In the execution of the Chardham road project, Supreme Court-appointed expert committee that has alleged violations of the court orders.
- A controversial aspect was the proposed width of the two-lane highways envisaged.
- The top court ruled last month that a width of 5.5 metre be enforced as it was in conformity with a 2018 recommendation of the Ministry of Road Transport and Highways (MoRTH) for mountain roads.
- Chardham Project is the project that comprises improvement as well as the development of 889 km length of national highways.
- The project will connect Badrinath Dham, Kedarnath Dham, Gangotri, Yamunotri, and part of the route leading to Kailash Mansarovar yatra.

New rules for postal ballot

- EC announces new rules for postal ballot. The rules aim to make it more convenient for those above 80 years of age and people with disabilities to vote.
- New rules announced are:
- The returning officer would deploy polling teams, which will deliver and collect the postal ballot on pre-informed dates and then deposit it with the returning officer.
- The form required to opt for the postal ballot would be delivered at the residence of all those aged above 80 and people with disabilities by the booth level officer under his polling station.

- A restricted set of voters can exercise postal voting.
- With this facility, a voter can cast her vote remotely by recording her preference on the ballot paper and sending it back to the election officer before counting.

India PV Edge 2020

- To bring together various market players and catalyze cutting-edge PV manufacturing in India, NITI Aayog, Ministry of New & Renewable Energy (MNRE), and Invest India together organized a global symposium 'India PV Edge 2020'.
- It was one of its kind platform for global cutting-edge technology providers, equipment makers, and PV champions to present their technologies to the Indian stakeholders who are drawing up their PV manufacturing plans and collaborate, thus boosting the 'Make in India' campaign.

The symposium consisted of three sessions:

First session: The Plenary Session, in which India's most prominent policymakers highlighted India's strong impetus on renewable energy, the investment climate and the country's ambition and opportunities in solar manufacturing.

Second session: It included three parallel pitching sessions on wafer/cell, module/production equipment and BOM. 21 experts from across the world gave a snapshot of the future of solar manufacturing.

Third session: "Investment Conclave" brought in large investors like IFC, Goldman Sachs, Black Rock, SBI, and climate funds to catalyze investment momentum in cutting edge PV technologies.

Historic MoU Signed between ISLRTC and NCERT

- On 60th Foundation Day of NCERT, a historic Memorandum of Understanding (MoU) was signed between Indian Sign Language Research and Training Center-ISLRTC (a National Institute of DEPwD, Ministry of Social Justice and Empowerment) and NCERT (a National Institute of Ministry of Education).
- The purpose is to make educational materials accessible for Deaf children in their preferred format of communication viz Indian Sign Language.

PLI Scheme

- Ministry of Electronics and Information and Technology (MeitY) has approved 16 eligible applicants under the PLI Scheme.
- Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing notified on 1st April, 2020, extends an incentive of 4% to 6% on incremental sales (over base year) of goods under target segments that are manufactured in India to eligible companies, for a period of five years subsequent to the base year (FY2019-20).
- According to Shri Ravi Shankar Prasad, “PLI scheme has been a huge success in terms of the applications received from Global as well as Domestic Mobile Phone manufacturing companies and electronic components manufacturers.”
- Production of Rs10.5 lakh crore and Exports of Rs6.5 lakh crore expected over the next 5 years

JawaharNavodayaVidyalaya

- Shri Mukhtar Abbas Naqvi lays foundation stone of new JawaharNavodayaVidyalaya at Pakur in Jharkhand in presence of Shri Ramesh Pokhriyal 'Nishank' through virtual mode.
- This school is being constructed by the Ministry of Minority Affairs under the "Pradhan Mantri Jan VikasKarykram" (PMJVK).
- Union Minister for Minority Affairs Shri Mukhtar Abbas Naqvi said that Union Ministry of Education is constructing 99 Jawahar Navodaya Vidyalayas in backward, weaker and Minority concentrated areas across the country for the first time in the history.
- Several of these Jawahar Navodaya Vidyalayas are being constructed jointly by Union Ministry of Education and Union Ministry of Minority Affairs.

Brand & Logo for Cotton

- Smt. Smriti Zubin Irani, Union Minister of Textiles and Women & Child Development launched the 1st ever Brand & Logo for Indian Cotton on 2nd World Cotton Day on 7th October, 2020 through Video Conferencing.
- India gets its first-ever Brand & Logo for its Cotton on 2nd World Cotton Day.
- Now India's premium Cotton would be known as 'Kasturi Cotton' in the world cotton trade.
- The Kasturi Cotton brand will represent Whiteness, Brightness, Softness, Purity, Luster, Uniqueness and Indianness.
- India is the 2nd largest cotton producer and the largest consumer of cotton in the world.

- India produces about 6 million tons of cotton every year which is about 23% of the world cotton.
- India produces about 51% of the total organic cotton production of the world, which demonstrates India's effort towards sustainability.
- Cotton Corporation of India (CCI) has opened 430 procurement centres in all cotton-growing states and payments are being made digitally to farmers' account within 72 hours.
- Further, leveraging the technology, a mobile app, "Cott-Ally" has been developed by CCI for providing latest news regarding weather condition, Crop situation and best farm practices.

Jan Andolan for COVID-19

- Prime Minister Narendra Modi launched a campaign by way of a Tweet on Jan Andolan for COVID-19 Appropriate Behaviour.
- It is launched in view of the upcoming festivals and winter season as well as the opening up of the economy.
- The aim is to encourage People's Participation (Jan Andolan). It endeavors to be a Low-Cost High-Intensity Campaign with the Key Messages of 'Wear Mask, Follow Physical Distancing, Maintain Hand Hygiene'.

Additional Tier-1 bonds

- Securities and Exchange Board of India has tightened its regulations of additional tier-1 bonds or AT-1 bonds.
- They ensured that these risky instruments are less accessible to retail investors.

Changes introduced are:

- Only on an electronic platform, Banks can issue these bonds.
- Only institutional investors could subscribe to them.
- There shall be a minimum allotment size and trading lot size of ₹1 crore.

Apex Council for Krishna and Godavari River Water Dispute 2nd Meeting

- It was announced at the Apex Council Meeting that the Centre will determine the jurisdictions of the Krishna and Godavari river management boards (KRMB and GRMB), Union Jal Shakti Ministry (MoJS).
- Apex Council has been constituted by the Central Government under the provisions of Andhra Pradesh Reorganization Act (APRA), 2014 to supervise the functioning of the Godavari River Management Board and Krishna River Management Board.
- Apex Council Meeting was the second meeting since 2016 which aims to resolve the conflict between the two States over executing irrigation projects and sharing water from the Krishna and Godavari rivers.

National Startup Awards 2020 announced

- It is conceived by the Department for Promotion of Industry and Internal Trade (DPIIT).
- The first edition had invited applications across 12 sectors further sub-classified into 35 categories.
- 12 sectors included Agriculture, Education, Enterprise Technology, Energy, Finance, Food, Health, Industry 4.0, Space, Security, Tourism and Urban Services.

- The winning Startups will get cash prizes of Rs 5 lakh each, along with opportunities to present their solutions to relevant public authorities and corporates, for potential pilot projects and work orders.
- One exceptional Incubator and one Accelerator each will get a cash prize of Rs 15 lakh.

The SVAMITVA Scheme

- Prime Minister Narendra Modi will launch the physical distribution of Property Cards under the SVAMITVA Scheme on 11th October through video conferencing.
- The launch will enable around one lakh property holders to download their Property Cards through the SMS link delivered on their mobile phones.
- It would be followed by physical distribution of the Property Cards by the respective State governments.
- These beneficiaries are from 763 villages across six States including 346 from Uttar Pradesh, 221 from Haryana, 100 from Maharashtra, 44 from Madhya Pradesh, 50 from Uttarakhand and 2 from Karnataka.
- Within one day, beneficiaries from all these states except Maharashtra will receive the physical copies of the Property Cards.

About SVAMITVA

- SVAMITVA is a Central Sector Scheme of the Ministry of Panchayati Raj. It was launched by the Prime Minister on National Panchayati Raj Day (24th April 2020).
- The purpose of the scheme is to provide the 'record of rights' to village household owners in rural areas and issue Property Cards.

180th Year of Establishment of Postal Services in Goa

- On the occasion of World Post Day, Goa Postal Division released a Special cover & Special cancellation on “180th Year of Establishment of Postal Services in Goa”, Permanent Pictorial Cancellation on “Basilica of Bom Jesus” and Maximum Card (1st Day Issue) on “Basilica of Bom Jesus” in the hands of Chief Guest, Dr. N. Vinodkumar, Postmaster General, Goa Region, Panaji on 09th October 2020.
- Dr. Sudhir G Jakhere, Sr Supdt. of Post offices, Goa Division, Dr. M. R. Ramesh Kumar, President and Shri. Aslesh Kamat, Secretary, Goa Philatelic and Numismatic Society [GPNS] Goa and Postal Officials were present for the Function held at Tapal Bhavan, Panaji.
- The Special cover and Special cancellation on “180th Year of Establishment of Postal Services in Goa” will be available for sale at Panaji Head Post Office w.e.f. 09.10.2020.
- This Special Cancellation will be available in Copper Cancellation. The sale prize of the Special cover is Rs.30/ each.
- The Permanent Pictorial Cancellation on “Basilica of Bom Jesus” will be provided at Velha Goa Post Office on all articles posted/booked w.e.f. 09.10.2020.
- The Maximum Card (1 st Day Issue) on “Basilica of Bom Jesus” will be available for sale at Panaji Head Post Office w.e.f. 09.10.2020. It consist set of 06 Pictures of Church in a Maximum card for sale price at Rs.180/- each.

Commemorative coin of Rs.100 denomination

- In honour of Smt Vijaya Raje Scindia, Prime Minister Narendra Modi releases a commemorative coin of Rs 100 on 12th October, 2020.
- Smt Vijaya Raje Scindia is popularly known as the Rajmata of Gwalior.
- The coin is being released in celebration of birth centenary of Vijaya Raje Scindia.

Bharatmala Pariyojana

- A total of 322 projects in a length of 12,413 Km have been awarded under Bharatmala Pariyojana till August, 2020.
- Also, 2921 Km has been constructed under the Project till the same date.

About Bharatmala Pariyojana

- Bharatmala Pariyojana is an umbrella program for the highways sector.
- It focuses on optimizing the efficiency of freight and passenger movement across the country by bridging critical infrastructure gaps through effective interventions including the development of Economic Corridors, Inter Corridors and Feeder Routes, National Corridor Efficiency Improvement, Border and International connectivity roads, Coastal and Port connectivity roads and Green-field expressways.

National Commission for Protection of Child Rights (NCPCR)

- The response has been sought by the Supreme Court from the National Commission for Protection of Child Rights (NCPCR).
- This has been done to its request to eight States to “produce” children living in care homes before the local child welfare committees for their “immediate repatriation” with their families.

- During the pandemic, The Supreme court is suo motu monitoring the welfare of children placed in care homes.
- In this regard, The NCPDR reportedly wrote to Tamil Nadu, Andhra Pradesh, Telangana, Mizoram, Karnataka, Kerala, Maharashtra and Meghalaya.
- These States together have 1.84 lakh children in care homes which accounts for over 70% of the children in care homes.
- It is explained by the NCPDR about the need for a child to grow up in a familial environment

First ever Virtual India International Jewellery Show

- First-ever Virtual India International Jewellery Show held on 12 October, 2020.
- It has been organised by The Gem and Jewellery Export Promotion Council of India (GJEPC).
- Near about 350+ exhibitors showcasing their exquisite jewellery collections to over 10000+ visitors registered at the show.
- Union Minister of Commerce & Industry and Railways, Shri Piyush Goyal and Chief Minister of Maharashtra Shri Udhav Thakre will be addressing at the inaugural ceremony. The ceremony started at 9.30 AM.

Governing Structure of India Energy Modelling Forum

- On 2 July, the constitution of the India Energy Modelling Forum (IEMF) jointly launched by NITI Aayog and United States Agency for International Development (USAID) under the US-India Strategic Energy Partnership. And on 8 October, NITI Aayog announced its governing structure.

- Part of the Sustainable Growth pillar of the US–India Strategic Energy Partnership (SEP), IEMF aims to engage Indian researchers, knowledge partners, think tanks and national and international government agencies and departments for modelling and long-term energy planning.
- The governing structure of IEMF will consist of an inter-ministerial and a steering committee.
- The inter-ministerial committee will be convened by NITI Aayog and headed by its CEO, and comprise senior officials from the ministries of petroleum and natural gas; power; new and renewable energy; coal; environment, forest and climate change; and department of science and technology.
- This committee will review the studies/modelling activities and provide directions and new areas of research.

Autobiography of Dr. Balasaheb Vikhe Patil

- Prime Minister Narendra Modi releases the autobiography of Dr. Balasaheb Vikhe Patil and renames Pravara Rural Education Society as ‘Loknete Dr. Balasaheb Vikhe Patil Pravara Rural Education Society’.
- For multiple terms, Dr. Balasaheb Vikhe Patil served as Member of Lok Sabha.
- His autobiography is titled ‘Deh Vechwa Karani’ which means ‘dedicating one’s life for a noble cause’, and is aptly named as he dedicated his entire life to the benefit of society through his path-breaking work in various fields, including agriculture and cooperatives.

- In 1964, Pravara Rural Education Society was established at Loni in Ahmednagar district. The purpose is to provide a world-class education to the rural masses and empower the girl child.
- The Society is currently serving with the core mission of educational, social, economical, cultural, physical and psychological development of students.

eSanjeevani

- Health Ministry's telemedicine service, eSanjeevani, completes 5 lakh teleconsultations.
- eSanjeevani OPD now hosts 216 online OPDs.
- At present 26 States are using eSanjeevani's two variants of telemedicine namely – doctor to doctor (eSanjeevaniAB-HWC) and patient to doctor (eSanjeevaniOPD).
- In November 2019, eSanjeevani AB-HWC was launched by the Ministry of Health and Family Welfare.
- It is to be implemented at 1,55,000 Health and Wellness Centres in conjunction with identified Medical College hospitals under Govt. of India's Ayushman Bharat Scheme in 'Hub & Spoke' model by December 2022.
- The second variant of this ambitious initiative, eSanjeevaniOPD which has the potential of being the world's largest telemedicine platform, was rolled out on 13th of April 2020 during the first lockdown when the OPDs across the country were closed.
- The top ten States which have registered highest consultations through eSanjeevani and eSanjeevaniOPD platforms are Tamil Nadu (169977), Uttar Pradesh (134992), Himachal Pradesh (39326), Kerala (39300), Andhra Pradesh (31365), Uttarakhand (16442), Madhya Pradesh (14965), Gujarat (10839), Karnataka (9498), Maharashtra (7895).

Festival Special” services

- To clear the festive rush, Ministry of Railways has approved 196 pairs (392 trains) of “Festival Special” services over Indian Railways to be operated from 20th October 2020 and 30th November 2020.
- The fare for these Festival Special services shall be that applicable for special trains.

Vivekananda Lecture Theatre Complex

- Union Minister for Education Ramesh Pokhriyal ‘Nishank’ inaugurated the Vivekananda Lecture Theatre Complex that has been constructed in the campus of Malaviya National Institute of Technology Jaipur.
- According to the Union Education Minister, Vivekananda Lecture Theatre Complex is one of the largest lecture theatre complexes in entire Asia with a capacity to teach 6792 students at a time through its 48 classrooms.

A Memorandum of Understanding (MoU) between India and Australia

- An MoU between India and Australia has been approved by the Cabinet, chaired by the Prime Minister, for collaboration in capacity building, research and development and making an impact for sustainable groundwater management.
- This Memorandum of Understanding (MoU) is inked between Central Ground Water Board (CGWB), Department of Water Resources, River Development and Ganga rejuvenation, and Managing Aquifer Recharge and Sustaining Groundwater use through village-level intervention (MARVI) PARTNERS, Australia.

- The objective behind this MoU is to promote cooperation in surface and groundwater training, education and research to achieve water security for agricultural, urban, industrial and environmental purposes.

Project STARS

- For improving school education, the Union Cabinet chaired by the Prime Minister, Shri Narendra Modi, has approved the Strengthening Teaching-Learning and Results for States (STARS) project. For the implementation of the project, Government has approved 5718 crore with the financial support of World Bank amounting to the US \$ 500 million (approximately Rs. 3700 crore).
- The STARS project would be set up as a new centrally sponsored scheme under the Department of School Education and Literacy, Ministry of Education (MoE). Initially, the project will cover 6 States namely; Himachal Pradesh, Rajasthan, Maharashtra, Madhya Pradesh, Kerala and Odisha.
- Besides this project, there is also some similar Asian Development Bank (ADB) funded project in 5 states namely; Gujarat, Tamil Nadu, Uttarakhand, Jharkhand and Assam.

The Government of India allows additional borrowing by 20 States

- The Finance Ministry has permitted 20 States to raise ₹68,825 crore through open market borrowings. These 20 States had conveyed their acceptance of the first borrowing option offered by the Centre to meet GST compensation shortfalls.
- Under this scheme, the States could borrow ₹1.1 lakh crore from the market with principal and interest payments to be paid out of GST cess collections whose levy has been extended beyond 2022.

- Articles 293(3) and 293(4) of the Constitution of India requires states to obtain the Centre's consent in order to borrow in case the state is indebted to the Centre over a previous loan and this consent can also be granted subject to certain conditions by virtue respectively.
- In practice, the Centre has been exercising this power in accordance with the recommendations of the Finance Commission.

Mahila Kisan Diwas

- The Department of Agriculture, Cooperation & Farmers Welfare organized Mahila Kisan Diwas through Video Conferencing on 15th October, 2020.
- This event was held under the guidance of Shri Narendra Singh Tomar, Union Minister for Agriculture & Farmers Welfare which was graced by Shri Parshottam Rupala, Union Minister of State for Agriculture & Farmers Welfare, Shri Sanjay Agarwal, Secretary (AC&FW) and other senior officers of the Department.
- A series of activities were undertaken on this occasion.
- Interaction between Shri Parshottam Rupala and successful women farmers and women entrepreneurs was held during the event.
- The e-book on 'Inspiring Stories of Progressive Women Farmers' was released and two short video films on 'Mahila Krishak and her Contribution in Agriculture' and 'Global Examples of Successful Women Farmers' were launched during this event.
- Speaking on the occasion, the Union Minister of State stated that women farmers and women Self Help Groups (SHGs) play an important role in agriculture development with their significant contribution to boost the rural economy.
- It is also emphasised that the women farmers may avail the benefits of all farmer-centric schemes especially the Kisan Credit Card and Farmer Producer Organizations.

KAPILA' Kalam Program

- Union Education Minister virtually launches 'KAPILA' Kalam Program for IP Literacy and Awareness Education campaign that will bring awareness towards the patenting of inventions.
- According to Ramesh Pokhriyal 'Nishank', Patent of Inventions will lead India towards Self-Reliance.
- He further stated that under the campaign, students will be given information about the system and technology of patenting.
- Institution Innovation Council (IIC 2.0) Annual Report presented, launching of IIC 3.0 was announced.
- It has also been decided to celebrate the week of October 15th to 23rd as 'Intellectual Property Literacy Week'. The IIC 3.0 website was also launched.
- So far, IICs have been established in about 1700 higher educational institutions. IIC will be established in 5000 higher educational institutions under IIC 3.0.

Thalassemia Bal Sewa Yojna

- 2nd phase of "Thalassemia Bal Sewa Yojna" was launched by the Union Health Minister.
- The scheme was launched in 2017.
- This scheme is a Coal India CSR funded Hematopoietic Stem Cell Transplantation (HSCT) program.
- It aims to provide a one-time cure opportunity for Haemoglobinopathies like Thalassaemia and Sickle Cell Disease for patients who have a matched family donor.

Saral Jeevan Bima

- It is a standard individual term life insurance product unveiled recently by the Insurance Regulatory and Development Authority (IRDAI).
- It will help customers to make an informed choice and reduce mis-selling.
- By January 1, 2021, all life insurers will have to offer the standard product.
- It will be a non-linked, non-participating individual pure risk premium life insurance plan providing for payment of the sum assured in a lump sum to the nominee in case of the insured's death during the policy term.
- The eligibility of the plan will be for those in the 18-65 years age group.
- Policy term will be 5-40 years.
- It allows for a maximum maturity age of 70 years.

Chapter proceedings

- The Mumbai police last week began “chapter proceedings” against Republic Editor-in-Chief Arnab Goswami.

About Chapter Proceedings

- They are preventive actions taken by the police if they fear that a particular person is likely to create trouble and disrupt the peace in society.
- Here, the police can issue notices under sections of the Code of Criminal Procedure to ensure that the person is aware that creating nuisance could result in action against him, which includes paying a fine, in the absence of which, he could be put behind bars.

New education complex

- Union Minister Dr. Jitendra Singh laid the Foundation Stone of the new education complex named after Pandit Madan Mohan Malviya in the Central University of Jammu campus.
- Central University Jammu is one of the first Central Universities in India to have such an educational complex named after Shri Malviya.
- Union Minister Dr. Jitendra Singh recalled that recently he had the honour of inaugurating a hostel complex in the premises of the same University named after Dr Shyama Prasad Mookerjee, which is possibly the first Block named after Mookerjee in any government University outside Kolkata.

Sustainable Municipal Solid Waste Processing Facility

- CSIR-CMERI develops Sustainable Municipal Solid Waste Processing Facility.
- According to Prof. Dr. Harish Hirani, “Besides achieving Decentralised Decimation of Solid Wastes, it also helps create value-added end-products”.
- Equipped with Advanced Segregation techniques, the Bio-Digestion process adopted has minimum pollution factor.
- This CSIR-CMERI MSW Technology envisions a Zero-Landfill and a Zero Waste City additionally to developing Job-Creation opportunities.

Buldhana Pattern of water conservation

- Union Minister Shri Nitin Gadkari has said that Maharashtra’s ‘Buldhana Pattern’ of water conservation’ has won national recognition and therefore the NITI Aayog is within the process of formulating National Policy on water conservation based on it.

- As per Shri Gadkari synchronisation of national highway construction and water conservation was achieved for the first time in Buldhana district, by using soil from the water bodies, nallas and rivers.
- This consequently causes the rise in the capacity of water storage across the water-bodies in Buldana district and it came to be referred to as 'Buldhana Pattern'.
- He further stated that "With this activity in Maharashtra, 225 lakh cubic metre of soil was utilised in National Highway construction and the resultant widening/deepening resulted in an increase of 22,500 Thousand Cubic Metre (TMC) of water storage capacity with no cost to state government".

Zojila tunnel

- Union Transport Ministry has launched the 1st blasting for construction-related work at the Zojila tunnel.
- It will provide all-year connectivity between Srinagar valley and Leh.

About Zojila tunnel

- It is set up to Asia's longest bi-directional tunnel.
- It will connect Srinagar, Dras, Kargil and Leh via a tunnel through the famous Zojila Pass.
- It will be located at more than 11,500 feet above sea level.
- The all-weather Zojila tunnel is going to be 14.15 km long and ensure road connectivity even during winters.
- It'll make the travel on the 434-km Srinagar-Kargil-Leh Section of NH-1 free from avalanches, enhance safety and reduce the travel time from more than 3 hours to just 15 minutes.

Rashtriya Aajeevika Mission

- The Official name is Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM).
- It's implemented by the Ministry of Rural Development.
- The objective of the mission is to organise the rural poor women into Self Help Groups (SHGs), and continuously nurturing and supporting them to take economic activities so that they come out of abject poverty.

Golden Jubilee Building

- Union Education Minister Shri Ramesh Pokhriyal 'Nishank' virtually inaugurated the newly constructed Golden Jubilee Building of NIT Rourkela (Odisha).
- The Golden Jubilee Building was planned to commemorate the completion of fifty years of existence of the Institute.
- The Minister said that NIT Rourkela is a premier institution of our country and has been producing best brains for the country. The building is a symbol of its prestige.
- He also said that institutions like NIT Rourkela will play very important role in the implementation of the NEP.
- Shri Pokhriyal informed that this building has been constructed at an approximate cost of Rs. 95 crores and is entirely funded by the Ministry of Education, Govt. of India.
- He further stated that it is now the tallest building of Rourkela, Odisha. The building spans across 7000 sqm and is located centrally, at an impartial distance from every department. Structurally, the building consists of a block with seven floors and a tower block of 14 floors.

Framework for 'Regulatory Sandbox' to tap into innovative FinTech solutions

- The International Financial Services Centres Authority (IFSCA), with an objective to develop a world-class FinTech hub at the IFSC located at GIFT City in Gandhinagar, Gujarat, India.
- It endeavours to encourage the promotion of financial technologies ('FinTech') initiatives in financial products and financial services across the spectrum of banking, insurance, securities and fund management.
- IFSCA has introduced a framework for "Regulatory Sandbox".
- Under this Sandbox framework, entities operating in the capital market, banking, insurance and financial services space shall be granted certain facilities and flexibilities to experiment with innovative FinTech solutions in a live environment with a limited set of real customers for a limited time frame.
- These features shall be fortified with necessary safeguards for investor protection and risk mitigation. The Regulatory Sandbox shall operate within the IFSC located at GIFT City.
- All entities (regulated as well as unregulated) operating in the capital market, banking, insurance and pension sectors as well as individuals and startups from India and FATF compliant jurisdictions, shall be eligible for participation in the Regulatory Sandbox.
- IFSCA shall assess the applications and extend suitable regulatory relaxations to commence limited purpose testing in the Sandbox.

Country's first multi-modal logistic park

- Union Minister for Road Transport and Highways Shri Nitin Gadkari will virtually lay the foundation stone for the first-ever multi-modal logistic park in Assam.
- The Rs 693.97 crore park will provide direct connectivity to air, road, rail and waterways to the people. It will be developed under the ambitious Bharatmala Pariyojana of the Government of India.

Frontier Technologies Cloud Innovation Center

- NITI Aayog announced the establishment of a Frontier Technologies Cloud Innovation Center (CIC) with Amazon Web Services (AWS)- the first of its kind in India.
- First Amazon Web Services Cloud Innovation Center in India. It will spur innovation in Agriculture, Healthcare, Education, Infrastructure & Governance.
- This CIC is part of the AWS CIC Global Program, which provides an opportunity for government agencies, non-profits, and educational institutions, to come together on pressing challenges, apply design thinking, test new ideas, and access the technology expertise of AWS.

Diamond Jubilee Lecture Hall Complex

- Union Education Minister Shri Ramesh Pokhriyal 'Nishank' virtually inaugurated the newly built Diamond Jubilee Lecture Hall Complex of National Institute of Technology Jamshedpur.
- According to Ramesh Pokhriyal, India will become a leader in the educational field and students in future from different countries that would come to India for higher education like in the past era of Nalanda & Takshshila Universities.

- The Minister also said that Institute has adopted various local villages under the Unnat Bharat Abhiyan.
- There are several facilities provided namely state-of-the-art facilities in the Lecture Hall Complex like Ultra HD Projectors, Virtual Class Rooms, Smart Class Rooms, facilities for differently-abled students, proposed Griha rating, use of energy-saving LED and Electrical fixtures.

CSIR partnered clinical trials website “CUREd”

- Dr. Harsh Vardhan, Minister of Science & Technology, Health and Family Welfare and Earth Sciences, launched a website that provides comprehensive information regarding the numerous COVID-19 clinical trials that CSIR is engaged in a partnership with Industry, other government departments and ministries.
- The name of the website is CuRED or CSIR Ushered Repurposed Drugs.
- The following information will be provided by the website including drugs, diagnostics and devices which further include the current stage of the trials, partnering institutions and their role in the trials and other details.
- For clinical trials of AYUSH drugs including AYUSH-64, CSIR is also working with the Ministry of AYUSH.
- Five clinical trials involving Withaniasomnifera, Tinosporacordifolia + Piper longum (in combination), Glycyrrhizaglabra, Tinosporacordifolia & Adhatodavasica (individually and in combination) and AYUSH-64 formulation are undergoing safety and efficacy trials.

“Ghar Tak Fibre” scheme

- ‘Ghar Tak Fibre’ scheme is off to a slow start in Bihar as per the Government data.
- Bihar is the first state that aims to connect all its 45,945 villages by March 31.
- For connecting all villages by March 31, the state would need to dig trenches, lay cables, and provide connectivity to an average of 257 villages daily, or a monthly average of over 7,500 villages.
- The project will be jointly executed by the Department of Telecom (DoT), Ministry of Electronics & Information Technology and Common Service Centres (CSC).

Country’s first multi-modal logistic park

- Country’s first multi-modal logistic park will be built in Assam.
- It will provide direct connectivity to air, road, rail and waterways to the people.
- Under the ambitious BharatmalaPariyojana of the Government of India, the park will be developed.

317th Executive Council meeting of the Indian Institute of Public Administration (IIPA)

- MoS (PP) Dr Jitendra Singh presided over the 317th Executive Council meeting of the Indian Institute of Public Administration (IIPA) as its new Chairman on 21 October, 2020.
- The post of Chairman IIPA had fallen vacant after the demise of T N Chaturvedi, a 1949 batch IAS officer, former Comptroller & Auditor General (CAG) of India and former Governor, who had taken over as Chairman of the IIPA in 2004 and continued to hold this position for sixteen years till his death on 5th January 2020.

- Dr. Jitendra Singh in a meeting made the important announcement that the Life Membership of IIPA will be thrown open w.e.f. 1st January 2021.

“Aditi Urja Sanch”

- The Union Minister of Science and Technology and Earth Sciences, Dr. Harsh Vardhan inaugurated the DME fired “Aditi Urja Sanch” unit along with the DME-LPG blended fuel cylinders.
- Handed them over for common public and CSIR-NCL (National Chemical Laboratory) canteen use on a trial basis at CSIR-NCL premises virtually through video-conferencing.

Centre’s Farm LAws have been rejected by the Punjab Assembly

- Punjab recently became the first State in the country to formally reject the Central government’s three Farm Acts by passing three Bills to negate the Union laws.
- Also, the proposed Electricity Amendment Bill is rejected and demanded their immediate annulment.

War Trophy T-55 Tank

- Army War Trophy – “T- 55 Tank” was installed in the premises of the Office of Principal Controller of Defence Accounts (Officer) Pune on 22nd October 2020.
- PCDA (O) Pune is a flagship organisation of Defence Accounts Department (DAD) under the Ministry of Defence (Finance).
- The organisation is entrusted with the task of pre-audit and payment of Pay and Allowances and all claims of over 53,000 officers of Indian Army from Lieutenant to Chief of Defence Staff serving over the length and breadth of the country.
- Army War Trophy – “T-55 tank” in the premises of PCDA (O) reflects the synergy between the Army and Defence Accounts Department.

Regional Raw Drug Repository (RRDR)

- The Minister of State (IC) for AYUSH Shripad Yesso Naik inaugurated the Regional Raw Drug Repository (RRDR) at All India Institute of Ayurveda, New Delhi through a virtual function on 22 October, 2020.
- This RRDR is the second in the series of repositories proposed by National Medicinal Plants Board (NMPB), Ministry of AYUSH and will be dedicated to the Trans-Ganga Plain Region.
- The event is graced by Vaidya Rajesh Kotecha, Secretary Ministry of AYUSH.
- NMPB is already involved in the process of developing policies in this direction and for attaining speedy development in the areas of making sustainable availability of authentic raw material of medicinal plants for the AYUSH industries.

India's Advanced Manufacturing Sector

- IIT Kharagpur has developed novel Industry 4.0 technology for remotely controlled factory operations and real-time quality correction during industrial production, jointly with TCS to set a new trend in India's advanced manufacturing sector.
- Primary Goal should be the Quality Output with Minimum Disruptions as per IIT Kharagpur Director.
- This will make it possible for industrial houses to achieve standardized quality goals throughout the production process and reduce rejection hence lowering the cost of production.

Project Snow Leopard (PSL)

- According to the Minister of State for Environment Forest and Climate Change Shri Babul Supriyo, the Government of India has been conserving snow leopard and its habitat through the Project Snow Leopard (PSL).
- The PSL was launched in 2009.
- The Minister told that India is also party to the Global Snow Leopard and Ecosystem Protection (GSLEP) Programme since 2013.
- He further stated that India has identified three large landscapes, namely, Hemis-Spiti across Ladakh and Himachal Pradesh; Nanda Devi – Gangotri in Uttarakhand; and Khangchendzonga – Tawang across Sikkim and Arunachal Pradesh.
- Supriyo emphasised that states together with Government of India should resolve to bring up the population of snow leopards in India in the next five years.
- Protecting the snow leopard and its habitat ensures protection of the major Himalayan rivers that support the teeming millions downstream.
- The Government of India has identified the snow leopard as a flagship species for the high-altitude Himalayas.
- In October 2019, the Centre hosted the 4th Steering Committee of the GSLEP program at New Delhi. This meeting resulted in the “New Delhi Statement” of strengthening the resolve of the snow leopard range countries towards conservation of the mountain ecosystems of Central and South Asia.
- First National Protocol was also launched last year on Snow Leopard Population Assessment which has been very useful for monitoring populations.

Age Appropriate Fitness Protocols

- To make people aware of the health issues and fitness mantra, Punjab Sports and NRI Affairs Minister Rana Gurmit Singh Sodhi launched Punjabi version of 'Age Appropriate Fitness Protocols'.
- It is for all age groups under fit India movement under the initiative of Sports Authority of India (SAI) and National Institute of Sports (NIS) Patiala.
- Prime Minister Shri Narendra Modi launched these Age Appropriate Fitness Protocols on the occasion of the first anniversary of the Fit India Movement on 24th September 2020.

CPI-IW Base Year Revised to 2016

- The Ministry of Labour and Employment recently released the new series of Consumer Price Index for Industrial Worker (CPI-IW) with the base year 2016.
- It has replaced the existing series with base 2001.
- Earlier, the series was also revised from 1944 to 1949; 1949 to 1960; 1960 to 1982 and 1982 to 2001.
- The base year 2016 new series covers the latest consumption pattern of the target population.
- It provides more weightage to spending on health, education, recreation and other miscellaneous expenses while reducing the weight of food and beverages.
- From 15.2% to 17%, the weight of spending on housing and clothing increased.
- The weight of miscellaneous items including education and health rose to 30.31% from 23.26%.

- The weight of food and beverage was reduced from 46.2% to 39% and indicates an increase in disposable income.
- The number of markets and the sample size for working-class family income and expenditure surveys were increased.
- The Labour Bureau is also working towards revising the index every five years.

National Conference on Vigilance and Anti-Corruption

- Prime Minister Narendra Modi will inaugurate the National Conference on Vigilance and Anti-Corruption on 27th October, 2020 via video conferencing.
- The theme is सतर्क भारत, समृद्ध भारत (Vigilant India, Prosperous India).
- The Central Bureau of Investigation organizes this National Conference coinciding with 'Vigilance Awareness Week', which is observed in India every year from 27th October to 2nd November.
- Activities in this conference would be focused on Vigilance issues aimed at raising awareness and reaffirming India's commitment to the promotion of integrity and probity in public life through citizen participation.

BRO Road to the Nation

- Defence Minister Rajnath Singh dedicated the 19.85 Km Alternate Alignment of the National Highway 310 from km 0.00 to km 19.350 to the Nation in Sikkim.
- The Defence Minister while addressing the gathering on the occasion complimented the Border Roads Organisation (BRO) for its unwavering commitment towards delivering outstanding quality infrastructure in record time and optimal costs.

- The BRO over the last some years has undertaken an unprecedented expansion of its capabilities through technology infusion in material, equipment and construction techniques.
- The Atal Tunnel, DS-DBO Road, the new alignment of the National Highway 310 are examples of high quality, fast-paced results delivered by the BRO towards strategic and operational preparedness.

National coaching camp for Table Tennis

- The Sports Authority of India has approved the national coaching camp for Table Tennis, which will commence on 28th October till 8th December.
- The camp comprising 11 players (5 male, 6 female) and four support staff will be conducted by the Table Tennis Federation of India at the Delhi Public School, Sonapat.
- The camp will abide by the Standard Operating Procedures set up by the Sports Authority of India for the resumption of sporting activities.
- This will be the first national camp for Table Tennis that will be held after the announcement of the nationwide lockdown due to coronavirus in March this year.

MultiModal Logistics Park

- The Union Minister for Road Transport and Highways has laid the foundation stone for the country's first MultiModal Logistics Park (MMLP) at Jogighopa in Assam.
- It is developed under the Bharatmala Paritojana of the Government of India.
- India will be able to establish trade with Bangladesh through the Jogighopa waterway terminal.

About Bharatmala Pariyojana

- It is an umbrella program for the highways sector envisaged by the Ministry of Road Transport and Highways.
- 35 locations have been identified for development of MultiModal Logistics Parks to reduce the congestion on proposed economic corridors, enhance logistic efficiency and reduce logistics costs of freight movements.
- It will have direct connectivity with National Highway 17.

Yellow Dust

- Recently, Korean Central Television (KCTV) warned that a cloud of yellow dust would blow in from China.
- As per North Korean authorities have warned that this dust could bring Covid-19 with it.

About Yellow Dust

- Actually, it's sand from deserts in China and Mongolia that high speed surface winds carry into both North and South Korea during specific periods every year.
- The sand particles tend to mix with other toxic substances like industrial pollutants, as a result of which the 'yellow dust' is known to cause various respiratory ailments.

“Bundi: Architectural Heritage of a Forgotten Rajput Capital”

- The Ministry of Tourism's Dekho Apna Desh Webinar series titled “Bundi: Architectural Heritage of a Forgotten Rajput Capital” focused on Bundi, Rajasthan.
- Bundi erstwhile capital of Hada Rajput province known as Hadauti located in south-eastern Rajasthan, is one such place.

- The webinar was presented by Charudatta Deshmukh, an Architect-Urban Planner, an urbanist with over 25 years of experience in managing planning and design of urban infrastructure and development projects including Airports, Special Economic Zones, Transportation & Urban Redevelopment, Metro Rail, Environmental Sustainability and Slum Rehabilitation.
- Bundi is also known as City of step walls, blue city and also as Chotti Kashi. In ancient times, the area around Bundi was apparently inhabited by various local tribes, of which the Parihar Tribes, Meena was prominent.

Child Care Leave

- While briefing about some of the major reforms brought by Department of Personnel & Training (DoPT) under the Modi government, Union Minister of State (Independent Charge) Development of North Eastern Region (DoNER), MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh said that the male employees of the government are also now entitled to Child Care Leave.
- According to Dr. Jitendra Singh, the provision and privilege of Child Care Leave (CCL) will be available only for those male employees who happen to be “single male parent”, which may include male employees who are widowers or divorcees or even unmarried and may, therefore, be expected to take up the responsibility of child care as a single-handed parent.
- Further, He said that the provision and privilege of Child Care Leave (CCL) will be available only for those male employees who happen to be “single male parent”, which may include male employees who are widowers or divorcees or even unmarried and may therefore, be expected to take up the responsibility of child care as a single-handed parent.

In the Indus Valley Civilization, Evidence of dairy production

- For the first time, scientifically it has been proved that dairy production was in place in the Indus Valley civilization in 2500 BCE.
- It is the earliest known evidence of dairy production.
- The results were based on molecular chemical analysis of residue in shards of pottery found at the archaeological site of Kotada Bhadli located in Gujarat.
- 59 samples were studied in which 22 showed the presence of dairy lipids.
- 2020 also marks the 100 years of discovery of Indus Valley Civilisation.

Two New Ramsar Sites

- Kabartal Wetland (Bihar) and Asan Conservation Reserve (Uttarakhand) have been designated as Ramsar sites, making them 'Wetlands of International Importance', recently.
- India designated 10 more wetlands earlier in 2020 as a Ramsar site and the total number from 27 becomes 37.
- So, now with 2 more inclusions, the total number of Ramsar sites in India becomes 39 and is the highest in South Asia.

Draft Personal Data Protection Bill, 2019

- To examine the draft Personal Data Protection Bill, 2019, recently, Facebook India's policy head has appeared before the 30-member Joint Committee of Parliament.
- However, Amazon has declined to appear on the ground of risky travel amidst the pandemic.

- Amazon, Twitter, Facebook, Google and Paytm are among the companies from whom the committee has sought views on data security and protection amid concerns that the privacy of users is being “compromised” for commercial interest.

Electricity Access & Utility Benchmarking Report

- NITI Aayog, Ministry of Power, Rockefeller Foundation, and Smart Power India launched the ‘Electricity Access in India and Benchmarking Distribution Utilities’.
- The report assesses 25 distribution utilities which are based on a primary survey that was conducted across 10 states--representing about 65% of the total rural population of India and with a sample size of more than 25,000, including households, commercial enterprises and institutions.
- Benchmark utilities’ capacity to provide electricity access and identify the drivers of sustainable access. Also, develop recommendations for enhancing sustainable electricity access.

Key findings of the report:

- About 92% of customers reported the general or overall availability of electricity infrastructure within 50 metres of their premises. However, not all have connections, the first reason being the distance of households from the nearest pole.
- 87% of the overall surveyed customers have access to grid-based electricity. The remaining 13% either use non-grid sources or don’t use any electricity at all.
- The hours of supply have improved significantly across the customer categories to just about 17 hours per day.
- About 85% of customers reported to have a metered electricity connection.

- Access to electricity is observed in 83% of household customers.
- A satisfaction index was created to assess the general satisfaction level of customers with utility services. As per the study, a total of 66% of those surveyed were satisfied, 74% of customers in urban areas and 60% in rural areas.

Dr. Tulsi Das Chugh Award-2020

- The Orations & Awards Committee of the National Academy of Medical Sciences (India), has selected Dr Satish Mishra, Principal Scientist, Division of Molecular Parasitology and Immunology, CSIR-CDRI, Lucknow for “Dr.Tulsi Das Chugh Award 2020”.
- The award is given in recognition of his research work on Malaria parasite’s life cycle which may be a complex process involving two hosts and three invasive stages. Invasion in both mammals and mosquitoes requires a coordinated sequence of events to be played out successfully.
- His outstanding work focused on “Secreted Protein with Altered Thrombospondin Repeat (SPATR) which is Essential for Asexual Blood Stages but not Required for Hepatocyte Invasion by the Malaria Parasite Plasmodium Berghei”.
- This study focuses on the dispensability of SPATR in P. berghei sporozoites and its importance for the establishment of blood stage infection, further investigation is needed to unravel its precise role during this process.

Annual State of Education Report (ASER) survey

- The Annual State of Education Report (ASER) survey findings were conducted in September. It provides a glimpse into the levels of learning loss that students in rural India are suffering, with varying levels of access to technology, school and family resources, resulting in a digital divide in education.

Facts about Annual State of Education Report (ASER)

- It is a nationwide survey of rural education and learning outcomes in terms of reading and arithmetic skills.
- It's been conducted by the NGO Pratham for the last 15 years. This year, the survey was conducted via phone calls.

Key findings of the survey are:

- Around 20% of rural children have no textbooks at home. Less than 35% of children in Andhra Pradesh had textbooks. In West Bengal, Nagaland and Assam, more than 98% had textbooks.
- About one in three rural children had done no learning activity at all, in the week of the survey.
- About two in three had no learning material or activity given by their school that week, and only one in 10 had access to live online classes.
- 3% of rural children aged 6-10 years had not yet enrolled in school this year, as compared to only 1.8% in 2018.
- Enrolment patterns also show a small shift toward government schools, with private schools seeing a drop in enrolment in all age groups.

SERB – POWER

- Dr. Harsh Vardhan, Union Minister for Science & Technology, Earth Sciences and Health & Family Welfare today launched a Scheme titled “SERB-POWER (Promoting Opportunities for Women in Exploratory Research)” designed exclusively for women scientists.
- It is a scheme to mitigate gender disparity in science and engineering research funding in various S&T programs in Indian academic institutions and R&D laboratories.

- As per Dr. Harsh Vardhan “Enhancement of participation and promotion of women in the research workforce is one of the prime priorities of our Government”.
- - SERB – POWER Scheme will have two components namely (i) SERB – POWER Fellowship (ii) SERB- POWER Research Grants

Operation Meri Saheli

- Indian Railways has launched “Meri Saheli” initiative for focused action on the security of women across all zones with an aim to provide safety and security to lady passengers travelling by trains for their entire journey from starting station to destination station.
- “Meri Saheli” initiative taken for focused action on the security of women travelling in trains.
- The “Meri Saheli” initiative was started as a pilot project in South Eastern Railway in September 2020 and after getting encouraging response from lady passengers, it was extended to all zones and KRCL w.e.f. 17.10.2020. The operation is gathering momentum.

Green light by the Government for ‘green’ firecrackers this year

- On 3 November, the Delhi government scheduled to launch an anti-firecracker campaign.
- In the national capital, now only ‘green’ firecrackers can be manufactured, sold and used.

About Green Crackers

- They are referred to as ‘green’ firecrackers as they have a chemical formulation that produces water molecules, which substantially reduces emission levels and absorbs dust.
- ‘Green’ firecrackers are the crackers with reduced emission and decibel level.

First-Ever Guidelines on Access to Social Justice for People with Disabilities (PwD)

- The United Nations (UN) has released its first-ever guidelines on access to social justice for People with Disabilities (PwD) to make it easier for them to access justice systems around the world.
- The outlines of the guidelines are a set of 10 principles. These are:
- PwD shall not be denied access to justice on the basis of disability.
- Facilities and services must be universally accessible without discrimination of PwD.
- PwD that including children with disabilities have the right to appropriate procedural accommodations.
- PwD have the right to access legal notices and information in a timely and accessible manner on an equal basis with others.
- PwD are entitled to all substantive and procedural safeguards recognized in international law on an equal basis with others, and States must provide the necessary accommodations to guarantee due process.
- PwD have the right to free or affordable legal assistance.
- PwD have the right to participate in the administration of justice on an equal basis with others.
- PwD have the right to report complaints and initiate legal proceedings concerning human rights violations and crimes.
- Effective and robust monitoring mechanisms play a critical role in supporting access to justice for PwD.
- All those working in the justice system must be provided with awareness-raising and training programmes addressing the rights of PwD.

- The UN has defined the word persons with disabilities in its convention on the Rights of PwD (UNCRPD), which was adopted in 2006, as those “who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others”.
- India ratified the Convention in October 2007 and the Parliament enacted the Rights of Persons with Disabilities Act, 2016 with a view to fulfilling the obligations under the UNCRPD.

India and Australia

- India and Australia further Strengthens their Partnership on Skilling Agenda.
- Ministry of Skill Development and Entrepreneurship (MSDE) and the High Commission of Australia holds a meeting for Cooperation in Vocational Education and Training.
- The partnership will help foster closer ties between the governments and training providers, and ultimately, open up new areas of opportunity for millions of VET learners in both countries.

2030 Agenda for Sustainable Development (World Habitat Day 2020)

- World Habitat Day 2020 is observed on 5 October every year and in a webinar, Hardeep S Puri, Minister of State (I/C) for Housing & Urban Affairs addressed and stated that the 2030 Agenda for Sustainable Development adopted by the United Nations Member States in 2015 is a guiding document for a planet and the people that inhabit it.

- He further added, the 17 Sustainable Development Goals (SDGs) and 169 targets together reflect, both the collective vision and goal that we have to work to achieve by 2030.
- All the flagship Missions such as Swachh Bharat Mission-Urban, Pradhan Mantri Awas Yojana-Urban, the Smart Cities Mission, the AMRUT Mission were in implementation mode well before the SDGs were adopted by the Member States.
- On the occasion of World Habitat Day 2020, several e-Publications of the organisations under MoHUA viz HUDCO, BMTPC CGEWHO and NCHF were also released.

RAISE 2020 Global AI Summit

- Prime Minister Narendra Modi inaugurated RAISE 2020 'Responsible AI for Social Empowerment 2020'.
- Narendra Modi stated that "India's National Programme on AI (Artificial Intelligence) will be dedicated towards the rightful use of AI in solving societal problems".
- Over 61,000 people from 140 countries participating in Mega Digital Summit from October 5-9.
- Global AI Experts to deliberate on the role of AI in strengthening digital platforms, creating robust data and AI frameworks for social empowerment.
- According to independent studies, AI has the potential to raise India's annual growth rate by 1.3% and add USD 957 billion to the country's economy by 2035.
- So far, more than 61,000 stakeholders from academia, the research industry and government representatives from 140 countries have registered to participate in RAISE 2020.

About RAISE 2020

- RAISE 2020 is a first-of-its-kind, global meeting of minds on Artificial Intelligence to drive India's vision and roadmap for social transformation, inclusion and empowerment through responsible AI.
- Organized by Government of India along with Ministry of Electronics and Information Technology and NITI Aayog, the event will witness robust participation from global industry leaders, key opinion makers, Government representatives and academia.

USA Aircraft Refueling at A&N Islands

- Recently, a USA Navy P-8A long-range Maritime Patrol Aircraft (MPA) landed at Port Blair in the Andaman and Nicobar (A&N) Islands for refueling under the bilateral logistics support agreement.
- This is the first time the USA got access to A&N under the Logistics Exchange Memorandum of Agreement (LEMOA).
- **BRICS Ministerial Summit**
- Shri Santosh Gangwar, Minister of State (I/C) for Labour & Employment addresses BRICS Ministerial Summit.
- The Summit calls for framing workplace safety mechanisms.
- The focus was towards maintaining a balance between labour and employer which will generate growth and create more jobs & greater labour welfare.
- BRICS Labour & Employment Ministers' Virtual Meeting was held under the Russian Presidency.
- Shri Gangwar said safety, health, welfare and improved working conditions are essential for the wellbeing of the workers.

- Shri Gangwar informed the meet that the Parliament of India recently passed the Code on Occupational Safety, Health and Working Conditions, 2020.
- He also referred to various schemes for securing employment and social protection to the people in need. These include the National Rural Employment Guarantee Scheme, the National Livelihood Mission launched with the aim of improving employment opportunities through skill training.
- Referring to Digital economy creating new forms of work like gig work and platform work.
- Further, he also stated that it resulted in new kinds of employment relationships where one worker is engaged with multiple employers thereby bringing complexity in the provision of social protection and other welfare benefits.

Australia has agreed to join the Malabar Exercise

- On India's request, Australia has agreed to join the Malabar Exercise. The exercise is scheduled to be held in November 2020.
- It is expected that the 2020 Malabar Exercise will be held in the Bay of Bengal and the Arabian Sea.
- The exercise in 2019 was conducted off the coast of Japan.
- The exercise had been planned in a 'non-contact – at sea' format, due to Covid-19 pandemic.
- Its purpose is to enhance safety and security in the maritime domain.

South Asia Economic Focus report

- The World Bank has recently released its biennial South Asia Economic Focus report.
- The fall 2020 edition is titled "Beaten or Broken? Informality and Covid-19".

- The report includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.
- The report predicts that the extended closure of schools amid the Covid-19 pandemic could dent India's future earnings by anywhere between 420 billion USD and 600 billion USD, as depleted learning levels of students will translate into poorer productivity going forward.

Pakistan to stay on FATF “Grey List”

- The Financial Action Task Force (FATF) has decided to keep Pakistan on the “greylist”.
- The 27-point action plan had been issued by the FATF after placing Pakistan on the ‘Grey List’ in June 2018.
- The action plan pertains to curbing money laundering and terror financing.
- The task force’s International Cooperation Review Group (ICRG) recently noted that Pakistan had complied with 21 points.

Shanghai Cooperation Organisation (SCO)

- On 16th October, 2020, 7th Justice Ministers’ Meeting of Shanghai Cooperation Organisation (SCO) the Member States to be hosted by Union Law Minister Shri Ravi Shankar Prasad.
- Shanghai Cooperation Organisation (SCO) is a permanent intergovernmental international organisation.
- On 15 June 2001, it’s creation was announced in Shanghai (China) by the Republic of Kazakhstan, the People’s Republic of China, the Kyrgyz Republic, the Russian Federation, the Republic of Tajikistan, and the Republic of Uzbekistan.
- It was preceded by the Shanghai Five mechanism.
- In June 2002, the Shanghai Cooperation Organization Charter was signed and entered into force on 19 September, 2003.
- The official languages are Russian and Chinese.

The G20 Meeting

- Union Minister for Finance & Corporate Affairs Smt. Nirmala Sitharaman participated in the G20 Finance Ministers and Central Bank Governors (FMCBG) meeting under the Saudi Arabian Presidency.
- In this video conference meeting, the Ministers and Governors of G20 countries have gathered together and discussed the current global economic outlook and G20's response to the COVID-19 pandemic, along with other G20 Finance Track priorities for the year 2020.
- One of the main outcomes of the G20 Action Plan has been the Debt Service Suspension Initiative (DSSI) which provides time-bound suspension of debt service payments for the low-income debtor countries that request forbearance. The initiative was initially in force till the end of 2020.
- In the backdrops of the continued liquidity pressures, the G20 Finance Ministers and Central Bank Governors agreed to extend the DSSI by 6 months, and also they will examine the DSSI by the time of the 2021 IMF/WBG Spring Meetings if the economic and financial situation requires a further extension of the DSSI.

India – Kazakhstan Defense Cooperation

- A webinar between India and Kazakhstan was held on 15/10/2020.
- The Theme of the webinar was “Make In India For The World, India Kazakhstan Defence Cooperation: Webinar and Expo”.
- This webinar is the part of the series of webinars which are being organized with friendly foreign countries in order to boost defence exports and achieve defence export target of \$5 billion in the next five years.

- The webinar was attended by more than 350 participants and 39 virtual exhibition stalls, which includes 7 stalls from Kazakh companies have been set up in the Expo.

Plenary Meeting of the International Monetary and Financial Committee of the IMF

- Union Minister of Finance & Corporate Affairs Smt. Nirmala Sitharaman attended the Plenary Meeting of the International Monetary and Financial Committee (IMFC), the ministerial-level committee of the International Monetary Fund (IMF) through video-conference.
- The discussions at the meeting were based on IMF Managing Director's Global Policy Agenda titled "Catalyzing a Resilient Recovery".
- The members of the IMFC updated the committee on the actions and measures taken by member countries to combat COVID-19 and its adverse impacts.
- The IMFC meets twice a year, once during the Fund-Bank Spring Meetings in April, and again during the Annual Meetings in October.
- The Committee discusses matters of common concern affecting the global economy and advises the IMF on the direction of its work. This year, due to the COVID-19 outbreak, both the Spring and the Annual meetings took place through video-conference.

India and Bhutan

- Significant achievement has been registered in bilateral trade relations between India & Bhutan.
- Opening of new market access for agricultural commodities between India and Bhutan.

- Close coordination between the National Plant Protection Organization (NPPO), Ministry of Agriculture and Farmers Welfare, Government of India, the Bhutan Agriculture and Food Regulatory Authority (BAFRA), Ministry of Agriculture and Forests, Royal Government of Bhutan and Embassy of India in Bhutan has resulted in the notification, opening market access for Apple, Potato, Mandarin, Ginger and Arecanut from Bhutan to India and Tomato, Onion and Okra from India to Bhutan.

FDI Inflow

- Total Foreign Direct Investment (FDI) inflow of USD 35.73 billion was received from April to August, 2020.
- For the first 5 months of a financial year, it is the highest ever.
- In the first quarter (April-June 2020), FDI inflow has increased despite Gross Domestic Product (GDP) growth contracted 23.9%.
- It is 13% higher as compared to the first five months of 2019-20 (USD 31.60 billion).
- Total FDI inflow grew by 55%, i.e. from USD 231.37 billion in 2008-14 to USD 358.29 billion in 2014-20.
- During April to August, 2020, FDI equity inflow (one of the three components of FDI) received was USD 27.10 billion.
- The increased FDI inflows into the country is due to the measures taken by the Government on the fronts of FDI policy reforms, investment facilitation and ease of doing business.
- As per World Investment Report 2020 by the UNCTAD, India was the 9th largest recipient of FDI in 2019.
- **‘India–Australia Circular Economy Hackathon (I-ACE)**
- AIM (Atal Innovation Mission), in association with CSIRO, is organizing a two-day hackathon on the circular economy, ‘India–Australia Circular Economy Hackathon (I-ACE)’, on 7 and 8 December.

- The idea of I-ACE was conceived during a virtual summit on 4 June, between the Indian and Australian prime ministers, exploring innovative ways to boost the circular economy in India and Australia.
- I-ACE will focus on identification and development of innovative technology solutions by bright-minded students, startups and MSMEs of both nations.

The four key themes for the hackathon are as follows:

- Innovation in packaging reducing packaging waste
- Innovation in food supply chains avoiding waste
- Creating opportunities for plastic waste reduction
- Recycling critical energy metals and e-waste
- Shortlisted students and startups/MSMEs will be called for the hackathon, where two winners (one student and one startup/MSME) per theme from each country will be announced at an award ceremony on 11 December.

State of Global Air 2020

- State of Global Air 2020 (SoGA 2020) is a global study that has been released by the Health Effects Institute (HEI).
- The highlight of the report is that air pollution is the largest risk factor for death among all health risks.
- It is the first-ever comprehensive analysis of air pollution's global impact on newborns.
- Health Effects Institute (HEI) is an independent, nonprofit research institute funded jointly by the USA's Environmental Protection Agency and others.

- India, Bangladesh, Pakistan and Nepal are among the top ten countries with the highest PM2.5 (particulate matter) exposures in 2019. All of these countries experienced increases in outdoor PM2.5 levels between 2010 and 2019.
- In 2019, India is also among the top ten countries with the highest ozone (O₃) exposure.
- Among the 20 most populous countries, India recorded the highest increase (17%) in O₃ concentrations in the past ten years.
- In India in 2019, Long-term exposure to outdoor and household (indoor) air pollution contributed to over 1.67 million annual deaths from stroke, heart attack, diabetes, lung cancer, chronic lung diseases, and neonatal diseases.

Grand Challenges Annual Meeting 2020

- Prime Minister Shri Narendra Modi will deliver the keynote address at the inaugural function of Grand Challenges Annual Meeting 2020, on 19th October, 2020.
- The Grand Challenges Annual Meeting, for the last 15 years, has fostered international innovation collaborations to address the biggest challenges in health and development.
- The Grand Challenges Annual Meeting 2020 will convene virtually from 19th-21st October, bringing together policymakers and scientific leaders, calling for deepened scientific collaborations in solving global health problems, with great emphasis on COVID-19 with an “India for the World” framing.
- Approximately 1600 people from 40 countries will participate in this Annual meeting.

- The Grand Challenges Annual Meeting 2020 will be co-hosted by the Bill & Melinda Gates Foundation, Department of Biotechnology, Ministry of Science & Technology, Government of India, the Indian Council of Medical Research and NITI Aayog, along with the Grand Challenges Canada, the United States Agency for International Development and Welcome.
- Grand Challenges India was set up as a partnership of the Department of Biotechnology, Government of India and the Bill & Melinda Gates Foundation in 2012.
- Welcome also joined the partnership. Grand Challenges India works across a range of health and developmental priorities ranging from agriculture, nutrition, sanitation, maternal and child health to infectious diseases.

Global Hunger Index 2020

- The Global Hunger Index is a tool for comprehensively measuring and tracking hunger at global, regional, and national levels.
- India ranked 94 among 107 nations in the Global Hunger Index (GHI) 2020.
- According to the report, 14% of India's population is undernourished. It also showed the country recorded a 37.4% stunting rate among children under five and a wasting rate of 17.3%. The under-five mortality rate stood at 3.7%.
- Africa South of the Sahara and South Asia has the highest hunger and undernutrition levels among world regions, with 2020 GHI scores of 27.8 and 26.0, respectively

About Global Hunger Index

- The report is jointly published by Concern Worldwide and Welthungerhilfe.
- In 2006, it was first produced and is published every October. The 2020 edition marks the 15th edition of the GHI.

Israel and Bahrain Diplomatic Ties

- A joint communique has been signed by the Bahrain and Israel to establish diplomatic, peaceful and friendly relations, as well as a number of memorandums of understanding in areas of mutual benefit.
- There is a history of open politics and civil society movements in Bahrain, although rights have been curtailed in the past decade.
- The decision to normalise ties comes from the belief in the values of tolerance in a region whose people have suffered from wars and conflicts.
- The United Arab Emirates and Bahrain became only the third and fourth Arab states to agree to normalise ties with Israel which is followed by Israel's 1979 peace deal with Egypt and a 1994 pact with Jordan.
- As per the deal, Israel would suspend its plans to annex large parts of the occupied West Bank.
- Between Israel and Jordan, the West Bank is sandwiched.
- Ramallah is one of its major cities and also the de facto administrative capital of Palestine.
- In the Six-day Arab-Israeli war, 1967, Israel took control of it and has established settlements there in over the years.
- In 2020, this is the second deal after the Israel-UAE Peace Deal brokered by the USA.

Taiwan Insecurity of China

- China recently has objected to any official exchanges between India and Taiwan.
- The statement of China is that India and Taiwan were considering going forward with talks on a trade deal.
- As per China, the 'One-China principle' is a universal consensus of the international community, including India.
- There is an objection from China to the recent campaign (posters and social media) in India wishing Taiwan "Happy National Day" (October 10) and referring to it as a "country" or a "nation".
- In the upcoming Malabar Naval Exercise, China is also opposing the inclusion of Australia with India, Japan and the United States.

5th Joint Working Group on Coal

- 5th Joint Working Group (JWG) on Coal between India and Indonesia scheduled to be held on 5th November 2020 through Video conference from New Delhi due to COVID-19 pandemic. India will host it.
- From the Indian side, this will be co-chaired by Shri Vinod Kumar Tiwari, Additional Secretary, Ministry of Coal, Government of India and by Dr Ir. Ridwan Djameluddin, Director General of Mineral and Coal Ministry of Energy and Mineral Resources, Republic of Indonesia, from the Indonesian side.
- The meeting will focus on the Indian Coal Policy Reforms – recent updates; Coking Coal Exploration and Commercial Coal Mining in India; Research and Development of CCT in India and Potential of Indonesia – India Business Cooperation on Coal Post Covid-19.

- From both the sides, the B2B session will bring together the industries for discussing the issues that have an impact on business opportunities in the backdrop of the regulatory framework.
- Between the two countries, the deliberations will guide the Coal business.

Third India-US 2+2 dialogue

- India and the US have met the third edition of the 2+2 dialogue. Both the countries have inked defence pact, Basic Exchange and Cooperation Agreement for Geo-Spatial Cooperation (BECA).
- It aims towards the expansion of geospatial information sharing between armed forces of the two countries. These militaries came in the backdrop of India's tense border standoff with China in eastern Ladakh.
- As per the 2+2 dialogue, both the countries talk about the critical issues including ways to further expand the already close relationship between the militaries of the two countries along with broader issues of mutual interest in the Indo-Pacific region.
- Under this dialogue, Indian Space Research Organisation (ISRO) and National Aeronautics and Space Administration agreed for the collaboration that includes the NASA-ISRO Synthetic Aperture Radar (NISAR) satellite which is scheduled to be launched by 2022.

World BankIMF annual meeting 2020

- Dr Harsh Vardhan, Union Minister for Health and Family Welfare virtually addressed the World BankIMF annual meeting on 21 October, 2020.
- The theme of the meeting was "Unleashing the South Asian Century through Human Capital for All" and "Investing in Covid-19 Vaccines and Primary Healthcare Delivery System".

Agreement between India Post and United States Postal Service (USPS)

- India Post and United States Postal Service (USPS) have inked an agreement for the electronic exchange of customs data related to postal shipments exchanged between the two countries.
- The agreement aims to facilitate 'ease of exports' for small and large exporters through postal channels.
- This agreement will be very helpful to transmit and receive electronic data of international postal items prior to their physical arrival at the destination and would enable customs clearance of postal items in advance in line with the evolving global postal framework. This will also encourage the performance of postal services in terms of reliability, visibility and security.

India-Australia Circular Economy Hackathon

- Atal Innovation Mission and Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO) will organize a two-day hackathon on circular economy called 'India-Australia Circular Economy Hackathon (I-ACE)', in December 2020.
- The idea of I-ACE was conceived during a virtual summit on 4th June, 2020, between the Hon'ble Prime Minister Narendra Modi and his Australian counterpart. It aims to explore innovative ways to boost the circular economy in India and Australia. It also concentrates on the identification and development of innovative technology solutions by students, startups and MSMEs of both nations.

Sudan and Israel Relationship

- Sudan, an African nation was technically at war with Israel since its foundation (1948) has now become the third country to forge diplomatic relations with it, because a deal brokered by the USA with Sudan.
- Earlier, the USA brokered diplomatic pacts between Israel and the UAE and Bahrain as well, to normalize their relations. The deal would deepen Sudan's engagement with the West.
- The deal follows USA's conditional agreement to remove Sudan from its blacklist of countries accused of sponsoring terrorism.



PoS 3.1 Software

- Union Minister for Chemicals & Fertilizers Shri. D.V. Sadananda Gowda has launched POS 3.1 software, SMS Gateway and Home Delivery facility of Funder POS 3.1 version, keeping in view of the prevailing pandemic condition, contactless OTP based authentication option has been introduced.
- Farmer will be able to purchase fertilizer without touching the fingerprint sensor. Fertilizers (RBK) for farmers in Andhra Pradesh.
- Under POS 3.1 version, keeping in view of the prevailing pandemic situation, contactless OTP based authentication option has been introduced and Farmers will be able to purchase fertilizer without touching the fingerprint sensor.

BrahMos Missile Featuring Indigenous Booster Successfully Flight Tested

- BrahMos surface-to-surface supersonic cruise missile featuring indigenous Booster and Airframe Section along with many other 'Made in India' sub-systems was successfully flight tested for designated range at 1030 hours today on September 30, 2020 from ITR, Balasore in Odisha. It is one more major step in enhancing the indigenous content.
- The BrahMos Land-Attack Cruise Missile (LACM) was cruising at a top speed of Mach 2.8.

CSIR Technologies for rural development

- Dr. Harsh Vardhan launches CSIR Technologies for rural development under the joint initiative of IIT Delhi, Unnat Bharat Abhiyan, Vijnana Bharti and CSIR.
- CSIR-NISTADS celebrates its 40th Foundation Day.

The technologies released included:

- Improved bee hive for quality and hygienic extraction of honey, CSIR-IHBT, Palampur.
- Technology for manufacturing of Ginger paste, CSIR-CFTRI, Mysore.
- Dehumidified drier for food and agri products, CSIR-NIIST, Thiruvananthapuram; and
- Technology for agricultural waste (wheat bran, sugarcane bagasse and fruit peels) based biodegradable plates, cups and cutleries, CSIR-NIIST, Thiruvananthapuram.
- CSIR-NISTADS e-Compendium and e-Coffee Table Book also released on the occasion.

Two new species of pipeworts discovered

- Two new species of a plant group known for their varied medicinal properties have been discovered in the Western Ghats, one of the thirty-five hot-spots of biological diversity in the world.
- The plant group is known as pipeworts (Eriocaulon). It completes their life cycle within a small period during monsoon, exhibits great diversity in the Western Ghats, having around 111 species in India.

- One species, *Eriocaulon cinereum*, is well known for its anti-cancerous, analgesic, anti-inflammatory, and astringent properties. *E. quinquangulare* is used against liver diseases. *E. madayiparense* is an anti-bacterial from Kerala. The medicinal properties of the newly discovered species are yet to be explored.
- Scientists from Agharkar Research Institute (ARI), Pune, an autonomous institute of the Department of Science & Technology, Government of India, have recently found two new species of pipeworts in Maharashtra and Karnataka.
- Their study was published in the journals 'Phytotaxa' and 'Annales Botanici Fennici'.

Decline of the star formation rate

- For long, scientists have been intrigued by the decrease in the rate at which stars were formed in galaxies after it peaked about 8-10 billion years ago.
- They have now deciphered the mystery behind this decline in star formation activity by measuring the atomic hydrogen of the galaxies.
- A team of astronomers from the National Centre for Radio Astrophysics (NCRA-TIFR), Pune, and the Raman Research Institute (RRI), Bangalore, an autonomous institute of the Department of Science & Technology (DST), Government of India has used the upgraded Giant Metre wave Radio Telescope (GMRT), operated by NCRA-TIFR, to measure the atomic hydrogen content of galaxies seen as they were 8 billion years ago.
- The research carried out by Aditya Chowdhury, Nissim Kanekar, and Jayaram Chengalur of NCRA-TIFR, and Shiv Sethi, and K. S. Dwarakanath of RRI and published in the journal Nature records the earliest epoch in the universe for which atomic gas content of galaxies has been measured.

- The research was funded by the Department of Atomic Energy, India, and DST, India.
- Aditya Chowdhury, a Ph.D. student at NCRA-TIFR and the lead author of the study said that the observed decline in star formation activity can thus be explained by the exhaustion of the atomic hydrogen.
- The measurement of the atomic hydrogen mass of distant galaxies was done by using the upgraded GMRT to search for a spectral line in atomic hydrogen.

Sensor and Sensing for Precision Agriculture

- A session on “Sensors and Sensing for Precision Agriculture” was organized under “Precision Agriculture” by ICAR-Indian Agricultural Research Institute with the total participation of 1019 including 38 panellists as part of the Vaishwik Bhartiya Vaigyanik (VAIBHAV) Summit 2020.
- This is a Government of India initiative to bring together the thought process, practices, R&D culture of Overseas and Indian scientists/academicians through a series of structured deliberations and constructive dialogue.
- Also to develop a road map for translational research/academic culture for tangible output and strengthening the S&T base for providing the impetus to endeavour of Aatma Nirbhar Bharat.
- A total of 18 verticals have been identified for deliberation of which “Agro-economy and Food Security” deals directly with agriculture with several horizontals.
- The horizontal on “Precision Agriculture” aims at discussing recent advances in the field on sensors, remote sensing, deep learning, artificial intelligence and IoT for monitoring and quantification of soil, plant and environment to enhance farm productivity with increased input use efficiency and environmental sustainability.

6th India International Science Festival (IISF)

- The 6th edition of India International Science Festival (IISF) 2020 will be held from 22nd to 25th December, 2020.
- Dr. Harsh Vardhan said that it will be a reflection on Indian Science & Technology Innovations for Atmanirbhar Bharat and Global welfare.
- CSIR to spearhead the IISF 2020 with support of all other concerned ministries and departments.
- The first and second IISF was held in New Delhi, the third in Chennai, the fourth in Lucknow, and the fifth IISF were held in Kolkata. All these IISFs had generated a huge response from people in India and also from abroad.

About India International Science Festival (IISF)

- It is an annual event that is organised jointly by science & technology-related Ministries and Departments of the Government of India and Vijnana Bharati (Vibha).
- It is a festival to celebrate the achievements of India's scientific and technological advancements with students, innovators, craftsmen, farmers, scientists and technocrats from India and abroad.

'INS Kavaratti'

- The last of four indigenously built Anti-Submarine Warfare (ASW) stealth corvettes "INS Kavaratti" under Project 28 (Kamorta class) is scheduled to be commissioned into the Indian Navy by General Manoj Mukund Naravane, PVSM, AVSM, SM, VSM, ADC, Chief of the Army Staff at Naval Dockyard, Visakhapatnam on 22 October 20.

- Touted as a potent Stealth ASW Corvette, Kavaratti is indigenously designed by the Indian Navy's in-house organisation, Directorate of Naval Design(DND), and built by Garden Reach Shipbuilders & Engineers (GRSE), Kolkata.
- The ship has up to 90% indigenous content and the use of carbon composites for the superstructure is a commendable feat achieved in Indian shipbuilding.
- Kavaratti has state-of-the-art weapons and sensor suite capable of detecting and prosecuting submarines.
- In addition to its anti-submarine warfare capability, the ship also has a credible self-defence capability and good endurance for long-range deployments.
- Kavaratti takes her name from erstwhile INS Kavaratti which was an Arnala class missile corvette.
- The older Kavaratti distinguished herself by operating in support of was Bangladesh's liberation in 1971.

2020 Nobel Prize in Physics

- It has been awarded to Roger Penrose, Reinhard Genzel and Andrea Ghez for furthering the understanding of black holes.

2020 Nobel Prize in Chemistry

- The Nobel Prize in Chemistry 2020 was awarded jointly to Emmanuelle Charpentier and Jennifer A. Doudna "for the development of a method for genome editing."

2020 Nobel Prize in Medicine or Physiology

- The 2020 Nobel Prize in Physiology or Medicine is awarded to Harvey J. Alter, Michael Houghton and Charles M. Rice for the discovery of Hepatitis C virus.

2020 Nobel Prize in Economic Sciences

- The Royal Swedish Academy of Sciences awarded Sveriges Riksbank Prize in Economic Sciences, 2020 to Paul Milgrom and Robert Wilson for their work on commercial auctions.

About Sveriges Riksbank Prize

- Sveriges Riksbank Prize in Economic Sciences, 2020 is given in memory of Alfred Nobel and is popularly known as Nobel Prize for Economics.
- It includes 10 million Swedish kronor award money.
- It is officially titled the “Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel”.

New Aqueous Suspension formulation technology

- The institute of Pesticide Formulation Technology (IPFT) under the Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers in collaboration with ICAR National Research Center on Seed Spices (NRCSS), Ajmer, Rajasthan.
- It has successfully developed new Aqueous Suspension formulation technology of bio pesticide based on entomo-pathogenic fungus *Verticillium lecanii*.
- It controls several insects in seed spice crops like fenugreek, cumin, and coriander. T
- The formulation has good shelf life, safe to user & environment.
- It may be effectively used for controlling different agricultural insects especially in seed spice crops.

Indigenous variety of 'Calcium Nitrate' & Boronated Calcium Nitrate;

- Union Minister of State for Chemicals & Fertilizers and MoS for Shipping Mansukh Mandaviya launched indigenous variety of Calcium Nitrate' & Boronated Calcium Nitrate manufactured by Gujrat State Fertilizers and Chemicals -GSFC India Ltd through video Conference.
- For the first time in India, Calcium Nitrate' & Boronated Calcium Nitrate is being manufactured. Till now, it was imported from other countries.GSFC launched these two products in the retail market for the first time from Solan in Himachal Pradesh and Bhavnagar in Gujarat.
- Calcium nitrate is used as a water-soluble fertilizer in agriculture and is also used in wastewater treatment. It is also used to increase the strength of cement concrete.

Student's residential complex and pilot food processing plants

- Virtual Inauguration of Students Residential Complex and other Facilities at IIFPT.
- Foundation Stone Laid for New Infrastructure Development in Newly Purchased Land.
- Narendra Singh Tomar, Union Minister of Rural Development, Agriculture & Farmer Welfare, Panchayati Raj and Food Processing Industries has said that the prosperity of agriculture and farmers is must for achieving the objective of Aatma Nirbhar Bharat.
- Tomar said that the institute commenced as a paddy quality testing laboratory in 1967, and has evolved across years.

- He further stated that this Institution was renamed as the Indian Institute of Food Processing Technology to signify its up-gradation and broadening of scope and services to all areas of food processing, including milk, meat, fish and poultry.

About IIFPT

- Indian Institute of Food Processing Technology (IIFPT), Thanjavur is a national R&D and educational institute under Ministry of Food Processing Industries (MoFPI), Government of India.
- The institute undertakes research and offers academic programmes in food processing.
- The institute is equipped with hi-tech research facilities, business incubation centre and accredited food testing lab. IIFPT has forged strong links with the industrial community in India and abroad.
- The institute has recently acquired 14.50 acres of land adjacent to its existing location for the creation of infrastructure for expanding its research and academic activities.

Healing touch of Homoeopathy for Skin Diseases

- A case study published recently in AYUHOME, the Research Journal of North Eastern Institute of Ayurveda and Homoeopathy, Shillong illustrates that Homoeopathy can do wonders in cases of skin related viral diseases.
- The author of the case study is Sangita Saha, Reader, Department of Organon of Medicine and Mahakas Mandal, Post Graduate Trainee, Department of Practice of Medicine, the Calcutta Homeopathic Medical College & Hospital along with Koushik Bhar, Post Graduate Trainee, the National Institute of Homoeopathy, Kolkata.

- Treatment of five patients suffering from five different skin diseases with Homoeopathy has given notable results which give a boost to the conviction of the positive effects of Homoeopathic medicine on such skin disorders.
- Skin diseases are numerous and frequently occurring health problem affecting all ages not only India but globally also.

The PLACID Trial

- The PLACID Trial was conducted by the Indian Council of Medical Research (ICMR) and is the first and largest randomised control trial to be completed in the world. The aim behind the research was to investigate CPT's effectiveness for the treatment of Covid-19. It is the first and largest randomised control trial to be completed in the world.
- A multicentre randomized controlled trial which is called as PLACID Trial has shown that the use of convalescent plasma (CP) as a therapeutic for Covid-19 patients showed no positive effects and did not improve the outcome of the patients.
- The randomised controlled trial (RCT) is a trial in which subjects are randomly assigned to one of two groups: one (the experimental group) receiving the intervention that is being tested, and the other (the comparison group or control) receiving an alternative (conventional) treatment.

Mechanical Engineering Block, Bio-Technology and Chemical Engineering Block

- Union Minister for Education Dr. Ramesh Pokhriyal 'Nishank' virtually inaugurated newly constructed Mechanical Engineering Block, Bio-Technology and Chemical Engineering Block and facilities including Central Instrumentation and Reaction Engineering Laboratory of NIT Arunachal Pradesh.

- According to Ramesh Pokhriyal, “Our educational institutions should inculcate in the minds of their students a scientific temperament and should serve as a box of knowledge.”
- Kiren Rijiju appreciated the efforts of the Ministry of Education to bring out New Education Policy (NEP) for the betterment of the education system from primary to a higher level.

Biofortified varieties of 8 crops

- Under the objective of transforming Indian thali into Nutri-thali, the National Agricultural Research System under the leadership of Indian Council of Agricultural Research (ICAR) recently developed biofortified varieties of 8 crops.
- This development will have up to a 3.0-fold increase in nutritional value. The rice variety CR Dhan 315 has high zinc; wheat variety HI 1633 rich in protein, iron and zinc, HD 3298 rich in protein and iron and DBW 303 and DDW 48 rich in protein in wheat; Ladhawal Quality Protein Maize Hybrid 1, 2 and 3 rich in lysine and tryptophan; CFMV1 and 2 of finger millet rich in calcium, iron and zinc; CLMV1 of little Millet rich in iron and zinc; Pusa Mustard 32 with low erucic acid; Girnar 4 and 5 of groundnut with enhanced oleic acid and yam variety Sri Neelima and DA 340 with enhanced zinc, iron and anthocyanin content.
- These varieties have been developed by utilizing the local landraces and farmer’s varieties. The high zinc rice has been developed from landraces of Assam rice collected from Garo hills and those of finger millets from Gujarat collections of Dang district.
- The producing of bio-fortified crop varieties will be expanded and linked with government programmes of mid-day meal, Anganwadi etc. to turn down malnutrition and build India Kuposhan Mukta through naturally enriched food ingredients. This will also guide in the higher income of farmers and will open new avenues of entrepreneurship development.

Saviour Sibling

- Doctors successfully conducted India's first 'saviour sibling' experiment, recently.
- The Saviour Sibling named Kavya saved her 6-year-old brother who was suffering from Thalassemia.
- In an hour-long procedure, 50200 ml bone marrow was harvested from Kavya and then given to her brother named Abhijeet through transfusion.
- For some time Kavya suffered from low haemoglobin but it was corrected with supplements and she was also suffering from pain in the areas where the bone marrow was taken for a few days. Currently, both Kavya and Abhijeet are healthy.

About 'Saviour Sibling'

- It refers to babies that are created to serve an older sibling as a donor of organs, bone marrow or cells. Saviour sibling's stem cells from the umbilical cord blood or blood are used for the treatment of serious blood disorders like thalassemia, sickle cell anaemia.

BrahMos Supersonic Cruise Missile Successfully Test Fired

- BrahMos, the supersonic cruise missile was successfully test-fired on 18 October, 2020 from Indian Navy's indigenously-built stealth destroyer INS Chennai, hitting a target within the Arabian Sea.
- The missile hit the target successfully with pinpoint accuracy after performing high-level and very complex manoeuvres.
- BrahMos as 'prime strike weapon' will ensure the warship's invincibility by engaging naval surface targets at long ranges, thus making the destroyer another lethal platform of Indian Navy.
- The highly versatile BrahMos has been jointly designed, developed and produced by India and Russia.

New START treaty

- President Vladimir Putin has proposed a one-year extension without conditions of the last major nuclear arms reduction accord the New START treaty which is between Russia and the U.S.

Terms of the treaty are:

- Number of strategic nuclear missile launchers are going to be reduced by half.
- It will replace the SORT mechanism as a new inspection and verification regime will be established.
- The amount or number of deployed strategic nuclear warheads is restricted to 1,550.
- Number of deployed and non-deployed inter-continental ballistic missile (ICBM) launchers, submarine-launched ballistic missile (SLBM) launchers, and heavy bombers equipped for nuclear armaments to 800 are going to be limited.
- The timeline is that these obligations must be met within seven years from the date the treaty enters into force.
- The treaty will last ten years, with an option to renew it for up to 5 years upon agreement of both parties.

Mobile application for Geo-Tagging

- The Ministry of Jal Shakti, recently launched a mobile application for geo-tagging of the components of projects under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY).
- The mobile application has been developed with the help of Bhaskaracharya National Institute of Space Applications & Geo-informatics (BISAG-N).

- The objective is to track the pace of work and the actual status of the projects.
- The mobile application can be used to capture the image of the project component along with other details such as location, type of canal/ structure, completion status, etc.
- The captured information can be submitted by the user for geo-tagging on the geographic information system (GIS) portal developed for this purpose.

About Bhaskaracharya National Institute of Space Applications & Geo-informatics (BISAG-N)

- It is an autonomous scientific society registered under the Societies Registration Act, 1860. It comes under the Ministry of Electronics and Information Technology.

COVIRAP

- Indian Council of Medical Research (ICMR) recently has approved a new low-cost COVID-19 diagnostic method named COVIRAP.
- It is developed by the Indian Institute of Technology (IIT), Kharagpur.
- COVIRAP has an automated pre-programmable temperature control unit, a special detection unit on genomic analysis, and a customised smartphone app for results.
- The machine has an isothermal nucleic acid amplification method, which did away with the need for a thermocycler.

Monoclonal antibodies (mAbs)

- Serum Institute of India (SII) and the International AIDS Vaccine Initiative (IAVI) have announced an agreement to develop SARS-CoV-2 neutralising monoclonal antibodies (mAbs) with pharmaceutical major Merck.

About monoclonal antibodies (mAbs)

- They are man-made proteins that act like human antibodies in the immune system.
- These antibodies are co-invented by IAVI and Scripps Research as 'innovative interventions' to address the COVID-19 pandemic.

Tubarial salivary glands

- Tubarial salivary glands are a set of salivary glands deep in the upper part of the throat which were discovered recently by scientists in the Netherlands.
- The glands are about 1.5 inches (3.9 centimeters) in length on average and are located over a piece of cartilage called the torus tubarius.
- The glands probably lubricate and moisten the upper throat behind the nose and mouth.
- It is said that the discovery may be important for cancer treatment.
- Until now, there were three known large salivary glands in humans: one under the tongue, one under the jaw and one at the back of the jaw, behind the cheek.

Indian Genome Sequences

- Results from the computation analysis of the 1029 sequenced genomes from India recently published within the scientific journal, Nucleic Acid Research.
- Research by Indian scientists has suggested that thirty-two percent of genetic variations in Indian genome sequences are unique as compared to global genomes.

- The research had been carried out by the Council for Scientific and Industrial Research (CSIR)-Institute of Genomics and Integrative Biology, Delhi and CSIR-Centre for Cellular and Molecular Biology, Hyderabad.
- It is used to refer to a specific region of the genome which differs from another genome.
- In India genome dataset, the computational analysis led to the identification of 55,898,122 single nucleotide variants. When comparisons of the genome datasets had been done at global level then it reveals that 18,016,257 (32.23 per cent) variants were unique and found only in the samples sequenced from India.
- As part of the IndiGen Program of CSIR, the research was carried out. In April 2019, the programme was begun to fill the gap of whole genome sequences from different populations within the country.

19th Meeting of the Shanghai Cooperation Organisation (SCO)

- India hosted the 19th Meeting of the Shanghai Cooperation Organisation (SCO) Ministers responsible for Foreign Economy and Foreign Trade Activities.
- The virtual meeting was attended by the Secretary General of SCO and Ministers from, Kyrgyz Republic, Kazakhstan, Pakistan, Russia, Tajikistan and Uzbekistan.

Four documents in the meeting were adopted. These were:-

- Statement on the response to Covid-19. It reinforces the necessity for greater cooperation for access to medicines and facilitation of trade.
- Statement on the Multilateral Trading System of Ministers of SCO Countries who are WTO Members. It highlights the importance of the rules based multilateral negotiations.

- Statement on SCO Cooperation on Intellectual Property Rights (IPR). It relates to cooperation of intellectual property and include sharing information/experience on legislation and enforcement, cooperation in international organisations and other areas.
- Action Plan for Implementation of MOU to stimulate cooperation within the framework of SCO within the field of MSMEs. It looks at number of areas of cooperation among MSMEs, including exchange of information, organisation of events and collaboration on research and capacity building.



IMPORTANT PLACES IN NEWS

Nagorno-Karabakh Places

- Territorial disputes and ethnic conflict between Armenia and Azerbaijan in Central Asia have impacted the Nagorno-Karabakh region in the South Caucasus.
- Nagorno-Karabakh is also known as Artsakh. It is a landlocked region in the South Caucasus, within the mountainous range of Karabakh.
- It is a disputed territory, internationally recognized as part of Azerbaijan, but mostly governed by the Republic of Artsakh, a de facto independent state.

Mecca

- Mecca reopens for pilgrimage. It is the holiest city in Islam and the capital of the Makkah Province of Saudi Arabia.
- It is located in the Hejaz region around 200 km wide strip of mountains separating the Nafud desert from the Red Sea.

Goa: Har Ghar Jal State

- Goa becomes first Har Ghar Jal State across the country by providing tap water connection to every rural household as it successfully provides 100% Functional Household Tap Connections (FHTCs) in the rural areas covering 2.30 lakh rural households.
- Harnessing the immense benefits of efficiently utilizing the Jal Jeevan Mission (JJM) which aims to improve the quality of life and bring ease-of-living; to rural communities.

8 NH projects in Kerala

- Union Minister for Road Transport and Highways Nitin Gadkari inaugurated and laid the foundation stone for 8 National Highway projects in Kerala.
- The event will be attended by the Governor Shri Arif Mohammed Khan, Chief Minister Shri Pinarai Vijayan and Union MoSs Gen (Retd) Dr V K Singh and Shri V Muraleedharan, Ministers from the State, Members of Parliaments, MLAs and senior officers from the Centre and the State.

Gurkha Rights in Assam

- The Gurkha community in Assam has sought gazette notification ensuring that the safeguards according to Clause 6 of the 1985 Assam Accord are also extended to Gurkha people of Assam.
- Due to the recommendations of the high-level committee formed under the Chairmanship of Biplap Kumar Sharma, the demand for the safeguards by the Gurkha community further intensified. The committee is formed by the Union Home Ministry on Clause 6 of Assam Accord.
- It is recommended by the committee that all Gurkhas of Assam are not indigenous Assamese people as per the definition of Assamese people.
- Clause 6 of the Accord envisages constitutional, legislative and administrative safeguards for protecting, preserving and promoting the culture, social, linguistic identity and heritage of the Assamese people.

8th Convocation of IIT Indore

- Union Education Minister Shri Ramesh Pokhriyal 'Nishank' virtually attends 8th Convocation of IIT Indore.
- The Minister also inaugurated the five buildings of Kendriya Vidyalaya, Computer and Information Technology Center, Central Workshop, Abhinandan Bhavan and Takshshila Lecture Hall Complex.
- The Chairman, Board of Governors, Professor Deepak B. Phatak presided over the ceremony and Chairman, Senate Prof. Neelesh Kumar Jain awarded the degrees.
- The Minister informed that IIT Indore is doing good work in the field of research with 2740 research papers and 35 books and 175 chapters written by its teachers. It has the highest citation index per faculty on second and third-generation IIT institutions.
- The institute has filed 61 patents and one of its patents has also been approved.
- The Minister expressed his happiness that the institute for securing 10th position in the NIRF rankings of the year 2020, 55th rank in Asian University Rankings -2020 and 64th rank in Young University Rankings by Times Higher Education.

Three key projects in Gujarat

- Prime Minister Shri Narendra Modi will inaugurate three key projects in Gujarat on 24th October through video conferencing.
- Prime Minister will launch the 'Kisan Suryodaya Yojana' for the farmers of Gujarat.
- He will inaugurate the Paediatric Heart Hospital attached with U.N Mehta Institute of Cardiology and Research Centre and a Mobile Application for telecardiology at the Ahmedabad Civil Hospital in Ahmedabad.
- He will also inaugurate the Ropeway at Girnar on the occasion.

What is Genetic Engineering?

Topics to be covered are:

- *Introduction*
- *What is Genetic Engineering?*
- *Historical Developments*
- *Process and Techniques*
- *Advantages*
- *Challenges*
- *Dangers associated with Genetic Engineering*
- *Gene Editing CRISPR-Cas-9*
- *Way forward and Conclusion*
- In recent history, Genetic Engineering could also be one among the greatest breakthroughs with the invention of an atom and space flight. We can't ignore that over 50 years or so, the field of genetic engineering has developed rapidly may be due to the greater understanding of deoxyribonucleic acid (DNA) as the chemical double helix code from which genes are made.
- The engineering term is used to describe the process by which the genetic makeup of an organism can be altered or changed by using "recombinant DNA technology."
- We have seen via COVID-19 that how biological pathogens can be as destructive as nuclear missiles. However, through Genetic Engineering, technological advancements can also provide a cure and a strong defense against it. Thus, at the global level, there should be efforts in developing bio-defences.
- This year, Nobel Prize in Chemistry was awarded jointly to Emmanuelle Charpentier and Jennifer A. Doudna "for the development of a method for genome editing." It's awarded for the discovery of one of gene technology's sharpest tools: the CRISPR/Cas9 genetic scissors.

What is Genetic Engineering?

- It is the artificial manipulation, modification, and recombination of DNA or other nucleic acid molecules to modify an organism or population of organisms.
- It is a term that was first introduced into our languages in the 1970s to explain the emerging field of recombinant DNA technology and some other things that were going on.
- With the help of genetic engineering, scientists are able to move desirable genes from one plant or animal to another or from a plant to an animal or vice versa.
- In other words, we can say that genetic engineering is a technology in which a specific gene can be selected and implanted into the recipient organism.
- Some of the examples are:
- The process of Genetic engineering consists of splicing an area of a chromosome, gene, that controls a particular characteristic of the body. And can be reprogrammed to produce an antiviral protein.
- This gene is removed and can be placed into a bacterial cell where it is often sealed into the DNA chain by using ligase.

Genetic Engineering: Historical Developments

- The genetic engineering term embraced both artificial selection and all the interventions of biomedical techniques including artificial insemination, in vitro fertilization that is test-tube babies, cloning, and gene manipulation.
- However, the term in the latter part of the 20th century referred to as the methods of recombinant DNA technology or gene cloning. In this DNA molecules from two or more sources are combined either within the cells or in vitro and are then inserted into the host organisms in which they are able to propagate.

- In 1968 with the discovery of restriction enzymes the possibility of recombinant DNA technology emerged and the discovery was done by the Swiss microbiologist Werner Arber.
- The same year American microbiologists named Hamilton O. Smith purified and called type II restriction enzymes. They were found to be essential to genetic engineering as they have the ability to cleave a specific site within the DNA.
- In 1970–71, drawing on Smith's work an American molecular biologist Daniel Nathans helped advance the DNA technique of recombination and demonstrated that type II enzymes might be useful within the studies of genetics.
- In 1973, Genetic engineering based on recombination was pioneered by the American biochemists Stanley N. Cohen and Herbert W. Boyer. They were among the first to cut DNA into fragments then they rejoin the different fragments and insert the new genes into the *E. coli* bacteria, which later reproduced.

Genetic Engineering: Process and Techniques

- Many recombinant DNA technology has the insertion of foreign genes into the plasmids of common laboratory strains of bacteria. Plasmids are small rings of DNA but are not the part of the bacterium's chromosome which is the main repository of the organism's genetic information.
- They are also capable of directing protein synthesis and like chromosomal DNA, they are reproduced and passed on to the progeny of bacteria. Therefore, incorporating the foreign DNA into a bacterium, almost number of a limitless copies researchers can obtain of the inserted gene.

- And if the inserted gene is operative that is if it directs the synthesis of protein then the modified bacterium will produce the protein specified by the foreign DNA.
- In the early 21st century the techniques of genetic engineering that is emerged are centred on gene editing. It is based on a technology known as CRISPR-Cas9 and allows the researchers to customise a living organism's genetic sequence by generating very specific changes to its DNA.

What are the advantages of Genetic Engineering?

- Let us brief you that Genetic engineering techniques are used only when all other techniques have been exhausted. The crops that are developed through genetic engineering are referred to as transgenic crops or genetically modified (GM) crops. Examples are Bt Cotton, genetically engineering plants with more desirable traits are drought-resistant plants, disease resistant-crops, plants that grow faster, etc.
- Genetic Disorder treatment and Other Diseases. Through genetic engineering, genetic disorders may also be corrected by replacing the faulty gene with a functional gene. Like Disease-carrying insects, such as mosquitoes, may be engineered into becoming sterile insects, etc.
- Therapeutic Cloning is a process in which embryonic cells are closed to obtain biological organs for transplantation.
- With gene-editing technique CRISPR/Cas-9, there is a hope of curing inherited diseases etc.

What are the challenges of Genetic Engineering?

- As we have seen that genetic engineering is beneficial in several ways but it also has some sort of disadvantages like:
- There may be some kind of irreversible changes. As per some scientists that genetically-modified genes may have an irreversible effect with some unknown consequences. GMO can cause some harmful genetic effects and from one species to another, genes moving is not genetically engineered.
- Related with GMO crops, some health issues can be generated. There are concerns that the creation of food may cause an allergic reaction.
- There are several kinds of moral and ethical issues borderlines with the genetic engineering techniques. One of the major and common questions that raised is that humans have the right to manipulate the laws and nature.
- A research report in Nature Medicine contradicts the likelihood of intentional engineering of Sars-CoV-2, genetic engineering could well be the cause of the next pandemic.

Is there any sort of dangers associated with Genetic Engineering?

- Some or the other way as the technology is growing in greater pace as CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) gene-editing which are developed a few years ago consists of the same natural mechanism in which the bacteria is used to trim pieces of genetic information from one genome and then insert it into the another. This mechanism in which bacteria developed to defend from viruses has been turned into a cheap, simple, or quick way to edit the DNA of any organism in the laboratory.

- The gene-editing CRISPR is cheap and easy to use. Several scientists across the world are researching and experimenting with this technology and the technologies have democratised to such an extent that any country can engineer viruses. Not only dangers come from governments but also non-state actors, bio-hackers can have access to the same tools. Also, it has been said that researchers can recreate deadly viruses which may take humanity decades to eradicate it.

About Gene Editing CRISPR/Cas9

- Emmanuelle Charpentier and Jennifer A. Doudna have discovered one among gene technology's sharpest tools: the CRISPR/Cas9 genetic scissors. Researchers by using this technology can change the DNA of animals, plants and microorganisms with extremely high precision. It will pave the revolutionary impact on the life sciences and also contributes to new cancer therapies and should make the dream of curing inherited diseases come true.
- According to the researchers by using the CRISPR/Cas9 genetic scissors, it is now possible to change the code of life over the course of a few weeks.
- During the studies of Emmanuelle Charpentier, *Streptococcus pyogenes*, one among the bacteria which will cause the foremost harm to humanity and she discovered a previously unknown molecule that's tracrRNA. As per her research and work, tracrRNA may be a part of bacteria's ancient immune system and CRISPR/Cas disarms viruses by cleaving their DNA. In 2011, she published her discovery and the same year she initiated a collaboration with Jennifer Doudna.

- Jennifer Doudna is an experienced biochemist who has a vast knowledge of RNA. Together they succeeded in recreating the bacteria's genetic scissors in a test tube and simplified them so that they can be easily used.
- The function of the scissor is to recognise DNA from viruses and both Charpentier and Doudna proved that they could be controlled so that they will be able to cut any DNA molecule at a predetermined site. Where the DNA is cut it becomes easier to rewrite the code of life.
- In 2012, genetic scissors CRISPR/Cas9 were discovered by Charpentier and Doudna and so their use has exploded. The research has contributed in several ways, in various important discoveries, plant researchers have been able to develop crops that withstand mould, pests and drought.
- It is also used in medicine, clinical trials of new cancer patients therapies are underway and are said that the dream of being able to cure inherited diseases may come to true.
- No doubt that the discovery of genetic scissors have taken the life sciences into a new epoch and in various ways are bringing the greatest benefits to humankind.
- Therefore, it is necessary that with the development of new technologies good side of it should be accelerated like Leveraging Artificial Intelligence & Big Data, Deploying 3D Printing, Gathering of Genomic Data, etc.
- At last, we can conclude that technologies are developed for providing the benefits and there is a need of the hour to use it and analyse the data and develop the treatments. With the help of Genetic Engineering, India can make a strong position and lead the world in research and innovation. As discussed above gene-editing technology will pave the revolutionary impact on the life sciences and also contributes to new cancer therapies and may make the dream of curing inherited diseases come true.

POINTS TO REMEMBER OR KNOWLEDGE BOOSTER

1. Dr. Abhijit Mukherjee, Associate Professor, Deptt. of Geology & Geophysics, IIT Kharagpur Selected for 'Shanti Swarup Bhatnagar' Prize.
2. Sandalwood Spike Disease (SSD) is caused by phytoplasma bacterial parasites of plant tissues which are transmitted by insect vectors. The disease was first reported in Kodagu in 1899.
3. A web portal "TrackChild" has been developed by the Ministry of Women and Child Development to track the missing and found children.
4. A hackathon named "KRITAGYA" has been planned by the Indian Council of Agricultural Research (ICAR) under the National Agricultural Higher Education Project (NAHEP) to promote potential technology solutions for enhancing farm mechanization with special emphasis on women-friendly equipments.
5. Bundi erstwhile capital of Hada Rajput province known as Hadauti located in south-eastern Rajasthan.
6. Kabartal Wetland (Bihar) and Asan Conservation Reserve (Uttarakhand) have been designated as Ramsar sites, making them 'Wetlands of International Importance'.
7. Indian Railways has launched "Meri Saheli" initiative for focused action on the security of women across all zones with an aim to provide safety and security to lady passengers travelling by trains for their entire journey from starting station to destination station.

8. SERB – POWER Scheme will have two components namely (i) SERB – POWER Fellowship (ii) SERBPOWER Research Grants.
9. O-SMART is Ocean Services, Modelling, Applications, Resources and Technology SCHEME.
10. Kakatii Devi temple was built by Ganapati Deva, Kakatiya ruler in Dharanikota (Andhra Pradesh) which is converted into an abode of local Goddess ‘Balusulamma’.



QUESTIONS AND ANSWERS FOR PRACTICE

1. **Recently Aenigmachanna Gollum is in news. Consider the following statements about it.**

1. It belongs to an old family of fish, called dragon snakeheads.
2. It lives in underground aquifers.
3. It is assumed that they originated in the Gondwanaland which later split into the continents of Asia and Africa.

Which of the following statements given above are correct?

- (a) 1 and 2
- (b) 1 and 3
- (c) 2 and 3
- (d) 1, 2 and 3

Ans. (d)

2. **Consider the following statement(s) regarding Polar Satellite Launch Vehicle.**

1. It is the third generation launch vehicle.
2. It is the first launch vehicle which is equipped with liquid stages.
3. PSLV's first successful launch was in October 1994.

Which of the following statements given above are correct?

- (a) 1 and 2
- (b) 1 and 3
- (c) 2 and 3
- (d) 1, 2 and 3

Ans. (d)

3. Which of the following are the major business areas of New Space India Limited (NSIL)?

1. Production of Polar Satellite Launch Vehicle (PSLV) and Small Satellite Launch Vehicle (SSLV) through the industry.
2. Transfer of technology developed by ISRO centre.
3. Consultancy services.

Choose the correct answer

- (a) 1, 2 and 3
- (b) 1 and 2
- (c) 2 and 3
- (d) 1 and 3

Ans. (a)

4. Which of the following statement(s) is/are correct about Particulate Matter?

1. It is a term for a mixture of solid particles and liquid droplets found in the air.
2. PM₁₀ are inhalable particles.
3. Small particles more than 10 micrometers in diameter pose the greatest problems because they can get deep into the lungs, and some may even get into the bloodstream.

Choose the correct answer

- (a) 1, 2 and 3
- (b) 1 and 2
- (c) 2 and 3
- (d) 1 and 3

Ans. (b)

5. In which state of India, Saddam Beach is located?

- (a) Gujarat
- (b) Maharashtra
- (c) Karnataka
- (d) Kerala

Ans. (d)

6. Consider the following statements:

1. In India, the entire coal industry was nationalised during 1972-73.
2. The South Asian nation depends on Coal India for more than 80 per cent of its domestic production.

Which of the following statement(s) is/are correct?

- (a) Only 1
- (b) Only 2
- (c) Both 1 and 2
- (c) Neither 1 nor 2

Ans. (c)



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7. Which of the following statement(s) is/are correct about the Indian National Centre for Ocean Information System (INCOIS)?

1. INCOIS was established in 1999 as an autonomous body under the Ministry of Earth Sciences.
2. INCOIS is the nodal agency to provide tsunami advisories to India.
3. INCOIS has also partnered with Indian Space Research Organisation (ISRO) and NASA.

Choose the correct option

- (a) 1 and 3
- (b) 1 and 2
- (c) 2 and 3
- (d) 1, 2 and 3

Ans. (b)

8. Which of the following pairs is/are correctly matched?

- 1. Dampa Tiger Reserve: Mizoram
- 2. Gumti Wildlife Sanctuary: Sikkim
- 3. Saramati Peak: Nagaland

Choose the correct option

- (a) 1 only
- (b) 1 and 3 only
- (c) 1 and 2 only
- (d) 1, 2 and 3

Ans. (b)

9. Consider the following statements.

- 1. World Polio Day was established by Rotary International on 24th October to celebrate the birth of Jonas Salk, who developed a vaccine against poliomyelitis..
- 2. On 24 February, 2012, the WHO removed India from the list of countries with active endemic wild poliovirus transmission.
- 3. In 2014, two years later, the South-East Asia Region of the WHO, of which India is a part, was certified as polio-free.

Which of the following statement(s) given above is/are correct?

- (a) 1, 2 and 3
- (b) 2 and 3
- (c) 1 and 2
- (d) 1 and 3

Ans. (a)

10. Which of the following is/are the features of Additional Tier-1 Bonds?

1. These have higher rates than tier-II bonds.
2. These bonds have no maturity date.
3. Individual investors too can hold these bonds.

Choose the correct option

- (a) 1 and 2
- (b) 2 and 3
- (c) 1 and 3
- (d) 1, 2 and 3

Ans. (d)

11. Consider the following statements regarding the National Cooperative Development Corporation (NCDC).

1. It was set up under an Act of Parliament in 1963.
2. It functions under the Ministry of Agriculture and Farmers Welfare.

Which of the following statement(s) given above is/are correct?

- (a) Only 1
- (b) Only 2
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans. (c)

12. Consider the following statements regarding the Zoological Survey of India.

1. It is a subordinate organisation of the Ministry of Environment, Forest and Climate Change.
2. It was established in 1918.
3. It has its headquarters at Kolkata and 16 regional stations located in different geographic locations of the country.

Which of the following statement(s) is/are incorrect?

- (a) 1 and 2
- (b) Only 2
- (c) 2 and 3
- (d) Only 3

Ans. (b)

13. The campaign named '10 Hafte 10 Baje 10 Minute' is related to:

- 1. Anti-dengue
- 2. Anti-malaria
- 3. Anti-HIV
- 4. Anti-virus

Choose the correct option

- (a) 1 and 3
- (b) Only 1
- (c) 1, 2 and 4
- (d) Only 2

Ans. (b)

14. Consider the following statements regarding the Blue Flag Programme.

- 1. The Blue Flag Programme is run by the international, non-governmental, non-profit organisation FEE (the Foundation for Environmental Education).
- 2. In 1983, it was started in France.
- 3. The Programme is for beaches and Marinas.

Which of the following statement(s) given above is/are correct?

- (a) 1 and 2
- (b) 1 and 3
- (c) 2 and 3
- (d) 1, 2 and 3

Ans. (b)



15. Consider the following statements about eVIN.

1. eVIN stands for Electronic Vaccine Intelligence Network.
2. It is an innovative technological solution.
3. This is being implemented under the National Health Mission (NHM) by the Ministry of Health and Family Welfare.

Which of the following statements given above is/are correct?

- (a) 1 and 2
- (b) 2 and 3
- (c) 1 and 3
- (d) 1, 2 and 3

Ans. (d)

16. Consider the following statements regarding Murder hornet.

1. They are native to East Asia and Japan
2. These predators are infamous for ruthlessly ripping apart honeybees and decimating their hives.
3. They also pose a threat to human beings. Their potent stingers deliver venom.

Which of the following statements given above are correct?

- (a) 2 and 3
- (b) 1 and 3
- (c) 1 and 2
- (d) 1, 2 and 3

Ans. (d)

17. Earthshot Prize is centred around some Earthshot challenges. Select those challenges.

1. Protect and restore nature.
2. Clean our air.
3. Revive our oceans.
4. Build a waste-free world.
5. Fix our climate.

Choose the correct option

- (a) 1,2 and 4
- (b) 2, 4 and 5
- (c) 1, 3, 4 and 5
- (d) 1, 2, 3, 4 and 5

Ans. (d)

18. Consider the following statements regarding the United Nations Human Rights Council (UNHRC).

1. It was established in 2007.
2. Its headquarter is at Geneva, Switzerland.
3. The UNHRC has 47 members elected for staggered three-year terms on a regional group basis from 5 groups.
4. The UNHRC holds regular sessions three times a year, in March, June, and September.

Which of the following statements given above are correct?

- (a) 1,2 and 3
- (b) 1, 3 and 4
- (c) 2, 3 and 4
- (d) 2 and 3

Ans. (c)

19. Consider the following statement regarding New Caledonia.

1. It is an archipelago and special collectivity of France located in the southwest Pacific Ocean.
2. It was discovered in 1774 by the British navigator James Cook.
3. It was annexed by France in 1853.

Which of the following statements given above are correct?

- (a) 1 and 3
- (b) 1 and 2
- (c) 2 and 3
- (d) 1,2 and 3

Ans. (d)

20. Which of the following statement(s) is/are correct about Narcoanalysis Test?

1. The test involves the injection of a drug, sodium pentothal.
2. The drug also referred to as truth serum. It was used in larger doses as anaesthesia during surgery.

Choose the correct option

- (a) Only 1
- (b) Only 2
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans. (c)

21. Which of the following statement(s) is/are incorrect about Shaurya Missile?

1. It is a land variant of long-range Submarine Launched Ballistic Missile (SLBM) K-15 Sagarika.
2. It has a range of at least 800 kilometers.
3. It is a surface-to-surface tactical missile and is capable of carrying payloads of 200 kg to 1000 kg.

Choose the correct option

- (a) 2 and 3
- (b) 1 and 2
- (c) 1 and 3
- (d) 1, 2 and 3

Ans. (b)

22. Which of the following statements are correct about the K Family of Missiles?

1. The K family of missiles are primarily Submarine Launched Ballistic Missiles (SLBMs).
2. These have been indigenously developed by Defence Research and Development Organisation (DRDO).
3. The development of these missiles began in the late 1990s as a step towards completing India's nuclear triad.
4. K-5 and K-6 with ranges of 5000 and 6000 km are also under development.

Choose the correct option

- (a) 1, 3 and 4
- (b) 1,2 and 3
- (c) 2, 3 and 4
- (d) 1,2,3 and 4

Ans. (d)

23. With respect to the Comprehensive National Nutrition Survey (CNNS) consider the following statements :

1. It has been conducted by the Ministry of Health and Family Welfare and the United Nations Children Fund (UNICEF).
2. It includes pre-schoolers, school-age children, and adolescents in both urban and rural areas across India.

Which of the given statement/s is/are INCORRECT?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans. (c)

24. Which of the given statement/s is/are correct with respect to Hypoxia -Inducible Factors (HIF)?

1. It regulates the production of red blood cells.
2. When the level of oxygen in the cells increases, HIF in the cells increases.

- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Ans. (a)

25. Which of the following statements is/are correct about Haiyang-2C?

1. It is a new ocean-monitoring satellite launched recently by China.
2. It is the country's third ocean dynamic environment satellite.
3. It can provide all-weather and round-the-clock observation of wave height, sea surface height, wind speed and direction, and temperature.

Choose the correct option

- (a) 1 and 2
(b) 2 and 3
(c) Only 1
(d) 1, 2 and 3

Ans. (d)



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