

JOIN THE DOTS

October 2020



A Current Affairs Series for UPSC Examination

- India gets the Vice-Chair of Good Laboratory Practice
- Infrastructure Management System - A Software by the Indian Army
- Commission for Scientific & Technical Terminology
- Data Governance Quality Index
- Thalassemia Bal Sewa Yojna



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सामान्य अध्ययन – यूपीएससी 2021

● ————— फाउंडेशन बैच ————— ●

सामान्य अध्ययन (प्रारंभिक और मुख्य परीक्षा)
निबंध, करंट अफेयर्स, और उत्तर लेखन का पूरा कवरेज



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————— Our UPSC 2020 Students' Feedback —————

Course ★★★★★ (4.8)

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अभी नामांकन करें!

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Compendium – October 2020

Dear Students,

With the present examination pattern of UPSC Civil Services Examination, General Studies papers require a lot of specialization with 'Current Affairs'. Moreover, following the recent trend of UPSC, almost all the questions are based on news as well as issues. CL IAS has now come up with **'JOIN THE DOTS! OCTOBER 2020'** series which will help you pick up relevant news items of the day from various national dailies such as The Hindu, Indian Express, Business Standard, LiveMint, PIB and other important sources.

'JOIN THE DOTS! OCTOBER 2020' series will be helpful for prelims as well as Mains Examination. We are covering every issue in a holistic manner and covered every dimension with detailed facts. This edition covers all important issues that were in news in the month of June 2019. Also, we have introduced Prelim base question for Test Your Knowledge which shall guide you for better revision. In addition, it would benefit all those who are preparing for other competitive examinations.

We have prepared this series of documents after some rigorous deliberations with Toppers and also with aspirants who have wide experience of preparations in the Civil Services Examination.

For more information and more knowledge, you can go to our website

<https://www.careerlauncher.com/upsc/>

"Set your goals high, and don't stop till you get there"

All the best!!

Team CL

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Prelims Perspicuous Pointers

Join the dots!

A current affairs series for UPSC Examination

Defence: BrahMos Missile Featuring Indigenous Booster Successfully Flight Tested

Relevance IN – Prelims (about Brahmos and Brahmos LACM + about cruise and ballistic missile)

What's the NEWS

- India successfully test fired a new version of the surface-to-surface supersonic cruise missile BrahMos having a range of around 400 km from an integrated test range at Balasore in Odisha

The BrahMos Land-Attack Cruise Missile (LACM)

- BrahMos surface-to-surface supersonic cruise missile featuring **indigenous Booster, Airframe Section, propulsion system, power supply** and many other major components.
- The test jointly conducted by DRDO and BrahMos Aerospace for an extended range of 450 km has paved the way for the serial production of the indigenous booster and other indigenous components of the powerful weapon system
- The BrahMos Land-Attack Cruise Missile (LACM) was cruising at a top speed of Mach 2.8.
- The range of the new land attack version of the missile has been extended to 450 km from the original 290 km
- The speed has been maintained at Mach 2.8 which is nearly three times that of sound.
- India has already deployed a sizeable number of the original BrahMos missiles and other key assets in several strategic locations along the de-facto border with China in Ladakh and Arunachal Pradesh.
- The land-attack version of the missile has been operationalised in the Indian Army since 2007, this test validated the indigenous components incorporated to achieve higher strike range.
- The extended-range version of BrahMos was developed after India's full membership to the **Missile Technology Control Regime (MTCR)**, which removed caps on the range of the cruise missile. The strike range of the missile has been enhanced from **290 km to 450 km**.
- The nine-metre long two-stage missile is capable of carrying a conventional warhead weighing up to 300 kg.
- The BrahMos missile has three versions - **land, ship and air**. It can effectively engage targets from an altitude as low as 10 metres for surgical strikes at terror training camps across the border without causing collateral damage.

Know! about BrahMos

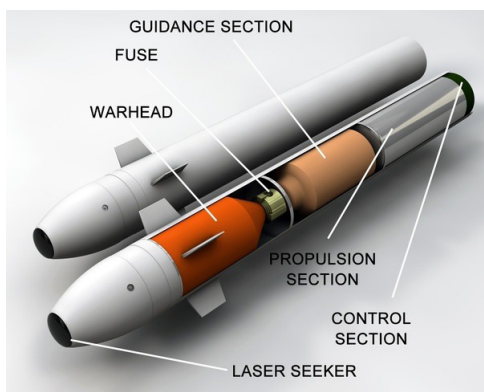
- BrahMos Aerospace, an India-Russian joint venture, produces the supersonic cruise missile that can be launched from submarines, ships, aircraft, or from land platforms.
- In May last year, the Indian Air successfully test fired the aerial version of the BrahMos missile from a Su-30 MKI fighter aircraft.



- The BrahMos missile provides the IAF a much-desired capability to strike from large stand-off ranges on any target at sea or on land with pinpoint accuracy by day or night in all weather conditions.
- The IAF is also integrating the Brahmos supersonic cruise missile on over 40 Sukhoi fighter jets which is aimed at bolstering overall combat capability of the force.

Cruise Missiles

- A Cruise Missile is a guided missile that flies with constant speed to deliver a warhead at specified target over long distance with high accuracy
- It is classified by speed. (Sub-sonic, Supersonic, Hypersonic)
- It may use air breathing jet engine like pulse-jet engine, Ram jet engine, Scram jet engine.



Technical Specifications

Maximum range	400+ km	Warhead mass	200-300 kg
Velocity	Mach 2.8	Altitude	■ Cruise: 15 km ■ Terminal: 10-15 metre
Weight	2.5 tonnes		

Special Features

- Universal for multiple platforms
- "Fire and Forget" principle of operation
- High supersonic speed all through the flight
- Long flight range with varieties of flight trajectories
- Low radar signature
- Shorter flight times leading to lower target dispersion and quicker engagement
- Pin point accuracy with high lethal power aided by large kinetic energy on impact

Compared to existing state-of-the-art subsonic cruise missiles, BrahMos has

- 3 times more velocity
- 2.5 to 3 times more flight range
- 3 to 4 times more seeker range
- 9 times more kinetic energy

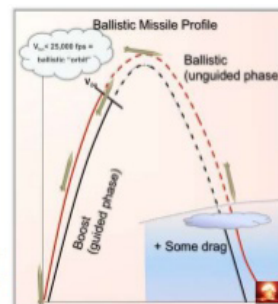


Ballistic Missiles

BALLISTIC MISSILES

- A ballistic missile is a missile that has a ballistic trajectory over most of its flight path, regardless of whether or not it is weapon-delivery vehicle.
- Guided only during boost phase of flight.
- For example, Prithvi - I, Prithvi - II, Agni - I, Agni - II and Dhanush ballistic missiles are currently operational in the Indian Defence Forces.

BALLISTIC MISSILE CLASS	MAXIMUM RANGE (km)
Short Range Ballistic Missile (SRBM)	<1000
Medium Range Ballistic Missile (MRBM)	1000-3000
Intermediate Range Ballistic Missile (IRBM)	3000-5000
Intercontinental Ballistic Missile (ICBM)	>5500
Submarine Launched Ballistic Missile (SLBM)	Varies



- A Ballistic Missile is launched directly into the high layers of the earth's atmosphere.
- It travels well outside the atmosphere and then the warhead detaches and falls back to earth.
- It follows the path of any object thrown upwards in parabolic path which falls down. Since it depends on gravity to reach its target, it's called a ballistic missile.

It is classified by its coverage.

- SRBM (Small Range Ballistic Missile)
- MRBM (Medium Range Ballistic Missile)

- IRBM (Intermediate Range Ballistic Missile)
- ICBM (Inter Continental Ballistic Missile)

Prelims Factoids: The Atal Tunnel

Relevance IN – Prelims (about the Atal Tunnel)

What's the NEWS

- Prime Minister inaugurated Atal Tunnel, Rohtang on 3 October 2020.

Know! all about Atal Tunnel

- Atal Tunnel is the longest highway tunnel in the World.
- 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.
- The South Portal (SP) of Atal Tunnel is located at a distance of 25 Km from Manali at an altitude of 3060 Mtrs, while the North Portal (NP) of the tunnel is located **near village Teling, Sissu, in Lahaul Valley** at an altitude of 3071 Mtrs.
- It is horse shoe shaped, single tube double lane tunnel with a roadway of 8 Mtrs. It has an overhead clearance of 5.525 Mtrs.
- It has the state of the art electromechanical system including semi transverse ventilation system, SCADA controlled firefighting, illumination and monitoring system.

Know! about the inception of the Atal Tunnel

- The historic decision to construct a strategic tunnel **below the Rohtang Pass** was taken on June 03, 2000 when late Shri Atal Bihari Vajpayee was the Prime Minister.
- The foundation stone for the Access Road to the South Portal of the tunnel was laid on May 26, 2002.
- The Border Roads Organisation (BRO) worked relentlessly to overcome major geological, terrain and weather challenges that included the most difficult stretch of the 587-metre Seri Nalah Fault Zone.
- The breakthrough from both ends was achieved on October 15, 2017.

Know! also about Zojila Tunnel

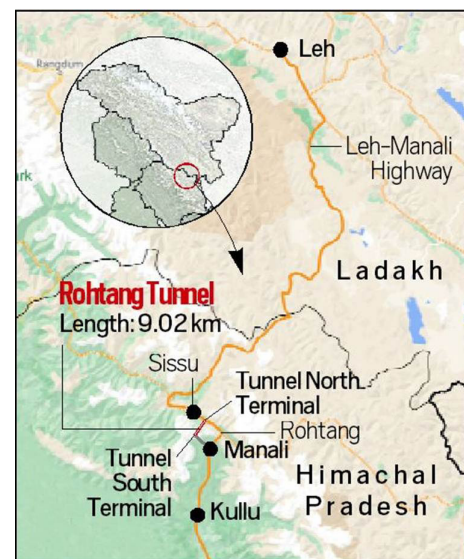
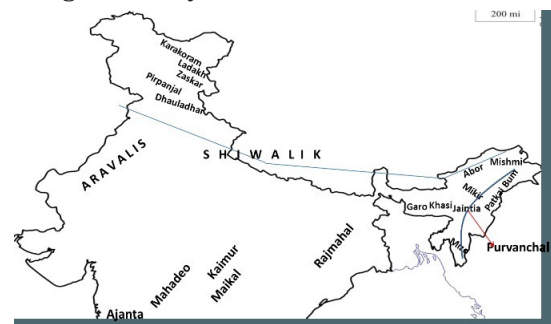


KEY FEATURES

- The longest bi-directional single tube road tunnel in Asia
- Length: 14.15 km
- Open all days
- All-weather accessibility
- To be built at Zojila pass on Srinagar-Kargil-Leh NH-1 situated at an altitude of 11,578 feet



- Cost: ₹6,809 crore
- Will reduce time taken to cross Zojila pass from three hours and 30 minutes to 15 minutes
- Expected time of completion: 5 years



Defence: DRDO successfully test fires laser-guided anti-tank guided missile(ATGM) from Arjun Tank



Relevance IN – Prelims (about Laser Guided Anti Tank Guided Missile (ATGM))

What's the NEWS

- The indigenously developed Laser Guided Anti Tank Guided Missile (ATGM) was successfully test fired today on 1st Oct 2020 defeating a target located at longer range.
- The test was conducted from MBT Arjun at KK ranges (ACC&S) Ahmednagar in continuation of successful trial done on 22nd Sep 2020.

Know! all about ATGM

- The ATGM employs a **tandem HEAT warhead to defeat Explosive Reactive Armour (ERA)** protected armoured vehicles in ranges from 1.5 to 5 km.
- These missiles use laser designation to lock and track the targets for better accuracy.
- It has been developed with multiple-platform launch capability and is currently undergoing technical evaluation trials from **120 mm rifled gun of MBT Arjun**.
- The Arjun is a third generation main battle tank developed by the DRDO.
- This Laser Guided Missile has been developed by Armament R&D Establishment (ARDE), Pune in association with High Energy Materials Research Laboratory (HEMRL), Pune and Instruments Research & Development Establishment (IRDE), Dehradun.

Defence: Army Static Switched Communication Network (ASCON) Phase IV

Relevance IN – Prelims (about the role of ASCON)

What's the NEWS

- The Cabinet Committee on Security, has approved the proposal for establishment of Army Static Switched Communication Network (ASCON) Phase IV Network

Know! about ASCON

- The project is a strategic and theatre area communication network which will **upgrade the existing Asynchronous Transfer Mode Technology to Internet Protocol (IP)/Multi Protocol Label Switching (MPLS) Technology**.
- Optical Fibre Cable (OFC), Microwave Radio and Satellite will be used as communication media.
- The project will provide **better survivability, responsiveness and high bandwidth** in any operational scenario and enhance the communication coverage of network closer to IB/LC/LAC.
- The network will extend the high bandwidth communication to the remote operational areas in Central and Eastern Sectors and enhance communication reach to the forward locations in the Western border too.

- Thus, the project would augment the communication network of Indian Army in the sensitive forward operational areas
- The project will provide a boost to the Indian Industry with approximately 80% indigenous content

Prelims Factoids: Dalle Khursani

Relevance IN – Prelims (about Dalle Khursani + about GI tag)

What's the NEWS

- Dalle Khursani, the famous **red hot cherry pepper of Sikkim**, is set to get a geographical indication (GI) tag from the Department for Promotion of Industry and Internal Trade (DPIIT).
- An application filed by the Guwahati-based North Eastern Regional Agricultural Marketing Corporation Limited (Neramac) for the GI tag of Sikkim's Dalle Khursani has been accepted by the DPIIT.



Know! about Dalle Khursani

- Considered one of the world's hottest chillies, it has a range of 1,00,000 to 3,50,000 **SHU (Scoville Heat Units)**.
- The Scoville scale is a measurement of spiciness or heat of chillies.
- The famous Bhut Jolokia, grown in neighbouring Assam, Arunachal Pradesh, Nagaland and Manipur, has an SHU range of 8,55,000 to 10,41,427.

Know! all about GI tag

- Geographical indication or GI is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- Geographical Indications are part of the intellectual property rights that comes under the Paris Convention for the Protection of Industrial Property.
- In India, Geographical Indications registration is administered by the Geographical Indications of Goods (Registration and Protection) Act of 1999.
- Geographical indications are typically used for agricultural products, foodstuffs, wine and spirit drinks, handicrafts, and industrial products.

Defence: India Successfully Test-fires New Version of Nuclear-capable Shaurya Ballistic Missile

Relevance IN – Prelims (about nuclear-capable Shaurya missile)

What's the NEWS

- India successfully test-fired a new version of nuclear-capable Shaurya missile off the coast of Odisha which can strike targets at around 800 kms.
- The new version of the missile was test fired successfully and would be inducted in the strategic forces to complement one of the existing missiles in the same class.
- In the last phase while moving close to its target, the missile moves at hypersonic speeds.

Recent missile tests

- India also successfully test fired the BrahMos supersonic cruise missile which can hit targets at over 400 km strike range which is at least more than 100 kms from the previous capability of the missile.
- India moves terrain-hugging Nirbhay missiles with 1,000-km range to defend LAC.
- The Nirbhay subsonic cruise missile will be inducted into the army and navy after the seventh trial.

Defence: Nirbhay long range subsonic cruise missile

Relevance IN – Prelims (about Nirbhay subsonic cruise missile)

What's the NEWS

- India will formally induct the Nirbhay subsonic cruise missile into the Indian Army and Navy after the seventh trial scheduled next month but has already moved a limited number of the missiles to the Line of Actual Control where Indian soldiers are locked in a tense standoff with China's PLA.

Nirbhay subsonic cruise missile

- The 1,000 km range **solid rocket booster missile** has a single shot kill ratio of more than 90 per cent.
- It has been developed by the Defence Research and Development Organisation (DRDO)
- The Defence Acquisition Council headed by defence minister Rajnath Singh has cleared the formal induction of the Nirbhay subsonic missile.
- The military, has already moved some of them (Nirbhay subsonic missile) to defend the LAC against China.
- The missile, which travels at a speed of 0.7 Mach, has both terrain-hugging and sea-skimming capability that helps it avoid detection and counter-measures.

Defence: Exercise Bongosagar and IN-BN Corpat

Relevance IN – Prelims (about Exercise Bongosagar + IN - BN Coordinated Patrol (CORPAT))

Exercise Bongosagar

- The second edition of Indian Navy (IN) – Bangladesh Navy (BN) Bilateral Exercise Bongosagar** commences in Northern Bay of Bengal on 03 October 2020.
- Exercise Bongosagar, whose first edition was held in 2019, is aimed at developing inter-operability and joint operational skills through conduct of a wide spectrum of maritime exercises and operations.
- In the upcoming edition of Exercise Bongosagar, ships from both navies will participate in surface warfare drills, seamanship evolutions and helicopter operations.

IN - BN Coordinated Patrol (CORPAT)

- The 3rd edition of **IN - BN Coordinated Patrol (CORPAT) begins in Northern Bay of Bengal from 4 to 5 October 2020**, wherein IN and BN units will undertake joint patrolling along the International Maritime Boundary Line (IMBL).
- Conduct of CORPATs has strengthened understanding between both the navies and instituted measures to stop conduct of unlawful activities.
- Indian Naval Ship (INS) Kiltan, an indigenously built Anti-Submarine Warfare Corvette and INS Khukri, an indigenously built Guided-Missile Corvette are participating
- India and Bangladesh have a close, long-standing relationship covering a wide spectrum of activities and interactions, which has strengthened over the years.
- The people of India and Bangladesh also share close cultural bonds and a shared vision of democratic society and a rules-based order.

Mujib Barsho

- This edition of Exercise Bongosagar assumes greater significance since it is being conducted during Mujib Barsho, the 100th birth anniversary of Bangabandhu Sheikh Mujibur Rahman.

SAGAR

- Exercise Bongosagar and IN - BN CORPAT will be undertaken over three days and reflects the priority that Indian Navy accords to Bangladesh Navy as part of Prime Minister's vision of SAGAR (Security And Growth for All in the Region).

Science & Technology: Global climate events over last 3200 years may have caused variations in Indian Summer Monsoon

Relevance IN – Prelims (about the study done by WIHG – terminologies + about WIHG)

What's the NEWS

- Global climatic events like the **Roman Warm Period, Medieval Climate Anomaly, and the Little Ice Age** may have had significant impacts on India's landscape, vegetation, and socio-economic growth, with abrupt shifts in the Indian Summer Monsoon (ISM) coinciding with these climatic events.

Know! about the study highlights

- A new study by the **Wadia Institute of Himalayan Geology (WIHG)**, an autonomous institute of the Department of Science & Technology (DST), Government of India, shows wet monsoon conditions in the North-Western Himalaya between 1200 and 550 BCE.
- The study carried out with lake sediments from **Rewalsar Lake**, a freshwater lake from Mandi district of Himachal Pradesh
- Sediments from this lake preserve signature that can be used as proxies to understand monsoon variability in the past.
- The chronology of Rewalsar Lake sediment was established based on the **Accelerator Mass Spectrometry** (a form of mass spectrometry to separate a rare isotope from an abundant neighbouring mass) (AMS)

Science & Technology: Scientists uncover clue of how first extreme-UV light appeared

Relevance IN – Prelims (facts about the first extreme-UV light appearance + about Project CEFIPRA + AstroSat + AUDFs01)

What's the NEWS

- Scientists have uncovered an important clue on how the dark ages of the Universe ended and how the **first extreme-UV light appeared**.
- India's first multi-wavelength satellite, AstroSat, has detected extreme-UV (EUV) light from a galaxy, called AUDFs01, 9.3 billion light-years away from Earth.

Extreme-UV (EUV) light

- The EUV photons emitted by galaxies like AUDFs01 could play a crucial role in reionizing the early universe soon after the Cosmic Dark Age and emitting the first light.
- Such EUV radiation has enough energy to ionize a hydrogen atom by liberating its electron from the nucleus's influence

Project CEFIPRA

- A collaboration of researchers from different countries under the project CEFIPRA **funded by Indo-French Centre for the Promotion of Advanced Research (CEFIPRA)** a bilateral organization set up by the Department of Science & Technology, Government of India and the **Ministry for Europe and Foreign Affairs, Government of France** delved into how galaxies like AUDFs01 grow their stellar mass when the first stars and galaxies became visible.
- CEFIPRA estimated the recent star-formation rate and mass of the gas reservoir in the galaxy.
- Star formation rate provides a quantitative measure of the stellar mass growth in galaxies.
- The typical star formation rate (or gas consumption rate) in those first galaxies is not known.
- By studying galaxies like AUDFs01 and many more, we could get an idea of how star formation rate, gas consumption rate, and growth of stellar mass in those primitive galaxies.

AstroSat

- The multi-wavelength satellite AstroSat, which was launched on September 28, 2015, by the Indian Space Research Organisation (ISRO) has five unique X-ray and ultraviolet telescopes working in tandem and has onboard the **Ultraviolet Imaging Telescope (UVIT)**.

AUDFs01

- AUDFs01 is the first example of a **leaking galaxy with clumpy morphology**. This galaxy has four clumps and, perhaps, typical of star-forming galaxies in this redshift range.
- The current version of the AUDF-south (AUDFs) can be used to detect a number of such EUV galaxies from redshift 1 and 2, when the cosmic star-formation rate had its peak, and thus, AstroSat may allow further to refine the scenario of cosmic reionization.

Government Schemes: Jal Jeevan Mission to provide potable piped water supply in Schools & Anganwadi Centres

Relevance IN – Prelims (about the 100 days campaign and its objective + about JJM)

What's the NEWS

- The Prime Minister released the 'Margdarshika' for Gram Panchayats and Paani Samitis for implementation of Jal Jeevan Mission (JJM) to have assured water supply to every rural home
- Prime Minister also launched '100 days campaign' to ensure piped safe water in schools and anganwadi centres across the country.
- Provisions have been made under Jal Jeevan Mission for ensuring safe water through tap water connection in schools, anganwadi centres, health care centres, etc.

100 days campaign

- During this 100 days campaign, Gram Sabhas will be convened coinciding with Gandhi Jayanti, on 2nd October, 2020 and in coming days to pass a resolution for providing safe water in all schools, anganwadi centres and other public institutions in the village in the next 100 days.
- These facilities will be operated and maintained by the Gram Panchayat and/or its sub-committee i.e. **Village Water & Sanitation Committee or Paani Samiti**.
- As '**nodal department**', **Public Health Engineering Department of States** will spearhead the campaign by involving Gram Panchayats and/or its sub-committees, along with other line departments namely Education, Women & Child Welfare, Panchayati Raj & Rural Development, Tribal Welfare, etc.

Jal Jeevan Mission (JJM)

- Jal Jeevan Mission (JJM) aims at the universal coverage of provision of tap water connection to every rural home by 2024.
- Jal Jeevan Mission is under implementation in partnership with States with the aim to provide drinking water to every rural household of the country by 2024.
- In the past one year, more than 2.30 Crore households have already been provided tap water connections across the country.

Government Schemes: API integration between PM SVANidhi and SBI portal launched

Relevance IN – Prelims (about the role of Application Programming Interface (API) + about PM SVANidhi)

What's the NEWS

- As a part of Prime Minister Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi) Scheme, the Ministry of Housing & Urban Affairs launched the **Application Programming Interface (API) integration between the PM SVANidhi Portal and the State Bank of India (SBI) portal**.

Application Programming Interface (API)

- This integration will facilitate **seamless flow of data between the two portals i.e. PM SVANidhi Portal and SBI's eMudra Portal** in a secure environment and expedite the loan sanctioning and disbursement process, which will benefit the street vendors seeking working capital loan under the Scheme.

idhi

Scheme

Knowledge Center

FAQ

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“कोरोना वैश्विक महामारी की अप्रत्याशित स्थिति में देश ने, हमारे गरीब भाई-बहनों ने, विशेषकर देहली-देहरादून-पटली पर सामान बेचने वाले वनिक साधियों ने तमाम चुनिकलों के बावजूद अव्युत समय और संघर्ष-शक्ति दिखाई है। उनके आर्थिक शिलों के लिए, उन्हें ताकतवर बनाने के लिए हम सतत् और समग्र प्रयास कर रहे हैं।”

नरेन्द्र मोदी, प्रधानमन्त्री

PM Street Vendor's AtmaNirbhar Nidhi

(PM SVANidhi)

A SPECIAL MICRO-CREDIT FACILITY FOR STREET VENDORS

Apply for Loan

PM SVANidhi Scheme

- The Ministry is implementing PM SVANidhi Scheme since June 01, 2020, for providing affordable working capital loan to street vendors to resume their livelihoods that have been adversely affected due to Covid-19 lockdown.
- This scheme targets to benefit over 50 lakh Street Vendors who had been vending on or before 24 March, 2020, **in urban areas including those from surrounding peri-urban/rural areas.**
- Under the Scheme, the vendors can avail a **working capital loan of up to Rs. 10,000**, which is repayable in monthly instalments in the tenure of one year.
- On timely/early repayment of the loan, an interest subsidy @ 7% per annum will be credited to the bank accounts of beneficiaries through Direct Benefit Transfer on quarterly basis.
- There will be no penalty on early repayment of loan.
- The scheme promotes digital transactions through cash-back incentives up to an amount of Rs. 1,200 per annum.

Prelims Factoids: Launch Jan Andolan for COVID-19 Appropriate Behaviour

Relevance IN – Prelims (about Jan Andolan for COVID-19 Appropriate Behaviour campaign)

What's the NEWS

- Prime Minister Narendra Modi launched a Campaign on 8th October, 2020 by way of a Tweet on Jan Andolan for COVID-19 Appropriate Behaviour.

Know! about the campaign

- The campaign will be launched in view of the upcoming festivals and winter season as well as the opening up of the economy.
- The campaign will be launched with the aim to encourage People's Participation (Jan Andolan).
- It endeavours to be a Low Cost High Intensity Campaign with the Key Messages of 'Wear Mask, Follow Physical Distancing, Maintain Hand Hygiene'
- A COVID-19 Pledge will be taken by all. A Concerted Action Plan will be implemented by Central Government Ministries/Departments and State Governments/Union Territories.

Prelims Factoids: Justice Department in association with Atal Innovation Mission under Niti Ayog organizes a Webinar on “Citizens’ Duties for School Children”

Relevance IN – Prelims (about the webinar and the Ministries involved in these events)



What's the NEWS

- On the occasion of the 151st Birth Anniversary of Mahatma Gandhi, Department of Justice, Ministry of Law and Justice, Government of India, in association with Atal Innovation Mission under Niti Ayog organized a Webinar on “*Citizens’ Duties for School Children: Strive for Excellence, Develop Scientific Temper and Utilize Opportunities for Education*”
- Department of Justice in collaboration with CSC e-Gov is also undertaking Citizens’ Duties Awareness Programme in 1000 Digital Villages in 16 States.
- On 2nd October 2020, programmes were conducted in 647 Common Service Centres (CSCs) in which nearly 12000 citizens participated.

Miscellaneous: India gets its first ever Brand & Logo for its Cotton on 2nd World Cotton Day

Relevance IN – Prelims (about Indian cotton and the role of CCI)

What's the NEWS

- The Union Minister of Textiles launched the **1st ever Brand & Logo for Indian Cotton** on 2nd World Cotton Day on 7th October, 2020
- 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.

Cotton Corporation of India (CCI)

- The Cotton Corporation of India Limited or CCI is a Government of India agency, engaged in diverse activities related to trade, procurement, and export of cotton.



- CCI is a public sector agency responsible for equitable distribution of cotton among the different constituents of the industry and aid imports of cotton.
- It was incorporated on 31 July 1970 under the Companies Act 1956.
- CCI is governed by Textile Policy 1985 issued by the Ministry of Textiles, Government of India.

Prelims Facts

- a mobile app, “**Cott-Ally**” has been developed by CCI for providing latest news regarding weather condition, Crop situation and best farm practices.

Know! about Cotton

- Cotton is one of the principal **commercial crops** of India and it provides livelihood to about 6.00 million cotton farmers.
- India is the 2nd largest cotton producer and the largest consumer of cotton in the world.
- India produces about 6.00 Million tons of cotton every year which is about 23% of the world cotton.

Organic cotton

- India produces about 51% of the total organic cotton production of the world, which demonstrates India’s effort towards sustainability.
- **Ministry of Textiles through APEDA** under Ministry of Commerce and Industry has prescribed a certification system for organic Cotton which will be introduced in phases in the entire textile value chain.

World Cotton Day

- The World Cotton day is celebrated on 7 October as a global celebration of cotton and its stakeholders, from field to fabric and beyond.
- At the initiative of the **Cotton-4 (Benin, Burkina Faso, Chad and Mali)**, the World Trade Organisation made the launch of World Cotton Day on 7 October 2019.
- The event is organised in collaboration with the Secretariats of the United Nations Food and Agriculture Organization (FAO), the United Nations Conference on Trade and Development (UNCTAD), the International Trade Centre (ITC) and the International Cotton Advisory Committee (ICAC).

Prelims Factoids: Bhai Taru Singh Ji

Relevance IN – Prelims (about Bhai Taru Singh Ji)

What’s the NEWS

- The Prime Minister has bowed to Bhai Taru Singh Ji, on the occasion of his 300th birth anniversary.

Know! about Bhai Taru Singh

- Bhai Taru Singh was a prominent Sikh martyr known for sacrificing his life for protecting Sikh values, having had his head scalped rather than cutting his hair or converting to Islam
- Bhai Taru Singh was born around 1720 into a Sandhu Jat family Amritsar during the reign of the Mughal Empire.
- He was raised as a Sikh by his widowed mother and had one sister, Tar Kaur.
- Gurdwara Shahidi Asthan Bhai Taru Singh ji is a Sikh Gurdwara at Naulakha Bazaar in Lahore, Pakistan, which commemorates the spot where Bhai Taru Singh was martyred.
- The shrine was built on the grounds of the Shaheed Ganj Mosque, leading to a legal dispute over ownership that began in 1850

Prelims Factoids: GSFC’s indigenous variety of ‘Calcium Nitrate’ & ‘Boronated Calcium Nitrate’

Relevance IN – Prelims (about Calcium Nitrate’ & ‘Boronated Calcium Nitrate’- manufactured for the first time)

What’s the NEWS

- The Chemicals & Fertilizers ministry has launched indigenous variety of Calcium Nitrate’ & ‘Boronated Calcium Nitrate’ manufactured by Gujrat State Fertilizers and Chemicals -GSFC India Ltd.

Calcium Nitrate & Boronated Calcium Nitrate

- 'Calcium Nitrate' & 'Boronated Calcium Nitrate' is **being manufactured for the first time in India**. 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.
- The **indigenous variety of calcium nitrate and Boronated calcium nitrate** will provide a quality product in cheaper rate to the farmer community in the country than imported ones.
- Calcium nitrate is used as a **water-soluble fertilizer in agriculture**. In addition, this product is also used in wastewater treatment and to increase the strength of cement concrete.

Prelims Factoids: World Post Day

Relevance IN – Prelims (about World Post Day + Universal Postal Union (UPU))

What's the NEWS

- India Post commenced celebration of the National Postal Week, starting with World Post Day which is celebrated each year on 9th October, the anniversary of the establishment of the **Universal Postal Union (UPU) in 1874 in Berne**.
- The purpose of World Post Day is to create awareness of the role of the postal sector in people's and businesses' everyday lives and its contribution to the social and economic development of countries.



Universal Postal Union

- The Universal Postal Union established by the Treaty of Bern of 1874, is a specialized agency of the United Nations (UN) that coordinates postal policies among member nations, in addition to the worldwide postal system.
- The UPU contains four bodies consisting of the Congress, the Council of Administration (CA), the Postal Operations Council (POC) and the International Bureau (IB).
- It also oversees the Telematics and Express Mail Service (EMS) cooperatives.
- Each member agrees to the same terms for conducting international postal duties.
- The UPU's headquarters are located in Bern, Switzerland.

Defence: DRDO successfully flight tests Indigenously Developed Anti Radiation Missile (RUDRAM)



Relevance IN – Prelims (about RUDRAM)

What's the NEWS

- New generation Anti Radiation Missile (RUDRAM) was successfully Flight tested onto a radiation target located on Wheeler Island off the coast of Odisha.

- The missile was launched from SU-30 MKI fighter aircraft.

Know! all about RUDRAM

- The RUDRAM is **first indigenous anti-radiation missile** of the country for Indian Air Force (IAF), being developed by Defence Research and Development Organisation (DRDO).
- The missile is **integrated on SU-30 MKI fighter aircraft** as the launch platform, having capability of varying ranges based on launch conditions.
- **It has INS-GPS navigation** with Passive Homing Head for the final attack.
- The RUDRAM hit the radiation target with pin-point accuracy.
- **The Passive Homing Head can detect**, classify and engage targets over a wide band of frequencies as programmed.
- The missile is a potent weapon for IAF for Suppression of Enemy Air Defence effectively from large stand-off ranges.
- With this, the country has established indigenous capability to develop long range air launched anti-radiation missiles for neutralising enemy Radars, communication sites and other RF emitting targets.

Prelims Factoids: Deh Vechwa Karani

Relevance IN – Prelims (about Dr. Balasaheb Vikhe Patil + Pravara Rural Education Society)

What's the NEWS

- The Prime Minister released the autobiography of Dr. Balasaheb Vikhe Patil titled 'Deh Vechwa Karani'
- He renamed Pravara Rural Education Society as 'Loknete Dr. Balasaheb Vikhe Patil Pravara Rural Education Society'.

Balasaheb Vikhe Patil

- He was a member of the 14th Lok Sabha of India.
- He was a prominent leader of Maharashtra and eldest son of Vithalrao Vikhe Patil, who started Asia's first Co-operative sugar factory at Loni in Maharashtra.
- He was awarded the prestigious civilian award Padma Bhushan on 31 March 2010 for his outstanding work in the field of Social Work.
- He was seven time MP, former Union Minister of State (Finance) and Union Cabinet Minister (Heavy Industries), Government of India.

Pravara Rural Education Society

- Pravara Rural Education Society was established in 1964 at Loni in Ahmednagar district, with the aim 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.

Environment: Fishing cat - ambassador of Chilika Lake

Relevance IN – Prelims (about fishing + about Chilika lake)

What's the NEWS

- The Chilika Development Authority (CDA) designated the fishing cat as ambassador at a meeting held to conclude the ongoing **wildlife week**.
- The fishing cat will be the ambassador of Chilika Lake, the largest brackish water lagoon in Asia and India's oldest Ramsar Site

Fishing Cat Conservation Alliance (FCCA)

- A study conducted by the Fishing Cat Project (TFCP) and the Indian wing of Fishing Cat Conservation Alliance (FCCA) in collaboration with the CDA.



- The study shows that the fishing cats are mostly found in marshlands fringing the north and north-eastern sections of the lake
- The fishing cat is the only wild cat species in India that is a wetland specialist, and it's found all around Chilika.
- Chilika has one of the country's largest extensive marsh-ecosystems, spanning around 100 sq. km.
- Projecting the fishing cat as the face of the marshlands will raise the profile of the fishing cat and marshland ecosystems globally and nationally

Know! about fishing cat

- The fishing cat is a Schedule I species
- The fishing cat (*Prionailurus viverrinus*) is a medium-sized wild cat of South and Southeast Asia.
- Since 2016, it is listed as **Vulnerable** on the IUCN Red List.
- Fishing cat populations are threatened by destruction of wetlands and have declined severely over the last decade.
- Management interventions are required to prolong the life of this marshland so that it can continue to provide for the globally endangered fishing cat
- The CDA has also decided to have a rescue and rehabilitation centre for birds, Irrawaddy dolphins, fishing cat and otters with the help of the Wildlife Trust of India inside the Chilika lagoon.
- This centre will cater to a long-standing need for rescue and rehabilitation of migratory birds and other flagship species of the lagoon.

Wildlife Week 2020

- 66th Wildlife Week being observed in India from 02 to 08 October 2020
- The Wildlife Week is celebrated in India every year from 02 to 08 October to conserve and protect the fauna or animal life of the country.
- Wildlife Week was conceptualized in 1952 to raise awareness of safeguarding the lives of wildlife through critical action.
- Theme 2020- RoaR (Roar and Revive) – Exploring Human-Animal Relationships.
- The Week is celebrated by several organizations all over India, but the celebrations are mainly **organized by National Board of Wildlife**.

Prelims Factoids: Stevie Awards For Women In Business

Relevance IN – Prelims (about Stevie awards)

What's the NEWS

- Mrs. Seema Gupta, Director (Operations), Power Grid Corporation of India Limited, a PSU under Ministry of Power, has been named the winner of **GOLD Stevie® Award** in the **LIFETIME ACHIEVEMENT- BUSINESS** category in the **17th annual Stevie Awards for Women in Business**.

Know! about Stevie Awards

- The Stevie Awards for Women in Business honour women executives, entrepreneurs, employees, and the companies they run– worldwide.
- The Stevie Awards have been hailed as the **world's premier business awards**. For this year, the Gold, Silver, and Bronze Stevie Award winners were determined by the average scores of more than 180 business professionals around the world, working on seven juries.
- The Stevie® Awards are the world's premier business awards.
- They were created in 2002 to honor and generate public recognition of the achievements and positive contributions of organizations and working professionals worldwide.

Science & Technology: Good Laboratory Practice (GLP)

Relevance IN – Prelims (about Good Laboratory Practice + about OECD + role of NGCMA)

What's the NEWS



- India has been designated the 'Vice-Chair' of **Good Laboratory Practice (GLP)** Working Group of the Organisation for Economic Co-operation and Development (OECD), recognising the contribution of the Indian GLP programme.

Know! about GLP

- Good Laboratory Practice (GLP) is a quality system, which has been evolved by **Organisation for Economic Co-operation and Development (OECD)** to ensure that safety data generated on various chemicals like industrial chemicals, pharmaceuticals (Human and Veterinary), agrochemicals, cosmetic products, food/feed additives, and medical devices, etc., can be relied upon by regulatory authorities.
- The Department of Science and Technology (DST), Government of India, established the **National GLP Compliance Monitoring Authority (NGCMA)** with the approval of the Union Cabinet on April 24, 2002.

National GLP Compliance Monitoring Authority (NGCMA)

- NGCMA is the National body which grants GLP certification to **test facilities (TFs)** conducting safety studies on new chemicals in accordance with OECD Principles of GLP and OECD Council norms. The Grant of the first GLP certificate by NGCMA in 2004 was a milestone.
- The non-hazardous nature of chemicals needs to be established through studies and data, which is examined by the regulators of the concerned countries to certify that the use of these chemicals does not pose any hazards to human health and the environment.

Mutual Acceptance of Data (MAD)

- On March 3, 2011, India became full adherent to the **Mutual Acceptance of Data (MAD)** in the OECD.
- The MAD status has given global recognition to India's non-clinical safety data by tremendously augmenting its credibility and acceptability across the globe.
- This has not only boosted the confidence of Indian GLP TFs but also led to removal of technical barriers to trade.
- The spectrum of activities of Indian GLP TFs is wide, involving eight (8) types of chemicals/test items and nine (9) areas of expertise.
- The National GLP program has not only helped to build a network of GLP TFs in the country but also created a huge quantum of highly competent human resources.

Know! about OECD

- The Organisation for Economic Co-operation and Development (OECD) is a group of 37 member countries that discuss and develop economic and social policy.
- OECD are typically democratic countries that support free-market economies.
- The stated goal is to shape policies that foster prosperity, equality, opportunity and well-being for all.
- It was established on Dec. 14, 1960, by 18 European nations, plus the United States and Canada.
- It has expanded over time to include members from South America and the Asia-Pacific region.
- It includes most of the world's highly developed economies.
- The organization is headquartered in the Chateau de la Muette in Paris, France.
- Understanding the Organisation for Economic Co-operation and Development (OECD)
- Over the years, it has dealt with a range of issues, including raising the standard of living in member countries, contributing to the expansion of world trade, and promoting economic stability.

- The OECD maintains a so-called “black list” of nations that are considered uncooperative tax havens, although there are not any nations currently on the list since by 2009.

Prelims Factoids: Work begins on Zozila Tunnel – the longest tunnel road in Asia

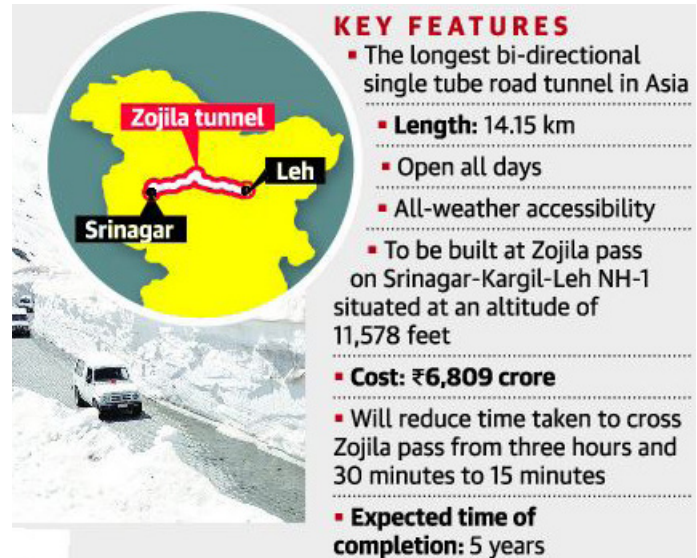
Relevance IN – Prelims (about Zozila Tunnel and its geographical location)

What’s the NEWS

- Work on the Zozila Tunnel in J&K began today with ceremonial blasting.

Know! all about Zozila Tunnel

- The tunnel will provide all-weather connectivity between **Srinagar valley and Leh (Ladakh plateau) on NH-1**
- It involves construction of a 14.15 Km long tunnel at an altitude of about 3000 m under Zojila pass (presently motorable only for 6 months in a year) on NH-1 connecting Srinagar and Leh through Dras & Kargil.
- It is one of the most dangerous stretch in the world to drive a vehicle & this project is also geo-strategically sensitive.
- Zojila Tunnel length = 14.15 Km and Approach road length = 18.63 Km.
- Total project length is 32.78 km.
- NHIDCL invited the bids and M/s. Megha Engineering & Infrastructure Limited was awarded the work



Significance

- The construction of Zojila Tunnel will provide all-weather safe connectivity between Srinagar, Dras, Kargil and Leh regions.
- The all-weather safe connectivity of the road is immensely important from the strategic point of view.
- This Project will make the travel on Srinagar-Kargil-Leh Section of NH-1 free from avalanches.
- Project would enhance the safety of the travelers crossing Zojila Pass and would reduce the Travel time from more than 3 hours to 15 minutes.

National Highways and Infrastructure Development Corporation Ltd. (NHIDCL)

- Highways Connectivity Company Ltd. was set up under Companies Act, 2013.
- The name of the company was subsequently changed to National Highways and Infrastructure Development Corporation Ltd. and started functioning w.e.f. 18.07.2014. NHIDCL under the MORTH dedicated exclusively to the task of constructing/upgrading/widening of National Highways in parts of the country which shares international boundaries with neighbouring countries in order to promote regional connectivity on a substantial basis.
- Secretary (RT&H) is the ex-officio Chairman of the company.

Prelims Factoids: EpicVacCorona

Relevance IN – Prelims (about EpicVacCorona)

What’s the NEWS

- Russian President Vladimir Putin announced the registration of the second Russian vaccine against the SARS CoV-2 coronavirus which will be produced under the name EpicVacCorona.
- The vaccine was developed at the Vektor Scientific Center for Virology and Biotechnology.
- The new vaccine is **based on synthetic materials**, that is why its third phase or post-registration tests will be carried out in people over 65 years of age, unlike the first Sputnik-V, whose registration on August 11 was the first one of its kind in the world.

Prelims Factoids: Electoral Bonds

Relevance IN – Prelims (all about Electoral bonds)

What's the NEWS

- The State Bank of India (SBI), in the XIV Phase of sale, has been authorised to issue and encash Electoral Bonds through its 29 Authorized Branches

The Election Commission of India (ECI) has accorded 'No objection' from Model Code of Conduct (MCC) angle, subject to the following conditions:

- No Political functionary shall make any reference in this regard during any public speech or communication
- The relevant provisions of Model Code of Conduct issued by the Election Commission shall be strictly followed.

Know! about Electoral Bonds

- The Government of India has notified the Electoral Bond Scheme 2018
- As per provisions of the Scheme, Electoral Bonds may be purchased by a person who is a citizen of India or incorporated or established in India.
- A person being an individual can buy Electoral Bonds, either singly or jointly with other individuals.
- The bonds will be issued in multiples of Rs 1,000, Rs 10,000, Rs 100,000 and Rs 1 crore (the range of a bond is between Rs 1,000 to Rs 1 crore).
- Only the Political Parties registered under Section 29A of the Representation of the People Act, 1951 (43 of 1951) and which secured not less than one per cent of the votes polled in the last General Election to the House of the People or the Legislative Assembly of the State, shall be eligible to receive the Electoral Bonds.
- The Electoral Bonds shall be encashed by an eligible Political Party only through a Bank account with the Authorized Bank.
- The Electoral Bonds shall be valid for fifteen calendar days from the date of issue and no payment shall be made to any payee Political Party if the Electoral Bond is deposited after expiry of the validity period.
- The Electoral Bond deposited by an eligible Political Party in its account shall be credited on the same day.

Know! the controversy over electoral bond

- Neither the purchaser of the bond nor the political party receiving the donation is required to disclose the donor's identity, Voters, will have no idea of how, and through whom, a political party has been funded.
- The identity of the donor has been kept anonymous, it could lead to an influx of black money.
- The concept of donor "anonymity" threatens the very spirit of democracy.

Restrictions that were done away with after the introduction of the electoral bond scheme

- Earlier, no foreign company could donate to any political party under the Companies Act
- A firm could donate a maximum of 7.5 per cent of its average three year net profit as political donations according to Section 182 of the Companies Act
- As per the same section of the Act, companies had to disclose details of their political donations in their annual statement of accounts.
- The government moved an amendment in the Finance Bill to ensure that this proviso would not be applicable to companies in case of electoral bonds.
- Thus, Indian, foreign and even shell companies can now donate to political parties without having to inform anyone of the contribution.

Defence: Exercise SLINEX-20

Relevance IN – Prelims (about SLINEX-20)

What's the NEWS

- The Eighth Edition of annual **Indian Navy (IN) – Sri Lanka Navy (SLN)** bilateral maritime exercise SLINEX-20 is scheduled off Trincomalee, Sri Lanka from 19 to 21 October 2020.
- The Indian Navy will be represented by SLN Ships **Sayura** (Offshore Patrol Vessel) and **Gajabahu** (Training Ship)



- Indigenously built ASW corvettes **Kamorta** and **Kiltan** will represent the Indian Navy.
- The previous edition of SLINEX was conducted off Visakhapatnam in September 2019.

Know! about SLINEX-20

- It aims to enhance inter-operability, improve mutual understanding and exchange **best practices and procedures for multi-faceted maritime operations** between both navies.
- In addition, the exercise will also showcase capabilities of our indigenously constructed naval ships and aircraft.
- SLINEX series of exercise exemplifies the deep engagement between India and Sri Lanka which has strengthened mutual cooperation in the maritime domain.

MT New Diamond

- Synergy developed during SLINEX exercises resulted in seamless coordination of joint SLN – IN efforts in September 2020 to render assistance to MT New Diamond, a Very Large Crude Carrier (VLCC), which had caught fire off the East Coast of Sri Lanka.

Miscellaneous: Air pollution

Relevance IN – Prelims/Mains Fodder

Reasons for air pollution

- The primary reasons for air pollution are vehicular emissions, industrial emissions, dust from construction and demolition sites, biomass burning, poor waste management and stubble burning.
- Pollution in northern India during winters gets exacerbated when these factors combine with geographical and meteorological factors.

Steps taken by the Central government to combat air pollution

- A holistic approach towards reduction of Air Pollution is being implemented across the country and the Ministry of Environment through the National Clean Air Programme (NCAP) is implementing the same across 122 cities in the country.
- NCAP targets to achieve 20 to 30 % reduction in PM10 and PM2.5 concentrations by 2024 across the country.
- Introduction of BS VI compliant vehicle standard since April 2020 across the country helped reduce pollution caused by vehicles.
- BSVI fuel reduces the NOx emission by 70% in diesel cars, by 25% in petrol cars and reduces particulate matter (PM) in vehicles by 80%.

CPCB's SAMEER App

- It gives complete information about the polluted areas in various cities across the country. It identifies areas having heavy pollution with a red mark.

Defence: Malabar 2020 Naval Exercise



Relevance IN – Prelims (about Malabar 2020)

What's the NEWS

- India has invited Australia to participate in the annual Malabar series of naval exercises, marking the first time that the 'Quad', which includes the US and Japan, will conduct extensive wargames in the Indian Ocean **Region**.

Know! about Malabar 2020

- The Annual Naval Exercise Malabar-2020 is expected to be held in the Bay of Bengal and the Arabian Sea later this year.
- The exercises, which will take place both in the Bay of Bengal and the Arabian Sea, demonstrate a change of stance for the first time since 2007 when Australia participated in Malabar but was dropped in subsequent editions
- India, the US and Japan have been conducting the Malabar series of exercises annually, the 2007 edition marked a significant expansion with the participation of Australia and Singapore.
- This year, the exercise has been planned on a 'non-contact-at sea' format.
- The exercise will strengthen the coordination between the Navies of the participating countries.
- The Malabar series of Naval exercises started in 1992 as a bilateral Indian Navy-US Navy exercise.
- Japan joined the Naval exercise in 2015.
- This annual exercise has been conducted off the coast of Guam in the Philippine Sea in 2018, off the coast the Japan in 2019 and is expected to be held in the Bay of Bengal and the Arabian Sea later this year.

Way Forward

- As India Seeks to increase cooperation with other countries in the maritime security domain and in the light of increased defence cooperation with Australia, Malabar 2020 will see the participation of the Australian Navy.
- The participants of Exercise Malabar 2020 are engaging to enhance safety and security in the maritime domain. They collectively support free, open and inclusive Indo-Pacific and remain committed to a rules based international order.

Government Schemes: Grand ICT Challenge under Jal Jeevan Mission receives impressive response

Relevance IN – Prelims (about ICT Grand Challenge + about Jal Jeevan. Mission)

What's the NEWS

- National Jal Jeevan Mission in partnership with Ministry of Electronics & Information Technology (MeitY) had launched an ICT Grand Challenge to create innovative, modular, and cost-effective solution to develop a 'Smart Water Supply Measurement and Monitoring System' to be deployed at the village level.



Know! about the progress of ICT Grand Challenge

- A total of 213 proposal from various Indian Tech start-ups, MSMEs, Indian Companies, Indian LLPs have been received which will now be scrutinized by a jury committee appointed by MEITY and select the proposals.
- The ambitious mission focuses on service delivery rather than mere creation of infrastructure.
- This kind of technological challenge offers a great opportunity to ensure long-term sustainability of water supply systems in rural areas.
- This grand challenge will harness the vibrant IoT eco-systems of India for creating smart rural water supply eco-system to measure and monitor the service delivery of the water supply in rural areas.
- This challenge will provide opportunity to work for casue of Jal Jeevan Mission and to assure potable water supply through functional household tap connection to every rural household of the country.
- The Grand challenge will provide support at ideation Stage, prototype development stage, deployment stage.
- The pilot will be conducted in 100 villages. The best solution will get cash prize of Rs. 50 Lakh and runner ups will get prize of Rs. 20 Lakh each.
- The successful developers will be given an opportunity to join the MeitY supported incubator for further nurturing of the solution.

Jal Jeevan Mission (JJM)

- Union Government's flagship programme- Jal Jeevan Mission (JJM) is being implemented in partnership with States for providing Functional Household Tap water Connection (FHTC) to every rural household by 2024.
- The programme focuses on service delivery at the household level, i.e. water supply regularly in adequate quantity and of prescribed quality, on long-term basis.
- This necessitates the use of modern technology in systematic monitoring of the programme and to capture service delivery data automatically for ensuring the quality of services.
- Digitisation of water supply infrastructure has the potential to solve some of the biggest societal problems facing the nation. More importantly, it will help anticipate and address future challenges.

Prelims Factoids: Indian Academy of Highway Engineers (IAHE)

Relevance IN – Prelims (about IAHE + about Y. S. Malik committee)

What's the NEWS

- 5th General Council meeting of Indian Academy of Highway Engineers (IAHE)

Know! some recent developments

- It was proposed to expand and improve the activities of IAHE to better contribute to highway development programmes.
- The Ministry constituted a committee under the chairmanship Shri Y. S. Malik, to give recommendations to transform IAHE into a world-class premier institute in highway sector.

- The council deliberated the recommendations of the Committee to enhance the scope of the IAHE to three distinct functions, namely (i) Training, (ii) Applied Research and Development in the Highways and Public Transport Sector, and (iii) Road Safety and Regulation and decided to take further necessary action to transform IAHE into a world-class premier institute in highway sector.

Know! about IAHE

- Created in 1983, IAHE has been providing training at entry level/refresher courses/training on specialised areas of highway, bridge & tunnel engineering/orientation programmes/management development programmes/strategic training programmes etc. to highway engineers and professionals working in Central Government, State Governments, PSUs, Local Bodies, Contractors, Consultants etc.

Prelims Factoids: Country's first multi-modal logistic park

Relevance IN – Prelims (about multi-modal logistic park)

What's the NEWS

- Union Minister for Road Transport and Highways 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.

Science & Technology: The 6th India International Science Festival

Relevance IN – Prelims (about IISF 2020)

What's the NEWS

- The 6th edition of India International Science Festival (IISF) 2020 will be held from 22nd to 25th December, 2020.
- IISF 2020 will be organized at virtual platform
- CSIR will spearhead the IISF 2020 with support of all other concerned ministries and departments.

Know! all about IISF

- IISF is an annual event organised jointly by science & technology-related Ministries and Departments of the Government of India and Vijnana Bharati (Vibha).
- The first and second IISF were held in New Delhi, the third in Chennai, the fourth in Lucknow, and the fifth IISF was held in Kolkata.
- IISF 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.
- IISF 2020 expects participation of large number of scientist and institutions from India and abroad as well as young people. Several events are expected to be lined up on various themes before and during IISF 2020.

Know! about VIBHA

- Vijnana Bharati or VIBHA, previously known as Swadeshi Science Movement, is a non-profit organisation in India that popularises ancient sciences such as Ayurveda, Siddha medicine, and Vastuvidya.
- It was founded by Prof. K.I. Vasu of the Indian Institute of Science.
- Swadeshi Science Movement was founded in 1982 at Indian Institute of Science, Bangalore, by Prof. K.I Vasu. in 1991 it was renamed as Vijnana Bharati.
- VIBHA currently has 20,000 members, and units in 23 states in India.

Science & Technology: Aditi Urja Sanch

Relevance IN – Prelims (about DME+ about Aditi Urja Sanch)

What's the NEWS

- The Union Minister of Science and Technology inaugurated the DME fired “Aditi Urja Sanch” unit along with the **DME-LPG blended fuel cylinders**



Know! about Dimethyl ether (DME)

- **Dimethyl ether** (DME) is an ultra-clean fuel.
- CSIR-NCL has developed nation's first kind of DME pilot plant with 20-24 Kg/day capacity.
- The conventional LPG burner is not suitable for DME combustion as DME density is different than LPG.
- To address this issue, CSIR- NCL's "ADITI URJA SANCH" has come up with a helpful, innovative setup.
- The new Burner is fully designed and fabricated by NCL for DME, DME -LPG blended mixtures and LPG combustion.

Salient features of newly designed Burner are:

- a. The new design is efficient for both DME and the blend of DME and LPG.
- b. Novel design and flexible air ingress.
- c. The new nozzle design allows optimum oxygen ingress for combustion
- d. The angles at which nozzles are placed maximize the heat transfer area across the utensils.
- e. Optimum flame velocity can be obtained.
- f. The length of the flame (high, low, and medium) can be adjusted by altering the oxygen ingress.
- g. The experiment shows that it increases the heat transfer rate as well.

Know! more about DME

- A clean cooking fuel combination of DME-LPG also safeguards the well-being of women and children.
- The DME process technology is economical, cost-effective, and scalable with in-situ product purification as well as a heat integration unit that produces pure DME.
- This technology developed by CSIR-NCL at present has the capacity of 20-24 kg/day DME production. It is to be scaled up to 0.5 Ton per day through the CSIR-FTC project.
- The newly designed stove can burn with up to 30 % DME blended with LPG or 100% DME as fuel.
- A 20% DME blending with LPG, with fewer infrastructure changes, is expected to result in substantial savings annually.
- The DME from Methanol process developed by CSIR-NCL is producing 20-24 kg/day.
- This economical, cost-effective process will be scaled up to 0.5 Ton per day through CSIR-FTC project. CSIR-NCL plans under "Aditi UrjaSanch" to launch in future industrial burners for low emission, DME/DME blended fuel for automobiles and stationery power.

Prelims Factoids: Moushik

Relevance IN – Prelims (about Moushik)

What's the NEWS

- Indian Institute of Technology Madras researchers have booted up a microprocessor 'Moushik'.

Know! about Moushik

- Moushik, a processor-cum-system on a chip that can cater to the rapidly-growing IoT devices, was conceptualised, designed and developed at Pratap Subrahmanyam Centre for Digital Intelligence and Secure Hardware Architecture (PS-CDISHA) of RISE group, Department of Computer Science and Engineering at the institute.
- The project was funded by the Ministry of Electronics and Information Technology
- The three steps in the making of a microprocessor such as design, fabrication and post-silicon boot-up were taken up in India.
- The design of the microprocessor, motherboard printed circuit board design, assembly and post-silicon boot-up were done at IIT Madras.
- The foundry-specific back-end design and fabrication was undertaken at Semi-Conductor Laboratory of Indian Space Research Organization (ISRO) in Chandigarh and manufacturing of this motherboard was done at Bengaluru.
- Shakthi Moushik SOC will constitute the heart of an indigenously-developed motherboard called Ardonyx 1.0.
- The field application of Moushik includes smart cards, such as credit and debit cards; ID cards; travel cards for Metros and driving licences; electronic voting machines; office management systems including attendance, surveillance cameras and safe locks; personalised health management systems; consumer electronics, including washing machines and water pump monitoring systems.

Prelims Factoids: COVIRAP


Relevance IN – Prelims (about COVIRAP)

What's the NEWS

- Low-cost, easy to conduct': IIT-Kharagpur's Covid test gets ICMR approval
- After rigorous testing with patient samples by an authorised ICMR laboratory, in adherence with the council's strict guidelines, it has granted certification for the Covid-19 diagnostic test,

Know! all about COVIRAP

- 'COVIRAP' is a diagnostic machine developed by IIT Kharagpur researchers.
- A diagnostic machine to carry out tests to detect coronavirus infection, developed by researchers from IIT-Kharagpur – COVIRAP – has received approval from the Indian Council of Medical Research (ICMR). The test has been validated for its efficacy in Covid-19 detection by the ICMR.
- The test is fairly easy to conduct, affordable and can produce results within one hour.
- The test can also detect extremely low levels of viral loads, thus diagnosing the infection in very early stages
- This new testing method implements a highly reliable and accurate molecular diagnostic procedure, conducted in an ultra low-cost portable device unit, said Tewari. The test costs only Rs 500
- After rigorous testing with patient samples by an authorised ICMR laboratory, in adherence with the council's strict guidelines, it has granted certification for the Covid-19 diagnostic test

Novel solution A look at how the new COVID-19 testing device works	it's mixed with another solution and reheated
	<ul style="list-style-type: none">A paper strip is dipped into reaction productColoured lines develop, like in a pregnancy kit, to indicate presence or absence of virusA smartphone app can grab image of the strip and convey resultsCOVIRAP can deliver results in an hour
Virus alert: Researchers with the COVIRAP device at IIT Kharagpur. ▪ SPECIAL ARRANGEMENT	DIFFERENCES WITH RT-PCR
<ul style="list-style-type: none">COVIRAP machine resembles a box and comes with a kitKit has three master mixes which are markers of different genes to confirm the virusRNA samples are extracted from nasal swabs and mixed with the master mix in tubesTubes are put in the machine which is set at a specific temperature and programmed to run for a fixed periodOnce the heating is over,	<ul style="list-style-type: none">While RT-PCR machines can cost up to ₹25 lakh, the COVIRAP machine cost the IIT researchers only ₹5,000COVIRAP test kits cost about ₹500RT-PCR needs to be operated by a molecular biologistCOVIRAP can be operated with minimal training

- This technology is set to replace RT-PCR-based tests to a large extent
- The patented machine unit has not only been proven to be robust during patient sample testing, but also extremely flexible and generic.
- This means that other than Covid-19 testing, many other tests that fall under the category of 'isothermal nucleic acid-based tests' (INAT), can be performed in the same machine.

Defence: India's anti-tank missile Nag test-fired in Pokhran, ready for Ladakh deployment

Relevance IN – Prelims (about Nag anti-tank missile)

What's the NEWS

- The Defence Research and Development Organization (DRDO) successfully completed the final trial of Nag anti-tank missile using a live warhead on a dud tank at Pokhran army ranges
- The shoulder launched four-kilometre range missile with imaging infrared seeker will now be inducted in Indian Army.



Stand-off Anti-Tank Missile (SANT)

- The Nag trial comes after the DRDO tested the helicopter launched Stand-off Anti-Tank Missile (SANT) with beyond 10 km range from Balasore testing range in Odisha
- Although the missile will ultimately integrated with attack helicopters in future, the test was conducted from ground and was successful.

Nag anti-tank missile and recent missile tested by DRDO

- The Nag anti-tank missile is now ready for induction at locations such as the East Ladakh sector as it has completed 10 successful user trial with the weapon finding and then hitting the target.
- The DRDO has been on a missile testing spree for a little over a month with only the 1,000 km range sub-sonic cruise missile Nirbhay, developing a snag during a test earlier this month.
- The missile is now expected to test fired in the coming months as the technical snag in the booster has been identified and rectified by the missile team.

Know! the benefits of having anti-tank missile

- The final trial of Nag anti-tank missile means that the Indian Army will no longer have to import this weapon from either Israel or the US for the range of four kilometres.
- It was due to unavailability of a credible anti-tank weapon, that India had to buy around 200 pieces of Spike anti-tank missiles from Israel as emergency purchases after the aggression by People's Liberation Army in Ladakh.

Space Awareness: NASA's OSIRIS-REx

Relevance IN – Prelims (about NASA's OSIRIS-REx)

What's the NEWS

- NASA's OSIRIS-REx — Origins, — Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer — spacecraft briefly touched asteroid Bennu, from where it is meant to collect samples of dust and pebbles and deliver them back to Earth in 2023.
- The asteroid was discovered by a team from the NASA-funded Lincoln Near-Earth Asteroid Research team in 1999.
- Scientists are interested in analyzing the composition of the asteroids in the solar system because they are made of the same materials that formed the planets.



Know! more about the mission

- This is NASA's first mission meant to return a sample from the ancient asteroid.
- The mission is essentially a seven-year-long voyage and will conclude when at least 60 grams of samples are delivered back to the Earth.
- The mission was launched in 2016, it reached its target in 2018 and since then, the spacecraft has been trying to match the velocity of the asteroid using small rocket thrusters to rendezvous it.
- The spacecraft's robotic arm called the Touch-And-Go Sample Acquisition Mechanism (TAGSAM), made an attempt to "TAG" the asteroid at a sample site which was no bigger than a few parking spaces and collected a sample.
- The spacecraft contains five instruments meant to explore Bennu including cameras, a spectrometer and a laser altimeter. The departure window for the mission will open up in 2021, after which it will take over two years to reach back to Earth.

Know! about Asteroids

- Asteroids are rocky objects that orbit the Sun, much smaller than planets.
- They are also called minor planets. According to NASA, 994,383 is the count of known asteroids, the remnants from the formation of the solar system over 4.6 billion years ago.
- Asteroids are divided into three classes. First, those found in the main asteroid belt between Mars and Jupiter
- The second group is that of trojans, which are asteroids that share an orbit with a larger planet. NASA reports the presence of Jupiter, Neptune and Mars trojans. In 2011, they reported an Earth trojan as well.
- The third classification is Near-Earth Asteroids (NEA), which have orbits that pass close by the Earth. Those that cross the Earth's orbit are called Earth-crossers.

Know! about Asteroid Bennu

- Bennu is an asteroid about as tall as the Empire State Building and located at a distance of about 200 million miles away from the Earth.

- Scientists study asteroids to look for information about the formation and history of planets and the sun since asteroids were formed at the same time as other objects in the solar system.
- Another reason for tracking them is to look for asteroids that might be potentially hazardous.

Miscellaneous: Price Monitoring and Resource Unit

Relevance IN – Prelims (about the role of PMRU)

What's the NEWS

- A Price Monitoring and Resource Unit (PMRU) has been set up in Goa under the aegis of National Pharmaceutical Pricing Authority (NPPA), Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, Government of India.

Know! the objective and role of PMRU

- This PMRU will function at the State level under the direct supervision of the State Drug Controller for increasing outreach of NPPA.
- PMRUs are societies registered under the Societies Registration Act having its own Memorandum of Association/ Bye laws.
- The Board of Governors of PMRU includes the representatives from Central Government and State Government concerned and other stakeholders.

Know! the genesis of PMRU's

- NPPA, under its Central Sector Scheme named Consumer Awareness, Publicity and Price Monitoring (CAPPMP) has already set up PMRUs in 15 States/UTs,
- NPPA has plans to set up PMRUs in all the 36 States/UTs in the country.
- The expenses of PMRUs, both recurring and non-recurring are borne by NPPA under the Scheme.
- The PMRUs are expected to strengthen drug security and affordability at regional levels.
- The primary function of PMRUs is to assist NPPA in monitoring of prices of drugs, ensuring availability of drugs and raising consumer awareness.
- They act as collaborating partners of NPPA with information gathering mechanism at the grass-roots level.
- They will render necessary technical assistance to both the NPPA and the respective State Drug Controllers of States/Union Territories.

Governance: National Conference on Vigilance and Anti Corruption

Relevance IN – Prelims (about the National Conference on Vigilance and Anti-Corruption)

What's the NEWS

- The Prime Minister inaugurated the National Conference on Vigilance and Anti-Corruption, on the theme Vigilant India, Prosperous India

Know! more about the Conference

- 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.
- The three day conference would discuss the Challenges in investigation in foreign jurisdictions; Preventive Vigilance as a Systemic Check against Corruption; Systemic improvements for financial inclusion and prevention of bank frauds
- The Conference shall bring policy makers and practitioners on a common platform and will act as an enabler to combat corruption through systemic improvements and preventive vigilance measures, thereby ushering in good governance and accountable administration. This is a significant contributing factor for enabling ease of doing business in India.

Prelims Factoids: Tocilizumab

Know! about Tocilizumab

- Tocilizumab is the second drug, after hydroxychloroquine, that had quickly earned global popularity as a Covid-19 treatment before its efficacy came under question in the wake of poor trial outcomes.
- It is an immunosuppressant, commonly used for rheumatoid arthritis, and marketed as Actemra by Swiss pharma company Roche.
- It was repurposed in January to fight severe lung infection in Covid-19 patients.
- Tocilizumab is an immunosuppressive drug, mainly for the treatment of rheumatoid arthritis (RA) and systemic juvenile idiopathic arthritis, a severe form of arthritis in children.
- It is a humanized monoclonal antibody against the interleukin-6 receptor (IL-6R).
- Interleukin 6 (IL-6) is a cytokine that plays an important role in immune response and is implicated in the pathogenesis of many diseases, such as autoimmune diseases

Prelims Factoids: The Kati Bihu of Assam

Relevance IN – Prelims (about the bihu festivals of Assam)

Know! about the different types of Bihu festivals of Assam

- The Assamese people observe all the pan-Indian religious festivals, but their most important celebrations are the three Bihu festivals.
- Originally agricultural festivals, they are observed with great enthusiasm irrespective of caste, creed, and religious affinity.
- The Bohag Bihu, celebrated in the spring (usually mid-April), marks the commencement of the new year (first day of the Bohag or Baishakh month).
- It is also known as Rangoli Bihu (from rang, meaning merrymaking and fun)
- The Magh Bihu, celebrated in mid-January (in the month of Magh), is a harvest festival.
- It is also known as Bhogali Bihu (from bhog, meaning enjoyment and feasting)
- The third Bihu festival, the Kati Bihu (in mid-October or November), is also called the Kangali Bihu (from kangali, meaning poor), because by this time of year the house of an ordinary family is without food grains, as the stock is usually consumed before the next harvest.

Cultural life of Assam

- The cultural life of Assam is interwoven with the activities of a number of cultural institutions and religious centres, such as the satra (seat of a religious head known as the satradhikar) and namghar (prayer hall).
- Satras in Assam have been looking after the religious and social well-being of the Hindu population since the 15th century.

International Organisations: India gets Chairmanship of ILO Governing body after a gap of 35 years

Relevance IN – Prelims (about ILO and its governing body)

What's the NEWS

- After a gap of 35 years, India assumed the Chairmanship of Governing Body of International Labour Organisation (ILO), with Labour Secretary Apurva Chandra being elected to the post.
- India assumed the Chairmanship of GB after 35 years, marking a new chapter in the 100 years of productive relationship between India and ILO.
- The Chairperson of the Governing Body of ILO is a position of international repute.

Know! about the Governing body

- The Governing Body (GB) is the apex executive body of the ILO, which decides policies, programmes, agenda, budget, and elects the Director-General.

- At present, the ILO has 187 members. Chandra will be presiding over the upcoming the Governing Body's meeting, to be held in November 2020.
- The Governing Body meets three times a year, in March, June and November.
- It takes decisions on ILO policy, decides the agenda of the International Labour Conference, adopts the draft Programme and Budget of the Organization for submission to the Conference
- This governing body is composed of 56 titular members (28 governments, 14 employers and 14 workers) and 66 deputy members (28 governments, 19 employers and 19 workers).
- It will also provide a platform to apprise participants of the transformational initiative taken by the government in removing the rigidities of the labour market, besides making intention clear about the universalisation of social security to all workers in the organised or unorganised sector.

Know! about ILO

- The only tripartite U.N. agency, since 1919 the ILO brings together governments, employers and workers of 187 member States, to set labour standards, develop policies and devise programmes promoting decent work for all women and men.
- The ILO was founded in 1919, in the wake of a destructive war, to pursue a vision based on the premise that universal, lasting peace can be established only if it is based on social justice. The ILO became the first specialized agency of the UN in 1946.
- The unique tripartite structure of the ILO gives an equal voice to workers, employers and governments to ensure that the views of the social partners are closely reflected in labour standards and in shaping policies and programmes.

Environment Conservations: Himalayan brown bear

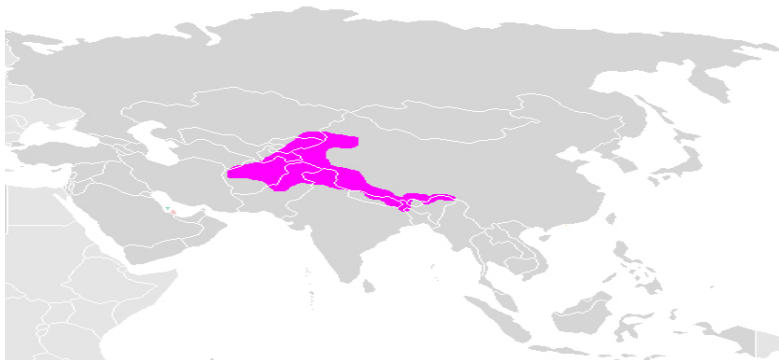
Relevance IN – Prelims (about Himalayan brown bear)

What's the NEWS

- A recent study on the Himalayan brown bear (*Ursus arctos isabellinus*) has predicted a significant reduction in suitable habitat and biological corridors of the species in the climate change scenario
- The study prompted the scientists to suggest an adaptive spatial planning of protected area network in the western Himalayas for conserving the species.

Know! about Himalayan brown bear and study highlights

- The Himalayan brown bear is one of the largest carnivores in the highlands of Himalayas.
- It occupies the higher reaches of the Himalayas in remote, mountainous areas of Pakistan and India, in small and isolated populations, and is extremely rare in many of its ranges.



- The study carried out in the western Himalayas by scientists of Zoological Survey of India, predicted a massive habitat decline of about 73.38% to 72.87% of the Himalayan brown bear by the year 2050 in the climate change scenario.

- These losses in habitat will also result in loss of habitats from 13 protected areas (PAs), and eight of them will become completely uninhabitable by the year 2050, followed by loss of connectivity in the majority of PAs.
- The IUCN list Himalayan brown bears as vulnerable, and they are listed under Schedule 1 of the Indian Wildlife (Protection) Act of 1972.

Steps Suggested

- There is a need to adopt “preemptive spatial planning of PAs in the Himalayan region for the long-term viability of the species”.
- The suitable habitats were mapped outside the PAs and are closely placed to PAs; such areas may be prioritized to bring them into the PA network or enhanced protection
- Adaptive spatial planning of PAs is aimed at minimizing the risks and uncertainty of climate change and make PAs more resilient to climate change.
- The Himalayan brown bear is a top carnivore of the high-altitude Himalayan region.
- The elevation gradient in which the brown bear is distributed is most vulnerable to global warming as this elevation belt is getting warmer faster than other elevation zones of Himalayas
- The habitat of such species is highly vulnerable to climate and unless we plan in advance, we cannot sustain its population in future
- Adaptive spatial planning broadly refers to conserving the existing landscape and augmenting the fragment areas of the habitat of the species.

Know! about ZSI

- The Zoological Survey of India (ZSI), founded on 1 July 1916 by Government of India Ministry of Environment, Forest and Climate Change, as premier Indian organisation in zoological research and studies to promote the survey, exploration and research of the fauna in the country.

Prelims Factoids: National Museum and Google to bring ‘Life in Miniature’ project

Relevance IN - Prelims (about Life in Miniature Project)

What’s the NEWS

- Union Minister of State for Culture and Tourism virtually launched ‘Life in Miniature’ project in collaboration between National Museum, New Delhi and Google Arts and Culture

Know! more about the project

- Hundreds of miniature paintings on the theme of nature, love, celebration, faith and power from the museum can now be seen through the Google Arts & Culture application in a new way.
- The Google Arts and Culture application lets the users to magnify the image by manifolds to see the intricate details of the paintings. People would now be able to see the extraordinary details of miniature collections such as that from the Ramayana, Royal Saga, Pahari Style in just a few clicks.
- Several hundred miniature paintings from the National Museum, New Delhi can be viewed online on Google Arts & Culture by people around the world in a new project titled “Life in Miniature.”
- The project uses technologies like machine learning, augmented reality and digitization with high-definition robotic cameras, to showcase these special works of art in a magical new way.

Government Schemes: UP govt secures first rank in disbursing loans under PM Swanidhi Scheme

Relevance IN – Prelims (the PM Atmanirbhar Nidhi Scheme (SVANidhi Scheme))

What’s the NEWS

- Uttar Pradesh government has secured the first rank in central government’s one of the most ambitious schemes - the PM Atmanirbhar Nidhi Scheme (SVANidhi Scheme) by approving the highest number of loans under the scheme in the country.

Know! more about the scheme

- State has ranked first in all the categories - Applications, Sanctions and Disbursements of the loans under the scheme.
- As many as 6,22,167 applications were received under the scheme in the state which is highest in the country, out of which sanctions were given to 3,46,150 applicants while the loans were disbursed to 2,26,728 beneficiaries.

Seven cities of the state also find place in the list of top 10 cities of the country.

- The scheme was launched on June 1, 2020, by the Central Government to help the street vendors resume their livelihood activities that were impacted by COVID-19.
- It aims at facilitating working capital loan up to Rs. 10,000 at a subsidised rate of interest.
- The scheme aims at providing benefits to street vendors or hawkers in urban, pre-urban and rural areas.

Prelims Factoids: DST-IEST Solar PV Hub

Relevance IN – Prelims (about the role of DST-IEST Solar PV Hub and about IEST)

What's the NEWS

- The Education Ministry virtually inaugurated the DST-IEST Solar PV Hub at IEST, Shibpur

DST-IEST Solar PV Hub

- It is one of its kind in India, has been established at IEST, Shibpur through a generous Research and Development grant from the Department of Science and Technology (DST), Govt of India, under the aegis of Centre of Excellence for Green Energy and Sensor System at IEST, Shibpur.
- This Hub will help in aligning the national as well as local industries, research institutes, and start-ups with the "Make in India Mission" towards a smooth transition from fossil fuel energy to solar energy scenario
- Direct interactions with this DST-IEST Solar Hub will enable the transfer of indigenous knowhow and training for the fabrication, characterization and testing of solar cells and solar PV modules and systems as no such facility is available elsewhere in this region



Know! about IEST

- Indian Institute of Engineering Science and Technology, Shibpur (IEST Shibpur) is a public technical university located at Shibpur, Howrah, West Bengal.
- It is recognised as an Institute of National Importance under MHRD by the Government of India.
- It comes under the Council of National Institutes of Technology.

Acts and Policies: Eighteen more individuals declared as terrorists under the Unlawful Activities (Prevention) Act, 1967

Relevance IN – Prelims (about Unlawful Activities (Prevention) Act)

What's the NEWS

- Government has declared eighteen more individuals as designated terrorists, under the provisions of the UAPA Act 1967 (as amended in 2019) and included their names in the Fourth Schedule of the said Act.
- The Central Government had amended the Unlawful Activities (Prevention) Act, 1967 in August 2019, to include the provision of designating an individual as a terrorist.
- Prior to this amendment, only organizations could be designated as terrorist organizations.

Unlawful Activities (Prevention) Act, 1967

- **The Unlawful Activities (Prevention) Act, 1967 enables more effective prevention of certain unlawful activities of individuals and associations** and for dealing with terrorist activities, and other related matters.
- Any Indian or foreign national charged under UAPA is liable for punishment under this Act, irrespective of the location of crime/offense committed
- UAPA will be applicable to the offenders in the same manner, even if the crime is committed on foreign land, outside India
- It is applicable across the entire country and the provisions of this Act apply also to citizens of India and abroad.

Definition of the Unlawful Activity in India

- unlawful activity” refers to any *action taken by individual or association (whether by committing an act or by words, either spoken or written or by signs to questions, disclaims, disrupts, or is intended to disrupt the territorial integrity and sovereignty of India.*

Changes in The Unlawful Activities (Prevention) Act, 1967

- Amendment to Schedule 4 of the Unlawful Activities (Prevention) Act will allow the NIA to declare an individual suspected to have terror links as a terrorist.
- Currently, only organisations are designated as ‘terrorist organisations’ but after the change in the UAPA, 1967 an individual can also be termed a terror suspect.

Prelims Factoids: Direct Port Entry Facility

Relevance IN – Prelims (about DPE facility + about V.O. Chidambaranar Port – location)

What’s the NEWS

- Union Minister of State for Shipping inaugurated the ‘Direct Port Entry (DPE) facility’ of V.O. Chidambaranar Port Trust

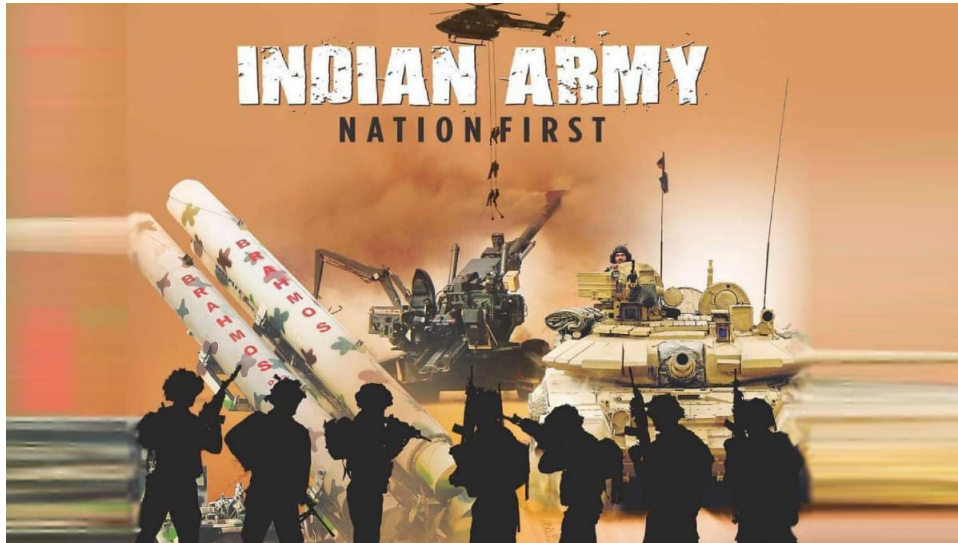
Know! about DPE facility

- DPE facility will help in reducing logistics cost and increasing the velocity of the cargo.
- DPE will help in increasing Ease of Doing Business for the exporters, as the facility will bring efficiency and reduce dwell time, lower tariff cost and improve the competitiveness of shipper in the international trade.
- The state-of-the-art Direct Port Entry (DPE) facility would enable direct movement of containers from factories, without intermediate handling at any CFS, thus facilitating the shippers to Gate-In their factory stuffed exports directly to the Container Terminal on 24x7 basis.
- The facility is created in an area of 18,357 sqm inside the Truck Parking Terminal which was developed under the ‘Sagarmala’ for issuing customs clearance of export cargo i.e. Factory stuffed/e-sealed containers.
- Indian Customs through the Central Warehousing Corporation, DPE facility will generate the Let Export Order (LEO) under a single roof without any hassle
- Port developed the DPE facility to enable the export clearance of factory stuffed e-sealed containers on a 24x7 basis resulting in faster & cost-effective export admittance.

V.O. Chidambaranar Port Trust

- The V. O. Chidambaranar Port Trust is one of the 13 major ports in India.
- It was declared to be a major port on 11 July 1974. It is second-largest port in Tamil Nadu and fourth-largest container terminal in India.
- After Sethusamudram Shipping Canal Project V. O. Chidambaranar Port Trust will be India’s premier port and one of the major ports of Asia equal to Port of Singapore.
- V. O. Chidambaranar Port Trust is an artificial port. This is the third international port in Tamil Nadu and its second all-weather port.

Defence: Indian Army launches a Software for Infrastructure Management



Relevance IN – Prelims (about Infrastructure Management System (IMS)’ software)

What’s the NEWS

- Indian Army has introduced a software named the “**Infrastructure Management System (IMS)**’ software which was inaugurated by the COAS on the sidelines of the Army Commanders Conference on 28 October 2020.

The scope of the software package developed includes the following

- To automate works initiation, preparation of list and its approval by the MoD.
- To accord administrative approval and monitoring of execution by the CFA.
- To automate availability of CAO pool accommodation, plan vacation, re-allocation and undertake maintenance.
- To automate approval of accommodation allocation/extension for children education ground, special children and Battle/Physical casualty.
- Manage cantonment roads including emergency closure.
- Make land, works and quartering policies available on line.
- Monitor land encroachment

Know! the benefits of automation

- Presently all functions towards infrastructure development and management to include ascertaining availability of land, planning and monitoring of works, environment conservation and responsive quartering policies are carried out manually, which is not only time consuming but is also in-efficient.
- Realising that automation is the key to **empowering all stake holders to transform and become efficient, transparent and enhance accountability**

Defence: Army launches Secure Application for Internet (SAI)

Relevance IN – Prelims (about SAI and its objective)

What’s the NEWS

- Indian Army has developed a simple and secure messaging application named the “**Secure Application for Internet (SAI)**”.

Know! all about SAI

- The application supports end to end secure voice, text and video calling services for Android platform over internet.
- The model is similar to commercially available messaging applications like Whatsapp, Telegram, SAMVAD and GIMS and utilises end to end encryption messaging protocol.
- SAI scores over on security features with local in-house servers and coding which can be tweaked as per requirements.

- The application has been vetted by CERT-in empaneled auditor and Army Cyber Group.
- The process for filing Intellectual Property Rights (IPR), hosting the infrastructure on NIC and working on iOS platform is currently in progress.

Science & Technology: World's first scientoon book "Bye Bye Corona" on Coronavirus released

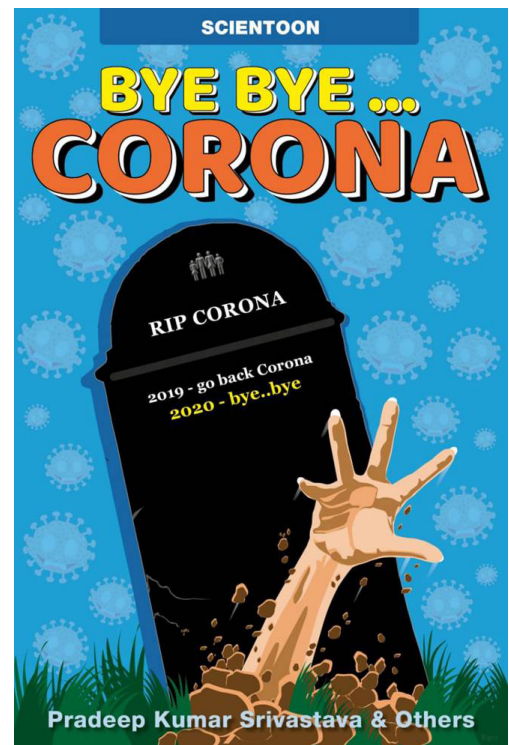
Relevance IN – Prelims (about the scientoon and its objective)

What's the NEWS

- A 'scientoon' is a cartoon communication based on science. Scientoons are meant to inform and sensitize people to science and scientific concepts in an intelligible and interesting way.

Know! more about it

- World's first scientoon book entitled **"Bye Bye Corona"**, written by 'scientoonist' Dr Pradeep Srivastava, former Senior Principal Scientist at CSIR-Central Drug Research Institute (CDRI), Lucknow, was released
- The book is published by Vigyan Prasar, an autonomous agency under the Department of Science and Technology (DST), Govt. of India.
- The book contains comprehensive information on novel coronavirus pandemic, its symptoms and its prevention through precautions.
- **Post its launch in India, the book would soon be released in Brazil under Brazil-India Network program and would possibly be translated into Portuguese language**
- Vigyan Prasar is actively publishing popular science books and Bye Bye Corona is a timely publication to understand the pandemic through cartoon characters.
- The scientoon book 'Bye Bye Corona' is expected to help create wider awareness about COVID-19 cutting across age, language, and national boundaries.



Prelims Factoids: OPERATION MERI SAHELI

Relevance IN – Prelims (about operation Meri Saheli)

What's the NEWS

- Indian Railways has launched **"Meri Saheli" initiative for focused action on security of women across all zones** with an objective to provide safety and security to lady passengers travelling by trains for their entire journey from starting station to destination station.

Know! all about the initiative

- An initiative of RPF, the Strategy of the entails interaction with lady passengers especially those travelling alone by a team of young lady RPF personnel at the originating station.
- These lady passengers are briefed about all precautions to be taken during the journey and told to dial 182 in case they face or see any problem in the coach.
- The RPF team collects only the seat numbers of the ladies and conveys them to stoppages en-route.
- The platform duty RPF personnel at the stopping stations en-route keep unobtrusive watch over the concerned coaches and berths
- RPF teams at the destination collect the feedback from the identified lady passengers.
- If some distress call comes from a train covered under "Meri Saheli" initiative, the disposal of the call is monitored at the level of senior officers.
- 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

Prelims Factoids: Arogya Van, Arogya Kutir, Ekta Mall and Children Nutrition Park inaugurated

Relevance IN – Prelims (about Arogya Van & Arogya Kutir + Ekta Mall)

What's the NEWS

- The Prime Minister inaugurated various projects under Integrated Development of Kevadia in Gujarat.
- He inaugurated Arogya Van and Arogya Kutir. He also inaugurated the Ekta Mall, and Children Nutrition Park.

Arogya Van & Arogya Kutir

- Arogya Van has 5 lakh plants of 380 different species spread over an area of 17 acre.
- Arogya Kutir has a traditional treatment facility named Santhigiri wellness centre which will provide healthcare based on Ayurveda, Siddha, Yoga and Panchakarma.

Ekta Mall

- The Mall displays a diverse range of handicrafts and traditional items from all over India symbolizing unity in diversity and is spread over 35000 sq ft. The mall consists of 20 Emporia each representing a specific state in India and is built in just 110 days.

Children Nutrition Park & Mirror Maze

- It is the world's first ever technology driven nutrition park for children and is spread over an area of 35000 sq ft.
- A Nutri Train runs across the park to various exciting theme based stations namely '**Phalshaka Griham**', '**Payonagari**', '**Annapoorna**', '**Poshan Puran**', and '**Swastha Bharatam**'.
- It will raise nutritional awareness through various edutainment activities like Mirror Maze, 5D Virtual reality theatre and Augmented reality games.

Prelims Factoids: World Food Programme

Relevance IN - Prelims (about World Food Programme)

What's the NEWS

- The United Nations' **World Food Programme (WFP)**, which won the Nobel Peace Prize for its efforts to combat hunger and promote peace, was founded in 1961 at the request of U.S. President Dwight Eisenhower.

Know! all about WFP

- The WFP began as an experiment to see if the United Nations system could deliver food aid.
- Its first disaster relief operation was to help after an earthquake hit in Iran in 1962.
- It gained permanent status in 1965 and calls itself the world's largest humanitarian organisation, dedicated to "saving lives in emergencies, building prosperity and supporting a sustainable future for people recovering from conflict, disasters and the impact of climate change".
- During the coronavirus pandemic, the WFP's logistics service dispatched medical cargoes to over 120 countries.
- The WFP is funded by voluntary donations, mainly from governments but also from companies and private donors.
- The **WFP is one of three U.N. food aid organisations based in Rome**. Its sister bodies are the Food and Agriculture Organization (FAO) and the International Fund for Agricultural Development (IFAD).



- It is currently dealing with six food emergencies besides COVID. These are in the Democratic Republic of Congo, northeastern Nigeria, Sahel, South Sudan, Syria and Yemen.
- In 1989, the WFP staged the biggest humanitarian airdrop in history as part of ‘**Operation Lifeline Sudan**’, in which U.N. agencies and non-governmental organisations cooperated to alleviate a famine caused by civil war.

Prelims Factoids: Bangalore Rose’ onion

Relevance IN - Prelims (all about Bangalore Rose onions)

What’s the NEWS

- The Government of India recently allowed export of Bangalore Rose onions.
- Earlier the union government had banned the export of all varieties of onions.

Know! all about Bangalore Rose onions.

- This special variety is exclusively **grown in some parts of the Karnataka** state **mainly for export to Southeast Asian countries** such as Malaysia, Singapore, Thailand and Taiwan as it doesn’t have much demand in the domestic market.
- The order issued by the Ministry of Commerce and Industry on 14 September specifically mentions that both Bangalore Rose onion and Krishnapuram onions (similar to Bangalore Rose) in cut, broken or powdered form are prohibited from export with immediate effect.
- This variety of onion is mostly grown in Chikkaballapur, Doddaballapur, Kolar and Bengaluru Rural.
- Some pockets in Anantapur, Andhra Pradesh, also grow this variety, but in Karnataka, close to 5,000 acres of land cultivate it.
- Its scarlet red bulb is shaped like a rose bud and its pungent smell adds to its uniqueness.
- It is often used to make pickled onions and also sold in pickled forms in supermarkets.
- Since it is not very popular in the domestic market, it is grown almost exclusively for export.
- Bangalore Rose onion received the **Geographical Indication tag in 2015** and is popular in Southeast Asian countries where it is either used to make pickled onions or is dehydrated to make onion powder.

Defence: Rustom-2 drone



Relevance IN - Prelims (about Rustom-2 and other drones mentioned)

What’s the NEWS

- The Defence Research and Development Organization (DRDO) flight tested the **Rustom-2 medium altitude long endurance indigenous prototype drone** and achieved eight hours of flying at an altitude of 16000 feet at Chitradurga, Karnataka.
- The prototype is expected to achieve a height of 26000 feet and endurance of 18 hours by 2020 end.

Know! more about Rustom-2

- Rustom-2 is capable of carrying different combinations of payloads depending on the mission objectives including synthetic aperture radar, electronic intelligence systems and situational awareness systems.

- It has a satellite communication link to relay situation in the battle theatre on real time basis.
- Rustom-2 will have to undergo test and user trials before inducted in the Indian military

Israeli Heron

- The DRDO has been working on Rustom-2 surveillance drone to match its specifications with the **Israeli Heron unmanned aerial vehicle** used by the Indian Air Force and Navy
- The Ministry of Defence is currently negotiating with Israeli Aerospace Industry (IAI) to not only upgrade the existing fleet of Heron drone but also arm them with air to surface missile and laser guided bombs.

Wing Loong II

- The People's Liberation Army (PLA) has Wing Loong II armed drones in its arsenal and has even given four of them to Pakistan to protect the CPEC corridor and Gwadar port.

American MQ 9B

- India has also decided to go in for **American MQ 9B armed** drone instead of Sea Guardian surveillance drone with cost and numbers being worked out.
- The three services are expected to get the MQ-9 Reaper or Predator-B High Altitude Long Endurance (HALE) drones, which have already been approved by the US President Donald Trump's administration.
- The US administration's approval includes the sale of armed drones to India and will come equipped with missiles and other systems.

Environment: Tree Transplantation Policy

WHAT THE TRANSPLANTATION POLICY SAYS

For any construction project, at least **80%** of the total number of trees to be felled need to be transplanted to another location

- 10 times the number of saplings to be planted
- National-level agencies that have successfully carried out tree transplantation will be appointed as part of an expert panel
- Invasive species such as vilayati kikar and subabul will be excluded from the list of species that will be transplanted
- Survival rate and audits to be carried out after a year to assess which trees were able to withstand the process

Poor survival rate a challenge

- For the Pragati Maidan project, of the **2,583** trees to be cut, **1,713** trees were to be transplanted
- An expert panel found only **573** trees from these could survive the 'shock' of transplantation
- Of these, only **36** trees (2.1%) based on health, form and good structure were found viable enough to be transplanted

Cost of transplanting a tree ₹50,000 to 1 lakh (approx)

What was done earlier

In lieu of every tree cut, compensatory plantation in the form of 10 tree saplings was carried out

CM says the saplings may take years to 'replace' the felled tree, so transplantation is being done in addition

Relevance IN - Prelims (about the Tree Transplantation Policy)

What's the NEWS

- Delhi Chief Minister Arvind Kejriwal launched the Tree Transplantation Policy under the '**Yuddh, Pradushan Ke Viruddh**' campaign, which requires **a minimum of 80 per cent of the trees affected by construction or development projects to be transplanted.**
- The implementation of this policy will be in addition to the policy of the compulsory afforestation of 10 saplings.

Know! about the Tree Transplantation Policy

- A dedicated **Tree Transplantation Cell** and local committees will be formed which will include government officials, citizens, RWAs to monitor the transplanted trees and to monitor the transplantation task.

- Delhi is the first state in the country where this policy has been passed
- Along with retaining the policy of planting 10 saplings in place of one tree being cut down, we can transplant the tree additionally, due to the scientific advancements which allow uprooting the tree from a particular spot, lifting it, and planting it at another spot.
- A minimum of 80 per cent of trees affected by a project, over and above compensatory afforestation of planting of 10 saplings, will be transplanted.
- Also, a minimum of 80 per cent of the transplanted trees should survive and ensuring this would be the responsibility of the agencies
- It is the responsibility of the agencies which are responsible for transplantation, to ensure that 80 per cent of the transplanted trees survive after a year.
- The payment of the agencies will be made only if 80 per cent of the trees continue to survive after a year.”

Smog-tower

- A smog-tower will also be installed in Delhi, which will be the second smog-tower in the world.
- The first smog-tower in the world was set up in China.
- Two smog-towers are being installed in Delhi, out of which one will be
- The technology used in the smog-tower installed by the Delhi government is different from the technology used in China.
- In China, the smog-tower sucks the polluted air from down below and releases clean air from above.
- Delhi's smog tower will suck the polluted air from above, and release the clean air from the bottom.

Prelims Factoids: Skal International Asia Area (SIAA)



Relevance IN – Prelims (about Skal International Asia Area (SIAA))

What's the NEWS

- The UT of Jammu and Kashmir won the bid to host the 50th annual Skal International Asia Area (SIAA) Congress in 2021 during the annual general meeting recently against four other cities.

Skal International Asia Area (SIAA)

- Skål International is an organisation of **tourism leaders around the world, promoting global tourism and friendship.**
- The Congress is likely to be held between April 8 and 11 next year at Srinagar's Sher-e-Kashmir International Convention Centre (SKICC).
- The Skal is a Spain-based tourism body with 15,000 members and 150 chapters across the world.
- Kashmir won the spot against four top cities of Europe and Asia.
- This event will pave way for international tourism players to visit Kashmir and flip the international tourist footfall

Science & Technology: DrTulsi Das Chugh Award-2020

Relevance IN – Prelims (about the award + about Malaria parasite's life cycle)

What's the NEWS

- The Orations & Awards Committee of the National Academy of Medical Sciences (India), has selected Dr **Satish Mishra**, for “**Dr. Tulsi Das Chugh Award**” for the year 2020 in recognition of **his research work on Malaria parasite's life cycle** which is a complex process involving two hosts and three invasive stages.

Malaria parasite's life cycle

- Invasion in both mammals and mosquitoes requires a coordinated sequence of events to be played out successfully.
- His research 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.

Know! about the Academy and the Award

- National Academy of Medical Sciences (India) is a unique institution which fosters and utilizes academic excellence as its resource to meet medical and social goals.
- It was registered as the ‘Indian Academy of Medical Sciences’ on 21st April, 1961 under Societies Registration Act XXI of 1860.
- The Academy was re-named National Academy of Medical Sciences (India) on 16th November, 1976 on the recommendations of a Working Group set up by the Govt. of India.
- A number of prestigious Orations and Awards have been instituted by the Academy and are bestowed upon eminent bio-medical scientists in recognition of their outstanding contributions.
- The Academy encourages and sponsors nation-wide CME programmes, Symposia, Workshops etc.
- Over the years the Academy has recognized the outstanding achievements made by the Indian scientists in the field of medicine and allied sciences and conferred Fellowship as well as Membership to the selected persons through a peer reviewed process and finally voting by all the Fellows.
- **Dr. Tulsi Das Chugh Award** carries a Scroll, a Commemorative Medal and Cash Incentive.

Defence: Supersonic Missile Assisted Release of Torpedo (SMART)



Relevance IN – Prelims (about SMART)

What's the NEWS

- The DRDO has tested a new weapon system called the **Supersonic Missile-Assisted Release of Torpedo (SMART)** from its test facility at Wheeler Island off the coast of Odisha.

Know! what exactly is SMART?

- SMART is a **rocket system that carries an anti-submarine torpedo** as its payload. Such rocket systems fly to a designated point over water, before releasing their torpedoes.
- A **missile-assisted release** of light weight anti-submarine torpedo system for anti-submarine warfare (ASW) operations far beyond torpedo range (50-650 km).
- Ejection trials had been conducted with a **Torpedo Advanced Light (TAL)**, an indigenously developed torpedo, which is also called the **Shyena**.

Know! the role of Rocket-assisted torpedoes

- light-weight torpedoes have shorter range. For example, the **Shyena** is estimated to have a range of around 20 km.
- The short range of light-weight torpedoes makes them, effectively, defensive weapons against enemy submarines.
- This would pose a significant disadvantage particularly if an enemy has a large number of submarines, in particular, nuclear-powered vessels that have much higher submerged speed than conventional diesel-electric submarines.
- Rocket-assisted torpedoes, effectively, extend a torpedo's range and also help it cover a larger distance in a shorter period of time.

Benefits of having SMART (rocket-assisted torpedoes)

- SMART, would be a quantum leap for the Indian Navy's anti-submarine warfare capabilities, given the very-long range that DRDO has specified and its supersonic speed.
- The Indian Navy would need to modernise and expand its range of ship-borne and airborne anti-submarine surveillance and detection capabilities to take full advantage of the SMART missile.

Torpedo

- A modern torpedo is an underwater ranged weapon launched above or below the water surface, self-propelled towards a target, and with an explosive warhead designed to detonate either on contact with or in proximity to the target.

Prelims Factoids: Good Samaritans

Relevance IN – Prelims (about Good Samaritans)

What's the NEWS

- The Ministry of Road Transport and Highways has published the rules for the protection of Good Samaritans

Know! all about Good Samaritan (rules)

- 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.
- If a person has **voluntarily agreed to become a witness** in the case in which he has acted as a Good Samaritan, he shall be examined in accordance with the provisions of this rule
- It is noteworthy that the Motor Vehicles (Amendment) Act, 2019, inserted a new section 134A, viz. "**Protection of good Samaritans**" which provides that a Good Samaritan shall not be liable for any civil or criminal action for any injury to or death of the victim of an accident.



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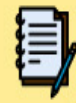
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GENERAL STUDIES I

**Indian Heritage and Culture,
History and Geography of the
World and Society**

Culture: Azad Hind Government

Relevance IN – Prelims (about Azad Hind Fauj) + Mains (GS I India's freedom struggle)

What's the NEWS

- Union Minister of State for Culture and Tourism attends Commemoration of '77th Year of Formation of Azad Hind Government' at Red Fort, Delhi
- Next year the nation will celebrate the 75th anniversary of freedom and the year will also mark the 125th birth anniversary of Subhas Chandra Bose.
- The nodal agency for celebrating both these occasions is Culture Ministry

Know! all about Azad Hind Fauj

- The Provisional Government of Free India (Azad Hind) was an Indian provisional government established in Japanese occupied Singapore during World War II.
- It was created in October 1943 and supported by—as well as largely dependent on—the Empire of Japan.
- It was a part of a political movement originating in the 1940s outside India with the purpose of allying with the Axis powers to liberate India from British rule.
- It was established by Indian nationalists in exile during the latter part of the Second World War in Singapore with monetary, military and political assistance from Imperial Japan.
- Founded on 21 October 1943, the government was inspired by the concepts of Subhas Chandra Bose who was also the leader of the government and Head of State.
- The government of Azad Hind had its own currency, court and civil code
- Japan also handed over nominal authority of the Japanese occupied Andaman and Nicobar Islands in 1943, though the government continued to be dependent on Japanese support.
- The INA had its first major engagement at the Battle of Imphal where, under the command of the Japanese Fifteenth Army, it breached the British defences in Kohima

GENERAL STUDIES II

**Governance, Constitution,
Polity, Social Justice and
International relations**

Social Issues: Annual National Crime Record Bureau's "Crime in India" 2019

Relevance IN – Prelims (highlights of the report) + Mains (GS II Social issues – to substantiate the answer with given facts and figures)

Report Highlights

- CRIMES AGAINST women increased **7.3 per cent from 2018 to 2019**, and crimes against Scheduled Castes also went up 7.3 per cent in the same period
- In terms of absolute numbers, Uttar Pradesh reported the highest number of cases in both these categories.
- Assam reported the highest rate of crimes against women (per lakh population), while Rajasthan had the highest rate of crimes against Scheduled Castes.
- Majority of cases under crime against women under IPC were registered under 'cruelty by husband or his relatives' (30.9%), followed by 'assault on women with intent to outrage her modesty' (21.8%), 'kidnapping & abduction of women' (17.9%) and 'rape' (7.9%).
- The crime rate registered per lakh women population is 62.4 in 2019 in comparison with 58.8 in 2018

Crime against women

- UP reported the highest number of crimes against women (59,853), accounting for 14.7 per cent of such cases across the country.
- It was followed by Rajasthan (41,550 cases; 10.2 per cent) and Maharashtra (37,144 cases; 9.2 per cent).
- Assam reported the highest rate of crime against women at 177.8 (per lakh population), followed by Rajasthan (110.4) and Haryana (108.5).

Rape Cases

- Rajasthan reported the highest number of rapes with 5,997 cases, followed by UP (3,065) and Madhya Pradesh (2,485).
- In terms of rate of rape cases, Rajasthan was the highest at 15.9 (per lakh population), followed by Kerala (11.1) and Haryana (10.9).

Crimes against girl children

- UP also had the highest number of under the POCSO Act with 7,444 cases, followed by Maharashtra (6,402) and MP (6,053).
- The highest rate of these crimes were in Sikkim (27.1 per lakh population), MP (15.1), and Haryana (14.6).

Dowry cases

- UP had the highest number of dowry cases (2,410), at a rate of 2.2 (per lakh population), followed by Bihar (1,120).

Cases against Scheduled Castes

- UP reported the most cases against Scheduled Castes – 11,829 cases, accounting for 25.8 per cent of the cases across the country.
- It was followed by Rajasthan (6,794 cases; 14.8 per cent) and Bihar (6,544; 14.2 per cent).
- The rate of such cases was highest in Rajasthan at 55.6 (per lakh population), followed by MP (46.7) and Bihar (39.5).

Rapes against Dalit women

- Rajasthan also had the highest number of rapes against Dalit women (554), followed by UP (537) and MP (510).
- The rate of rape against Dalit women was highest in Kerala at 4.6 (per lakh population), followed by MP (4.5) and Rajasthan (4.5).

Education: Commission for Scientific and Technical Terminology

Relevance IN – Prelims (about CSTT and its role) + Mains (GS II Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources).

What's the NEWS

- Union Minister of Education virtually attended Diamond Jubilee Celebration of Commission for Scientific and Technical Terminology (Department of Higher Education)

Know! the work of CSTT

- The Commission has done important work in the creation and **development of Scientific and Technical Terminology for Hindi and other Indian languages**
- Development of vocabulary in Hindi and other Indian languages by the Commission for Scientific and Technical Terminology for more than 9 lakh English words in various subjects including Science, Engineering and Technology, Agriculture and Medical Sciences

Know! all about CSTT

- The Commission for Scientific & Technical Terminology (CSTT) was set up on December 21, 1960 **by a resolution of Government of India** under the proviso to Clause (4) of **Article 344 of the Constitution**

Objective

- To evolve and define scientific and technical terms in Hindi and all Indian languages; publish glossaries, definitional dictionaries, encyclopaedia.; to see that the evolved terms and their definitions reach the students, teachers, scholars, scientists, officers etc.

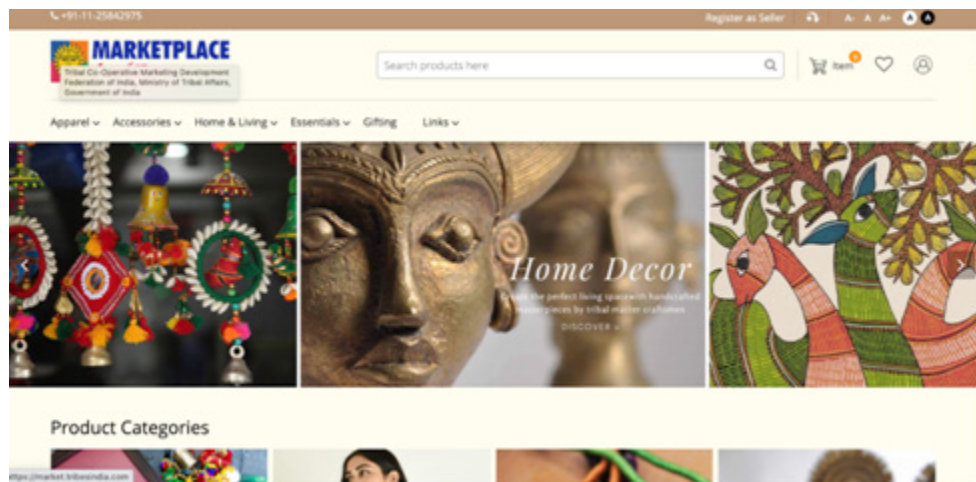
The Commission carries out the following functions :-

- Preparation and Publication of Bilingual and Trilingual Glossaries involving English/Hindi and other Indian Languages.
- Preparation and Publication of National terminology.
- Identification and Publication of School Level Terminology and Departmental Glossaries.
- Identification of Pan Indian Terms.
- Preparation of Definitional Dictionaries and Encyclopaedias.
- Preparation of University level textbooks, monographs and journals
- Grant-in-Aid to Textbook Boards and University Cells for University level books in regional languages.
- Propagation, expansion and critical review of terms coined and defined through training/orientation programmes, workshops, seminars etc.
- Free distribution of Publications.
- Providing necessary terminology to the National Translation Mission.

Eighth fundamental duty

- The eighth fundamental duty enshrined in Part 4 of our Constitution instructs us to “**develop humanism and the spirit of learning and reform from a scientific perspective.**” For the scientific approach and the process of learning, it is necessary to have knowledge in your language and to develop your language scientifically and appropriately.

Social Issues: Largest Market of Tribal Products ‘Tribes India e-Marketplace’ launched



Relevance IN – Prelims (about handicraft and organic products marketplace, Tribes India E-Marketplace) + Mains (GS II Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes)

What's the NEWS

- Union Minister for Tribal Affairs launched **India's largest handicraft and organic products marketplace**, Tribes India E-Marketplace (market.tribesindia.com) on the occasion of Gandhi Jayanti (October 2, 2020)

Know! about it

- This initiative of TRIFED under Ministry of Tribal Affairs will showcase the produce and handicrafts of tribal enterprises from across the country and help them market their produce/products directly, is also a major leap towards the digitisation of tribal commerce.

Tribes India e-Marketplace India E-Marketplace

- It is an ambitious initiative through which TRIFED aims to onboard 5 lakh tribal producers for sourcing of various handicraft, handloom, natural food products across the country and brings to you the best of tribal produce.
- The suppliers comprise of individual tribal artisans, tribal SHGs, Organisations/Agencies/NGOs working with tribals.
- The platform provides the tribal suppliers with an Omni-channel facility to sell their goods through their own retailers and distributors, TRIFED's network of Outlets and eCommerce partners as well as their own account in e-Marketplace.

Pakur Honey:

- The tribal Santhal community of Pakur District, Jharkhand have set an example by exploring the potential of beekeeping commercially.
- The collection of honey is carried out in an eco-friendly manner on sustainable basis by the local youth.

Health Sector: Ayush Grid

Relevance IN. – Prelims (about Ayush Grid and its objective) + Mains (GS II governance + Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources).

What's the NEWS

- The operational integration of Ayush Grid, **the emerging IT backbone for AYUSH Sector** with the National Digital Health Mission (NDHM), was endorsed

Ayush Grid project.

- In the last two years Ayush Grid project succeeded in bridging the digital gap in the Ayush Sector and also in implementing various critical healthcare IT projects.
- The Ayush Grid project was initiated by the Ministry in 2018 for creating a comprehensive IT backbone for the entire sector.
- Digitalization of the entire Ayush Sector will lead to its transformation in fields of health care delivery at all levels, including research, education, various health programmes and drug regulations.

AYUSH Health Management Information System (AHMIS).

- The most significant among the different initiatives implemented so far in the project is the AYUSH Health Management Information System (AHMIS).
- Originally based on THERAN, an HMIS developed in-house by the Siddha Research Council, Chennai, the AHMIS has now emerged into a robust, cloud-based Information System used by nearly 100 Clinical establishment of the AYUSH Ministry.

Know! more about Ayush Grid initiative

- An ambitious project to support Ayush education is being launched with the name Ayush Next. This has been developed, and is expected to go online soon.

- The components of Ayush Grid initiative will cover **all the verticals of the Ayush Sector**, like Health Services, Education, Ayush Research, Central Sector and Centrally Sponsored Schemes, Training Programmes, Citizen Centric Services, Drug Licencing Portal, and Media Outreach.
- The Ayush Grid is steadily developing through its constituent projects. It is expected to emerge as a comprehensive IT backbone serving 8 lakh Ayush physicians and nearly 50 crore citizens within three years.

Governance: Data Governance Quality Index (DGQI)

Relevance IN – Prelims (about DGQI) + Mains (GS II Governance + transparency and accountability)

What's the NEWS

- **Department of Fertilizers** under the **Ministry of Chemicals and Fertilizers** has been ranked 2nd amongst the 16 Economic Ministries/Departments and 3rd out of the 65 Ministries/Departments with a score 4.11 on a scale of 5 on Data Governance Quality Index (DGQI)
- A Survey conducted by **Development Monitoring and Evaluation Office (DMEO), Niti Ayog** to assess different Ministries/Departments' performance on the implementation of Central Sector Schemes (CS) and Centrally Sponsored Schemes (CSS).

Data Governance Quality Index (DGQI)

- The DMEO, Niti Aayog has undertaken DGQI exercise: Self-assessment based review of data preparedness levels across Ministries/Departments to produce a DGQI score card.

Objective of this Survey

- Assessing data preparedness of Ministries/Departments on a standardized framework to drive healthy competition among them and promote cooperative peer learning from best practices.

Know! the methodology

In this survey, an online questionnaire was prepared under six major themes of DGQI:

- Data Generation;
- Data Quality;
- Use of Technology;
- Data Analysis, Use and Dissemination;
- Data Security and HR Capacity and Case Studies.
- Weightages were assigned to the themes and sub-weightages to each question within every theme to arrive at final DGQI scores ranging between 0 to 5 for every scheme.

Ministries/Departments were classified in 6 (six) categories:

1. Administrative,
 2. Strategic,
 3. Infrastructure,
 4. Social,
 5. Economic and
 6. Scientific.
- Inputs have been collected from 65 Ministries/Departments implementing 250 CS/CSS schemes and their scores were accordingly calculated.
 - Department of Fertilizers ranked 2nd amongst the 16 Economic Ministries/Departments and ranked 3rd out of the 65 Ministries/Departments with a score 4.11 on a scale of 5.

Benefits

- The effort of DMEO, Niti Aayog to bring out such a report card of the Ministries/Departments
- It will immensely help improve the implementation framework of government policies, schemes and programmes to achieve the desired goals.

Government Schemes: 100-days Mission Mode Campaign to provide potable piped water supply in Schools & Anganwadi Centres launched

Relevance IN – Prelims (about special mission mode campaign + Jal Jeevan Mission) + Mains (GS II Government policies and interventions for development in various sectors and issues arising out of their design and implementation)

What's the NEWS

- The Union Minister of Jal Shakti, launched a special mission mode campaign to provide potable piped water supply in all Schools & Anganwadi Centres across the nation within a short span of 100 days.
- This mission was envisaged by the Prime Minister while releasing the 'Margdarshika' for Gram Panchayats and Paani Samitis for implementation of Jal Jeevan Mission (JJM).

Know! about the mission

- Provisions have been made under Jal Jeevan Mission for ensuring safe water through tap water connection in schools, anganwadi centres, health care centres, etc.
- National Jal Jeevan Mission has reached out to States/UTs to ensure that during this campaign, Gram Sabhas are convened at the earliest to pass a resolution for providing safe water in **all schools, anganwadi centres and other public institutions in the village in the next 100 days.**
- These facilities will be operated and maintained by the Gram Panchayat and/or its sub-committee i.e. Village Water & Sanitation Committee or Paani Samiti.
- This campaign will go a long-way in ensuring safe water supply to our children that will positively impact their health and overall development.

Jal Jeevan Mission (JJM)

- Jal Jeevan Mission (JJM) aims at the universal coverage of provision of tap water connection to every rural home by 2024.
- Under the mission, special focus is on women and children.
- Ensuring safe water to children is a priority, as they are the most vulnerable to water-borne diseases like diarrhoea, dysentery, cholera, typhoid, etc.

Education: NCERT textbooks to be available in Indian sign language

Relevance IN – Prelims (about the MoU – highlights + about ISLRTC and NCERT) + Mains (GS II – Social Issues and welfare measures for vulnerable section) + GS III inclusive development)

What's the NEWS

- 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) to make education materials **accessible for Deaf children** in their preferred format of communication viz Indian Sign Language.

Know! all about the MoU (highlights)

- After this MoU, NCERT educational books and materials will be available in **Indian Sign Language which is same all over India**
- Educational print materials such as NCERT Textbooks, Teachers Handbook and other Supplementary materials and resources of **Class I-XII of all subjects of both Hindi and English Medium** will be converted into Indian Sign Language in Digital format.



- Signing of this MoU is based on the UNICEF's initiative "**Accessible Digital Textbooks for All**" and it is a landmark decision.
- Through this MoU, India is moving towards realizing the provisions mentioned in the **Right to Education (RTE) 2009, and the Rights of Persons with Disability Act (RPWD) 2016 and the National Education Policy (NEP) 2020**, such as the use of appropriate and alternative means of communication, in which Sign Language has an important place

Know! about ISLRTC and NCERT

- Indian Sign Language Research and Training Centre (ISLRTC) is an **autonomous national institute of DEPWD, MSJE** which is dedicated to the task of developing man-power for popularizing the use of Indian Sign Language, teaching and conducting research in Indian Sign Language.
- NCERT is an **autonomous organization under MHRD** which is responsible for ensuring qualitative improvement in school education by undertaking and promoting research in areas related to school education; prepare and publish model textbooks, and act **as a nodal agency for achieving the goals of Universalization of Elementary Education.**

Know! about Sign Language

- Sign Language is a naturally **evolved language like other oral languages**. It is used by persons with deafness for day to day life communication.
- It is considered as a mother tongue of persons with deafness.
- Like other languages it is also an independent language with complex grammar. It involves naturally evolved visual-manual signs

Miscellaneous: Declaration of Results of National Startup Awards 2020



NATIONAL STARTUP AWARDS 2020

Modi Govt's Entrepreneurial Culture
Making India Aatmanirbhar

Startup India's Roaring Success

India is **3rd Largest Startup Ecosystem** in World

Over **37,000 Startups** Have Been Recognized

Boosting **Economic Growth, Jobs & Wealth Creation**

#NationalStartupAwards2020

Relevance IN – Prelims (all about National Startup Awards + launch of other initiatives) + GS II (Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

What's the NEWS

- The Results of the National Startup Awards 2020 were released by Minister of Commerce & Industry

National Startup Awards

- The Department for Promotion of Industry and Internal Trade (DPIIT) has conceived the National Startup Awards to recognize and reward outstanding Startups and ecosystem enablers
- The first edition of the Awards invited applications **across 12 sectors**, which were further sub-classified into a total of **35 categories**.
- These 12 sectors are Agriculture, Education, Enterprise Technology, Energy, Finance, Food, Health, Industry 4.0, Space, Security, Tourism and Urban Services.
- Apart from these, startups are to be selected from those which create impact in rural areas, are women-led and founded in academic campuses.
- A total of 1641 applications were received from startups spread across 23 States and 4 Union Territories.
- These applicants included 654 Women-led, 165 academic institution based and 331 startups working in rural areas.
- All applicants were evaluated against six broad parameters namely Innovation, Scalability, Economic Impact, Social Impact, Environmental Impact, and Inclusiveness and Diversity.

The 'Startup India Showcase' and 'Blockchain-based Certificate Verification System' were also launched during the event.

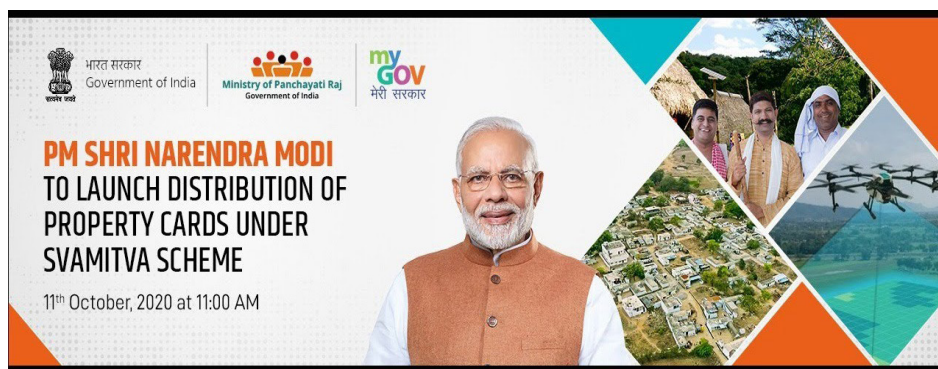
The Startup India Showcase

- It is a part of the Startup India portal, is intended to be an online discovery platform for the most promising startups of the country.
- The startups showcased here shall be handpicked by experts and will span across different sectors like FinTech, EdTech, Social Impact among others.
- The showcase will help industry, investors and public authorities find and connect with startups for potential partnerships, investments and public procurement respectively.
- This showcase will help the ecosystem connect with them better while also serving as an inspiration.

Blockchain-based Certificate Verification

- The 'Blockchain-based Certificate Verification System' will enable instant verification and access to certificates of recognitions issued by DPIIT.
- This feature introduces an added layer of security to the startup certificates.
- It can be accessed by Government Departments, procurement entities, investors, and other third parties to verify status of recognized startups for accessing different opportunities.

Government Schemes: SVAMITVA Scheme




Relevance IN – Prelims (about SVAMITVA Scheme) + Mains (GS II e-governance + accountability and transparency + government policies and interventions)

What's the NEWS

- To transform rural India and empower millions of Indians, Prime Minister will launch the physical distribution of Property Cards under the SVAMITVA Scheme

- The launch will enable around one lakh property holders to download their Property Cards through the SMS link delivered on their mobile phones.
- This would be followed by physical distribution of the Property Cards by the respective State governments.
- These beneficiaries are from 763 villages across six States
- The move will pave the way for using property as a financial asset by villagers for taking loans and other financial benefits.

Know! about SVAMITVA



E-GRAMSWARAJ	SWAMITVA SCHEME
<ul style="list-style-type: none"> • Prepare & execute Gram Panchayat Development Plans • Real time monitoring & accountability • Major step towards digitization down to Gram Panchayat level 	<ul style="list-style-type: none"> • Helps to map rural inhabited lands using drones & latest survey methods • Ensure streamlined planning, revenue collection & provide clarity over property rights • Open up avenues for applying for loans from financial institutions by owners • Disputes related to property would also be settled

- SVAMITVA is a Central Sector Scheme of the **Ministry of Panchayati Raj**, which was launched by the Prime Minister on National Panchayati Raj Day, 24th April 2020.
- The scheme aims to provide the **'record of rights' to village household owners in rural areas and issue Property Cards.**
- The Scheme is being implemented across the country in a phased manner over a period of four years (2020-2024) and would eventually cover around 6.62 lakh villages of the country.
- About 1 lakh villages in the States of Uttar Pradesh, Haryana, Maharashtra, Madhya Pradesh, Uttarakhand and Karnataka, and few border villages of Punjab & Rajasthan, along with establishment of **Continuous Operating System (CORS) stations'** network across Punjab & Rajasthan, are being covered in the Pilot phase (2020-21).
- All these six States have signed MoU with Survey of India for drone survey of rural areas and implementation of the scheme.
- These States have finalised the digital property card format and the villages to be covered for drone-based survey.
- States of Punjab and Rajasthan have signed MoU with Survey of India for establishment of **CORS network to assist in future drone flying activities.**

Different nomenclature for the Property Cards in different states

- Different States have different nomenclature for the Property Cards viz. 'Title deed' in Haryana, 'Rural Property Ownership Records (RPOR)' in Karnataka, 'Adhikar Abhilekh' in Madhya Pradesh, 'Sannad' in Maharashtra, 'Svomitva Abhilekh' in Uttarakhand, 'Gharauni' in Uttar Pradesh.

Know! about CORS Network

- CORS is a geo positioning infrastructure that provides seamless consistent and uniform framework of the country.
- It offers highly accurate DGPS service that also improves the speed, efficiency, and simplicity of in-house data-acquisition process.
- CORS network also act as a driver for reliable data collection by 'authorized-crowd-sourcing'.
- CORS Network has a wide application in the development of India.

- It will help in the construction of large infrastructure projects and in generation and updation of revenue maps, which is one of the major problems being faced by the country today.
- The system will also augment with the NAVIC network along with other GNSS networks like GPS, Galileo and GLONASS.

Government Schemes: Goa becomes first 'Har Ghar Jal' State across the nation by providing tap water connection to every rural household

Relevance IN – Prelims (about Jal Jeevan Mission (JJM))

What's the NEWS

- Goa has earned itself the unique distinction of becoming first 'Har Ghar Jal' State in the country as it successfully provides **100% Functional Household Tap Connections (FHTCs)** in the rural areas covering 2.30 lakh rural households.
- All rural homes in the State now have a tap water supply.
- To strengthen the water testing facilities, the State is in process of getting 14 water quality testing laboratories NABL accredited.
- Jal Jeevan Mission mandates training 5 persons in every village especially women to be trained in using Field Test Kits, so that water can be tested in the villages.



Jal Jeevan Mission (JJM)

- Government of India has restructured and subsumed the ongoing National Rural Drinking Water Programme (NRDWP) into Jal Jeevan Mission (JJM) to provide **Functional Household Tap Connection (FHTC)** to every rural household i.e., Har Ghar Nal Se Jal (HGNSJ) by 2024.

The following kinds of works/schemes are proposed to be taken up under JJM:

1. In-village water supply (PWS) infrastructure for tap water connection to every household;
2. Reliable drinking water source development/augmentation of existing sources;
3. Transfer of water (multi-village scheme; where quantity & quality issues are there in the local water sources);
4. Technological intervention for treatment to make water potable (where water quality is an issue, but quantity is sufficient);
5. Retrofitting of completed and ongoing piped water supply schemes to provide FHTC and raise the service level;
6. Grey water management;
7. Capacity building of various stakeholders and support activities to facilitate the implementation.

Service level delivery under JJM

- The goal of JJM is to provide functional household tap connection to every household with service level at the rate of **55 litres per capita per day (lpcd)**.

The institutional mechanism under JJM

1. National level National - Jal Jeevan Mission
2. State level - State Water and Sanitation Mission (SWSM)
3. District level - District Water and Sanitation Mission (DWSM)
4. Gram Panchayat level - Paani Samiti/Village Water & Sanitation Committee (VWSC)/User group

- The fund sharing pattern between Centre and State is 90:10 for Himalayan (Uttarakhand, Himachal Pradesh) and North-Eastern States, 100:0 for UTs and 50:50 for rest of the States.

Health: Thalassemia Bal Sewa Yojna

Relevance IN – Prelims (about Thalassemia + HSCT program) + Mains (GS II Issues relating to development and management of Social Sector/Services relating to Health)

What's the NEWS

- The Union Minister for Health and Family Welfare launched the second phase of “**Thalassemia Bal Sewa Yojna**” for the underprivileged Thalassaemic patients

Know! about the Scheme

- Launched in 2017, this scheme is a Coal India CSR funded Hematopoietic Stem Cell Transplantation (HSCT) program that aims to provide a one-time cure opportunity for Haemoglobinopathies like Thalassaemia and Sick Cell Disease for patients who have a matched family donor.
- The CSR initiative was targeted to provide financial assistance to a total of 200 patients by providing a package cost not exceeding Rs. 10 lakhs per HSCT.

Know! about Thalassemia

- Thalassemia is an inherited (i.e., passed from parents to children through genes) blood disorder caused when the body doesn't make enough of a protein called haemoglobin, an important part of red blood cells.
- When there isn't enough haemoglobin, the body's red blood cells don't function properly and they last shorter periods of time, so there are fewer healthy red blood cells traveling in the bloodstream.
- Red blood cells carry oxygen to all the cells of the body. Oxygen is a sort of food that cells use to function.
- When there are not enough healthy red blood cells, there is also not enough oxygen delivered to all the other cells of the body, which may cause a person to feel tired, weak or short of breath. This is a condition called anaemia. People with thalassemia may have mild or severe anaemia.

Different types of thalassemia

- Haemoglobin, which carries oxygen to all cells in the body, is made of two different parts, called alpha and beta.
- When thalassemia is called “alpha” or “beta,” this refers to the part of haemoglobin that isn't being made.
- If either the alpha or beta part is not made, there aren't enough building blocks to make normal amounts of haemoglobin. Low alpha is called alpha thalassemia. Low beta is called beta thalassemia.

Hematopoietic Stem Cell Transplantation (HSCT)

- It involves the intravenous infusion of autologous or allogeneic **stem cells** collected from bone marrow, peripheral blood, or umbilical cord blood to re-establish **hematopoietic** function in patients whose bone marrow or immune system is damaged or defective.

Bilateral Relations: INS Sindhuvir

Relevance IN – Prelims (about INS Sindhuvir + about SAGAR initiative) + Mains (GS II bilateral relations)

What's the NEWS

- India will soon be delivering a kilo class submarine **INS Sindhuvir to the Myanmar Navy**, This will be the first submarines of the Myanmar Navy and is in accordance with India's vision of SAGAR – Security and Growth for All in the Region

Know! about the INS Sindhuvir

- This submarine has the capability of staying underwater for almost 45 days will be used for training purposes by the Myanmar Navy.



- This diesel-electric Kilo Class submarine is being given through the Line of Credit (LOC), India has extended to help in enhancing the military capability of Myanmar.
- The sailors of the Myanmar Navy have been trained in underwater combat operations onboard on INS Sindhuvir with the help of Indian Navy.
- This is a Russian refitted submarine and is known for its noiseless operational capability. It had joined the Indian Navy in the 1980s and has been modernized since then by the Hindustan Shipyard Limited (HSL) in Vizag.
- It is capable of carrying various types of weapons as it has a displacement of 3,000 tonnes and has the capacity to carry 52 personnel.
- It can go to a depth of around 300 meters.
- A permission has been taken from Russia before delivering the sub and an end-user agreement is in place.

Know! about the growing Military Relations (India-Myanmar)

- Both India and Myanmar (which is one of the strategic neighbours) share a 1,640-km border with the north-eastern states, including Manipur, Nagaland, and Mizoram, and also share 725 km India-Myanmar maritime boundary
- An export deal worth USD 37.9 million between the countries which was inked in 2017
- India last year delivered the first batch of Advanced Light Torpedo (TAL) 'Shyena' to Yangon.
- These torpedoes have been manufactured here in India by the state-owned Bharat Dynamics Limited (BDL).
- India has also supplied the Myanmar Navy with naval sonars and acoustic drones.
- To further enhance their maritime security cooperation, both India and Myanmar inked an agreement in 2017.
- India has also been working on the development of the Sittwe port in that country and also work is going on \$484m Kaladan transport project.
- In 2013, Indian Navy had started CORPAT with Myanmar and also carries out with four other regional navies including Thailand, Indonesia and Bangladesh.

Security and Growth for All in the Region (SAGAR)

- It is India's policy or doctrine of maritime cooperation in the Indian Ocean region.
- SAGAR is a term coined by PM Modi in 2015 during his Mauritius visit with a focus on the blue economy.
- It is a maritime initiative which gives priority to the Indian Ocean region for ensuring peace, stability and prosperity of India in the Indian Ocean region.
- The goal is to seek a climate of trust and transparency; respect for international maritime rules and norms by all countries; sensitivity to each other's interests; peaceful resolution of maritime issues; and increase in maritime cooperation.
- It is in line with the principles of the Indian Ocean Rim Association

Operations under SAGAR initiative

COVID-19 relief mission

- In the month of May 2020 India dispatched INS Kesari carrying on board 600 tons of food items, two medical assistance teams and essential medicines to the countries in the southern Indian Ocean as part of Mission SAGAR initiative. This relief mission provided assistance to Mauritius, Maldives, Madagascar, Comoros and Seychelles.

MV Wakashio oil spill

- On 17 August 2020 India extended its support to Mauritius government by sending 30 tons of technical equipment and materials, supplementing the oil spill containment and salvage operation.

International: New Caledonia referendum

Relevance IN – Prelims (about New Caledonia – geographical location) + Mains (GS II International Relations)

What's the NEWS

- People in the French overseas territory of New Caledonia have narrowly rejected independence from France in a referendum.



- The archipelago voted to remain French with 53.26% of votes, according to final results
- In a similar vote two years ago, the margin was slightly wider, with 56.7% voting to stay French.
- New Caledonia has been a French territory for nearly 170 years.

Know! more about it

- The referendum was part of a series of votes agreed two decades ago, following bouts of violence in the 1980s over the issue of independence between the islands' indigenous Kanak people and descendants of European settlers.
- Kanaks represent around 40% of the population, while Europeans, mostly born in the territory, make up about a third. Others come from other Pacific islands or are of mixed heritage.

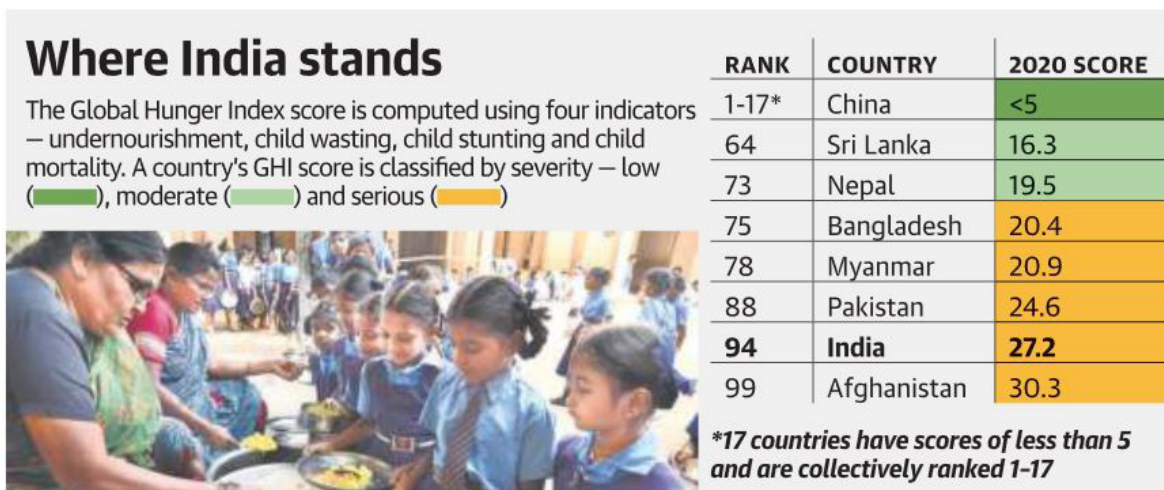
Noumea Accord

- The referendum was a part of a decolonisation plan agreed in 1998, known as the Noumea Accord.
- The Noumea Accord, which was concluded in 1998, provided for a practically sovereign status.
- Several agreements were signed including the 1998 Noumea Accord, which set out a roadmap for greater autonomy for the territory.
- Under this agreement, New Caledonia is allowed up to three referendums on independence. A third referendum can take place by 2022, if requested by a third of the local assembly.
- It enjoys a large degree of autonomy but depends heavily on France for matters like defence and education and still receives large subsidies from Paris.
- **It is one of the UN's 17 "non-self governing territories"** - where the process of decolonisation has not been completed.

Know! about New Caledonia

- It is an archipelago located in the southwest Pacific Ocean.
- It was discovered in 1774 by the British navigator James Cook.
- It was annexed by France in 1853.
- In 1946, it became an overseas territory.
- By 1953, French citizenship had been granted to all New Caledonians, regardless of ethnicity.
- New Caledonia has large deposits of nickel, a vital component in manufacturing electronics, and is seen by France as a strategic political and economic asset in the region.

Social Issues: India Ranks 94 Out Of 107 Nations In Global Hunger Index, Categorised 'Serious'



Relevance IN – Prelims (about GHI and report highlights) + Mains (GS II Social issues)

What's the NEWS

- India ranked 94 among 107 nations in the Global Hunger Index 2020 and is in the 'serious' hunger category
- Last year, India's rank was 102 out of 117 countries.
- The neighbouring Bangladesh, Myanmar and Pakistan too are in the 'serious' category but ranked higher than India in this year's hunger index.
- While Bangladesh ranked 75, Myanmar and Pakistan are in the 78th and 88th position.
- Nepal in 73rd and Sri Lanka in 64th position are in 'moderate' hunger category
- Seventeen nations, including China, Belarus, Ukraine, Turkey, Cuba and Kuwait, shared the top rank with GHI scores of less than five

Global Hunger Index (HIGHLIGHTS)

- 14 per cent of India's population is undernourished.
- 37.4 per cent stunting rate among children under five and a wasting rate of 17.3 per cent.
- The under-five mortality rate stood at 3.7 per cent.
- Wasting is children who have low weight for their height, reflecting acute undernutrition. Stunting is children under the age of five who have low height for their age, reflecting chronic undernutrition.

GHI score is calculated on four indicators

1. Undernourishment
2. Child wasting, the share of children under the age of five who are wasted-- who have low weight for their height reflecting acute undernutrition);
3. Child stunting, children under the age of five who have low height for their age reflecting chronic undernutrition
4. Child mortality - the mortality rate of children under the age of five.

Global Hunger Index

- The Global Hunger Index is a peer-reviewed annual report, jointly published by Concern Worldwide and Welthungerhilfe, designed to comprehensively measure and track hunger at the global, regional, and country levels.

Reasons behind the low ranking.

- poor implementation processes
- lack of effective monitoring

- siloed approach in tackling malnutrition
- poor performance by large states

Health: Ayushman Sahakar Fund

Relevance IN – Prelims (about AYUSHMAN SAHAKAR + about NCDC) + Mains (GS II Issues relating to development and management of Social Sector/Services relating to Health + GS III farmer's welfare)

What's the NEWS

- The Ministry of Agriculture launched AYUSHMAN SAHAKAR, a unique scheme to assist cooperatives play an important role in **creation of healthcare infrastructure** in the country formulated by the apex autonomous development finance institution under the Ministry of Agriculture and Farmers Welfare, the National Cooperative Development Corporation (NCDC).
- NCDC would extend term loans to prospective cooperatives to the tune of Rs. 10,000 Crore in the coming years.
- NCDC's scheme will be a step towards strengthening farmers welfare activities by the Central Government.

AYUSHMAN SAHAKAR scheme

- AYUSHMAN SAHAKAR scheme would revolutionize the way healthcare delivery takes place in rural areas by virtue of their strong presence in rural areas
- The NCDC fund would give a boost to provision of healthcare services by cooperatives.
- NCDC's scheme aligns itself with the focus of the National Health Policy, 2017, covering the health systems in all their dimensions- investments in health, organization of healthcare services, access to technologies, development of human resources, encouragement of medical pluralism, affordable health care to farmers etc.
- It has a comprehensive approach-hospitals, healthcare, medical education, nursing education, paramedical education, health insurance and holistic health systems such as AYUSH.
- Any Cooperative Society with suitable provision in its byelaws to undertake healthcare related activities would be able to access the NCDC fund.
- NCDC assistance will flow either through the State Governments/UT Administrations or directly to the eligible cooperatives. Subsidy/grant from other sources can be dovetailed.
- Ayushman Sahakar specifically covers establishment, modernization, expansion, repairs, renovation of hospital and healthcare and education infrastructure
- The scheme also provides working capital and margin money to meet operational requirements.
- The scheme provides interest subvention of one percent to women majority cooperatives.

National Cooperative Development Corporation (NCDC).

- NCDC was set up under an Act of Parliament in 1963 for promotion and development of cooperatives. Since 1963, it has extended around Rs. 1.60 lakh crore as loans to cooperatives.

Science & Technology: CSIR Ushered Repurposed Drugs (CUREd)



Relevance IN – Prelims (about the objective of CUREd) + Mains (GS II government policies and interventions)

What's the NEWS

- The Minister of Science & Technology, launched a website that gives **comprehensive information about the numerous COVID-19 clinical trials** that CSIR is engaged in partnership with Industry, other government departments and ministries.

Know! all about CUREd

- CSIR Ushered Repurposed Drugs**, the website provides information about the drugs, diagnostics and devices including the current stage of the trials, partnering institutions and their role in the trials and other details.
- CSIR is exploring multiple combination clinical trials of anti-virals with host-directed therapies for the potential treatment of COVID-19.
- CSIR is also working with the Ministry of AYUSH for clinical trials of AYUSH drugs and has undertaken safety & efficacy trials of AYUSH prophylactics and therapeutics based on individual plant-based compounds and in combination.
- 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.
- A key clinical trial of CSIR is the **Sepsivac (Mw)** against COVID -19 in partnership with Cadila.

Health and Family Welfare: Evidence-based Impact of National Deworming Day in India

Relevance IN – Prelims (about NDD and STH + role of. NCDC) + Mains (GS II Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

What's the NEWS

- To evaluate the impact of the consistently implemented high coverage NDD programme, the Health Ministry recently initiated **follow-up prevalence surveys led by NCDC and partners**.
- The follow-up surveys are completed in 14 States. All 14 States have **shown reduction in worm prevalence** in the STH follow up prevalence survey as compared to the baseline prevalence survey

Soil-Transmitted Helminthiases (STH)

- Soil-Transmitted Helminthiases (STH), also known as parasitic intestinal worm infection, is a significant public health concern mostly in low resource settings.
- These are known to have detrimental effects on children's physical growth and well being and can cause anemia and under-nutrition.
- Regular deworming as advised by the World Health Organization eliminates worm infestation among children and adolescents living in areas with high STH burden, thereby contributing to achieve better nutrition and health.

National Deworming Day (NDD)

- Since its launch in 2015, the National Deworming Day (NDD), a flagship program of the Ministry of Health and Family Welfare,, is implemented as a biannual single day programme implemented through the platforms of schools and anganwadis.
- Albendazole tablet**, approved by World Health Organization (WHO), is used for treatment of intestinal worms in children and adolescents as part of Mass Drug Administration (MDA) programmes globally.



- As per WHO Report on STH published in 2012, in India there were an estimated 64% children in the age group (1-14 years) at risk of STH.

National Centre for Disease Control (NCDC)

- To assess the exact burden of STH in India, the Ministry of Health and Family Welfare appointed the **National Centre for Disease Control (NCDC)** as the nodal agency to coordinate and conduct nationwide baseline STH mapping.
- In collaboration with partners and government agencies, NCDC completed the **baseline STH mapping** across the country by the end of 2016.

Know! more about NDD

- Implementation of NDD is led by the Ministry of Health and Family Welfare, in collaboration with the Ministry of Women and Child Development, Ministry of Education and technical assistance from WHO and the technical partners.
- Frontline health workers are trained to follow COVID-19 safety guidelines while administering Albendazole tablets to children and adolescents (1-19 years) during home visits or through staggered **Village Health Sanitation and Nutrition Day (VHSND)** based model between August and October 2020.

Bilateral Relations: 3rd India-US 2+2 Ministerial Dialogue

Relevance IN – Prelims (about the 2+2 Ministerial Dialogue + about US- India relations) + Mains (GS II bilateral relations)

What's the NEWS

- US State Secretary Mike Pompeo, Defence Chief Mark Esper to Visit India For 2+2 Talks on Oct 26-27
- The 2+2 ministerial meeting of the top foreign affairs and defence leaders of the India and the US in New Delhi next week will discuss the threats from China.

India-US 2+2 Ministerial Dialogue (3rd edition) - highlights

- India will be hosting the third India-US 2+2 Ministerial Dialogue on October 27 in the national capital.
- US Secretary of State Michael R Pompeo and Secretary of Defence Mark T Esper will be visiting India on October 26-27 to participate in the dialogue.
- From the Indian side, Union Defence Minister Rajnath Singh and External Affairs Minister S Jaishankar will lead the delegations.
- The first two 2+2 Ministerial dialogues were held in New Delhi in September 2018 and in Washington DC in 2019.
- The 2+2 comes even as both countries are increasing engagement amid the growing Chinese aggressiveness. Both countries are part of the Quad grouping of countries which include Australia and Japan.



The Basic Exchange and Cooperation Agreement (BECA)

- The BECA deal is the third foundational agreement to be signed between India and the US after the Logistics Exchange Memorandum of Agreement and the Communications Compatibility and Security Agreement in 2016 and 2018 respectively.
- The signing of BECA and the follow-up arrangements between the sides will allow India to use American inputs on geospatial intelligence and to enhance military accuracy of automated hardware systems and weapons like cruise, ballistic missiles and drones.

India – US relation – highlights

- India and the US have been working very closely in the field of defence and security as India has acquired equipment worth around USD 20 billion from there in the last 15 years including the C-17 Globemasters and the C-130J Super Hercules Special Operations transport aircraft which have become the mainstays of the Indian Air Force's heavy-lift fleet.
- In the field of choppers also, the American Chinook heavy-lift and Apache attack helicopters have come as force multipliers for the armed forces.

- The Army is also using the Ultra Light Howitzers from the US while the Navy has also recently opted for the American MH-60 Romeo anti-submarine warfare multirole choppers for its requirements.
- The two sides are also going to hold regular military exercises with the Army set to hold the 'Yudh Abhyas' and 'Vajra Prahar' with American troops early next year while the Navy is going to take part in the Malabar series exercise in November in the Indian Ocean with the Australian and Japanese Navies also set to participate.

Bilateral Relations: India Post and United States Postal Service (USPS) signs Agreement for Electronic Exchange of Customs Data

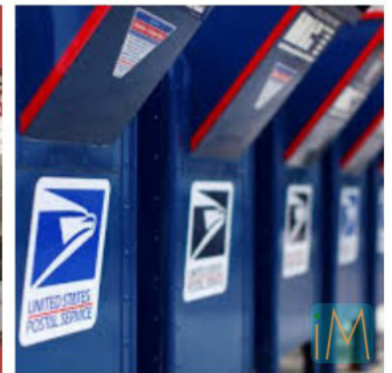
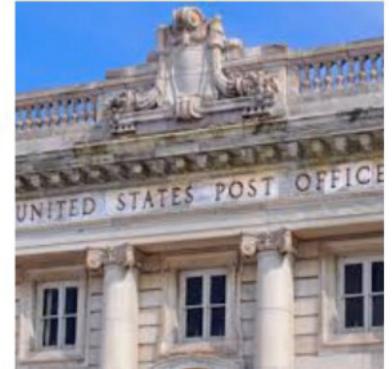
Relevance IN – Prelims (about Exchange of Electronic Advance Data) + Mains (GS II bilateral relations)

What's the NEWS

- Department of Posts, Government of India (India Post) and United States Postal Service (USPS) have entered into an agreement for **Electronic Exchange of Customs data** related to postal shipments exchanged between the two countries.

Know! about the agreement

- The agreement will make it possible 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 improve the performance of postal services in terms of reliability, visibility and security.
- USA is the top export destination for India (~17%) which is also reflected in exchange of goods through postal channel.



Exchange of Electronic Advance Data (EAD)

- EAD will be a key driver towards promoting mutual trade with emphasis on the exports from different parts of India to USA through postal channel considering that USA is a major destination of MSME products, Gems & Jewellery, Pharmaceuticals and other local products from India.
- This will fulfil a major demand of export industry to expedite customs clearances of export items.
- The primary objective that will be served by this agreement is to facilitate '**ease of exports**' for **small and large exporters** through postal channels from different parts of the country and will contribute towards making India an Export Hub for the world.

Miscellaneous: National Productivity Council gets Accreditation conforming to ISO 17020:2012

Relevance IN – Prelims (about NPC and its role) + Mains (GS II governance - accountability and transparency)

What's the NEWS

- National Productivity Council (NPC), under Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry, Govt. of India has been granted accreditation conforming to ISO 17020:2012 by National Accreditation Board for Certification Body (NABCB), Quality Council of India (QCI) for undertaking inspection and audit work in the area of Food Safety Audit and Scientific Storage of Agricultural Products.

- This accreditation is valid for a period of three years. NPC has already formed an Inspection Division at its Headquarters for undertaking Inspection and audit activities.

Know! the role of NPC

- NPC has been conducting inspections/audit for different statutory bodies such as Warehousing Development and Regulatory Authority (WDRA) and Food Safety and Standards Authority of India (FSSAI), and is already having high credentials in the area of inspections and audits.
- WDRA empanelled NPC as an accreditation and inspection agency since 2011 for inspection of Warehouses all over India.
- FSSAI had also empanelled NPC as an Auditing agency for conducting Food Safety Audit of Food Business Operators (FBOs) across India in the area of Food Storage/Warehousing/Cold Storage.
- NPC has also conducted Audits of Dairy Plants, Oil Extraction Units, Solvent Extraction Plants and Oil Refineries for FSSAI.
- Present accreditation of NPC by NABCB conforming to ISO 17020:2012 will enable it to undertake Independent Third-Party Audits of Food Business Operators including Food Storage Warehouses as per Food Safety and Standards (Food Safety Auditing) Regulations, 2018 of FSSAI as well as inspections of Warehouses as per WDRA Rules, 2017.

National Productivity Council of India (NPC)

- It established in the year 1958, is an autonomous organization under Department for Promotion of Industry & Internal Trade, Ministry of Commerce and Industry, Government of India. Besides undertaking research in the area of productivity
- NPC has been providing consultancy and training services in areas of Industrial Engineering, Agri-Business, Economic Services, Quality Management, Human Resources Management, Information Technology, Technology Management, Energy Management, Environmental Management etc., to the Government and Public & Private sector organizations.
- NPC is a constituent of the Tokyo-based Asian Productivity Organisation (APO), an Inter-Governmental Body of which the Government of India is a founding member.

Bilateral Relations: Cabinet approves Memorandum of Cooperation between India and Japan on cooperation in the field of Information and Communication Technologies

Relevance IN – Prelims (about MoC – highlights) + Mains (GS II bilateral relations – can be used as a fodder to substantiate your answers)

What's the NEWS

- The Union Cabinet, has given its approval for signing Memorandum of Cooperation (MoC) between India and Japan on bilateral cooperation in the field of Information and Communication Technologies (ICTs).

MoC (Highlights)

- The MoC will contribute in strengthening bilateral cooperation and mutual understanding in the field of communications
- It will serve as a strategic initiative for India as Japan is an important partner with “Special Strategic and Global Partnership” status.
- The MoC will help in cooperation between two countries in various fields like 5G network, telecom security, Submarine cable, standard certification of communication equipment, utilization of latest Wireless Technologies and ICTs, ICTs capacity building, Public Protection and Disaster Relief, Artificial Intelligence (AI)/Block Chain, Spectrum Chain, Spectrum Management, Cooperation on Multilateral platforms etc.
- The MoC will further enhance opportunities for India to get into global standardization process.
- Cooperation in ICTs technologies will help in strengthening ICTs infrastructure in the country.
- Cooperation in the development of future submarine cable networks and technologies will help in boosting connectivity of mainland India to remote areas.

Miscellaneous: Commitment to Reducing Inequality Index 2020' by international charity Oxfam

Relevance IN – Prelims (about the health spending index takeaways) + Mains (GS II Social Issues – facts to substantiate answer related to Social issues and Health)

What's the NEWS

- The survey data show **India spent less than 4% of its budget on health** and ranked 155th on the health spending index.
- Its health budget is the fourth lowest in the world. Just half of its population have access to even the most essential health services
- The index has been topped by Norway followed by Denmark and Germany.
- India has been ranked 129 overall in the index.

Know! the report takeaways

- Globally, the report found, only 26 of the 158 countries surveyed were spending the recommended 15% of their budgets on health.
- Nigeria, Bahrain and India, (the last of) which is currently experiencing the world's fastest-growing outbreak of Covid-19, were among the world's worst performing countries in tackling inequality going into the pandemic
- According to the World Bank database, India was the 13th lowest (among 206 for which data was available) in terms of the percentage of total government expenditure that went to health in 2017.

HOW THE SAARC NATIONS FARE

Country	Public services ranking*	Tax ranking	Labour ranking	Overall ranking
India	141	19	151	129
Pakistan	148	71	116	128
Bangladesh	142	32	109	113
Nepal	120	16	130	112
Bhutan	124	130	141	146
Afghanistan	153	6	113	102
Sri Lanka	106	91	86	94

*Health + education + social protection

Vulnerable employment (75%)

- India, which has weak labour rights and a high incidence of vulnerable employment (about 75%), is eighth from the bottom," the report said. India and Haiti are the only countries outside Africa in the bottom 10.
- In both Bangladesh and Pakistan, 57% of the workers are vulnerable

Commitment to Reducing Inequality Index 2020

- The index ranks 158 countries measuring their policies and actions in three areas
 - Public services (health, education and social protection) – India's Rank - 141
 - Taxation - India's Rank - 19
 - Workers rights - India's Rank - 151

As these three areas are directly related to reducing inequality

NITI Aayog: India Energy Modelling Forum (governing structure)

Relevance IN – Prelims (about IEMF + SEP) + Mains (GS II bilateral relations + GS III Infrastructure development – energy)

What's the NEWS

- Further to 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—on 2 July, NITI Aayog **announced its governing structure**

US–India Strategic Energy Partnership (SEP)

- It is a 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.

The steering committee will comprise representatives of the:

- Government (ministries of environment, forest and climate change; new and renewable energy; statistics and programme implementation; Technology Information Forecasting and Assessment Council; Coal Controller's Organization; Petroleum Planning and Analysis Cell; Central Electricity Authority; and NITI Aayog)
- Industry Associations (FICCI and CII)
- Academia (IIT Bombay, Ahmedabad, and Delhi)
- Policy research organizations, think tanks and funding agencies

India and the US have a long-standing collaboration on energy.

- The Sustainable Growth pillar, one of the four of the US–India SEP, is being chaired by NITI Aayog and USAID.
- This pillar brings together Indian and US researchers and decision-makers to collaborate in three focal areas:
 1. energy data management
 2. energy modelling
 3. promotion of low carbon technologies
- IEMF was launched under the area of energy modelling.
- Through collaborations with global energy modelling forums, such as Stanford Energy Modelling Forum and Energy Modelling Platform for Europe, IEMF hopes to share and learn from best practices.

NITI Aayog: Atal Innovation Mission collaborates with CGI to promote Innovation across schools

Relevance IN – Prelims (about the SOI – highlights + about AIM's ATL)

What's the NEWS

- Atal Innovation Mission (AIM), NITI Aayog, has signed a Statement of Intent (SOI) with CGI India in order to further rev up the innovation across the schools.

Know! about AIM's ATL

- AIM and CGI India which is one among the largest IT and business consulting services firms has collaborated for **creating a successful and innovative workforce from the ATL schools**.
- AIM is the flagship programme of the Government of India that promotes a culture of innovation and entrepreneurship across country.
- Its ATLs are accessed by over 2.5 million school kids in India.
- ATL is a **dedicated innovation workspace set-up at schools** where students get access to do-it-yourself (DIY) kits and learn to tinker and create innovative solutions using the latest technologies.

Statement of Intent (SOI) - takeaways

- As part of the SOI, CGI has **agreed to adopt 100 schools with ATLs** across Bangalore, Chennai, Hyderabad and Mumbai to promote and train students.
- CGI volunteers will coach and mentor students at the ATLs to enhance technical literacy and provide immersive learning experiences to the students through hands-on experience using STEM tools.
- CGI will also conduct training workshops for teachers at select schools on topics such as design thinking, computational thinking, robotics and coding.
- CGI has agreed to adopt and support 100 ATL across the country with their technical expertise and proficiency.
- This will enable the ATL students to be more connected to the 4th industrial revolution happening in India.
- CGI will also run capacity building Unbox tinkering Workshops for ATL teachers to build innovative mindset in teachers

Flagship schemes/initiatives of NITI Aayog

Atal Tinkering Lab

- In ATLs, students of class 6th to 12th acquire a problem-solving attitude, develop innovative solutions leveraging technologies like 3D printers, robotics, miniaturised electronics, IOT and programming and DIY kits, with support from teachers and mentors.

Atal Innovative Mission

- AIM is the Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country.
- AIM's objective is to develop new programmes and policies for fostering innovation in different sectors of the economy, provide platform and collaboration opportunities for different stakeholders, create awareness and create an umbrella structure to oversee innovation ecosystem of the country.

Six major initiatives of AIM:

- Atal Tinkering Labs-Creating problem-solving mindset across schools in India.
- Atal Incubation Centers-Fostering world class start-ups and adding a new dimension to the incubator model.
- Atal New India Challenges-Fostering product innovations and aligning them to the needs of various sectors/ministries.
- Mentor India Campaign- A national Mentor network in collaboration with public sector, corporates and institutions, to support all the initiatives of the mission.
- Atal Community Innovation Centre- To stimulate community centric innovation and ideas in the unserved/underserved regions of the country including Tier 2 and Tier 3 cities.
- ARISE-To stimulate innovation and research in the MSME industry.

Economy/Bilateral Relations: NTPC Ltd. enters into foreign currency loan agreement with Japanese Government's financial institution

Relevance IN – Prelims (about the agreement between NTPC and JBIC + about GREEN facility + about FGD) + Mains (GS II bilateral relations)

What's the NEWS

- In the first funding for NTPC Ltd under Japan Bank for International Co-operation (JBIC)'s **GREEN or Global Action for Reconciling Economic growth and Environment preservation initiative**, India's largest power producer today entered into foreign currency loan agreement with Japanese Government's financial institution for JPY 50 billion

Know! more about the loan agreement

- JBIC will provide 60% of the facility amount and the balance will be given by commercial banks
- The facility is extended under JBIC's outreach for projects, which ensure conservation of global environment.
- The loan proceeds will be utilized by NTPC Ltd, the PSU under Ministry of Power, for funding its capex **for Flue Gas Desulphurization (FGD) & Renewable Energy** projects.
- FGD, substantially reduces the SO_x emission in the flue gases of thermal power plants and is a critical step towards environmental sustainability.

Know! about GREEN facility

- BIC conducts environmental operations called Global action for Reconciling Economic growth and ENvironmental preservation ("GREEN").
- Under the GREEN operations, JBIC provides enhanced support for environmental projects in developing countries in the form of loans, guarantees and equity financing, while mobilizing private-sector funds.
- GREEN projects include development of photovoltaic generation facilities using advanced environmental technologies and highly energy-efficient power plants, as well as installation of energy-saving equipment which are intended to help protect the global environment.

Bilateral Relations: India-Russia webinar on the use of natural gas as motor fuel

Relevance IN – Prelims (about webinar takeaways + about LNG and CNG) + Mains (GS II Bilateral relations)

What's the NEWS

- The first ever India-Russia webinar on the **use of natural gas as motor fuel** was organized under the aegis of Ministry of Petroleum and Natural Gas, Government of India and the Ministry of Energy of the Russian Federation.

LNG and CNG as Transport Fuel

- LNG is being promoted as a transport fuel because of its low carbon emission. India is likely to have 120,000 LNG vehicles by 2030.
- City Gas distribution network expansion is the Backbone for CNG growth. Now CGD coverage is being expanded to over 400 districts across 27 states and Union Territories.
- There is a huge market potential in the CNG sector in India with expected investment of USD 3-4 billion in CNG equipment, USD 50-60 billion through CNG vehicles and USD 1-1.5 billion via service market till 2030.
- The webinar is expected to act as a catalyst for coming up with practical measures for initiating projects on pilot basis in each other's countries and eventually to scale up to the national levels and for mutual investments.

Know! about LNG

- LNG is a clear, colourless and non-toxic liquid which forms when natural gas is cooled to -162°C (-260°F).
- The cooling process shrinks the volume of the gas 600 times, making it easier and safer to store and ship. In its liquid state, LNG will not ignite.
- When LNG reaches its destination, it is turned back into a gas at regasification plants.
- It is then piped to homes, businesses and industries where it is burnt for heat or to generate electricity.
- LNG is now also emerging as a cost-competitive and cleaner transport fuel, especially for shipping and heavy-duty road transport.

Compressed natural gas (CNG)

- Compressed natural gas, or CNG, is natural gas under pressure which remains clear, odourless, and non-corrosive – and can be used as a cheaper, greener, and more efficient alternative to the traditional petrol and diesel fuels for vehicles.
- CNG is comprised mostly of methane gas which, like gasoline, produces engine power when mixed with air and fed into your engine's combustion chamber.
- CNG is compressed so that enough fuel can be stored in your vehicle to extend driving range, much like the gasoline tank in vehicles.
- Diesel and gasoline vehicles will need to be converted to use CNG fuel.

Social Issues: Tribal Entrepreneurship Development Programme Launched

Relevance IN – Prelims (about Tribal Entrepreneurship Development Programme + about ASSOCHAM) + Mains (GS II Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes)

What's the NEWS

- Ministry of Tribal Affairs and Associated Chambers of Commerce and Industry of India (ASSOCHAM), an apex industry body have embarked upon a **new three-year initiative jointly for Tribal Entrepreneurship Development**.
- ASSOCHAM has been designated as one of several Centres of Excellence which are partnering with Ministry of Tribal Affairs to carry out special projects related to socio-economic development of Tribals.



Tribal Entrepreneurship Development Programme

- The 'Tribal Entrepreneurship Development Programme' would optimize the contribution of tribal population to the growing economy
- In a bid to promote and support entrepreneurship across Indian tribal communities, efforts are underway in connecting agriculture and forest produce with markets using technology, creation of self-help groups, empowering women, and creating self-sustainable enterprises.
- The 'ASSOCHAM will strive to explore avenues of promotion to create a robust tribal brand identity and in the process - build and enhance the entrepreneurial capabilities of the tribal artisans.
- 1000 tribal artisans would be identified under this initiative and would be helped to create a **unique brand identity** with a differentiated value proposition and connect with the potential customer base through exhibitions, Virtual road shows and explore participation of the entrepreneur's in major events across the country and internationally.

The Associated Chambers of Commerce and Industry of India (ASSOCHAM)

- It is one of the apex trade associations of India.
- The organisation represents the interests of trade and commerce in India, and acts as an interface between issues and initiatives.
- The goal of this organisation is to promote both domestic and international trade, and reduce trade barriers while fostering conducive environment for the growth of trade and industry of India.

ASSOCHAM members represent the following sectors:

- Trade (national and international)
- Industry (domestic and international)
- Professionals (e.g., CAs, CMAs, lawyers, consultants)

Health and Family Welfare: Decade of Healthy Ageing (2020-2030) launched on International Day for Older Persons

Relevance IN – Prelims (about International Day of Older Persons + Decade of Healthy Ageing + about LASI) + Mains(GS II Social Issues)

What's the NEWS

- Every year 1st October is celebrated as the **International Day of Older Persons, as declared by United Nations**, to recognize, enable and expand the contributions of older people in their families, communities and societies at large and to raise awareness towards issues of ageing.
- The UN theme of the International Day of Older Persons 2020 is "Pandemics: Do They Change How We Address Age and Ageing?"

Decade of Healthy Ageing (2020-2030)

- 1st October, 2020 is the launch year of **Decade of Healthy Ageing (2020-2030)**, many activities will be undertaken throughout the year, aimed at mainstreaming issues related to elderly and to deliberate upon ways to ensure better and effective delivery of services, making full use of convergence mechanisms.
- The broad aims of the Decade of Healthy Ageing will include evolving convergence within various national health programs and also promoting inter-sectoral coordination with other line Departments/Ministries.
- Community based organisations, NGOs and multinational agencies will also be involved for developing an implementation framework for multi-sectoral engagement on healthy aging.
- Workshops/webinars will be organised to bring out policy and programmatic responses to LASI data, highlighting the best practices for elder care

Longitudinal Aging Study in India (LASI)

- In order to generate comprehensive data on social, economic and health conditions of the elderly, the Government undertook Longitudinal Aging Study of India, the first nationwide study **and world's largest study on older adults** which will provide **evidence base for national and state level programs and policies** for elderly population.
- Findings of LASI are being finalised by the Ministry and will be released shortly.

Steps taken by India

- The **National Programme for the Health Care for the Elderly (NPHCE)** which is aimed to deliver comprehensive, affordable and quality geriatric care services at primary and secondary levels; “outpatient services from district hospital to health & wellness centres, minimum 10 bedded geriatric wards at all district hospitals, rehabilitation services down to CHC and HWC level and developing mechanisms for providing home based care to needy elderly.

India & Japan deliberate on ways to strengthening health care for elderly

Relevance IN – Prelims (about the webinar for older people – objective + about International Day of Older Persons) + Mains (GS II bilateral relations)

What's the NEWS

- Experts from India and Japan discussed ways to strengthening health care for older people

Know! the key take-aways

- The webinar on ‘India - Japan Celebration of the International Day of Older Persons’ was organized by the Department of Science and Technology (DST), Government of India, jointly with the Embassy of India, Tokyo & and the Ministry of Economy, Trade, and Industry (METI), Government of Japan to celebrate the International Day of Older Persons on 1st October 2020.

Way Forward

- Expansion of initiatives like the National Program for Health care of the elderly, Ayushman Bharat and implementation of **WHO's long term care protocol (ICOPE)** could help in strengthening health care for older people.



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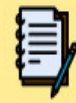
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GENERAL STUDIES III

**Science & Technology Economic
Developments, Biodiversity,
Environment, Internal Security and
Disaster management**

NITI Aayog: Decarbonization and Energy Transition Agenda

Relevance IN – Prelims (about decarbonization and energy transition agenda highlights) + Mains (GS II Bilateral relations + GS III infrastructure development -energy)

What's the NEWS

- NITI Aayog and Embassy of the Netherlands, signed a Statement of Intent (SoI) to support the decarbonization and energy transition agenda for accommodating cleaner and more energy.

Know! about the collaboration

- Through this collaboration, NITI Aayog and the Dutch Embassy seek a strategic partnership to create a platform that enables a comprehensive collaboration among stakeholders
- The focus of the partnership is on co-creating innovative technological solutions by leveraging the expertise of the two entities.
- This will be achieved through an exchange of knowledge and collaborative activities.

Key elements include

- i) lowering the net carbon footprint in industrial and transport sectors
- ii) realise the target potential of natural gas and promote bio-energy technologies
- iii) adopt clean air technologies from monitoring to reducing actual particulates
- iv) adopt next-generation technologies, such as hydrogen, carbon capture utilization, and storage for sectoral energy efficiency
- v) financial frameworks to deliver and adopt climate change finance.

India and the Netherlands Relations

- The Netherlands and India share a long history of trade and investment. It is India's sixth largest EU trading partner—as much as 20% of India's exports to the European continent goes through the Netherlands, making it India's 'gateway to Europe'—and one of the top five investors in the country. It is also the third largest source of Foreign Direct Investment for India.
- The Netherlands is keen to intensify its business relations with India to emerge as the country's hub for doing business with Europe.

Science & Technology: CSIR-NISTADS 40th Foundation Day

Relevance IN – Prelims (about CSIR-NISTADS and its role + UBA and VIBHA)

What's the NEWS

- The Minister of Science & Technology, launched CSIR Technologies for rural development under a joint initiative of Council of Scientific & Industrial Research (CSIR), Unnat Bharat Abhiyan (UBA), Indian Institute of Technology Delhi (IITD) and Vijnana Bharti (VIBHA).

Know! about the joint initiative and the role of CSIR-NISTADS

- The event was organized through online platform on the occasion of CSIR-NISTADS 40th Foundation Day
- Over the years CSIR has developed several appropriate technologies which could be deployed in rural areas for development and livelihood generation and achieving sustainable development goals.
- These technologies will now be disseminated to society through the Higher Education Institutional network of UBA and local chapters of VIBHA.
- CSIR- National Institute of Science, Technology and Development Studies (CSIR-NISTADS) is acting as a nodal CSIR Lab **to establish linkages between CSIR laboratories, UBA, VIBHA, and stakeholders.**
- CSIR, UBA, Vijnana Bharti have planned to work jointly on a framework for scientific intervention to create sustainable livelihood opportunities in the rural clusters under synergy of S&T Organizations (CSIR/DST/DBT/DRDO etc), VIBHA and UBA.

Unnat Bharat Abhiyan

- It is a flagship programme of Ministry of Education conceptualised and launched in IIT Delhi, with a vision of transformational change in rural development processes by leveraging knowledge institutions to help build the architecture of an Inclusive India.

- Unnat Bharat Abhiyan now constitutes 45 Regional Coordinating Institutions (RCIs) and 2,614 Participating Institutions (PIs).
- Till date, a total of 13,760 villages have been adopted under Unnat Bharat Abhiyan

CSIR-National Institute of Science, Technology and Development Studies(NISTADS)

- It one of the constituent laboratory of CSIR.
- It is devoted to a study of various aspects of interaction among science, society and state and exploring continuously the interface between Science, Technology and Society.

Vijnana Bharti(Vibha)

- VIBHA, a science movement with *swadeshi* spirit, has a greater role to play.
- *Swadeshi* Science Movement was started in Indian Institute of Science, Bengaluru by some eminent scientists under the guidance of Prof. K. I. Vasu.
- One of the founding principles of VIBHA is – *Swadeshi* Movement with modern sciences adapted to national needs.

Social Justice: Ambedkar Social Innovation & Incubation Mission under Venture Capital fund for SCs(ASIIM)



Relevance IN – Prelims (about ASIIM + VCFSC) + Mains (GS II Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes + GS III inclusive development)

What's the NEWS

- Union Minister for Social Justice and Empowerment-launched the “**Ambedkar Social Innovation and Incubation Mission (ASIIM) under Venture Capital Fund for SCs** with a view to promoting innovation and enterprise among SC students studying in higher educational institutions.
- The Ministry has decided to launch ASIIM through the Venture Capital Fund for Scheduled Castes (VCFSC).

It's objectives include:

- To promote entrepreneurship among the SC Youth with special preference to Divyangs;

- To support (1,000) innovative ideas till 2024 through a synergetic work with the Technology Business Incubators (TBIs) set up by Department of Science and Technology;
- **To support, promote, hand-hold the start-up ideas** till they reach commercial stage by providing liberal equity support; and
- To incentivise students with innovative mind-set to take to entrepreneurship with confidence.

Venture Capital Fund for SCs (VCF-SC)

- The Ministry of Social Justice had launched the Venture Capital Fund for SCs (VCF-SC) in 2014-15 with a view **to developing entrepreneurship amongst the SC/Divyang youth** and to enable them to become 'job-givers'.
- The Objective of this fund is to provide concessional finance to the entities of the SC entrepreneurs.
- Under this fund, 117 companies promoted by SC entrepreneurs have been sanctioned financial assistance to set up business ventures.

Know! more about Ambedkar Social Innovation Incubation Mission (ASIIM)

- Under named "Ambedkar Social Innovation Incubation Mission (ASIIM)" initiative, **1,000 SC youth would be identified in the next 4 years with start-up ideas** through the Technology Business Incubators (TBIs) in various higher educational institutions.
- They will be funded @ Rs. 30 lakhs in 3 years as equity funding so that they can translate their start-up ideas into commercial ventures.
- Successful ventures would further qualify for venture funding of up to Rs. 5 Crore from the Venture Capital Fund for SCs.
- Under this initiative VCF-SC shall target SC students/young entrepreneurs working in **Technology Business Incubators (TBIs)** supported by Department of Science and Technology (DST) in higher education and technology institution including Business/Management schools.
- The VCF-SC shall extend all support in the form of hand-holding, guidance, mentoring, besides providing equity support up to Rs 30 lakh over a period of three (3) years to each entity of young SC students/entrepreneurs.

Science and Technology: VAIBHAV Summit



Relevance IN – Prelims (about VAIBHAV Summit) + Mains (GS III awareness in the field of science and technology)

What's the NEWS

- Prime Minister inaugurated Vaishvik Bhartiya Vaigyanik (VAIBHAV) Summit on 2nd October

Know! about VAIBHAV Summit

- The VAIBHAV Summit is a **global virtual summit of overseas and resident Indian Researchers and Academicians**, and is being organized from 2nd October to 31st October 2020.
- The aim of the summit is **to bring Indian origin luminaries in academic institutes and R&D organizations across the world** and resident counterparts on a single platform to debate upon collaboration mechanisms **to strengthen academic and S&T base in India for global development**.
- The initiative involves multiple levels of interactions among overseas experts and Indian counterparts over a month-long series of webinars, video conferences etc.
- More than 3000 overseas Indian origin academicians and scientists from 55 countries and more than 10,000 resident academicians and scientists are taking part in the summit.
- About 200 academic institutes and S&T departments, led by Principal Scientific Advisor, Government of India, are organizing the summit running through the month of October.

Science and Technology: RAISE 2020

Relevance IN – Prelims (about RASIE 2020 + role of AI) + Mains (GS III awareness in the field of space)

What's the NEWS

- Ministry of Electronics and Information Technology (MeitY) and NITI Aayog are organizing a Global Virtual Summit on Artificial Intelligence (AI), **RAISE 2020- 'Responsible AI for Social Empowerment 2020,'** from **October 5-9, 2020**.
- The Summit will be inaugurated by Prime Minister
- RAISE 2020 will have session on building inclusive AI that empowers one billion plus Indians.
- So far, more than 15,000 stakeholders from across academia, the research industry and government representatives from across the world have registered to participate in RAISE 2020.

Know! the role of AI and steps taken by the government for its development

- Home to the **world's third largest startup ecosystem**, elite science and technology institutions like the IITs, robust and ubiquitous digital infrastructure, and millions of newly-minted STEM graduates every year, India is well-positioned to become a global leader in the development of artificial intelligence.
- Industry analysts predict that AI could add up to USD 957 billion to India's economy by 2035.
- From agriculture to fin-tech and healthcare to infrastructure, artificial intelligence can be a truly transformative force.
- India is uniquely positioned to become the AI laboratory of the world and contribute to inclusive development and growth through empowerment.
- The RAISE 2020 Summit will serve as a platform for discussion and consensus building to help create a data-rich environment, which is a stepping stone to eventually transform lives globally.
- It will facilitate an exchange of ideas to create mass awareness about the need to ethically develop and practice AI.

Know! 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.

Science & Technology: A new study by ARIES of DST suggests new formula to help estimate the mass of Black Hole

Relevance IN – Prelims (about the new formula to probe black hole) + Mains (GS III awareness in the field of science and technology)

What's the NEWS

- A new study has suggested a formula that can help probe black holes.
- Black holes (BH) cannot be observed directly, but their presence can be detected by the huge amount of energy that is liberated through temporary accumulation of matter outside the BH, before it dives into the BH, **a process called accretion.**

Two-temperature modeling of accretion flows.

- Scientists have found the formula that can assess the spectrum emitted from the accretion discs around black holes.
- Spectra of accretion discs can help estimate the mass of the black hole.
- Accretion flow around BH is composed of ionised plasma, which is a soup of bare electrons and protons. Since electrons are more prone to radiative losses than the protons, it is expected that around a BH, electrons and protons would settle down into two separate temperature distributions.
- Therefore, the two-temperature equations are generally solved to obtain the emitted spectrum from the electron temperature distribution. This is known as **two-temperature modeling of accretion flows.**

Chattopadhyay form of entropy formula

- Scientists have developed a new formula called the **Sarkar & Chattopadhyay form of entropy formula** that can only be applied near the horizon where gravity overpowers any other interactions like energy exchange terms between ions and electrons.
- This novel approach helped in selecting a unique solution out of the multiple solutions of **accretion disc spectrum emission around a BH.**
- Using this formula, they found that with the increase of the mass supply to the central BH, the accretion disc becomes brighter and more high energy photons are emitted.

Environment Conservation: Cabinet approves Ratification of seven Persistent Organic Pollutants listed under Stockholm Convention

Relevance IN – Prelims (about POPs + about Stockholm Convention on POPs) + Mains (GS III Environment conservation)

What's the NEWS

- The Union Cabinet, has approved the Ratification of seven (7) chemicals listed under Stockholm Convention on **Persistent Organic Pollutants (POPs).**
- The Cabinet further delegated its powers to ratify chemicals under the Stockholm Convention **to Union Ministers of External Affairs (MEA) and Environment, Forest and Climate Change (MEFCC)** in respect of POPs already regulated under the domestic regulations thereby streamlining the procedure.

Stockholm Convention

- The Stockholm Convention is a global treaty to protect human health and environment from POPs, which are identified chemical substances that persist in the environment, bio-accumulate in living organisms, adversely affect human health/environment and have the property of **long-range environmental transport (LRET).**
- Exposure to POPs can lead to cancer, damage to central & peripheral nervous systems, diseases of immune system, reproductive disorders and interference with normal infant and child development.
- POPs are listed in various Annexes to the Stockholm Convention after thorough scientific research, deliberations and negotiations among member countries.

Reinforcing Commitment to Protect Health & Environment

Ratification of 7 Persistent Organic Pollutants (POPs) under Stockholm Convention Approved



Powers to ratify chemicals under Stockholm Convention delegated to Union Ministers of External Affairs & MEFCC* in respect of POPs to streamline the procedure



Demonstrates India's commitment to take action on POPs by implementing control measures, action plans for unintentionally produced chemicals



Will enable India to access Global Environment Facility (GEF) financial resources in updating the NIP**

*Ministry of Environment, Forest & Climate Change

**National Implementation Plan

- India had ratified the Stockholm Convention on January 13, 2006 as per Article 25(4), which enabled it to keep itself **in a default “opt-out” position** such that amendments in various Annexes of the convention cannot be enforced on it unless an instrument of ratification/acceptance/approval or accession is explicitly deposited with UN depositary.
- The Ministry of Environment, Forest and Climate Change (MoEFCC) had notified the ‘Regulation of Persistent Organic Pollutants Rules, on March 5, 2018 under the provisions of Environment (Protection) Act, 1986.
The regulation inter alia prohibited the manufacture, trade, use, import and export seven chemicals (which were already listed as POPs under Stockholm Convention) namely
 - Chlordecone
 - Hexabromobiphenyl
 - Hexabromodiphenyl ether and Heptabromodiphenylether (Commercial octa-BDE)
 - Tetrabromodiphenyl ether and Pentabromodiphenyl ether (Commercial penta-BDE)
 - Pentachlorobenzene
 - Hexabromocyclododecane
 - Hexachlorobutadiene,
- The ratification process would enable India to access **Global Environment Facility (GEF)** financial resources in updating the **National Implementation Plan (NIP)**

The Global Environment Facility (GEF)

- It was established on the eve of the 1992 Rio Earth Summit to help tackle our planet's most pressing environmental problems.

- The GEF unites 184 countries in partnership with international institutions, civil society organizations (CSOs), and the private sector to address global environmental issues while supporting national sustainable development initiatives.
- Through its **Small Grants Programme (SGP)**, the GEF has provided support to nearly 24,000 civil society and community initiatives in 133 countries.
- An independently operating financial organization, the GEF provides grants for projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, persistent organic pollutants (POPs), mercury, sustainable forest management, food security, sustainable cities.

The GEF also serves as financial mechanism for the following conventions:

- Convention on Biological Diversity (CBD)
- United Nations Framework Convention on Climate Change (UNFCCC)
- United Nations Convention to Combat Desertification (UNCCD)
- Stockholm Convention on Persistent Organic Pollutants (POPs)
- Minamata Convention on Mercury

The GEF, although not linked formally to the Montreal Protocol on Substances that Deplete the Ozone Layer (MP), supports implementation of the Protocol in countries with economies in transition.

National Implementation Plan (NIP)

- Under Article 7 of the Stockholm Convention, Parties to the Convention are required to prepare a plan on how they are going to implement the obligations under the Convention and make efforts to put such plan into operation.
- The National Implementation Plan (NIP) is not a stand alone plan for the management of POPs but is a part of a national sustainable development strategy of the Party preparing and implementing such plan.
- The NIP is a dynamic document as it is to be reviewed periodically and updated to address new obligations under the Convention.

Environment: Cabinet approves Memorandum of Understanding between Zoological Survey of India and International Barcode of Life

Relevance IN – Prelims (about ZSI + about iBOL + MoU – highlights + DNA barcoding + Barcode 500k, Bioscan and Planetary Biodiversity Mission(PBM) + Mains (GS III Environment conservation)

What's the NEWS

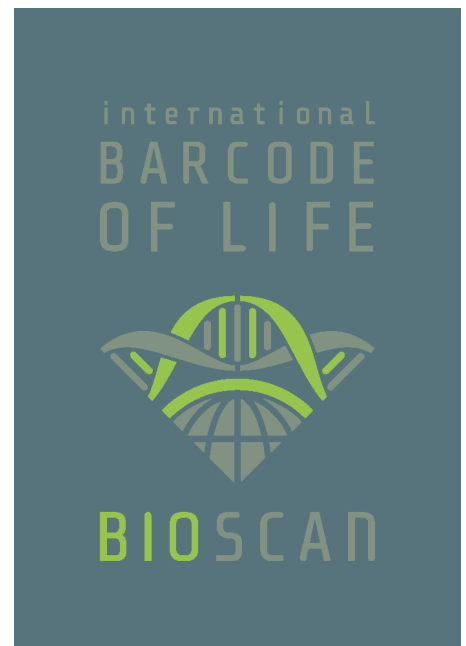
- The Union Cabinet, approved Memorandum of Understanding (MoU) signed in June, 2020 between Zoological Survey of India (ZSI), a subordinate organization under Ministry of Environment, Forest and Climate Change and International Barcode of Life (iBOL), a **Canadian not-for-profit corporation**.

DNA barcoding

- ZSI and iBOL have come together for further efforts in DNA barcoding, a methodology **for rapidly and accurately identifying species by sequencing a short segment of standardized gene regions** and comparing individual sequences to a reference database.

Know! about iBOL

- iBOL is a research alliance involving nations that have committed both human and financial resources to enable expansion of the global reference database, the development of informatics platforms, and/or the analytical protocols needed to use the reference library to inventory, assess, and describe biodiversity.
- The MoU will enable ZSI to participate at the Global level programmes like Bioscan and Planetary Biodiversity Mission.



International Barcode of Life Consortium (iBOL)

- Established in 2008, the International Barcode of Life Consortium (iBOL), is a research alliance of nations with the desire to transform biodiversity science by building the **DNA barcode reference libraries, the sequencing facilities, the informatics platforms**, the analytical protocols, and the international collaboration required to inventory and assess biodiversity.

The Consortium for the Barcode of Life (CBOL)

- It is an international initiative dedicated to supporting the development of DNA barcoding as a global standard for species identification.

Barcode 500k, Bioscan and Planetary Biodiversity Mission(PBM)

- iBOL has overseen the completion of one major program, BARCODE 500K, and a second program, BIOSCAN runs for seven years from June 2019.
- The first program barcoded 500,000 species reflecting the investment of \$150 million by research organizations in 25 nations.
- BIOSCAN will extend barcode coverage to 2.5 million species by 2025.
- This program will stimulate activation of the Planetary Biodiversity Mission (PBM) – iBOL’s final project.
- PBM is a research initiative that will deliver a comprehensive understanding of the composition and distribution of multi-cellular life by 2045.

iBOL maintains the Barcode of Life Data System (BOLD)

- BOLD is a cloud-based data storage and analysis platform developed at the Centre for Biodiversity Genomics in Canada.
- It consists of four main modules, a data portal, an educational portal, a registry of BINs (putative species), and a data collection and analysis workbench

DNA barcoding

- It is a method of species identification using a short section of DNA from a specific gene or genes.
- The premise of DNA barcoding is that, by comparison with a reference library of such DNA sections (also called “sequences”), an individual sequence can be **used to uniquely identify an organism to species**
- These “barcodes” are sometimes used in an effort **to identify unknown species, parts of an organism**, or simply to catalog as many taxa as possible, or to compare with traditional taxonomy in an effort to determine species boundaries.

Miscellaneous: Cabinet approves ‘Natural Gas Marketing Reforms’

Relevance IN – Prelims (about Natural Gas Marketing Reforms- highlights) + Mains (GS III infrastructure development -energy + GS II government policies and interventions)

What’s the NEWS

- The Cabinet Committee on Economic Affairs has approved ‘Natural Gas Marketing Reforms’, taking another significant step to move towards gas based economy.

Natural Gas Marketing Reforms

- The objective of the policy is to prescribe standard procedure to discover market price of gas to be sold in the market by gas producers, through a transparent and competitive process,
- The policy aims to provide standard procedure for sale of natural gas in a transparent and competitive manner to discover market price by issuing guidelines for sale by contractor through e-bidding.
- This will bring uniformity in the bidding process across the various contractual regimes and policies to avoid ambiguity and contribute towards ease of doing business.

A Big Leap Towards Gas-based Economy

Natural Gas Marketing Reforms Approved

(2/2)



Will give massive push to Gas consumption & ensure sustainability of the domestic production



Will further increase investment in the downstream industries such as City Gas Distribution & related industries



Will create employment opportunities in the gas consuming sectors including MSMEs



Encourage the spirit of AatmaNirbhar Bharat and reduce import dependence

A Big Leap Towards Gas-based Economy

Natural Gas Marketing Reforms Approved

(1/2)



To prescribe standard procedure to discover market price of gas



Permit Affiliates to participate in the bidding process & allow marketing freedom to certain Field Development Plans (FDPs)



Will bring uniformity in the bidding process across various contractual regimes & policies



Will facilitate competition in marketing of gas and promote ease of doing business

- The policy has also permitted Affiliate companies to participate in the bidding process in view of the open, transparent and electronic bidding.
- This will facilitate and promote more competition in marketing of gas. However, rebidding will have to be done in case only affiliates participate, and there are no other bidders.
- The policy will also grant marketing freedom to the Field Development Plans (FDPs) of those Blocks in which Production Sharing Contracts already provide pricing freedom.
- The domestic gas production has complete marketing and pricing freedom. All discoveries and field development plans approved after 28 Feb, 2019 have complete market and pricing freedom.

Education: Gyan Circle Ventures

Relevance IN – Prelims (about Gyan Circle Ventures) + Mains (GS II government policies and interventions + GS III awareness in the field of IT)

What's the NEWS

- Union Minister for Education virtually inaugurated the Gyan Circle Ventures, a MeitY funded **Technology Business Incubator (TBI)** of Indian Institute of Information Technology, Sri City (Chittoor), Andhra Pradesh

Gyan Circle Ventures

- TBI- Gyan Circle Ventures supported by MeitY will provide **support for innovators and startups, in various phases via investments, infrastructure and support.**
- It will also serve as a channel for commercializing the innovations of faculty and students.
- Gyan Circle Ventures would function as a *Technology Incubation and Development of Entrepreneurs (TIDE 2.0)* incubation center as approved by the Ministry of Information Technology (MeitY)



- The incubator would leverage the institutions' entrepreneurial spirit via utilizing its intellectual capital and engage in using emerging technologies such as Artificial Intelligence (AI), Block-chain, Cyber Physical Systems (CPS), Cyber Security, Internet of Things (IoT), Robotics, etc.
- Gyan Circle Ventures will serve as a hub for innovation and startups
- The TBI would have an Advisory Committee comprising leading Industrialists, entrepreneurs and technical experts.
- It would enable incubatees to leverage these expert mentors and networks from both academia and the industry.

Science & Technology: DBT-BIRAC Clean Tech Demo Park



DBT-BIRAC Clean Tech Demo Park



To be Inaugurated by
Dr. Harsh Vardhan

Hon'ble Union Minister for Science & Technology, Earth Sciences, and
Health & Family Welfare

In the Presence of
Shri Anil Bajjal

Hon'ble Lieutenant Governor of Delhi

October 8, 2020 | 10 am

Relevance IN – Prelims (about Clean Tech Demo Park + steps taken by DBT + about BIRAC) + Mains (GS II Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

What's the NEWS

- Minister for Science & Technology, inaugurated the “DBT-BIRAC Clean Tech Demo Park”

Clean Tech Demo Park

- This Clean Tech Demo Park would be a good attraction not only for Innovators/Investors but also for students and common public for awareness and popularization of clean technological solution for waste management
- The **novel indigenous technologies developed for the treatment of sewage and industrial waste waters** should be promoted and given wide publicity to ensure their commercialization and adoption for achieving Swachh Bharat and Atmanirbhar Bharat goals
- The DBT-BIRAC Clean Tech Demo Park will be used to demonstrate **innovative Waste-to-Value technologies** with support from Department of Biotechnology (DBT), Government of India, and Biotechnology Industry Research Assistance Council (BIRAC), a DBT PSU.
- This park will be managed by the **Clean Energy International Incubation Centre (CEIIC)**, a public-private-partnership incubator set up jointly by DBT, BIRAC and Tata Power.

DBT has undertaken several initiatives under Swachh Bharat Mission

DBT innovative clean waste-to-value technologies like

- biomethanation
- constructed wetlands
- algal treatment and water membrane filtration.
- The DBT-DESMI project in collaboration with Denmark for cleaning of floating debris from Barapullah nallah, and the LOTUS-HR project in collaboration with Netherlands are already successfully demonstrated at the Barapullah site.

Biotechnology Industry Research Assistance Council (BIRAC)

- It is a **not-for-profit Public Sector Enterprise**, set up by Department of Biotechnology (DBT), Government of India as an Interface Agency to strengthen and empower the emerging Biotech enterprise to undertake strategic research and innovation, addressing nationally relevant product development needs.
- BIRAC is a industry-academia interface and implements its mandate through a wide range of **impact initiatives**, be it providing access to risk capital through targeted funding, technology transfer, IP management and handholding schemes that help bring **innovation excellence** to the biotech firms and make them globally competitive.

NITI Aayog: India PV Edge-2020

The banner for the India PV Edge 2020 event features a green background with white and yellow text. At the top, logos for the Government of India, Ministry of New & Renewable Energy, NITI Aayog, Invest India, and PV Magazine Group are displayed. The central text reads 'Join us for INDIA PV EDGE 2020: RE-DEFINE WHAT'S POSSIBLE' followed by 'Promoting cutting edge technologies in solar manufacturing in New India!'. Below this, seven circular portraits of key speakers are shown with their names and titles: Shri Amitesh Kumar Sinha (Joint Secretary, MNRE), Guido Gagostinelli (Senior Industry Specialist, IFC), Manoj Kohli (India head, SoftBank), Sumant Sinha (Chairman and MD, Renew), Ramesh Nair (CEO, Adani Solar), Sanjiv Soni (Director Finance, Coal India Limited), and Dr. A.K Samantary (General Manager, Coal India Limited). The event details at the bottom are 'October 6th, 2020' and '8:00 PM – 8:40 PM (Indian Standard Time)'.

Relevance IN – Prelims (about India PV Edge-2020) + Mains (GS III Infrastructure development- energy sector)

What's the NEWS

- NITI Aayog, Ministry of New and Renewable Energy (MNRE), and Invest India organized a **symposium on solar PV manufacturing, “India PV Edge-2020”**, to inform the global PV industry of opportunities in India.
- Around 60 prominent Indian and global CEOs attended the event, along with a number of global PV manufacturers, developers, investors, think tanks and top policymakers.
- The event discussed the potential of making India a global hub for solar PV manufacturing with breakthrough technologies and providing an ecosystem for setting up giga-scale factories by local and global firms.

Solar photovoltaic (PV)

- Solar photovoltaic (PV) manufacturing is one of the strategic sectors announced by the government and India has the opportunity to be the global hub for this
- Solar PV manufacturing is one of the strategic sectors announced by the government as part of the post-Covid-19 Aatmanirbhar Bharat recovery initiative.
- India PV Edge 2020 has served as a small step towards that ambition and will go a long way in making India the giga-scale manufacturing destination for breakthrough PV technologies.

Know! the working mechanism of Photovoltaic (PV) devices

- Photovoltaics gets its name from the process of converting light (photons) to electricity (voltage), which is called the *photovoltaic effect*.
- Photovoltaic (PV) devices generate electricity directly from sunlight via an electronic process that occurs naturally in certain types of material, called semiconductors.
- Electrons in these materials are freed by solar energy and can be induced to travel through an electrical circuit, powering electrical devices or sending electricity to the grid.

Solar Energy (achievements)

- India now has the third-largest solar installed capacity in the world.
- It is one of the few countries on track to meet its three key NDC targets – achieve 40% non-fossil-fuel-based installed power capacity, reduce 33%–35% emissions, and create a carbon sink of 2.5 to 3 billion tons of carbon dioxide – by 2030. India is likely to achieve these goals much earlier.

Know! about Invest India

- Invest India is the National Investment Promotion and Facilitation Agency of India, **set up as a non-profit venture under the aegis of Department of Industrial Policy & Promotion**, Ministry of Commerce and Industry, Government of India.
- It **facilitates and empowers all investors** under the 'Make in India' initiative to establish, operate and expand their businesses in India.
- Invest India is envisaged as a one-stop shop specially created to attract and retain high quality investments into India.
- It provides sector-and state-specific inputs, and hand-holding support to investors through the entire investment cycle, from pre-investment, decision-making to after-care.
- It provides comprehensive facilitation to investors interested in India, including **strategic business advisory, policy guidance, location assessment, issue redressal and expansion support**.

Miscellaneous: The Advanced Manufacturing HUB or AMHUB

Relevance IN – Prelims (about advanced manufacturing hub (AMHUB)+ Mains (GS III awareness in the field of science and technology)

What's the NEWS

- Guidance, nodal investment promotion and facilitation agency of the state of Tamil Nadu has partnered with the World Economic Forum (WEF) to establish **India's first advanced manufacturing hub (AMHUB)** in Tamil Nadu.

Know! all about AMHUB

- The Advanced Manufacturing HUB or AMHUB is one of the 19 platforms designed by the WEF.
- This will help the State harness opportunities in the sectors of **electronics, electric mobility, solar energy and textiles** through collaboration with AMHUB
- AMHUB will help the production ecosystem in Tamil Nadu by identifying and addressing regional opportunities **brought by the Fourth Industrial Revolution (4IR)**, highlighting and amplifying regional success stories globally and engaging directly with other AMHUBs through WEF's network of AMHUBs to share best practices globally
- The State will benefit from partnerships and pilot projects to scale new technologies, advance **uses of Advanced Manufacturing and 4IR** and address regional opportunities and challenges posed by 4IR.
- In the area of Workforce **Upskilling/Reskilling**, it will help us identify skill gaps and bridge them from global experience.
- As an important contributor to the manufacturing sector in India, Tamil Nadu will utilise the AMHUB to adopt IoT and other emerging technologies for advanced manufacturing to sustain and create new avenues of manufacturing growth
- Advanced manufacturing will boost end-to-end manufacturing of high-tech and high-value products in Tamil Nadu and will shape the future of advanced manufacturing and production

Science & Technology: DST collaborates with IBM to scale up two DST initiatives--Vigyan Jyoti and Engage with Science (Vigyan Prasara)

Relevance IN – Prelims (about Vigyan Jyoti and Engage with Science (Vigyan Prasara) + Mains (GS III awareness in the field of science and technology)

What's the NEWS

- The Department of Science & Technology (DST) and IBM India announced collaborations to scale up two DST initiatives--**Vigyan Jyoti** and **Engage with Science** (Vigyan Prasara)

Know! about the Partnership

- The partnership with IBM will make these programs of DST and Vigyan Prasar reach the students and teachers in interactive ways on a large scale.
- Scaling up of the interactive learning platform 'Engage with Science' will make learning relevant and foster scientific spirit among the country's youth
- The engage with Science platform will make students interact, participate and get involved with the sampling and active consumption of S&T content, including **Cloud, Big Data, etc.** through the usage of digital tools
- DST and IBM India will work together to further integrate and develop Science & Technology in the education ecosystem with short term courses, workshops, mentoring, and online science content communication for teachers and students in India.

Know! about Vigyan Jyoti

- It is a programme to promote **Science Technology, Engineering, and Mathematics (STEM)** learning among girl students and to inspire them towards STEM careers by creating a level-playing field for meritorious girls **from grades 9 to 12 to pursue STEM** in their higher education, especially from the top colleges in the areas where girls are hugely underrepresented.
- The Vigyan Jyoti programme was launched by DST in 2019 to inspire girl students to pursue higher education and career in STEM fields.
- The program provides a scholarship, visit to nearby scientific institutions, science camps, lecturers from eminent women scientists, and career counseling.
- The program is currently implemented by Jawahar Navodaya Vidyalaya (JNV) in 58 districts, with the participation of about 2900 students.
- The partnership with IBM India will strengthen the current activities and expanded to include more schools in the future.
- Women tech experts working at IBM India will interact inspire girl students to plan for a career in STEM under the program.
- This will strengthen the DST's initiative to increase the number of women in technology fields.

Inspire Awards-MANAK (Million Minds Augmenting National Aspirations and Knowledge)

- DST and IBM India aim to create a robust STEM ecosystem that nurtures critical thinkers, problem-solvers, and next-generation innovators through Inspire Awards-MANAK (Million Minds Augmenting National Aspirations and Knowledge) – a program targeting to build one million ideas rooted in science from **school students**.

Engage with Science of Vigyan Prasar

- IBM will work with Vigyan Prasar – an autonomous body under the DST to help India's science popularization agenda through several strategic initiatives, including 'Engage With Science'.
- It is an initiative to build interest and create a community of practice with students, teachers, and scientists connecting the high school students to the higher education institutions.
- This is an interactive platform that will be built on top of the India Science Over-The-Top (OTT) platform to encourage and inspire high school students to pursue Science & Technology (S&T) for a career.
- As part of the collaboration, IBM will run the day-to-day activities of the program, including student workshops, seminars, and leverage its expertise to mentor the students.
- The platform will make students interact, participate and get involved with the sampling and active consumption of S&T content, including Cloud, Big Data, etc. through the usage of gamification tools and AI/ML components.
- 'Engage With Science' will actively engage with schools, shoot interactive programmes in the school premises, provide windows of recognition, and glorification to select teachers of S&T subjects.

Science and Technology: Aquaponics

Relevance IN – Prelims (about Aquaponics facility) + Mains (GS III e-technology in the aid of farmers + farmer's welfare + awareness in the field of science and technology)

What's the NEWS

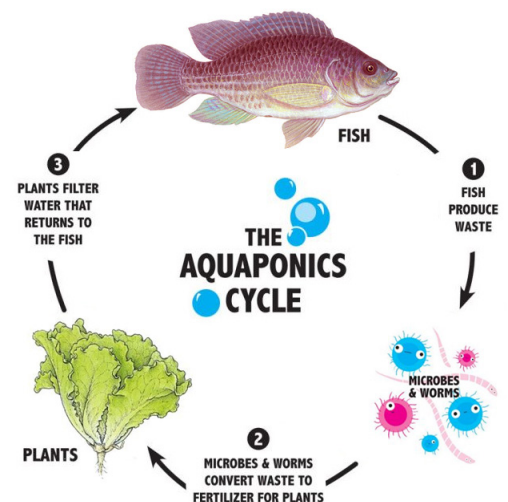
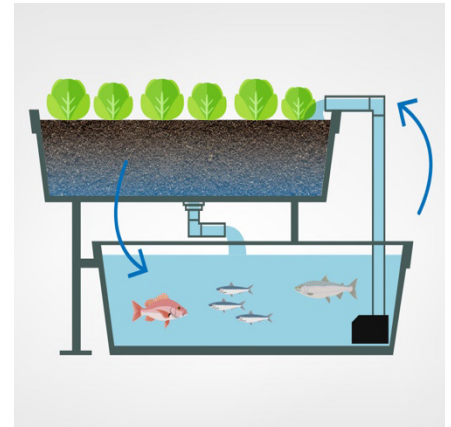
- A pilot 'Aquaponics facility' developed by Centre for Development of Advanced Computing (C-DAC) Mohali
- Aquaponics and related alternative farming techniques are highly required to improve the status of farmers.
- This technique will help the farmer in increasing the productivity of his land and also augment his income

Aquaponics facility

- The state-of-the-art facility, that is the first of its kind in region, is equipped with advanced sensors for monitoring and automated controls.
- It has been developed with the funding support from Ministry of Electronics and Information Technology, Govt. of India.
- The facility is nearly 100% organic, need much less land for a give yield of crop, consumes 90% less water, the fish and plants so grown are more nutritious.

Know! about Aquaponics

- It is an emerging technique in which both fishes as well as the plants are grown in an integrated manner.
- The fish waste provides fertilizer for growing plants.
- The plants absorb nutrients and filter the water. This filtered water is used to replenish the fish tank. This is an environment friendly technique.
- The supercomputing power being provided by C-DAC will go a long way in developing agriculture technology.



Science and Technology: INAI (Intel AI.)

Relevance IN – Prelims (about the initiative – INAI + Mains GS III – awareness in the field of science and technology)



What's the NEWS

- Intel India has collaborated with the Government of Telangana, International Institute of Information Technology, Hyderabad (IIIT-H) and Public Health Foundation of India (PHFI) to launch INAI, **an applied artificial intelligence research centre in Hyderabad.**

Know! all about INAI

- INAI is an initiative that applies AI **to population-scale problems in the Indian context**, with a focus on identifying and solving challenges in the **healthcare and smart mobility segments** through strong ecosystem collaboration.
- INAI AI is Artificial Intelligence. It is a national level Research Centre.
- The centre will take initiative to apply artificial intelligence to population scale problems in India. The centre will focus on identifying and solving challenges **in smart mobility segment and Healthcare.**
- The initiative will create National assets such as computing infrastructure curated data sets tools and frameworks to attract Global talent to achieve social sector development.
- The initiative will bring together multiple Institutions and is anchored by IIIT-Hyderabad.
- INAI will act as a catalyst to accelerate India's leadership in AI by driving innovation and entrepreneurship, creating national assets such as curated datasets, computing infrastructure, tools and frameworks with the aim to attract global talent for high impact research towards social sector development.
- PHFI is the founding healthcare partner in this initiative.
- In the smart mobility domain, INAI will advance research in the area of **road safety to use AI to reduce road accidents** and fatalities in the country.
- In the area of public health, the centre will work to enable solutions to extend health coverage to every individual and **advance research for better prediction of non-communicable diseases.**

Know! about all.ai 2020 Virtual Summit and AI For Youth Symposium

- The all.ai 2020 Virtual Summit on Oct. 12-16 has been brought together by Intel India in collaboration with the industry, academia and government to offer a deep dive into leveraging AI to solve problems at population scale.
- The virtual summit will focus on India's massive potential to develop AI solutions through large-scale skilling, applied research and supportive policy, with dedicated days focused on youth skills, healthcare, mobility and the future of work.
- The program also includes the AI For Youth Virtual Symposium that will enable over 10,000 youth to learn AI readiness skills, gain an immersive experience and witness AI social impact projects created by their peers.

Defence: BrahMos Supersonic Cruise Missile Successfully Test Fired from Indian Navy's Stealth Destroyer, INS Chennai



Relevance IN – Prelims (all about BrahMos) + Mains (GS III security challenges and its management in border areas)

What's the NEWS

- BrahMos, the supersonic cruise missile was successfully test fired from Indian Navy's **indigenously-built stealth destroyer INS Chennai**, hitting a target in the Arabian Sea.

- The missile hit the target successfully with pin-point accuracy after performing high-level and extremely 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.

Know! about the recent Brahmos developments

- The 290-km range missile an Indo-Russian joint venture has land, air and naval variants.
- The missile has a top speed of Mach 2.8 nearly three times the speed of sound.
- Few days back India had test-fired an extended-range BrahMos supersonic cruise missile that **can hit targets 400 km away**.
- The range has been increased from the existing 290 km.
- The extended-range variant was tested from the Integrated Test Range at Balasore in Odisha
- It is the **world's fastest supersonic cruise missile** with increased missile range
- Increasing the missile's range became possible after India's induction into the Missile Technology Control Regime (MTCR) in June 2016.

INS Chennai

- Commissioned into the navy in November 2016, the 7,500-tonne INS Chennai incorporates new design concepts for improved survivability, stealth and manoeuvrability.
- The warship can carry 16 BrahMos missiles in two eight-cell vertical launch systems, besides other sophisticated weapons and sensors
- Other weapons recently tested by India include a new version of the nuclear-capable hypersonic **Shaurya missile** with a range of 750 km and the anti-radiation missile to take down enemy radars and surveillance systems.

Connect to the Past (Current Capsule 01 October)

The BrahMos Land-Attack Cruise Missile (LACM)

- BrahMos surface-to-surface supersonic cruise missile featuring **indigenous Booster, Airframe Section, propulsion system, power supply** and many other major components.
- The test jointly conducted by DRDO and BrahMos Aerospace for an extended range of 450 km has paved the way for the serial production of the indigenous booster and other indigenous components of the powerful weapon system
- The BrahMos Land-Attack Cruise Missile (LACM) was cruising at a top speed of Mach 2.8.
- The range of the new land attack version of the missile has been extended to 450 km from the original 290 km
- The speed has been maintained at Mach 2.8 which is nearly three times that of sound.
- The land-attack version of the missile has been operationalised in the Indian Army since 2007, this test validated the indigenous components incorporated to achieve higher strike range.
- The extended-range version of BrahMos was developed after India's full membership to the **Missile Technology Control Regime (MTCR)**, which removed caps on the range of the cruise missile. The strike range of the missile has been enhanced from **290 km to 450 km**.
- The nine-metre long two-stage missile is capable of carrying a conventional warhead weighing up to 300 kg.
- The BrahMos missile has three versions - **land, ship and air**. It can effectively engage targets from an altitude as low as 10 metres for surgical strikes at terror training camps across the border without causing collateral damage.

Know! about BrahMos

- BrahMos Aerospace, an India-Russian joint venture, produces the supersonic cruise missile that can be launched from submarines, ships, aircraft, or from land platforms.
- In May last year, the Indian Air successfully test fired the aerial version of the BrahMos missile from a Su-30 MKI fighter aircraft.
- The BrahMos missile provides the IAF a much-desired capability to strike from large stand-off ranges on any target at sea or on land with pinpoint accuracy by day or night in all weather conditions.

- The IAF is also integrating the Brahmos supersonic cruise missile on over 40 Sukhoi fighter jets which is aimed at bolstering overall combat capability of the force.

Economy: IFSCA introduces Framework for Regulatory Sandbox to tap into innovative FinTech solutions

Relevance IN – Prelims (about IFSC + about regulatory Sandbox) + Mains (GS III Economic development)

What's the NEWS

- IFSCA has introduced a framework for “Regulatory Sandbox”.
- IFSCA with an objective to develop a world class FinTech hub at the IFSC located at GIFT City in Gandhinagar (Gujarat, India), 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

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.
- 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.

Innovation Sandbox

- IFSCA has also proposed the creation of an “Innovation Sandbox”, which will be a testing environment where FinTech firms can test their solutions in isolation from the live market, based on market related data made available by the Market Infrastructure Institutions (MIIs) operating in the IFSC.
- The Innovation Sandbox will be managed and facilitated by the MIIs operating within the IFSC.

Know! about Fintech

- Fintech is a portmanteau of the terms “finance” and “technology” and refers to any business that uses technology to enhance or automate financial services and processes.
- The term is a broad and rapidly growing industry serving both consumers and businesses.
- From mobile banking and insurance to cryptocurrency and investment apps, fintech has broad applications.

International Financial Services Centres Authority (IFSCA)

- The central government has established International Financial Services Centres Authority to regulate all financial services in International Financial Services Centres (IFSCs) headquarters in Gandhinagar (Gujarat).
- The IFSCA will consist of nine members, appointed by the central government.
- IFSC will include Chairperson, a member each from the RBI, SEBI, the Insurance Regulatory and Development Authority of India (IRDAI), and the Pension Fund Regulatory and Development Authority (PFRDA), two members from the Ministry of Finance.
- Two other members will be appointed on the recommendation of a Selection Committee.
- All members of the IFSC Authority will have a term of three years, subject to reappointment.
- The authority will regulate financial products such as securities, deposits or contracts of insurance, financial services, and financial institutions which have been previously approved by any appropriate regulator such as Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI) etc., in an IFSC.

NITI Aayog: NITI Aayog & AWS Launch Frontier Technologies Cloud Innovation Center in India

Relevance IN – Prelims (about Cloud Innovation Center (CIC) + Mains (GS III awareness in the field of IT))

What's the NEWS

- 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.

Know! about Cloud Innovation Center (CIC)

- 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.
- Cloud Innovation Centers program is designed to be a catalyst for innovation in public sector, by bringing together technology experts to address challenges.
- The NITI Aayog Frontier Technologies CIC will be a great enabler to budding innovators and start-ups, and help in piloting state-of-the-art, cloud-centric digital innovations by leveraging emerging technologies such as AI, IOT, robotics, blockchain, etc.
- The NITI Aayog Frontier Technologies Cloud Innovation Center will enable government stakeholders, start-ups, and local organizations in India to innovate and create new approaches to solving problems
- The center will identify and prioritize projects as well as collaborate with local leaders, including subject matter experts at the state and district levels, to solve critical challenges.
- With AWS Cloud, public sector organizations get the power of the broadest and deepest cloud services to accelerate their missions and make the world a better place,
- The NITI Aayog Frontier Technologies CIC joins a global network of AWS public sector cloud innovation centers across Australia, Bahrain, Canada, France, Germany, South Korea, and United States.

Infrastructure Development: Development of Indigenous Software solution for VTS and VTMS

SAGARMALA

Ministry of Shipping
Government of India

'Make In India' VTMS Development Launched

- Shore based tool for Safety of Life at Sea and safe navigation
- Installed at all major ports and narrow passages with dense shipping traffic
- Indigenous software developed by DGIL and NTPWC at IIT Chennai
- Self-reliance and huge saving in foreign exchange and imports

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Relevance IN – Prelims (about the role of VTS + VTMS) + Mains (GS III Infrastructure development + indigenisation of technology)

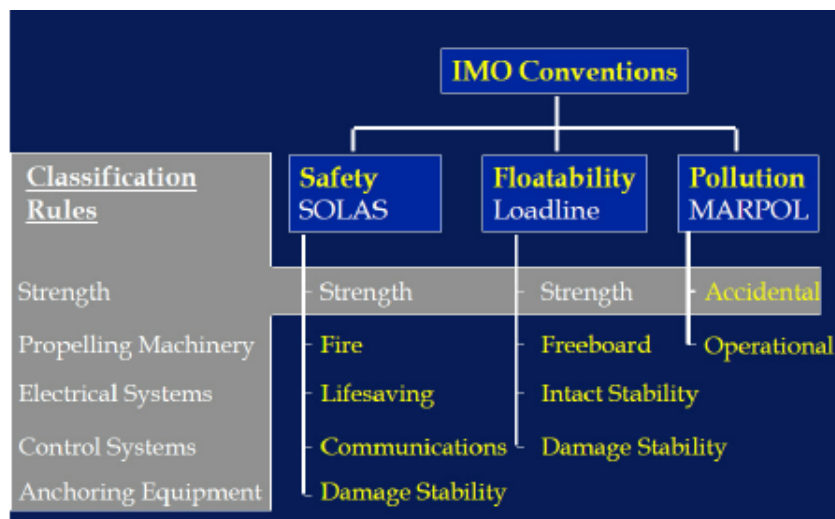
What's the NEWS

- Minister of State for Shipping e-launched the development of **Indigenous Software solution for Vessel traffic services (VTS)** and Vessels Traffic Monitoring Systems (VTMS)

- Ministry of Shipping has sanctioned an amount of Rs. 10 Crore to IIT, Chennai for development of indigenous VTS software.

Know! about VTS and VTMS software

- VTS and VTMS is a software which determines vessel positions, position of other traffic or meteorological hazard warnings and extensive management of traffic within a port or waterway.
- Vessel Traffic Services (VTS) contribute to safety of life at sea, safety and efficiency of navigation and protection of the marine environment, adjacent shore areas, work sites and offshore installations from possible adverse effects of maritime traffic.
- Vessels Traffic Management Systems are installed in some of the busiest waters in the world, and are making valuable contribution to safer navigation, more efficient traffic flow, and protection of the environment.
- VTMS is mandatory under **IMO Convention SOLAS (Safety of Life at Sea)**.
- The VTMS traffic image is compiled and collected by means of advanced sensors such as radar, AIS, direction finding, CCTV and VHF or other co-operative systems and services.
- A modern VTMS integrates all of the information into a single operator working environment for ease of use and in order to allow for effective traffic organization and communication.
- Presently, India has approximately 15 VTS systems operational along the Indian Coast and there is no uniformity of VTS software as each system has its own VTS software.
- Development of the indigenous VTS software will reduce the expenditure of foreign exchange on this issue and also minimize the dependence on foreign support for VTS software.
- Implementation of National Maritime Domain Awareness programme of Indian Navy and NCVTS by DGLL – a real time, interactive aids to navigation system for coastal shipping shall become feasible with Indian VTS software at low cost.



Know! about SOLAS

- "Safety Of Life At Sea", an international maritime treaty, also known as SOLAS Convention or International Convention for the Safety of Life at Sea (SOLAS), which establishes the least safety measures in the construction, equipment and operation of merchant ships.
- The current version of **SOLAS** is the 1974 version, known as **SOLAS 1974**, which came into force on 25 May 1980.
- It includes a number of regulations under different SOLAS chapters, which deals with safety precautions and safety procedures starting from the construction of the ship to real emergency like – "Abandon Ship".

Know! about IMO

- The International Maritime Organization (IMO) is a specialised agency of the United Nations responsible for regulating shipping.
- The IMO was established following agreement at a UN conference held in Geneva in 1948 and the IMO came into existence ten years later, meeting for the first time in 1959.

- Headquartered in London, United Kingdom, the IMO currently has 174 member states and three associate members.
- The IMO's primary purpose is to develop and maintain a comprehensive regulatory framework for shipping and its remit today includes safety, environmental concerns, legal matters, technical co-operation, maritime security and the efficiency of shipping.
- IMO is governed by an assembly of members and is financially administered by a council of members elected from the assembly.

Science & Technology: National Super Computing Mission (NSM)

Relevance in – Prelims (all about National Super Computing Mission (NSM) + GS III awareness in the field of science and technology)

Know! all about NSM

- The National Super Computing Mission (NSM) is rapidly boosting high power computing in the country through its various phases to meet the increasing computational demands of academia, researchers, MSMEs, and startups in areas like oil exploration, flood prediction as also genomics, and drug discovery.
- With the infrastructure planned in **NSM Phase-I already installed** and much of Phase-II in place, the network of supercomputers through the country will soon reach to around 16 **Petaflops** (PF). Phase-III, to be initiated in January 2021, will take the computing speed to around 45 Petaflops.
- NSM is jointly steered by the Ministry of Electronics and IT (MeitY) and Department of Science and Technology (DST) and implemented by the Centre for Development of Advanced Computing (C-DAC), Pune and the Indian Institute of Science (IISc), Bengaluru.
- **Param Shivay, the first supercomputer assembled indigenously**, was installed in IIT (BHU), followed by Param Shakti and Param Brahma at IIT-Kharagpur and IISER, Pune, respectively.

Supercomputing Infrastructure

- MoUs have been signed with total 14 premier institutions of India for establishing Supercomputing Infrastructure with Assembly and Manufacturing in India.
- These include IITs, NITs, National Labs, and IISERs.
- Some of these have already been installed, and some more will be done by December this year.
- The three phases will provide access to **High-Performance Computing** (HPC) Facilities to around 75 institutions and more than thousands of active researchers, academicians working through Nation Knowledge Network (NKN) - the backbone for supercomputing systems.
- HPC and **Artificial Intelligence** (AI) have converged together.
- A 100 AI PF Artificial Intelligence supercomputing system is being created and installed in C-DAC, which can handle incredibly large-scale AI workloads increasing the speed of computing-related to AI several times.
- The mission has also created the next generation of supercomputer experts by training more than 2400 supercomputing manpower and faculties till date.

Indigenous capability

- India has developed an **Indigenous server (Rudra)**, which can meet the HPC requirements of all governments and PSUs. This is the first time that a server system was made in India, along with the full software stack developed by C-DAC.
- Experts said that the pace at which things are moving forward, we may soon have the motherboards and sub-systems manufactured in India, making the supercomputers indigenously designed and manufactured.

Economy: IFSCA prescribes regulatory framework for REITs and InvITs in IFSC

Relevance IN–Prelims (about IFSCA+REITs and InvITs)+Mains (GS III Economic development)

What's the NEWS

- The International Financial Services Centres Authority (IFSCA), has prescribed the regulatory framework for Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs) in IFSC.

- The REITs and InvITs registered in IFSC have been permitted to invest in real estate assets and infrastructure projects respectively in IFSC, India and other foreign jurisdictions, which is in line with the framework provided in the global financial centres.
- Additionally, the REITs and InvITs that are already listed in any of the permissible jurisdictions other than IFSC or India have been permitted to list and trade on the recognised stock exchanges in IFSC, subject to compliance with their respective laws of home jurisdiction.

Know! about REITs and InvITs

- **Real estate investment trusts (REITs) and infrastructure investment trusts (InvITs) are innovative vehicles that allow developers to monetise revenue-generating real estate and infrastructure assets, while enabling investors or unit holders to invest in these assets without actually owning them.**
- Such monetisation benefits developers by allowing them to release capital for funding new infrastructure/real estate projects, and provides liquidity to investors or unit holders as the units of the trust are listed on exchanges.
- Apart from these, REITs and InvITs enjoy favourable tax treatment, including exemption from dividend distribution tax and relaxation of capital gains tax.
- CRISIL has developed specific criteria for rating of REITs and InvITs that focus on assessment of quality of the underlying asset portfolio and cash flows, take into account the leverage, experience of the investment manager, risk management policies, etc.
- CRISIL assigned its first InvIT rating of “CCR AAA” to India Grid Trust, an InvIT established by Sterlite Power Grid Ventures.

NITI Aayog: India–Australia Circular Economy Hackathon(I-ACE)



Relevance IN – Prelims (about I-ACE + about circular economy) + Mains (GS II bilateral relations + GS III Economic development)

What's the NEWS

- AIM (Atal Innovation Mission), in association with CSIRO, is organizing a two-day hackathon on circular economy, 'India–Australia Circular Economy Hackathon (I-ACE)', on 7 and 8 December.

India–Australia Circular Economy Hackathon (I-ACE)

- 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 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:

1. Innovation in packaging reducing packaging waste
2. Innovation in food supply chains avoiding waste
3. Creating opportunities for plastic waste reduction
4. 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.
- The winning Indian student and startup/MSME teams will be awarded a prize of Rs 2 lakh and Rs 5 lakh, respectively, coupled with post-hackathon product development opportunities.
- The winning Australian student will be awarded a prize of AUD\$3500 and the winning Australian SMEs/startup team a prize of AUD\$9500.

Know! about Circular economy

- It is an economic system of closed loops in which raw materials, components and products lose their value as little as possible, renewable energy sources are used and systems thinking is at the core.
- It is an economic system aimed at eliminating waste and the continual use of resources. Circular systems employ reuse, sharing, repair, refurbishment, remanufacturing and recycling to create a closed-loop system, minimising the use of resource inputs and the creation of waste, pollution and carbon emissions
- The circular economy aims to keep products, equipment and infrastructure in use for longer, thus improving the productivity of these resources.



Additional info

Atal Tinkering Lab

- In ATLs, students of class 6th to 12th acquire a problem-solving attitude, develop innovative solutions leveraging technologies like 3D printers, robotics, miniaturised electronics, IOT and programming and DIY kits, with support from teachers and mentors.

Atal Innovative Mission

- AIM is the Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country.
- AIM's objective is to develop new programmes and policies for fostering innovation in different sectors of the economy, provide platform and collaboration opportunities for different stakeholders, create awareness and create an umbrella structure to oversee innovation ecosystem of the country.

Six major initiatives of AIM:

- Atal Tinkering Labs-Creating problem-solving mindset across schools in India.
- Atal Incubation Centers-Fostering world class start-ups and adding a new dimension to the incubator model.
- Atal New India Challenges-Fostering product innovations and aligning them to the needs of various sectors/ministries.
- Mentor India Campaign- A national Mentor network in collaboration with public sector, corporates and institutions, to support all the initiatives of the mission.
- Atal Community Innovation Centre- To stimulate community centric innovation and ideas in the unserved/underserved regions of the country including Tier 2 and Tier 3 cities.
- ARISE-To stimulate innovation and research in the MSME industry.

Infrastructure Development – Energy: India Energy Forum

Relevance IN – Prelims (about India Energy Forum and CERAWeek) + Mains (GS III infrastructure development – energy + Environment conservation)

What's the NEWS

- PM delivered inaugural address at 4th India Energy Forum CERAWeek
- The theme of this edition is “India's Energy Future in a world of Change”.
- Delegates from Indian, regional, and international energy companies, institutions, and governments will gather virtually for the 4th India Energy Forum by CERAWeek under the patronage of the Indian Ministry of Petroleum & Natural Gas and NITI Aayog



- The objective behind the meeting is to deliver a global platform to understand best-practices, discuss reforms, and inform strategies for accelerating investments into the Indian Oil and Gas value chain.

Know! about India Energy Forum:

- Established in October 2001, the Forum has acquired a unique status as a spokesman of total energy sector. It is an Indian Organization which represents the energy sector as a whole.
- Most major public and private organizations in Power, Oil and Gas, Coal and Renewable Energy have become its members.
- It serves as a catalyst for the development of a sustainable and competitive energy sector in India.
- India Energy Forum - CERAWeek is serving as an important platform between industry, government and society
- It serves as an independent advocate of the industry promoting practical solutions to problems affecting project development and finance in India.
- The Forum works with companies and Government (Centre and States) to achieve consensus on such issues as regulatory structures and policies and the role of public organizations.
- It works closely with multilateral and domestic companies and agencies to ensure that their products and services are responsive to the needs of the project development in India.

Know! about CERAWeek

- CERAWeek by IHS Markit has become the world's premier energy event.
- It stands for Cambridge Energy Research Associates and was founded in 1983 at Cambridge.
- The CERAWeek program provides comprehensive insight into the global and regional energy future by addressing key issues and has become the world's premier energy event.
- The conference is distinctive in the extraordinary depth and breadth of its content, attracting global thought leaders and shaping the global energy agenda.
- IHS Markit is a dynamic team that includes more than 5,000 analysts, data scientists, financial experts and industry specialists.
- Its global information expertise spans numerous industries, including leading positions in finance, energy and transportation.

Social Issues: MSDE and NCVET unveil the new guidelines and operation manuals

Relevance IN – Prelims (about MSDE + NCVET) + Mains (GS II Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

What's the NEWS

- Ministry of Skill Development & Entrepreneurship (MSDE) in collaboration with their unified regulator— **National Council for Vocational Education and Training (NCVET)** unveiled robust set of guidelines for the **Awarding Bodies (AB) and Assessment Agencies (AA)**

Know! about the guidelines

- The guidelines and operation manuals have been developed for the recognition and regulation of these two entities, key elements of skilling ecosystem.
- The guidelines aim at establishing quality, improved outcomes and standardizing the processes under Skill India Mission.

Know! about Ministry of Skill Development and Entrepreneurship (MSDE)

- MSDE was formed on November 9, 2014 by the Government of India to focus on enhancing employability of skills.
- Since its inception, MSDE has undertaken significant initiatives and reforms in terms of formalizing the policy, framework and standards; launching of new programs and schemes; creating new infrastructure and upgrading the existing institutions; partnering with States; engaging with industries and building societal acceptance and aspirations for skills.
- The Ministry aims to bridge the gap between demand and supply of skilled manpower to build new skills and innovation not only for existing jobs but also for jobs that are to be created.
- Till date, more than three crore people have been trained under Skill India. Under its flagship programme, Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 2016-2020, the Ministry has trained more than 92 lakh candidates so far.



The National Council for Vocational Education and Training (NCVET)

- The National Council for Vocational Education and Training (NCVET) was notified by the Ministry of Skill Development and Entrepreneurship (MSDE) on 5th December 2018.
- The NCVET acts as an overarching skills regulator which regulates the functioning of entities engaged in vocational education and training, both long and short term, and establishes minimum standards for the functioning of such entities.
- With NCVET's sincere efforts in framing the guidelines and the operational manuals, country's skilling ecosystem will witness robust regulations addressing the needs of multitude of stakeholders.
- The uniform certificate formats developed by NCVET is also a step in the right direction and a much needed reform. It will bring about uniformity and enhance the authenticity of the certification.

Environment: Commission for Air Quality Management in NCR & adjoining areas

Relevance IN – Prelims (about Commission for Air Quality Management + about EPCA) + Mains (GS III Environment conservation)

What's the NEWS

- President Ram Nath Kovind has promulgated an ordinance to constitute a Commission for Air Quality Management in National Capital Region and adjoining areas.

Know! the role of the commission

- The commission will work towards better coordination, research, identification and resolution of problems surrounding the Air Quality Index in the NCR and adjoining areas.
- It will consist of a Chairperson, a representative from the Ministry of Environment, members from the state of Delhi, Haryana, Punjab, Uttar Pradesh and Rajasthan, technical experts from Central Pollution Control Board and Indian Space Research Organization among others.
- The commission will have the powers to take all such measures, issue directions and entertain complaints in order to protect and improve the quality of air in the National Capital Region and adjoining areas.

- It will also lay down the parameters for emission or discharge of environmental pollutants from various sources.
- The Commission for Air Quality Management in National Capital Region and adjoining areas will have at least three sub-committees including on Monitoring and identification, Safeguarding and Enforcement and Research and Development to suggest measures to curb air pollution in the region.

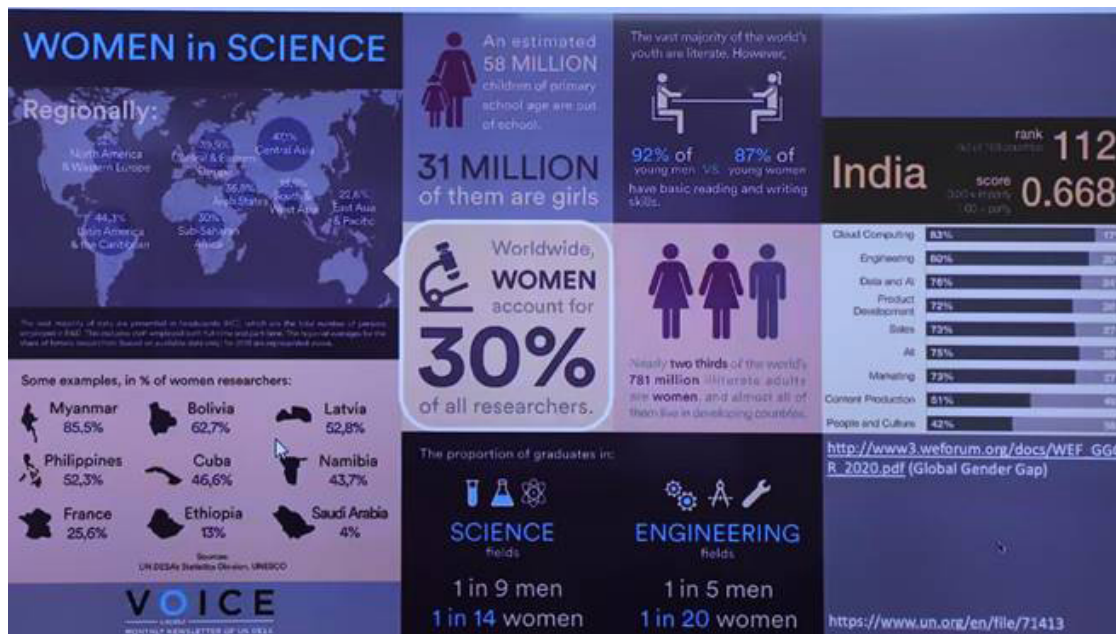
Know! some past developments

- The Supreme Court had earlier set up a one-man committee **under retired Justice Madan Lokur**.
- The committee was set up to monitor stubble burning in Haryana, Punjab and Uttar Pradesh.
- Later **the committee was suspended** as the Government of India informed the Supreme Court that a permanent body will be constituted to handle air pollution caused due to stubble burning in the National Capital Region.
- This permanent body will replace the Environment Pollution (Prevention and Control) Authority.

Know! about EPCA

- The Environment Pollution (Prevention and Control) Authority was set up in 1986 under the Environment (Protection) Act, 1986.
- The EPCA was constituted with the objective of protecting and improving the quality of the environment and preventing and controlling the environmental pollution in the National Capital Region, under the provisions of the Environment (Protection) Act, 1986.
- The EPCA is also mandated to enforce Graded Response Action Plan (GRAP) in the city as per the pollution levels.
- The reason why EPCA is an authority, and not just an advisory committee, is because it has powers similar to those enjoyed by the Centre.
- It can issue directions in writing to any person, officer or authority, including for – but not limited to – stoppage of electricity, water and other services.
- If its directions are not followed, it has powers to file criminal complaints (under section 19 of the Act) before courts.
- The EPCA has been empowered to take Suo motu action as well as on the basis of complaints made by any individual, representative body or organisation functioning in the environmental issues sector.
- One of the EPCA's important powers is the redressal of grievances through complaints.

Science & Technology: SERB – POWER (Promoting Opportunities for Women in Exploratory Research)



Relevance IN – Prelims (about SERB-POWER) + Mains (GS III awareness in the field of science and technology)

What's the NEWS

- Union Minister for Science & Technology, launched a Scheme titled “SERB-POWER (Promoting Opportunities for Women in Exploratory Research)”, designed exclusively for women scientists
- The Science and Engineering Research Board (SERB), a Statutory body of the Department of Science and Technology (DST), Government of India, has been contemplating to institute a scheme to mitigate gender disparity in science and engineering research in various S&T programs in Indian academic institutions and R&D laboratories.

Know! more about SERB-POWER

- SERB – POWER Scheme will have two components namely (i) SERB-POWER Fellowship (ii) SERB- POWER Research Grants.

The salient features of each of these are as follows:

A. Salient features of the SERB-POWER Fellowship:-

- **Target:** Women researchers in 35-55 years of age. Up-to 25 Fellowships per year and not more than 75 at any point in time.
- **Components of support:** Fellowship of Rs. 15,000/- per month in addition to regular income; Research grant of Rs. 10 lakh per annum; and Overhead of Rs. 90,000/- per annum.
- **Duration:** Three years, without the possibility of extension. Once in a career.

B. Salient features of the SERB – POWER Research Grants :

- a. POWER Grants will empower women researchers by funding them under following two categories:
 - **Level I (Applicants from IITs, IISERs, IISc, NITs, Central Universities, and National Labs of Central Government Institutions):** The scale of funding is up to 60 lakhs for three years.
 - **Level II (Applicants from State Universities/Colleges and Private Academic Institutions):** The scale of funding is up to 30 lakhs for three years.
- b. POWER Grant will be regulated through terms of reference conforming to SERB-CRG (Science and Engineering Research Board-Core Research Grant) guidelines.
 - While a Search-cum-Selection Committee constituted for the purpose will help in identifying the POWER Fellowship, the existing Programme Advisory Committee (PAC) mechanism will be used to select the POWER Research Grants.
 - It is proposed to institute 25 POWER Fellowships annually. A total of 50 Power Grants each will be sanctioned in Level I & Level II per annum.

Significance of empowering the women researchers

- Integration of the gender dimension in research design has gained considerable attention in the global scenario.
- Enhancement of participation and promotion of women in the research workforce is one of the prime priorities of our Government
- DST through the Women Fellowship Scheme had introduced some significant women empowering policies and supported thousands of women researchers in the past.

Infrastructure Development: Coastal Shipping Bill, 2020

Relevance IN – Prelims (about Coastal shipping) + Mains (GS III Infrastructure developments – ports)

What's the NEWS

- Ministry of Shipping has issued the draft of **Coastal Shipping Bill, 2020** for suggestions from the stakeholders and general public.
- The Ministry of Shipping has drafted a Coastal Shipping Bill, 2020 in lieu of part XIV of the **Merchant Shipping Act, 1958**.

Some of the highlights of the Bill are as under:

- The definition of coastal shipping and coastal waters has been expanded.
- It is proposed to do away with the **requirement of trading licence** for Indian flag vessels for coastal trade.
- The Bill seeks to create a competitive environment and reduce transportation costs, while encouraging Indian vessels to increase their share in coastal shipping.
- The Bill also proposes integration of coastal maritime transport with inland waterways.
- There is a provision for a National Coastal and Inland Shipping Strategic Plan.

Know! about Coastal shipping

- Coastal shipping, that is shipping **within 20 nautical miles** of the coastline. The requirements for movement of vessels in this part of the sea are different from standard requirements of deep sea shipping.
- Coastal ship movements require smaller vessels and lesser draft, and therefore, involve lower costs

Infrastructure Development: Cabinet approves Externally Aided Dam Rehabilitation and Improvement Project – Phase II and Phase III

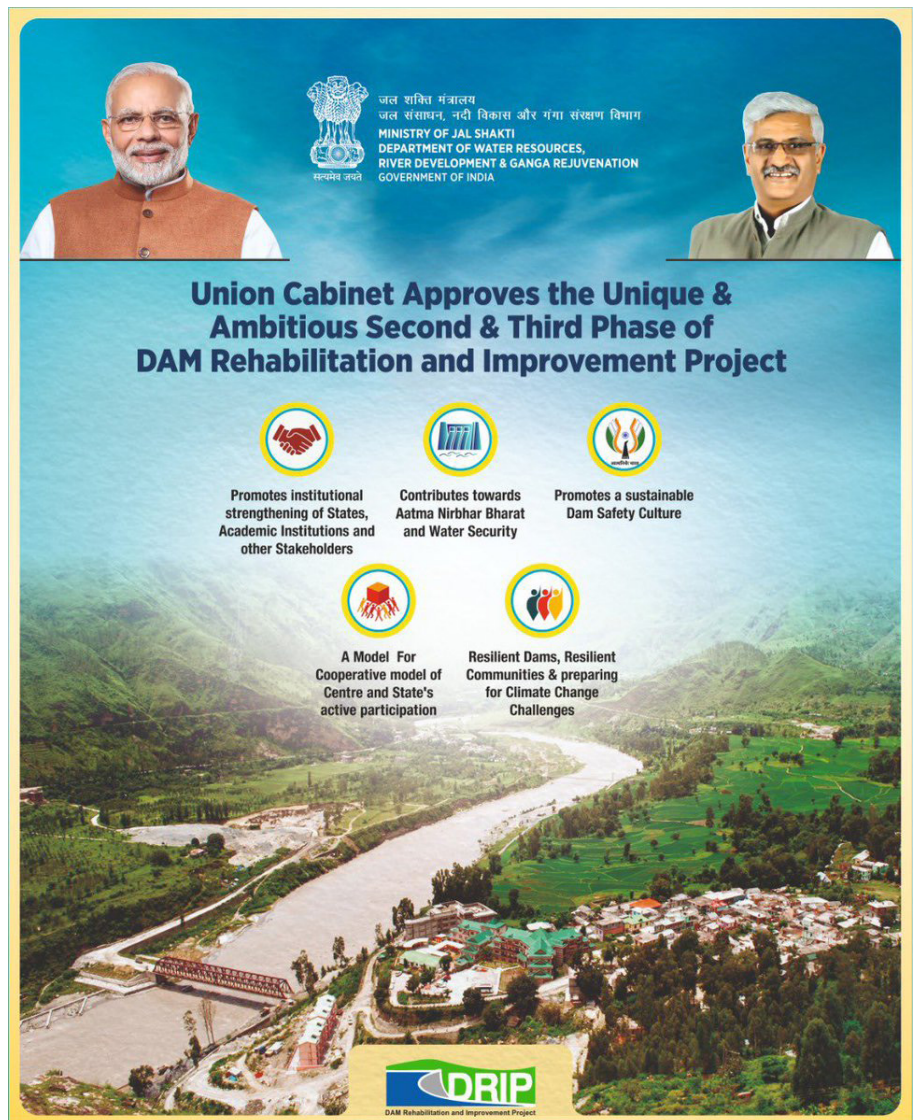
Relevance IN – Prelims (about Dam Rehabilitation and Improvement Project (DRIP) + Mains (GS III infrastructure development)

What's the NEWS

- The Cabinet Committee on Economic Affairs approved the Dam Rehabilitation and Improvement Project (DRIP) Phase II & Phase III with the financial assistance of the **World Bank (WB), and Asian Infrastructure Investment Bank (AIIB)** to improve the safety and operational performance of selected dams across the whole country, along with institutional strengthening with system wide management approach.
- The project cost is Rs 10,211 crore. The Project will be implemented over a period of 10 years duration in two Phases, each of six years duration with two years overlapping from April, 2021 to March, 2031.

DRIP Phase II & Phase III envisages the following objectives:-

1. To improve the safety and performance of selected existing dams and associated appurtenances in a sustainable manner.
2. To strengthen the dam safety institutional setup in participating states as well as at central level, and



3. iii. To explore the alternative incidental means at few of selected dams to generate the incidental revenue for sustainable operation and maintenance of dams

To achieve the above objectives, DRIP Phase II & Phase III has following components:

- Rehabilitation and improvement of dams and associated appurtenances,
- Dam safety institutional strengthening in participating States and Central agencies,
- Exploration of alternative incidental means at few of selected dams to generate the incidental revenue for sustainable operation and maintenance of dams, and
- Project management.

The Scheme envisages comprehensive rehabilitation of 736 existing dams located across the country.

Know! about DRIP

- The Dam Rehabilitation and Improvement Project (DRIP) is an initiative being undertaken by the Central Water Commission (CWC), Government of India with World Bank loan assistance, to improve the safety and performance of selected existing dams and associated appurtenances in a sustainable manner, and to strengthen the dam safety institutional setup in participating Implementing Agencies across participating States as well as in the CWC.

Environment: All 8 beaches recommended by government gets International Blue Flag Certification

Relevance IN – Prelims (about blue flag + about SICOM +BEAMS + ICZM) + Mains (GS III Environment conservation)

What's the NEWS

- All the 8 beaches of India, spread across five states and two union territories, have been awarded the “BLUE FLAG” by an International Jury comprising of eminent members viz **UNEP, UNWTO, FEE, IUCN.**

The beaches that have been awarded the ‘BLUE FLAG’ are

- Shivrajpur (Dwarka-Gujarat)
- Ghoghla (Diu)
- Kasarkod and Padubidri (Karnataka)
- Kappad (Kerala), Rushikonda (AP)
- Golden (Puri-Odisha)
- and Radhanagar (A&N Islands).



Other achievements

- India has also been awarded a 3rd Prize by the International Jury under the “**International Best Practices**” for pollution control in coastal regions.
- India is also the first country in “Asia-Pacific” region which has achieved this feat in just about 2 years’ time.
- Japan, South Korea and UAE are the only other Asian nations who have been conferred with a couple of Blue Flag beaches
- India is now **in the league of 50 “BLUE FLAG”** and planning to taking this journey forward to 100 such beaches in the country in the next five years.

Know! the inception

- India began its journey in 2018 for development of pilot beaches (**one each in coastal states/UTs**) and presented the first set of 08 beaches for the certification for the ensuing tourist season 2020.
- SICOM, MoEFCC, in its pursuit of “Sustainable Development” of the coastal regions of India embarked upon a highly acclaimed & flagship program “**BEAMS**” (Beach Environment & Aesthetics Management Services) under its **ICZM** (Integrated Coastal Zone Management) project.

- This was aimed at striving for the coveted International eco-label “Blue flag”, accorded by **The Foundation of Environment Education, FEE Denmark**.
- The objective of the BEAMS program is to abate pollution in coastal waters & beaches, promote sustainable development of beach amenities/facilities, protect & conserve coastal ecosystems & natural resources and encourage local authorities & stakeholders to strive and maintain high standards of cleanliness, hygiene, safety and security for beachgoers in accordance with coastal environment norms & regulations.
- This program promotes beach tourism and recreation in absolute harmony with nature; and is unique in that sense.



Society of Integrated Coastal Management (SICOM)

- It has been established **under the aegis of the Ministry of Environment, Forests and Climate change**, Government of India with a vision for vibrant, healthy and resilient Coastal and Marine Environment for continuous and enhanced outflow of benefits to the Country and the Coastal Community.

Objective and Functions of SICOM

- To support the implementation of the Integrated Coastal Zone Management of India.
- To promote Research & Development (R&D)
- To support to check violations to CRZ
- SICOM is the **National Project Management Unit (NPMU)** of India in strategic planning, management, execution, monitoring and successful implementation of **Integrated Coastal Zone Management Project and Enhancing Coastal and Ocean Resource Efficiency (ENCORE Project)** in all 13 Coastal States/UTs of India. (Maharashtra, Gujarat, Odisha, West Bengal, Andhra Pradesh, Tamil Nadu, Goa, Puducherry, Kerala, Karnataka, Daman and Diu, Andaman and Nicobar Island, Lakshadweep)
- SICOM has also embarked upon the Pilot Blue Flag programme first time in India under Beach Environment & Aesthetic Management Services (BEAMS) for Pilot Beaches.

Internal Security: Fingerprint Bureau 2020

Relevance IN – Prelims (about National Automated Fingerprint Identification System (NAFIS) + NCRB) + Mains (GS III Internal Security + Cyber awareness, police reforms)

What's the NEWS

- The Ministry of Home Affairs digitally inaugurated the 21st All India Conference of Directors, **Fingerprint Bureau 2020** and also the **eCyber Lab** set up by the National Crime Records Bureau (NCRB).

National Automated Fingerprint Identification System (NAFIS)

- Fingerprint is an essential tool because of its uniqueness, permanency, individuality and ease in acquisition.
- The digitization of records and fingerprint data is an important step forward in documenting and tracking crimes and criminals
- The fully computerized **National Automated Fingerprint Identification System (NAFIS)** would soon become functional and benefit police forces.
- The project — on the lines of the Integrated Automated Fingerprint Identification System (IAFIS) of the FBI in the US — hopes to create a repository of fingerprints of at least 1.5 crore criminals, enhance the ability to discern crime patterns and modus operandi across states, and communicate with state police departments to assist in crime prevention.
- NAFIS will be hosted at the National Crime Records Bureau (NCRB) and implemented on a turnkey basis by the solution provider selected through a bid process.

eCyber Lab set up by NCRB

- State of the art **cyber forensic tools**, **eCyber Lab** will provide virtual experience in investigation of cyber crimes.
- NAFIS will be a game changer in investigation of crime .
- NAFIS will also provide aid to investigating officers in identifying criminals based on their fingerprints on real time basis.

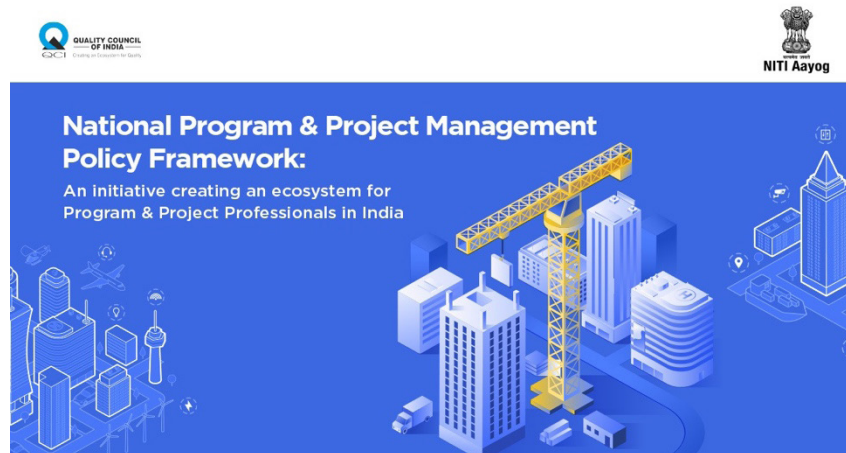
Know! about NCRB

- The National Crime Records Bureau, abbreviated to NCRB, is an Indian government agency responsible for collecting and analysing crime data as defined by the Indian Penal Code (IPC) and Special and Local Laws (SLL).
- NCRB is headquartered in New Delhi and is part of the Ministry of Home Affairs (MHA), Government of India.
- NCRB was set-up in 1986 to function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators.
- It was set up based on the recommendation of the Task force, 1985 and National Police Commission, 1977 by merging the Directorate of Coordination and Police Computer (DCPC), Inter State Criminals Data Branch of CBI and Central Finger Print Bureau of CBI.
- Earlier Statistical Branch of Bureau of Police Research and Development (BPR&D) was also merged with NCRB, but was later de-merged

Finger Prints in India 2019

- It is the 23rd edition of annual publication of Central Finger Print Bureau (CFPB) under the aegis of National Crime Records Bureau (NCRB).
- It presents the annual performance report for the calendar year 2019 of the Central and State/UT Finger Print Bureaux (SFPBx) including the activities, achievements, database status, trainings undertaken etc.

NITI Aayog: National Program and Project Management Policy Framework Initiative



Relevance IN – Prelims (about NPMPPF + InBoK + QCI) + Mains (GS III infrastructure development)

What's the NEWS

- NITI Aayog and Quality Council of India launched the '**National Program and Project Management Policy Framework**' (NPMPPF), envisaged to bring radical reforms in the way infrastructure projects are executed in India.
- Union Minister for Road Transport and Highways unveiled **the Indian Infrastructure Body of Knowledge (InBoK)**, a book on the practice of program and project management in India, and launched the framework
- *InBoK* to serve as a common reference for all practitioners of the industry.

Know! about NPMPF

- NPMPF will help in realizing the need to reduce costs and waste material, without compromising on the environment and ecology.
- This initiative is most opportune to bring about more transparency in procurement, enabling public-private partnerships through appropriate risk-sharing and establishing robust project governance.'
- The adoption of these practices will help achieve economic objectives through the coordination of multiple projects.

Know! the benefit of this initiative

- India will require an investment of around \$4.5 trillion by 2040 to develop the infrastructure for sustaining its economic growth.
- However, the challenges in infrastructure development that often obstruct the smooth execution of projects can be a detriment.
- Therefore, along with numerous initiatives by the Government and guidelines advocated by NITI Aayog towards improving performance of infrastructure projects, a task force was also constituted to lay down a national program and project management policy framework.
- This framework aims to formulate radical reforms in the way large and mega infrastructure projects are managed in India

Know! about QCI

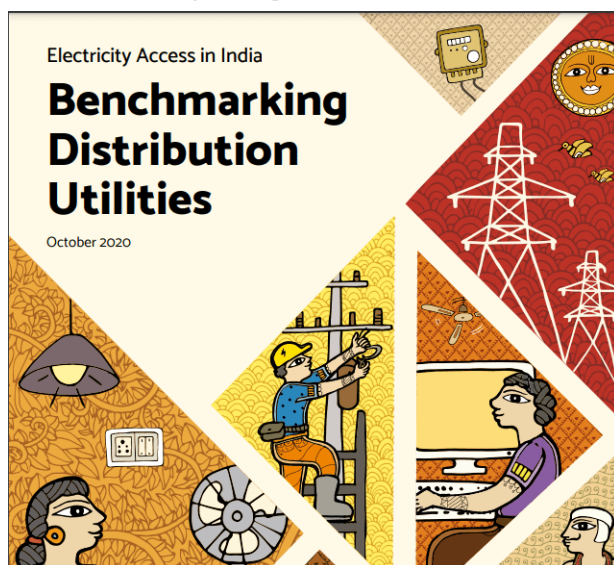
- The Quality Council of India (QCI) is a pioneering experiment of the Government of India in setting up organizations in partnership with the Indian industry.
- The Cabinet Committee decided to set up Quality Council of India as a non-profit autonomous society registered under Societies Registration Act XXI of 1860 to establish an accreditation structure in the country and to spread quality movement in India by undertaking a National Quality Campaign.
- Key industry associations, i.e. Associated Chambers of Commerce and Industry of India (ASSOCHAM), Confederation of Indian Industry (CII) and Federation of Indian Chambers of Commerce and Industry (FICCI) became the promoters of the organizers and QCI
- The Council is independent and works under the directions of its Governing Body (GB) having equal representation of government, industry and industry associations.
- It does not get funded by the government and is a self-sustaining non-profit organization with its own Memorandum of Association (MOA) and Rules.
- Chairman of QCI is nominated by the Hon'ble Prime Minister of India and is a non-executive post

NITI Aayog: Electricity Access & Utility Benchmarking Report

Relevance IN – Prelims (about Electricity Access in India and Benchmarking Distribution Utilities – report highlights) + Mains (GS III infrastructure development – Energy sector)

What's the NEWS

- NITI Aayog, Ministry of Power, **Rockefeller Foundation, and Smart Power India** launched the 'Electricity Access in India and Benchmarking Distribution Utilities'
- Based on a primary survey **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—the **report assesses 25 distribution utilities.**



Distribution Utility	Score on the Customer Satisfaction Index	Rank Based on the Customer Satisfaction Index
Karnataka Bangalore	74	1
Karnataka Mangalore	65	2
Gujarat Central	64	3
Gujarat West	64	3
Gujarat North	64	3
AP East	63	6
Karnataka Mysore	61	7
Gujarat South	58	8
MP East	57	9
Punjab	56	10

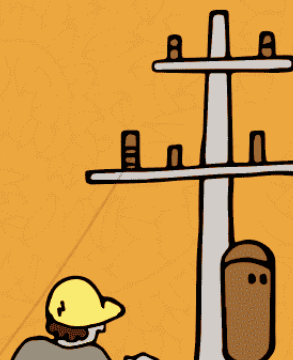
Aimed at capturing insights from both the demand (electricity customers) as well as supply side (electricity distribution utilities), the report seeks to:

- Evaluate the status of electricity access in India across these states and distribution utilities along all dimensions that constitute meaningful access
- Benchmark utilities' capacity to provide electricity access and identify the drivers of sustainable access
- Develop recommendations for enhancing sustainable electricity access

Key findings of the report:

- As much as 92% of customers reported the overall availability of electricity infrastructure within 50 metres of their premises; however, not all have connections, the primary reason being the distance of households from the nearest pole.
- Overall, 87% of the 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 nearly 17 hours per day.

State-wise	Supply Hours	Reliability	Quality
AP	21.5	40%	70%
Assam	15.4	94%	35%
Bihar	16.5	89%	11%
Gujarat	21.8	17%	78%
Karnataka	18.1	72%	48%
Meghalaya	17.5	71%	24%
MP	18.8	65%	43%
Punjab	16.1	51%	48%
UP	14.6	71%	37%
West Bengal	21.0	91%	23%



- Nearly 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 overall satisfaction level of customers with utility services. The study suggested that a total of 66% of those surveyed were satisfied—74% of customers in urban areas and 60% in rural areas.
- The report highlights the benefits of government-led schemes such as Pradhan Mantri Sahaj Bijli Har Ghar Yojana and Deen Dayal Upadhyaya Gram Jyoti Yojana, which have been well received in rural as well as urban areas.'

Recommendations

- prioritizing the release of new connections for non-household customers;
- transfer of subsidies or other benefits directly into a customer's account;
- enhanced technology-driven customer service;
- ensuring 100% metering of customers;
- segregation of feeder lines

Smart Power India Initiative

- The Smart Power India Initiative of The Rockefeller Foundation aims to extend productive power to those without sufficient access to reliable and quality electricity
- Smart Power India (SPI) was established by the Rockefeller Foundation as its subsidiary and acts as the key agency in implementing the foundation's Smart Power for Rural Development program.
- SPI works on building and nurturing ecosystems to promote sustainable and scalable models to provide electricity access.

Science & Technology: DBT-THSTI recognized as a Global Bioassay Laboratory to assess COVID 19 Vaccine by CEPI

Development of Vaccines Candidates for COVID-19

Department of Biotechnology
Government of India

Vaccine Candidates in Human Trials

- ZyCoV-D plasmid DNA vaccine from Zydus Cadila is in Phase II human Clinical Trials (National Biopharma Mission)
- VPM1002 Recombinant BCG vaccine from Serum Institute of India Pvt Ltd: Phase III human Clinical Trials (National Biopharma Mission)

Vaccine Candidates Poised to Enter Human Trials

- Vaccine based on a safe inactivated rabies vector platform from Bharat Biotech International Ltd (National Biopharma Mission)
- HGC019 novel mRNA vaccine candidate from Gennova Biopharmaceuticals (Ind-CEPI)

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Relevance IN – Prelims (about THSTI and about CEPI and IndCEPI mission) + Mains (GS III awareness in the field of science and technology)

What's the NEWS

- Translational Health Science And Technology Institute (THSTI), an autonomous institute of the Department of Biotechnology, has now been recognized by the **Coalition for Epidemic Preparedness Innovations (CEPI)** as one of the **Global network of Laboratories for centralized assessment of COVID 19 Vaccines**.

- The CEPI network will initially involve six labs, one each in Canada, Britain, Italy, the Netherlands, Bangladesh and India.

CEPI Global network

- Under the CEPI Global network the Laboratory will use the same reagents and **follow a common set of protocols to measure the immune response** of multiple vaccine candidates under development and trial
- This will greatly **harmonize the Vaccine trial process** and allow different vaccine candidates to be compared and speed up the selection of the most effective candidate.
- The Ind-CEPI mission for establishment of bioassay laboratory at THSTI is to provide validated assays for vaccine development on par with global standards.

IndCEPI mission

- The Department of Biotechnology, Ministry of Science & Technology, and Government of India has been implementing the **IndCEPI mission** 'India Centric Epidemic Preparedness through Rapid Vaccine Development: Supporting Indian Vaccine Development'.
- The objectives of this mission are aligned with the Global Initiative of Coalition of Epidemic Preparedness for Innovation (CEPI) and aims to strengthen the development of vaccines and associated competencies/technologies for the diseases of epidemic potential in India.

Know! all about CEPI

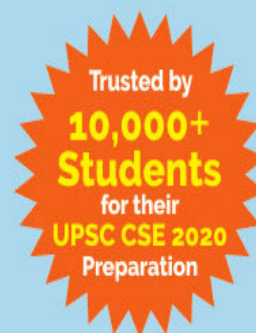
- CEPI is an innovative global partnership between public, private, philanthropic, and civil society organisations **launched in Davos in 2017 to develop vaccines to stop future epidemics.**
- The Coalition for Epidemic Preparedness Innovations' (CEPI's) mission is to stimulate and accelerate the development of vaccines against emerging infectious diseases and enable access to these vaccines for people during outbreaks.
- CEPI is a foundation that takes donations from public, private, philanthropic, and civil society organisations, to finance independent research projects to develop vaccines against emerging infectious diseases
- CEPI was conceived in 2015 and formally launched in 2017 at the World Economic Forum (WEF) in Davos, Switzerland.
- It was co-founded and co-funded with US\$460 million from the Bill and Melinda Gates Foundation, The Wellcome Trust, and a consortium of nations, being Norway, Japan, Germany; to which the European Union (2019) and Britain (2020) subsequently joined.
- CEPI is headquartered in Oslo, Norway.



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