

OFFICERS' PULSE

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**AT A GLANCE
& IN DEPTH.**

Polity and Social Issues

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THE **PULSE** OF UPSC AT YOUR FINGER TIPS



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News @ a glance

POLITY

1) New land laws in J&K

What's in the news?

- Recently, the Ministry of Home Affairs (MHA) announced several amendments to land laws for the Union Territory of Jammu Kashmir (J&K), including the **Jammu and Kashmir Development Act of 1970** and the **J&K Land Revenue Act, 1996**.
- In August 2019, the special status granted to Jammu and Kashmir under **Article 370** and **Article 35A** was revoked.
- The new land laws effectively end the exclusive rights of locals over the land granted under now abrogated Article 370.

What are the changes?

- The most important amendment has been made in the J&K Development Act that deals with disposal of land with the Centre omitting the phrase "permanent resident of the state" from Section 17 of the law. This means, **people who are not permanent residents of the state can purchase land**.
- Before the repeal of Article 370 and Article 35-A in August last year, non-residents could not buy any immovable property in Jammu and Kashmir.
- Though the amendments **prohibit sale, transfer, mortgage and conversion of agricultural land to a non-agriculturist** in the UT, it **can still be allowed**, "provided that the Government or an officer authorized by it in this behalf may grant permission to an agriculturist to alienate the land to a non-agriculturist by way of sale, gift, exchange or mortgage".
- The government can allow the transfer of agricultural land to a **public trust for charitable work, healthcare, education, industrial or commercial purposes**.

Provision for "strategic area"

- A fresh provision has been added, by which the government, on the written

request of an Army officer not below the rank of a Corps Commander, may declare an area as a "**strategic area**" for direct operational and training requirements of the armed forces.

J&K Industrial Development Corporation

- The amendments also create the **Jammu and Kashmir Industrial Development Corporation** for establishing commercial centres and industries in the UT. The Corporation will have the power to acquire movable and immovable property, and to lease, sell, exchange or transfer any property held by it.
- **No court** can take cognisance relating to property vested in the Corporation, except when the Corporation files a complaint. **No legal suit** can be filed against officials of the Corporation without a prior notice of two months and not later than six months from the date of complaint.

What about laws for Ladakh?

- The Centre is likely to notify separate land laws for the UT of Ladakh soon.

2) Unlawful Activities (Prevention) Amendment Act, 2019

UAPA Act, 2019

- The Unlawful Activities (Prevention) Amendment Act, 2019 was passed by the Parliament in August 2019. It amended the Unlawful Activities (Prevention) Act, 1967.
- The Act **empowers the central government to designate an individual a "terrorist"** if they are found committing, preparing for, promoting, or involved in an act of terror.
- The 1967 UAPA law required an investigating officer to take **prior permission** of the Director General of Police of a state for conducting raids, and

seizing properties that are suspected to be linked to terrorist activities.

- The amendment act **removes this requirement** if the investigation is conducted by an officer of the **National Investigation Agency (NIA)**. The investigating officer only requires sanction from the Director General of NIA.
- The 1967 law specifies that only officers of the rank of Deputy Superintendent or Assistant Commissioner of Police of the NIA shall have the power to investigate offences under the UAPA law. The new act allows NIA **officers of Inspector rank to carry out investigations**.

Why in News?

- The Ministry of Home Affairs (MHA) has designated 18 individuals, all Pakistan based, as “terrorists” under the UAPA Act, 2019.

Related Information

About NIA

- The National Investigation Agency (NIA) is a **statutory body** constituted under the **National Investigation Agency Act, 2008**.
- It is a central agency to investigate and prosecute offences:
 1. affecting the sovereignty, security and integrity of India, security of State, friendly relations with foreign States.
 2. against atomic and nuclear facilities.
 3. smuggling in High-Quality Counterfeit Indian Currency.
- It implements international treaties, agreements, conventions and resolutions of the United Nations, its agencies and other international organisations.
- It acts as the Central Counter-Terrorism Law Enforcement Agency.

3) Vivad se Vishwas

About the scheme

- Vivad se Vishwas scheme was announced in the Budget 2020 **to provide a mechanism for the resolution of pending Income Tax disputes**.
- As on November 30, 2019, about 4.83 lakh appeals pending at various levels involving tax arrears to the tune of about ₹9.32-lakh crore.
- The Centre hopes the new scheme will bring down the number of pending cases

and result in some portion of the locked revenue being realised.

- Under the scheme, a taxpayer would be required to pay only the amount of the disputed taxes and will get complete waiver of interest and penalty provided he pays by 31st March, 2020. Those who avail this scheme after 31st March, 2020 will have to pay some additional amount.
- In order to provide more time to taxpayers to settle disputes, earlier the date for filing declaration and making payment without additional amount was extended from March 31, 2020 to June 30, 2020. This date was again extended to December 31, 2020.

Why in News?

- The government has extended for the third time the deadline for making payment without additional amount under the 'Vivad Se Vishwas' by three months from 31st December 2020 to 31st March 2021.

4) Central Information Commission

About RTI Act, 2005

- Under the RTI Act, 2005, **Public Authorities** are required to make disclosures on various aspects of their structure and functioning.
 - This includes: (i) disclosure on their organisation, functions, and structure, (ii) powers and duties of its officers and employees, and (iii) financial information.
 - The intent of such *suo moto* disclosures is that the public should need minimum recourse through the Act to obtain such information. If such information is not made available, citizens have the right to request for it from the Authorities.
 - This may include information in the **form of documents, files, or electronic records** under the control of the Public Authority. The intent behind the enactment of the Act is to **promote transparency and accountability** in the working of Public Authorities.
- #### Who is included in the ambit of 'Public Authorities'?
- The RTI Act defines “public authorities” in Section 2(h).

- A “public authority” means any authority or body or institution of self- government established or constituted
 1. by or under the Constitution;
 2. by any other law made by Parliament;
 3. by any other law made by State Legislature;
 4. by notification issued or order made by the appropriate Government, and includes any –
 5. body owned, controlled or substantially financed;
 6. Non-Government organization substantially financed, directly or indirectly by funds provided by the appropriate Government.

How is the right to information enforced under the Act?

- The Act has established a **three tier structure** for enforcing the right to information guaranteed under the Act.
- The first request for information goes to the **Central/State Assistant Public Information Officer and Central/State Public Information Officer**, designated by the Public Authorities. These Officers are required to provide information to an RTI applicant **within 30 days** of the request.
- Appeals from their decisions go to an **Appellate Authority**.
- Appeals against the order of the Appellate Authority go to the **State Information Commission or the Central Information Commission**. These Information Commissions consist of a **Chief Information Commissioner, and up to 10 Information Commissioners**.

Right to Information (Amendment) Act, 2019

- The Act amended Sections 13 and 16 of the RTI Act, 2005.
- Section 13 of the original Act sets the term of the central Chief Information Commissioner and Information Commissioners at **five years** (or until the age of 65, whichever is earlier). The amendment changed that the appointment will be for such term as may be **prescribed by the Central Government**.
- According to the amendment act, the salaries, allowances and other terms of service of the Chief Information

Commissioner and Information Commissioners **shall be such as may be prescribed by the Central Government**. Previously it was equivalent to that of the Chief Election Commissioner and Election Commissioners respectively.

- The government said that the amendment was required because the election commission is a Constitutional body while the information commission, formed under the Right to Information Act, is a statutory one.

Why in News?

- The Government is set to appoint former Indian Foreign Service officer and Information Commissioner Yashvardhan Kumar Sinha as the new Chief Information Commissioner.

How is the Central Information Commission constituted?

- Under the RTI Act 2005, the Central Government shall, by notification in the Official Gazette, constitute a body to be known as the Central Information Commission.
- The Central Information Commission shall consist of the **Chief Information Commissioner (CIC)** and such number of **Central Information Commissioners (ICs) not exceeding 10** as may be deemed necessary.

Process of appointment of CIC/IC

- The Chief Information Commissioner and Information Commissioners shall be appointed by the **President** on the recommendation of a committee consisting of:-
 1. the Prime Minister, who shall be the Chairperson of the committee;
 2. the Leader of Opposition in the Lok Sabha; and
 3. a Union Cabinet Minister to be nominated by the Prime Minister.
- **Note:** Where the Leader of Opposition in the House of the People has not been recognized as such, the Leader of the single largest group in opposition of the Government in the House of the People shall be deemed to be the Leader of Opposition.

Eligibility criteria

- Section 12(5) of the RTI Act 2005 provides that the Chief Information Commissioner and Information

Commissioners shall be persons of eminence in public life with wide knowledge and experience in law, science and technology, social service, management, journalism, mass media or administration and governance.

- Chief Information Commissioner or an Information Commissioner **shall not be a Member of Parliament or Member of the Legislature of any State or Union Territory** as the case may be, or **hold any other office of profit or connected with any political party or carrying on any business or pursuing any profession.**

5) Public Affairs Index 2020

What's in the news?

- **Public Affairs Centre**, a not-for-profit organisation, headed by former Indian Space Research Organisation (ISRO) chairman K. Kasturirangan, has released its Public Affairs Index (PAI)-2020.
- In this annual report, States were ranked on governance performance based on a composite index in the context of sustainable development defined by the

three pillars of **equity, growth and sustainability.**

Highlights of the Index

- **Four southern States** — Kerala (1.388 PAI Index point), Tamil Nadu (0.912), Andhra Pradesh (0.531) and Karnataka (0.468) stood in the first four ranks in the **large State category** in terms of governance.
- Uttar Pradesh (-1.461), Odisha (-1.201) and Bihar (-1.158) were at the bottom of the ranking.
- In the **small State category**, Goa ranked first with 1.745 points, followed by Meghalaya and Himachal Pradesh. The worst performers with negative points were Manipur (-0.363), Delhi (-0.289) and Uttarakhand (-0.277).
- **Chandigarh** emerged at the top in the **category of Union Territories** with 1.05 PAI points, followed by Puducherry and Lakshadweep. Dadar and Nagar Haveli, Andaman, Jammu and Kashmir and Nicobar were the worst performers.

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ENVIRONMENT

1) Himalayan brown bear

About



- A subspecies of the brown bear, the Himalayan brown bear (*Ursus arctos isabellinus*), occupies the **higher reaches of the Himalayas in India, Pakistan, Nepal, China, and Bhutan.**
- **Omnivorous** in nature, they feed on the sparse herbaceous vegetation that high altitudes offer, often supplementing their diet with small mammals like marmots or pikas.
- They are listed under **Schedule 1 of the Indian Wildlife (Protection) Act of 1972.**
- IUCN status: **Least Concern.**

Why in the news?

- Following a study on Himalayan Brown Bear, the Wildlife Institute Of India (WII) has suggested **ADAPTIVE SPATIAL PLANNING** of the protected area to conserve this species habitat.
- Adaptive spatial planning broadly refers to conserving the existing landscape and augmenting the fragmented areas of the habitat of the species. Under this, the nearby promising areas around the existing Protected Areas in the Himalayas are brought within the Protected Areas (PAs). The adaptive spatial planning of PAs is aimed at **minimising the risks and uncertainty of climate change.**
- The elevation level at which the brown bear is present is most vulnerable to global warming, as this elevation belt gets warmer faster than other elevation zones of Himalayas.
- Hence, through a study it is predicted that a massive decline of about 73% of the bear's habitat by the year 2050 can

happen. Urgent steps need to be taken to conserve the species.

2) Dashboard to monitor air quality of Indian cities

National Ambient Air Quality Standards

- Government of India has laid down National Ambient Air Quality standards (NAAQS) for **twelve air pollutants** with relevant standards set, namely,
 1. PM10,
 2. PM2.5,
 3. Carbon Monoxide (CO),
 4. Sulphur Dioxide (SO₂),
 5. Nitrogen Dioxide (NO₂),
 6. Ammonia (NH₃),
 7. Ground level Ozone (O₃),
 8. Lead,
 9. Arsenic,
 10. Nickel,
 11. Benzene
 12. Benzo (a) Pyrene.
- **NAAQS are the standards established under the National Air Quality Monitoring Programme (NAMP).**
- The NAAQS helps in assessment of air quality with respect to various pollutants and development of preventive and corrective measures for mitigation. But many cities couldn't contain the air pollution.
- Hence, in 2019, the government started a **National Clean Air Programme (NCAP) in 122 non-attainment cities.**
- The non-attainment cities are those which **have not responded well** to the National Air Quality Monitoring Programme.

Why in the news?

- The central government has established a dashboard which will provide a comprehensive picture of India's National Ambient Air Quality Standards (NAAQS), which come under the National Air Quality Monitoring Programme (NAMP).
- This dashboard is being established with the help of **CarbonCopy** (a climate and energy news site).
- The dashboard will present levels of Particulate Matter (PM) in 122 non-

attainment cities along with last 3 year data for comparison.

What is the use of the dashboard?

- It will help in checking the working condition of air monitors in the cities.
- Its data will give data for health studies which are connected to air pollution.
- Help in developing better policies in the matter of air pollution.

3) High levels of ammonia in Yamuna waters

River Yamuna



- River Yamuna is the **largest tributary of River Ganga**.
- It originates near **Yamunotri glacier** in western Uttarakhand.
- Near Dehradun, the Yamuna is joined by its biggest tributary, the **Tons River**. The **Chambal River** is Yamuna's biggest tributary on the right. Other important tributaries of the Yamuna include the **Hindon, Sarda and Giri rivers** on the right and **Betwa and Sindh** on the left.

- Near Allahabad, after a course of about 1,376 km, the Yamuna joins the Ganga River.
- The river, however, has become one of the most-polluted in India, because so much of its course is through extremely densely populated areas where vast quantities of sewage have been discharged directly into it.

Ammonia as a water pollutant

- Ammonia is a colorless, pungent gaseous compound of hydrogen and nitrogen that is highly soluble in water.
- When ammonia is present in water at high enough levels, it is difficult for aquatic organisms to sufficiently excrete the toxicant, leading to toxic buildup in internal tissues and blood, and potentially death.

Sources of Ammonia

- Natural sources are **decomposition or breakdown of organic waste matter, gas exchange with the atmosphere, forest fires, animal and human waste, and nitrogen fixation processes**.
- But a huge amount of ammonia is added when **industrial effluents are discharged** into waters. Surface run water from the **farms** carry a lot of ammonia coming from **fertilisers**.

Why in the news?

- In the last week of October 2020, River Yamuna experienced high levels of ammonia concentration.
- The levels went more than 6 times of the accepted levels. Ammonia levels had reached 3 parts per million (ppm) in raw Yamuna water. The **acceptable level of ammonia is 0.5 ppm**.

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ECONOMY

1) GIFT City

About IFSC

- An International Financial Services Centre (IFSC) is a jurisdiction that provides world class financial services to **customers outside the jurisdiction of the domestic economy**. Such centres deal with flows of finance, financial products and services across borders.
- **Services provided by an IFSC:**
 1. Fund-raising services for individuals, corporations and governments
 2. Asset management and global portfolio diversification undertaken by pension funds, insurance companies and mutual funds
 3. Wealth management
 4. Merger and acquisition activities among trans-national corporations, etc.

GIFT City

- India's 1st IFSC was set up at the **Gujarat International Finance Tec-City (GIFT City)** in Gandhinagar in 2011.
- It is intended to provide Indian corporates with easier access to global financial markets, and to complement and promote the further development of financial markets in India.

Why in News?

- The tenth Economic and Financial Dialogue (EFD) between India and the U.K. steered by U.K. Chancellor Rishi Sunak and Finance Minister Nirmala Sitharaman was held recently.
- During the dialogue, the U.K. entered into a **strategic partnership to develop the international financial services centre GIFT City**.
- U.K. also agreed to set up a **new Fund of Funds** to be managed by the State Bank of India group in order to route U.K.'s future capital investments into India.
- India and U.K. also signed off on a new infrastructure finance and policy partnership to help India execute its **National Infrastructure Pipeline** that envisages investments worth \$1.4 trillion.
- To mobilise private capital for green investment, a new **U.K.-India**

Sustainable Finance Forum is also being established.

About National Infrastructure Pipeline

- To achieve the GDP of \$5 trillion by 2024-25, India needs to spend about **\$1.4 trillion (100 lakh crore)** over these years on infrastructure. To implement an infrastructure program of this scale, the government has envisaged the National Infrastructure Pipeline (NIP).
- In April 2020, the Task Force on National Infrastructure Pipeline submitted its Final Report on NIP for FY 2019-25.

Highlights of the Report

- The final report projects a total infrastructure investment worth **Rs 111 lakh crore** during the financial period **2020-25**.
- Sectors such as energy (24%), roads (18%), urban (17%) and railways (12%) amount to around 71% of the projected infrastructure investments.
- The **Central Government (39 per cent)** and **State Governments (40 per cent)** are expected to have almost equal share in funding of the projects followed by the **Private Sector (21 per cent)**.
- The Task Force has recommended that three Committees be setup:
 1. a Committee to monitor NIP progress and eliminate delays;
 2. a Steering Committee in each Infrastructure ministry level for following up implementation; and
 3. a Steering Committee in the Department of Economic Affairs for raising financial resources for the NIP.

2) Sunset clause

What is a 'sunset' clause?

- Sunset clauses require that certain provisions or laws will **cease to be effective from a predetermined date unless they are reauthorized**.
- Sunset clauses have been frequently used in India in fiscal and tax laws, e.g., tax holidays and exchange control regulations.
- The Constitution itself provides for a 10 year sunset for reservations to Parliament

and legislative assembly seats (**Article 334**).

- Such provisions are an admission by the lawmakers that the law is not made for eternity and a recognition that circumstances change over time—whether it be one year or five years.

Why is it needed?

- By allowing specific time periods for the operation of laws, this tool could allow policymakers to push for new ideas to be implemented.
- Having a fixed tenure in effect also ensure certainty of law.

Why in News?

- NITI Aayog Vice-Chairman Rajiv Kumar recently said that any tariff protection to promote local manufacturing in India will come with an in-built sunset clause.
- He added that the government is set to **extend the production-linked incentive scheme** for manufacturing pharmaceuticals, medical devices and electronics announced under the AtmaNirbhar Bharat package, to **six more sectors**.

- He emphasised that India's efforts towards self-reliance are not dissimilar to what other nations are doing to insulate themselves from global supply chain shocks and revive the economy. It will not imply in any sense, any form of isolation, closed economy or protectionism.

About PLI scheme

- The **production-linked incentive scheme** was announced in March 2020 as a part of AtmaNirbhar Bharat package.
- It aims to attract large investments in **mobile phone manufacturing and specified electronic components**. The scheme offers an incentive of 4-6% on incremental sales of goods manufactured in India and is expected to create a total of 8 lakh jobs.
- Later, the government announced the PLI scheme for promoting **domestic manufacturing of bulk drugs and medical devices**.

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INTERNATIONAL RELATIONS

1) India-U.S. 2+2 dialogue

What's in the news?

- Recently, India and the U.S. signed the **Basic Exchange and Cooperation Agreement (BECA)** during the third 2+2 dialogue of defence and foreign ministers of the two countries.
- This is the fourth and the last of the foundational agreements that both countries have concluded, starting with **GSOMIA (General Security of Military Information Agreement) in 2002**, **LEMOA (Logistics Exchange Memorandum of Agreement) in 2016**, **COMCASA (Communications Compatibility and Security Agreement) in 2018**, and now BECA.

What are foundational agreements?

- The United States enters into what are called **'foundational or enabling agreements'** with its defence partners. These agreements govern the nature and scope of U.S. defence partnerships. Partners enhance the capabilities of the U.S. military in distant places through sharing information, platforms and logistics.
- The U.S. sells military equipment to other countries with strict control over their deployment and use. The **sale of advanced communication and security systems on the aircraft** — which are not commercially available — is **made seamless by foundational agreements**.
- The U.S. is also eager to **advance 'interoperability'** with defence forces of the countries that are its defence partners. Interoperability involves real-time coordination of forces.
- The U.S. has signed these foundational agreements with at least 100 countries, which mostly follow a standard text. Country specific changes were made in India's case in all four foundational agreements.

What do these agreements do?

- The General Security of Military Information Agreement or GSOMIA, and its extension, the **Information Security Annex (ISA)** signed in 2019, allow

military technology cooperation for the **sharing of classified information between governments and companies in both countries.**

- The LEMOA **enables logistics support**, say refuelling of planes or ships, supply of spare parts or maintenance to each other. Even in the absence of this agreement, such cooperation can and has taken place between India and the U.S., but the agreement makes it seamless, and the accounting easier.
- The COMCASA allows Indian forces to **procure advanced, secure communication equipment from the U.S.** Such equipment was earlier denied for U.S. origin platforms such as C-17, C-130, and commercial systems were used in their place. Only after COMCASA was signed were the encrypted systems provided to India.
- The BECA enables **exchange of geospatial information**. Akin to a GPS that enables navigation, such exchange of geospatial information enhances the accuracy of a missile or the utility of a drone.

What is the strategic importance of these agreements?

- Since the **Civil Nuclear Agreement of 2005**, the India-U.S. defence cooperation has been advancing at a rapid pace.
- The U.S. has relaxed restrictions on technology trade in India's favour considerably, and India is designated a **'Major Defence Partner'**.
- Foundational agreements deepen defence cooperation, in trade and operation. India and the U.S. are also part of a broader **shared vision for the Indo-Pacific region**, where both countries, along with Japan and Australia, are increasing their military cooperation.
- U.S.-built platforms used by partner countries can talk to one another and share operational information.

Are there any concerns?

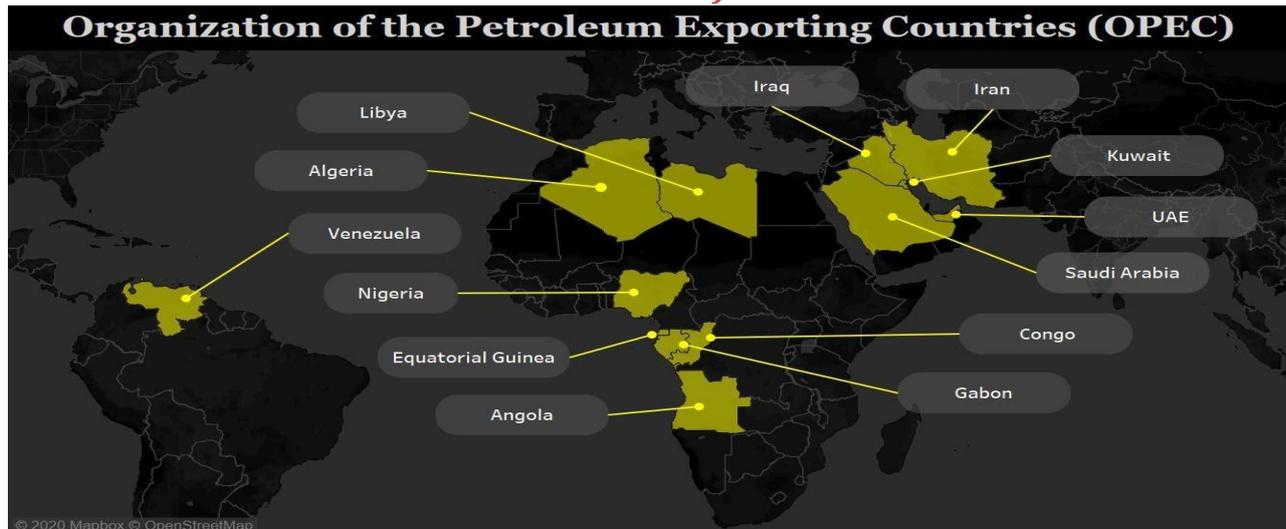
- Critics worry that tying itself too closely with the U.S. **may limit India's choices.**

- The evolution of technology makes it inevitable that all military platforms will be integrated and networked in the future. The U.S. is very particular about the integrity of its networks, and pressure could mount on India to remain firmly in its camp.
- The U.S. is particularly irked by India's continuing defence cooperation with Russia. India will be taking delivery of the

Russian S-400 missile defence system next year, ignoring American objections.

- The U.S. could respond with sanctions. At any rate, it will not be possible to integrate Russian and American platforms, and this could throw up new challenges of military planning for India.
- The moot question is whether India could ramp up its defence cooperation with the U.S. without ending up as its ally.

2) OPEC



About OPEC arrangement

- The Organization of the Petroleum Exporting Countries (OPEC) is a group consisting of **13 of the world's major oil-exporting nations**.
- OPEC was founded in 1960 to coordinate the petroleum policies of its members and to provide member states with technical and economic aid.
- OPEC is used to work as a cartel and fix prices in a favourable band. It could bring down prices by increasing oil production and raise prices by cutting production.
- The 2014 oil crisis, which was accentuated by oversupply of crude, brought down prices below \$30 a barrel. Since then, OPEC has been working with non-OPEC countries like Russia, Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Sudan and South Sudan to fix the global prices and supply.
- Known as the **"OPEC Plus" arrangement**, this alliance kept production lower and pumped up the prices.

Why in News?

- The Organisation of Petroleum Exporting Countries recently forecasted that

lockdowns and curfews in some countries in the event of a second or third wave of COVID-19 infections will not dent global energy demand as much as in the second quarter of this year when the world was virtually in lockdown mode.

3) COVAX facility

What is it?

- The COVAX facility seeks to accelerate the development and production of coronavirus vaccines through pooling in resources from the member countries, and then ensure that it is equitably distributed amongst them.
- COVAX is led by the **World Health Organization (WHO)**, the **Coalition for Epidemic Preparedness Innovations (CEPI)** and **GAVI**, the Vaccine Alliance.
- COVAX supports research and development of new vaccines by investing in them and negotiating prices with pharmaceutical companies. The goal of COVAX is to have 2 billion doses to distribute by the end of 2021, which should be enough to help countries

vaccinate 20% of their populations and end the acute phase of the pandemic.

Why in News?

- India is among the 92 countries that are eligible to access COVID-19 vaccines through GAVI's COVAX Advance Market Commitment (AMC), a donor-supported mechanism that will help cover part of the cost of vaccines to ensure that all countries can access them.
- Discussions about the terms of India's potential participation in the AMC are getting underway.

Related information

About CEPI

- The Coalition for Epidemic Preparedness Innovations (CEPI) is a global partnership between public, private, philanthropic, and civil society organisations to **develop vaccines to stop future epidemics**.
- It was launched in Davos in 2017.

About GAVI Alliance

- The GAVI Alliance (formerly the Global Alliance for Vaccines and Immunisation) is a global health partnership of public and private sector organizations dedicated towards creating **equal access to new and underused vaccines for children living in the world's poorest countries**.
- GAVI's strategy supports its mission to save children's lives and protect people's health by increasing access to immunisation in poor countries.
- Its partners provide funding for vaccines and intellectual resources for care advancement. They contribute, also, to strengthening the capacity of the health system to deliver immunisation and other health services in a sustainable manner.

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SCIENCE AND TECHNOLOGY

1) First room-temperature superconductor

Superconductors

- A **superconductor** is a substance that **conducts electricity** without resistance when it becomes colder than a "critical temperature." At this temperature, **electrons** can move **freely through** the material.
- The **critical temperature** for superconductors is the **temperature** at which the **electrical resistivity** of a metal drops to **zero**.
- Another property of a superconductor is that it will exclude magnetic fields, a phenomenon called the **Meissner effect**.

Uses of superconductivity

- **Maglev** (magnetic levitation) trains. These work because a superconductor repels a magnetic field so a magnet will float above a superconductor - this virtually eliminates the friction between the train and the track.
- **Large hadron collider** or particle accelerator.
- **SQUIDS** (Superconducting QUantum Interference Devices) are used to detect even the weakest magnetic field. They are used in mine detection equipment to help in the removal of landmines.
- Superconductors also makes **electricity generation** more **efficient**
- Very fast **computing**.
- Superconducting magnets have become the natural choice for any application where strong magnetic fields are needed - for magnetic resonance imaging (**MRI**) in hospitals, for example, or for magnetic separation of minerals in industry.

Why in News?

- A group of researchers in the U.S. have created a material **composed of carbon, hydrogen and sulphur** that is superconducting at 15 degrees Celsius. That is, it shows zero resistance to the flow of electricity through it.
- That's a new record for superconductivity, a phenomenon **usually associated with very cold temperatures**.

- Common superconductors work at atmospheric pressures, but only if they are kept very cold. Even the most sophisticated ones — copper oxide-based ceramic materials — work only below 133 kelvin (-140 °C).
- Superconductors that work at room temperature could have a big technological impact, for example in electronics that run faster without overheating.
- The only caveat is that it needs ultrahigh pressure of about 2 million atmospheres to achieve this transition, putting off any thoughts of application to the future.

2) INCOIS

What is a Tsunami?

- A **tsunami** is a **series of waves in a water body** caused by the displacement of a large volume of water, generally in an ocean or a large lake.
- **Earthquakes, volcanic eruptions** and other underwater **explosions** above or below water all have the potential to generate a tsunami.

India's preparedness against tsunami

- India has a tsunami early warning system established at Indian National Centre for Ocean Information System (**INCOIS**).
- India can detect large undersea earthquakes in real-time and provide a tsunami warning in 10 - 20 minutes after the earthquake occurrence.
- For Indian Ocean earthquakes where the network of seismometers is reasonably good, quakes can now be detected in less than five minutes and a tsunami warning issued within 10 minutes if the quake occurs elsewhere in the globe
- **Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO)** accredited Indian Tsunami Early Warning Centre as Tsunami Service Provider (TSP) for **28 Indian Ocean rim countries**, along with Indonesia and Australia in 2011, for issuing regional warnings.

Other focussed areas

- Focus in recent times has been on **enhancing community awareness and**

response through several capacity building activities and biennial Indian Ocean wide tsunami drills.

- Also, piloting of the UNESCO-IOC Tsunami Ready initiative to provide a structured framework to build and measure capacities of coastal communities to respond effectively to tsunamis.
- **India** has become the **first** country in the **Indian Ocean Region** to achieve the honor from the UNESCO-IOC. **Odisha** is the **first state** in India to have such recognised communities.

Indian National Centre for Ocean Information Services (INCOIS)

- **INCOIS** is an autonomous organization of the Government of India, under the **Ministry of Earth Sciences**.
- The major objectives of INCOIS are:
 - To establish **Early Warning System** for **Tsunami** and **Storm Surges**,
 - To undertake, aid, promote, guide and co-ordinate research in the field of ocean information and services including **Satellite Oceanography**,
 - To establish, maintain and manage, hire the systems for **data acquisition**, analysis, **interpretation** and archival for **Ocean** Information and Services,
 - INCOIS other major work has been on identifying the **Potential Fishing Zones (PFZ)** for the fishermen community.

IOC-UNESCO

- The Intergovernmental Oceanographic Commission of UNESCO (**IOC**) is the **United Nations body** responsible for **supporting global ocean science and services**.
- The IOC enables its 150 Member States (including **India**) to work together to **protect** the health of the shared ocean by coordinating programmes in areas such as **ocean observations, tsunami warnings and marine spatial planning**.
- Since it was **established** in **1960**, the IOC has provided a focus for all other United Nations bodies that are working to understand and improve the **management** of our **oceans, coasts and marine ecosystems**.

Why in News?

- Tummala Srinivasa Kumar took charge as the new INCOIS Director.

2) EOS-01 satellite

What's in the news?

- ISRO is set to launch the **earth observation satellite EOS-01**.

About the satellite:

- EOS-01 is intended for applications in **agriculture, forestry and disaster management support**
- **PSLV-C49** rocket from the spaceport of Sriharikota will be used for launching.
- Also nine international customer satellites will also be launched. The customer satellites are being launched under commercial agreement with **NewSpace India Limited (NSIL)**, Department of Space.

Earth Observing satellites

- An **Earth observation satellite** or Earth remote sensing satellite is a satellite used or designed for Earth observation (EO) from orbit, including spy satellites and similar ones intended for non-military uses such as **environmental monitoring, meteorology, cartography and others**.
- Starting with IRS-1A in 1988, ISRO has launched many operational remote sensing satellites. Today, India has one of the largest constellations of remote sensing satellites in operation. Some of the satellites that have been in Sun-synchronous orbit are - RESOURCESAT-1, 2, 2A CARTOSAT-1, 2, 2A, 2B, RISAT-1 and 2, OCEANSAT-2, Megha-Tropiques, SARAL and SCATSAT-1, and some in Geostationary orbit are - INSAT-3D, Kalpana & INSAT 3A, INSAT -3DR. Varieties of instruments have been flown onboard these satellites to provide necessary data in a diversified spatial, spectral and temporal resolutions to cater to different user requirements in the country and for global usage.
- A **geosynchronous** orbit is an orbit around the Earth, where the object orbits once per day. A common kind of **geosynchronous** orbit is called a **geostationary** orbit, where the object orbits above the same part of the Earth at all times.
- A **sun-synchronous** orbit is an orbit around the Earth, where the movement of the **satellite always looks the same**

when viewed from the Sun. A satellite in a sun-synchronous orbit still orbits the Earth, but does so in such a way that over the course of the day, its distance to the Sun will change in a consistent pattern no matter the time of year.

PSLV

- Polar Satellite Launch Vehicle (PSLV) is the third generation launch vehicle of India. It is the **first Indian launch vehicle to be equipped with liquid stages**. PSLV has also been used to launch various satellites into Geosynchronous and Geostationary orbits.
- The vehicle successfully launched two spacecraft – **Chandrayaan-1** in 2008 and **Mars Orbiter Spacecraft** in 2013 – that later traveled to Moon and Mars respectively.
- PSLV has a **four-stage system** comprising a combination of solid and liquid-fuelled rocket stages.
- The **first stage** at the very bottom is **solid fuelled** having six strap-on solid rocket boosters wrapped around it. **Second stage** is **liquid fuelled (Vikas liquid engine)** whereas the **third stage** has a **solid fuelled rocket motor**. At the **fourth stage**, the launcher uses a **liquid propellant** to boost in outer space.
- PSLV has a payload capacity of 1,050 kg for launching into the GeoSynchronous Transfer Orbit and 1,600 kg for the Polar Sun Synchronous Orbit.
- The PSLV is also capable of placing multiple payloads into orbit, thus multi-payload adaptors are used in the payload fairing.

Additional Details

NSIL

- NewSpace India Limited (NSIL) is a **Central Public Sector Enterprise** of the Government of India.
- It was established under the **administrative control of the Department of Space (DOS)**.
- NSIL is the **commercial arm of Indian Space Research Organisation (ISRO)** with the primary responsibility of enabling Indian industries to take up high technology space related activities and is also responsible for promotion and commercial exploitation of the products

and services emanating from the Indian space programme.

3) Body temperature

Why in news

- After trends observed in **studies** in the US and UK, new research published in **Science Advances** has found that **body temperatures are declining** also among a rural indigenous group in Bolivia.

What is the change?

- For several years now, doctors and researchers have known that **98.6°F is not the gold-standard normal body temperature** it was once considered to be.
- The German doctor **Carl Reinhold August Wunderlich**, who in 1851 pioneered the use of the clinical thermometer, took over a million measurements of 25,000 patients, and published his findings in a book in **1868**, in which he **concluded** that the average human body temperature is **98.6°F**.
- In **recent** years, however, different studies have found the human **body temperature averaging** out differently, including at **97.7°, 97.9° and 98.2°F**.

Implications of the study

- **Greater exposure** to infection can lead to **higher inflammation**, which in turn can lead to a **higher body temperature**.
- **Improved hygiene and healthcare** in high-income population groups have led to fewer infections over time and, in turn, to **lower body temperature**.
- Since people have **greater access to treatment**, it may have reduced the duration of infection.
- Also, our **bodies may not have to work as hard** as before in order to regulate internal temperature, because of air-conditioning and winter heating.

4) AI for stroke management

What's in the news?

- Apollo Hospitals and India Medtronic Pvt. Ltd have partnered for integrating AI for advanced stroke management.

About the program

- The **AI software** would provide automated **analysis** in **less than two minutes** as against currently accepted

imaging practices for **diagnosis** of stroke that takes up one hour to complete, enabling faster decision-making in stroke.

- The platform uses AI to **create high quality, advanced images from** non-contrast CT, CT angiography, CT perfusion and MRI diffusion and perfusion **scans**. The stroke team will be able to remotely access the brain scans of stroke patients with AI analysis on mobile app or email.

The need for such a program

- **Stroke** was one of the **leading causes of death and disability in the country**.
- It was the fourth leading cause of death and fifth leading cause of disability.
- The **signs of stroke** are face looking uneven, arm or leg weak/hanging down, slurred speech, sudden loss of balance and loss of vision in one or both eyes.
- The door to treatment time should be less than 60 minutes as management of acute stroke requires re-establishing blood flow to the brain by injecting a thrombolytic agent
- The advantages of **AI-based technology** were **shortest treatment time**, tailored

approach for each patient, accurate assessment in shortest possible time and faster decision-making in stroke.

- Every day, more than 4,500 persons were affected by stroke in India, and **only about 2 or 3% received the right care at the right time**.

Advantages of AI in healthcare

- An advancement and benefit of AI in healthcare that has helped are **smart algorithms that can read that data for clinicians or patients**.
- The **processing of large amounts of data** is another benefit of AI in healthcare and an area where AI is disrupting the medical device world.
- Help with **training or diagnosis** in under-resourced areas.
- AI is being **applied to drug development** by helping scientists to identify promising candidates early on. This means they can focus on developing only those that are the most relevant and they can shave years off development.

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DEFENCE

1) Line of Actual Control (LAC)

What's in the news?

- Defence Minister Rajnath Singh expressed confidence that ongoing talks for a peaceful resolution of the crisis with China will continue.

The crisis so far

- Indian and Chinese troops were engaged in a standoff at **Pangong Tso** in Ladakh in May 2020. **Pangong Tso lies in the path of the Chushul approach**, one of the main approaches that China can use for an offensive into Indian-held territory.
- After the first round of talks in June, 2020, **clashes occurred in Galwan Valley** (Ladakh).
- This is the **first instance of firing on the LAC since 1975** (faceoffs and standoffs keep occurring on the LAC over the years). The Line of Actual Control (LAC) is the demarcation that separates Indian-controlled territory from Chinese-controlled territory. The LAC is **not agreed upon by the two countries, neither delineated on a map or demarcated on the ground**.
- India has moved in **additional divisions, tanks and artillery** across the LAC to match Chinese deployments.

- Citing the “emergent nature of threats”, India has **banned many Chinese apps** like TikTok, Weibo etc
- Also, India’s **trade deficit with China** fell to \$48.66 billion in 2019-20 on account of the decline in imports.
- Recently, after the **2+2 ministerial dialogue** in New Delhi between the foreign and defence ministers of India and the U.S, China made the statement that the development of U.S.-India relations should help maintain regional peace and stability and should not be directed at any other country, indirectly criticizing the presence of the US.

Way Forward

- India and China need to stick to the **2005 protocol and the 2013 Border Defense Cooperation Agreement**.
- Through **Atmanirbhar Bharat Abhiyan**, India should try to replace Chinese products with domestic products.

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ART & CULTURE

1) Hindu Mahasabha

About Hindu Mahasabha (Sarvadeshak Hindu Sabha)

- It started as an organization in **1915** by **Veer Damodar Savarkar, Lala Lajpat Rai, Madan Mohan Malviya**. Later it became a political party in 1933.
- The organisation was formed **to protect the rights of the Hindu** community, **after** the formation of the **All India Muslim League in 1906** and the British India government's creation of separate Muslim electorate under the **Morley-Minto reforms of 1909**.
- The Hindu Mahasabha **did not support** the **Gandhian Indian freedom movement** against British rule in India. However, Mahasabha believed that revolt in British armed forces would give India its freedom from alien rule.
- Under the leadership of Mahatma Gandhi, the Congress led several nationwide campaigns of non-violent civil disobedience. The **Mahasabha officially abstained** from participating in the **Civil Disobedience Movement of 1930**.
- In 1939, the Congress ministries resigned in protest against Viceroy Lord Linlithgow's action of declaring India to be a belligerent in the Second World War without consulting the Indian people. This led to the **Hindu Mahasabha joining hands with the Muslim League** and other parties to form governments, in certain provinces.
- The Hindu Mahasabha openly **opposed** the call for the **Quit India Movement** and boycotted it officially.

Why in the News?

- The Hindu Mahasabha recently opposed the release of a Hindi film on the ground that it hurts religious sentiments.

2) Edneer Math

Advaita Vedanta

- **Advaita Vedānta ("non-duality")** is a school of Hindu philosophy, and is a classic system of spiritual realization in Indian tradition.

- They seek moksha (liberation) through recognizing this illusoriness of the phenomenal world and acquiring vidyā (knowledge).
- Advaita Vedānta traces its roots to the oldest Upanishads. **Adi Shankara** is the most prominent exponent of Advaita Vedānta tradition.

Edneer Math of Kerala

- Edneer Mutt is a Hindu monastic institution in the state of Kerala and it belongs to the **parampara of Sri Thotakacharya**, one of the first four disciples of Sri Adi Shankaracharya and follows the unique **Smartha Bhagawatha tradition of Advaita** Tradition.
- **The four disciples** of Sri Adi Shankaracharya were **Sri Hastamalakacharya** as the Acharya of the **Govardhana Math in the East, Sri Sureshwaracharya** as the Acharya of **Sringeri Sharada Peetham in the South, Sri Padmapadacharya** as the Acharya of the **Dwaraka Math in the West, Sri Totakacharya** as the Acharya of **Jyotir Math** in the North.

Why in the News?

- **Sachidananda Bharati** has been anointed as the pontiff of the Edneer Math of Kerala.

3) Skeletal remains in Kerala temple

China and Kerala

- Four centuries between 1125 (the decline of the Perumals) and 1498 (arrival of Europeans in Kerala), **Kozhikode** flourished as a major seaport for trade. Arabs got goods from the West to exchange with wares that the **Chinese brought from the Far East**. Kerala history has reference to this trade between Kerala and China.
- The prefix of Chinese added to Cheena Pattu (**Chinese silk**), Cheena Chatty (**Chinese Pans**), Cheena Bharani (**Chinese Jars**) **Cheenam Palli** – a **mosque** in Kozhikode, and Cheena Vala (**Chinese net**) used even today is a

reminiscence of Chinese influence in Kerala.

Why in the News?

- Skeleton of elephant, Chinese pots, wooden articles were recently found at Thiruvayamkudy temple in Kerala.

More about the discovery

- The temple authorities have unearthed several objects, including the **skeleton of an elephant, its chain and other wooden articles** from a basement in the temple complex.
- Several wooden articles, **Chinese pots** of different sizes and lamps made of bell

metal too have been recovered from the vault.

- The temple authorities may now seek permission from the **Chief Wildlife Warden to keep these wildlife articles in their possession** after making an inventory declaration under the **Wildlife Protection Act, 1972**.

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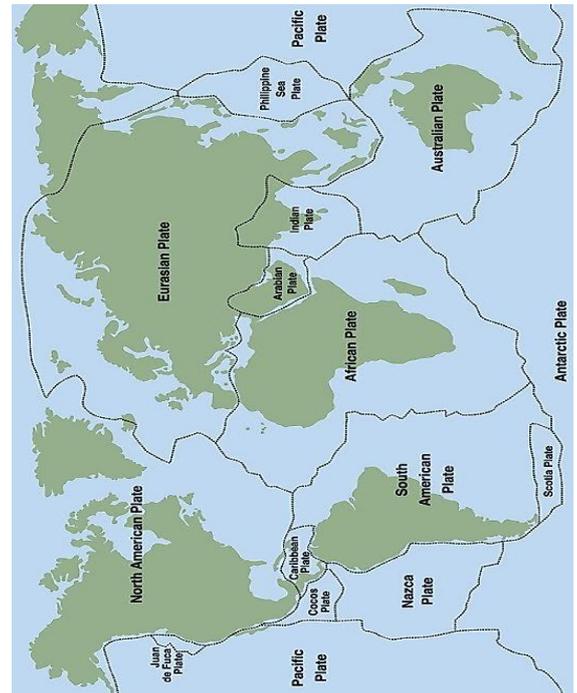
PIB ANALYSIS

1) Newly identified tectonically active zone in Himalayas

What is a tectonic plate?

- A tectonic plate (also called lithospheric plate) is a **massive, irregularly-shaped slab of solid rock**, generally composed of **both continental and oceanic lithosphere**.
- Plates move horizontally over the **asthenosphere** (*the ductile part of the earth just below the lithosphere, including the upper mantle*) as rigid units.
- The lithosphere includes the crust and top mantle with its thickness range varying between 5-100 km in oceanic parts and about 200 km in the continental areas.
- A plate may be referred to as the **continental plate or oceanic plate** depending on which of the two occupy a larger portion of the plate.
- The movement of these crustal plates causes the **formation of various landforms** and is the principal cause of all earth movements.

- **The major plates are as follows :**
- Antarctica and the surrounding oceanic plate
- North American (with western Atlantic floor separated from the South American plate along the Caribbean islands) plate
- South American (with western Atlantic floor separated from the North American plate along the Caribbean islands) plate
- Pacific plate
- India-Australia-New Zealand plate
- Africa with the eastern Atlantic floor plate
- Eurasia and the adjacent oceanic plate.
- **Some important minor plates are listed below:**
- Cocos plate : Between Central America and Pacific plate
- Nazca plate : Between South America and Pacific plate
- Arabian plate : Mostly the Saudi Arabian landmass
- Philippine plate : Between the Asiatic and pacific plate

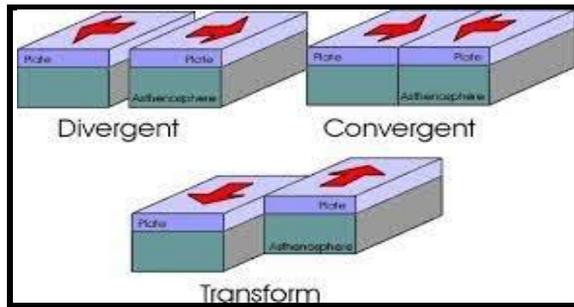


Why in News?

- The suture zone of the Himalayas or the **Indus Suture Zone (ISZ)** in the Ladakh region where **Indian and Asian Plates** are joined has been found to be tectonically active, as against current understanding that it is a locked zone.
- *A suture zone is a linear belt of intense deformation, where distinct terranes, or tectonic units with different plate tectonic, metamorphic, and paleogeographic histories join together.*
- This could have major implications in terms of earthquake study, prediction, understanding the seismic structure of the mountain chains well as its evolution.

Relation between Plate Tectonics and Earthquakes:

- Tectonic plates are constantly shifting as they drift around on the viscous, or slowly flowing, mantle layer below. This non-stop movement causes stress on Earth's crust. When the stresses get too large, it leads to cracks called faults.
- When tectonic plates move, it also causes movements at the **faults**. Thus, the slipping of land along the faultline along **convergent, divergent and transform boundaries cause earthquakes**.



Divergent Boundaries

- Where new crust is generated as the plates pull away from each other. The sites where the plates move away from each other are called spreading sites.

Convergent Boundaries

- Where the crust is destroyed as one plate is pushed under another. The location where sinking of a plate occurs is called a subduction zone. There are three ways in which convergence can occur. These are:
 - between an oceanic and continental plate;
 - between two oceanic plates; and
 - between two continental plates

Transform Boundaries

- Where the crust is neither produced nor destroyed as the plates slide horizontally past each other.

2) Electricity Access & Utility Benchmarking Report

What's in the News?

- NITI Aayog and Ministry of Power in partnership with other organisations have launched the 'Electricity Access in India and Benchmarking Distribution Utilities' report.

About the report

- The report assesses 25 distribution utilities and is based on a primary survey conducted across 10 states.
- The survey represents 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.
- It is aimed at capturing insights from **both the demand** (electricity customers) as well as **supply-side** (electricity distribution utilities), the report seeks to:
- It evaluates 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.
- Also it develops recommendations for enhancing sustainable electricity access.

Key findings of the report:

- 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**.
- 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.

About Niti Aayog

- The National Institution for Transforming India, also called NITI Aayog, was formed via a **resolution of the Union Cabinet on January 1, 2015**.
- NITI Aayog is the **premier policy 'Think Tank' of the Government of India**, providing both **directional and policy inputs**.
- While designing strategic and long term policies and programmes for the Government of India, NITI Aayog also provides relevant technical advice to the Centre and States.

Objectives:

- To foster cooperative federalism through structured support initiatives and mechanisms with the States on a continuous basis, recognizing that strong States make a strong nation.
- To develop mechanisms to formulate credible plans at the village level and

aggregate these progressively at higher levels of government.

- To ensure, in areas that are specifically referred to it, that the interests of national security are incorporated in economic strategy and policy.
- To pay special attention to the sections of our society that may be at risk of not benefitting adequately from economic progress.
- To provide advice and encourage partnerships between key stakeholders and national and international like-minded Think Tanks, as well as educational and policy research institutions.
- To create a knowledge, innovation and entrepreneurial support system through a collaborative community of national and international experts, practitioners and other partners.

Few important reports released by Niti Aayog

- Transformation of Aspirational Districts
- Women Transforming India
- Healthy States, Progressive India Report (World bank, Niti Aayog and Ministry of Health)
- Composite Water Management Index (Niti Aayog, Ministry of Jal Shakti and Ministry Rural Development)
- SDG India Index (Niti Aayog and Ministry of Statistics and Programme Implementation)

3) National Program and Project Management Policy Framework Initiative

Why in News?

- NITI Aayog and Quality Council of India have recently launched the 'National Program and Project Management Policy Framework' (NPMPF).

About the Framework

- The framework aims to **formulate radical reforms in the way large and mega infrastructure projects are managed in India**, with an action plan to:
- Adopt a program and project management approach to infra development.

- Institutionalize and promote the profession of program and project management and build a workforce of such professionals.
- Enhance institutional capacity and capability of professionals.

Significance

- NPMPF will help in realizing the Prime Minister's vision of an Aatmanirbhar Bharat by building a stronger India, which would need good quality infrastructure; would need to reduce costs and waste material, without compromising on the environment and ecology.

About Quality Council India

- The Quality Council of India (QCI) set up in 1997 is an **autonomous body** attached to the **Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry**.
- Its mandate is to establish and operate the **National Accreditation Structure (NAS)** for conformity assessment bodies and providing accreditation in the field of health, education and quality promotion.
- The Chairman of QCI is appointed by the **Prime Minister on recommendation of the industry to the government**.

4) Extension of Norms for Mandatory Packaging in Jute Materials

Why in News?

- The Cabinet Committee on Economic Affairs chaired by the Prime Minister Narendra Modi has approved that **100% of the foodgrains and 20% of the sugar shall be mandatorily packed** in diversified jute bags.

Significance:

- The decision to pack sugar in diversified jute bags will give an impetus to the diversification of the jute industry.
- The approval will benefit farmers and workers located in the Eastern and North Eastern regions of the country particularly in the states of West Bengal, Bihar, Odisha, Assam, Andhra Pradesh, Meghalaya and Tripura.
- The jute industry is predominantly dependent on the Government sector which purchases jute bags of value of

more than Rs. 7,500 crore every year for packing foodgrains.

Government Initiatives provided for the Jute sector

- In order to improve the productivity and quality of raw jute through a carefully designed intervention, called the **Jute ICARE**, the Government has been supporting close to approx. two lakh jute farmers by disseminating improved agronomic practices such as line sowing using seed drills, weed management by using wheel-hoeing and nail-weeders, distribution of quality certified seeds and also providing microbial assisted retting.
- Recently, the Jute Corporation of India has entered into **MoU with National Seeds Corporation** for distribution of 10,000 quintals of certified seeds on commercial basis also.
- The intervention of **Technology up-gradation and distribution of certified seeds** would increase the productivity and quality of jute crops and also increase the income of the farmers.
- **Promotion of Jute GeoTextiles and Agro-Textiles** has been taken up with the State Governments particularly those in the North Eastern region and also with departments such as Ministry of Road Transport and Ministry of Water Resources.

About Jute

- Known as the '**golden fibre**' jute is one of the longest and most used natural fibre for various textile applications.
- Jute is a **rain-fed crop** with little need for fertilizer or pesticides.
- It thrives in tropical lowland areas with humidity of 60% to 90%.
- Retting of Jute is a process in which the tied bundles of jute stalks are immersed in water by which fibres get loosened and separated from the woody stalk.
- Jute fibre is **biodegradable and recyclable** and thus **environmentally friendly**.
- India is the **world's largest producer of raw jute and jute goods**, contributing to over 50% and 40% respectively of global production.
- The cultivation of jute in India is mainly confined to the **eastern region** of the

country. **West Bengal** alone accounts for over 50 percent raw jute production.

- **Climatic and soil Conditions:** Jute crop requires humid climate with temperature fluctuating between **24 degree Celsius and 38 degree Celsius**. Minimum rainfall required for jute cultivation is **1000 mm**. **New grey alluvial soil** of good depth receiving silt from annual floods is most suitable for jute growth. However, jute is grown widely in sandy looms and clay loams.

5) Secure Application for Internet

What's in the news?

- **Indian Army** has developed a simple and secure messaging application named "Secure Application for Internet (SAI)".
- This initiative by the Indian Army can be seen as a part of the 'Atmanirbhar Bharat Abhiyan'.

About SAI

- Secure Application for the Internet will support an end-to-end **secure voice, text and video calling services for Android platforms** over the internet.
- The model of SAI 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** empanelled auditor and Army Cyber Group.

About CERT-In

- CERT-In is a **statutory organisation** of the **Ministry of Electronics and Information Technology** established in 2004.
- It is the nodal agency to deal with cyber security threats and strengthens security-related defence of the Indian Internet domain.

- CERT-In has been designated under Section 70B of Information Technology (Amendment) Act 2008 to serve as the **national agency to perform the following functions in the area of cyber security:**
 1. Collection, analysis and dissemination of information on cyber incidents
 2. Forecast and alerts of cyber security incidents
 3. Emergency measures for handling cyber security incidents
 4. Coordination of cyber incident response activities
 5. Issue guidelines, advisories, vulnerability notes and whitepapers relating to information security practices, procedures, prevention, response and reporting of cyber incidents.
 6. Such other functions relating to cyber security as may be prescribed.

6) Draft Coastal Shipping Bill, 2020

Background:

- As the shipping sector grows and evolves in the country, a need was felt to have a separate legislation on coastal shipping, which considers it an integral part of the transport chain and recognizes the policy priorities of the sector to meet the demands of the Indian shipping industry.

Why in News?

- The Ministry of Shipping has drafted a Coastal Shipping Bill, 2020 in lieu of the Merchant Shipping Act, 1958. The bill is in accordance with the Prime Minister's vision for augmenting people's participation and transparency in the governance.
- The Ministry of Shipping has drafted a Coastal Shipping Bill, 2020 in lieu of part XIV of the Merchant Shipping Act, 1958.

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**.

7) SERB-POWER (Promoting Opportunities for Women in Exploratory Research)

About:

- SERB-POWER is a scheme to **mitigate gender disparity in science and engineering research funding** in various S&T programs in Indian academic institutions and R&D laboratories.
- SERB - POWER Scheme will have two components namely
 1. SERB-POWER Fellowship
 2. SERB- POWER Research Grants.

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.

Salient features of SERB- POWER Research Grants

- This will empower women researchers by funding them under the 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.
- Power Grant will be regulated through terms of reference conforming to SERB-CRG (Science and Engineering Research Board-Core Research Grant) guidelines.

Why in News?

- The **Ministry for Science and Technology** has launched the SERB-POWER (Promoting Opportunities for Women in Exploratory Research) Scheme.
- **Note: Science and Engineering Research Board (SERB)** is a **statutory body** of the Department of Science & Technology.
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News in Depth

AIR NEWS

1) PM SVANidhi

About the scheme

- It was launched on June 1, 2020, by the **Ministry of Housing and Urban Affairs** for **providing affordable Working Capital loans to street vendors** to resume their livelihoods that have been adversely affected due to Covid-19 lockdown.
- Under the Scheme, 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**. The loans would be **without collateral**.
- If the vendor repays the instalments in time or earlier, they will develop his credible credit score that makes him eligible for a higher amount of term loan to 20 thousand rupees and so on.
- 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. 100 per month.
- The scheme targets to benefit over **50 lakh street vendors**. The duration of the scheme is till March 2022.
- **SIDBI** will implement the PM SVANidhi Scheme.
- The lending institutions under the Scheme include Scheduled Commercial Banks, Regional Rural Banks, Small Finance Banks, Cooperative Banks, NBFCs, Microfinance institutions and Self Help Group banks.

Why in News?

- Prime Minister Narendra Modi lauded beneficiaries of the PM Street Vendors Atmanirbhar Nidhi (PM SVANidhi) scheme and said most of the beneficiaries were repaying their loans on time.
- So far, 24.76 lakh applications have been received, of which 12.37 lakh have been sanctioned and over 5 lakh loans have been disbursed, according to the PM SVANidhi portal.

SIDBI

- Small Industries Development Bank of India (SIDBI) set up in 1990 under an Act of Indian Parliament.
- SIDBI acts as the **principal financial institution** for promotion, financing and development of the **Micro, Small and Medium Enterprise (MSME) sector** as well as for coordination of functions of institutions engaged in similar activities.
- The functions of SIDBI include financing small scale industrial units, providing seed capital to startups, providing technical assistance, promoting cleaner production and energy efficiency.
- The **Shares of SIDBI** are held by the Government of India and twenty- nine other institutions / public sector banks / insurance companies owned or controlled by the Central Government.
- SIDBI also maintains the **UdyamiMitra portal** with the objective to help the MSMEs with easy and secure access to financial and non-financial services. This is a one of a kind portal where MSME loan seekers can connect virtually to Lenders and Handholding agencies.

2) Meri Saheli

What's in the news?

- The Indian Railways has started the Meri Saheli initiative **for the safety of women passengers**.

- Each Railway Division has formed a team which visits the lady passengers to ensure they are safe and secured.
- They identify the lady passengers and comfort them, especially those travelling

alone. They are also informed about **helpline number 182** in case of emergency.

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THE HINDU EDITORIALS

1) ASER Survey

What's in the news?

- **NGO Pratham** has released its latest Annual State of Education Report (ASER) survey conducted in September, the sixth month of school closures due to COVID-19 across the country.
- ASER is a **nationwide survey of rural education and learning outcomes** in terms of reading and arithmetic skills that has been conducted by the NGO Pratham for the last 15 years.
- This year, the survey was conducted via phone calls, reaching 52,227 rural households with school age children in 30 States and Union Territories.

Highlights of the survey

Learning hit

Some highlights from the Annual Status of Education Report's September survey:

- 5.3% of rural children aged 6-10 years are not enrolled in school this year, in comparison to just 1.8% in 2018
- Around 20% of rural children did not have textbooks at home by September
- About 70% of rural children did some learning activity. Of these, only 11% had live online classes
- Less than 36% of rural children received some learning materials or activities from the school. Almost 75% of such school interaction was via Whatsapp

Shift toward government schools

- The ASER survey provides a glimpse into the levels of learning loss that students in rural India are suffering, with varying levels of access to technology, school and family resources resulting in a digital divide in education.
- ASER 2020 shows that **5.5 per cent children are not currently enrolled for the 2020-21 school year**, up from 4 per cent in 2018. This difference is the sharpest among the youngest children (ages 6 to 10), possibly because they have not yet secured admission to school.
- Enrolment patterns also show a **slight shift toward government schools**, with private schools seeing a drop in enrolment in all age groups.

Smartphone penetration

- Among enrolled children, **more than 60% live in families with at least one smartphone**. This proportion has

increased enormously in the last two years, from 36.5% to 61.8% among enrolled children.

- Despite the high smartphone penetration, only about one-third of them reported getting some form of learning material from their teachers in the week preceding the survey.

Family support

- Yet, most children (70.2 per cent) said they did some form of learning activity that week through material shared by tutors or family members themselves.
- Almost 75 per cent of children said they received some form of **learning support from family members**, with older siblings playing a key role. ASER recommended that schools find ways to build on this home support going forward.
- This kind of support was evident even among children whose neither parent has studied beyond primary school, though children with more educated parents received more support.

Way forward

- **Plan remedial measures:** The ASER survey provides data that could facilitate intervention by the education system and prompts the Centre and the State governments to plan remedial measures for the future.
- **Expanding availability of textbooks :** Expanding availability of textbooks to all, including those who dropped out or are waiting to be formally admitted, will help parents and siblings aid learning.
- **Bridging digital divide:** Bridging the divide on educational aids, now including smartphones, will enable transmission of learning materials, and personal tutorial sessions.
- **Promote observational learning:** The education system could creatively use opportunities during the current year to broaden learning particularly for lower classes where observational learning creates a strong foundation.
- **Replace traditional methods of learning:** Educational video, which has helped thousands, can advance learning

even beyond the pandemic, using talented teacher-communicators.

- For instance, states such as Tamil Nadu and Kerala have already hosted curriculum-based video lessons on the Internet, after beaming them on television.

2) India's discom stress post COVID-19

What are DisComs?

- DisComs (Distribution Companies) are the **utilities that typically buy power from generators and retail these to consumers.**

Financial issues with DisComs Post COVID-19

COVID-19 aggravated financial stress

- COVID-19 has completely shattered incoming cash flows to utilities.
- There was a multi-month **dip in demand** (electricity demand fell by 16 per cent in the first quarter of the current financial year)
- Lockdown disproportionately **impacted revenues** from so-termed paying customers, commercial and industrial segments.

More loan than stimulus

- The Indian government earmarked ₹1,25,000 crore for DisComs as a part of COVID-19 stimulus package to help discoms clear their obligations towards power generating companies but the **off-take on these loans has been slow** so far.

Why do DisComs not pay on time?

- The continuing deterioration in their position stems from
 - 1) Inadequate and irregular **tariff hikes**,
 - 2) **AT&C** (aggregate technical and commercial) losses not declining to the levels envisaged
 - 3) **Delays in disbursement of subsidy** by state governments.

Challenge of payables to DisComs

- These dues are of three types.
 - 1) Regulators themselves have failed to fix **cost-reflective tariffs**
 - 2) **Delayed payment of subsidies** by State governments.
 - 3) Consumers owed DisComs over ₹1.8 lakh crore in FY 2018-19.

Way forward

- The central government has proposed several **amendments to the Electricity Act 2003** aimed at addressing some of these issues — the suggestions range from **privatisation of discoms** to moving towards **direct benefit transfers for subsidies.**
- While these and other reforms need to be pushed through urgently to ensure an **improvement in the financial position of the discoms**, they need to be supplemented with the imposition of **stiff penalties on states** for failing to usher in the changes needed, or meeting the targets laid out, to effect a turnaround in the sector.
- There needs to be a much **larger liquidity infusion** than has been announced thus far, but it also must go hand-in-hand with credible plans to pay down growing debt.
- **Improving AT&C losses** with a **complete overhaul of the regulation of electricity companies** and their deliverables is needed.

3) Stubble burning- Issues associated and way forward

What is stubble burning?

- Stubble burning is the **process of intentionally setting fire to the straw stubble** that remains after grains, like paddy, wheat, etc., have been harvested, to remove them from the field to sow the next crop.
- This is commonly practised by farmers of **Punjab and Haryana.**

Origin of stubble burning practice

- Before the 1980s, farmers used to till the remaining debris back into the soil after harvesting the crops manually.
- During the late 1970s and early 1980s, which was the **Green Revolution era**, Punjab and Haryana **shifted from their traditional crops** (maize, pearl millet, pulses and oilseeds) to the wheat-paddy cultivation cycle. In Punjab and Haryana, while the paddy crop is usually harvested between the first and last weeks of October, the wheat crop is sown from the first week of November.

- **Shortage of labour, less efficacious combined harvesting technique** and with only **10-15 days between** the rice-harvesting season and the wheat-sowing time, farmers often burn the stubble to quickly eliminate the paddy stubble.

Issues associated with stubble burning

- Lack of knowledge about **effective alternatives** to stubble burning.
- Lack of **affordable mechanisation** to cater the needs of millions of farmers.

Impact on agriculture

Harms microorganisms

- The heat from burning paddy straw which when penetrated into the soil, elevating the temperature and thereby kills the bacterial and fungal populations critical for a fertile soil.

Vulnerability to diseases

- It causes damage to friendly microorganisms and facilitates growth of 'enemy' pests and as a result, crops are more prone to disease.

Loss of essential nutrients

- Stubble burning leads to a loss of significant amounts of nitrogen, phosphorus, potassium and sulfur besides organic carbon resulting in additional fertilizers being used by farmers to replenish the same.

Growth of weeds

- Weeds are more prone to grow in the field cleared by burning the stubble and since growth of weeds affects the health of the principal crop, farmers respond by using chemical weedicides that increase the cost of production and aggravates biomagnification.

Air Pollution

- Crop residue burning releases large amounts of harmful pollutants like carbon dioxide (CO₂), carbon monoxide (CO), oxides of sulphur (SOX), particulate matter and black carbon which directly contribute to environmental pollution.
- As per a TERI (The Energy and Resources Institute) report, in 2019 the air pollution in New Delhi and other parts of north India was 20 times higher than the safe threshold level as prescribed by the World Health Organization.

Adverse effect of laws

- Adverse effect of laws like **Punjab Preservation of Subsoil Water Act,**

2009 which aims at conserving groundwater by mandatorily delaying the transplanting of paddy to beyond June 10, when the most severe phase of evapotranspiration is over. This necessitated farmers resort to stubble burning.

Impact during pandemic

- Stubble burning during a pandemic could worsen the situation by making lungs weaker and people more susceptible to disease and could also impact those recovering from infection.

Government measures to curb stubble burning

- In 2013, stubble burning was banned by the Punjab government.
- In 2015, the National Green Tribunal imposed a ban on stubble burning in Rajasthan, Uttar Pradesh, Haryana and Punjab and directed the government to assist farmers by obtaining equipment like happy seeders and rotavator.
- Stubble burning is an offence under Section 188 of the Indian Penal Code and the Air (Prevention and Control of Pollution) Act of 1981.
- Haryana took numerous steps to curb stubble burning in Punjab and Haryana, including the development of an app to detect and notify authorities about stubble burning committed in a particular field.

Crisis of stubble burning into an opportunity

Timely removal of stubble

- The action plan of Punjab and Haryana appears to focus more on setting up Custom Hiring Centres which will facilitate farmers removing stubble by providing them with machinery such as the happy seeder, rotavator, paddy straw chopper, etc. on rent.
- As per a study by the International Maize and Wheat Improvement Centre, the application of happy seeders can improve agricultural productivity by 10% to 15% while reducing labour costs and allowing the soil to become more fertile.
- **Promote use of crop residue-based biochar briquettes** in local industries, brick kiln and hotel/dhaba as an alternate fuel.

- **Create markets for crop residue-based briquettes** and mandate nearby thermal power plants to undertake co-firing of crop residues with coal.
- From stubble **high-grade organic fertilizers** can be prepared by mixing with cow dung and few natural enzymes.
- For example, **Chhattisgarh model of gauthans** can be replicated wherein a five acre plot held common by each village, all stubble from fields of various farmers are mixed with cow dung and few natural enzymes to produce organic manure.
- Paddy straw can be used as **fodder for cattle** as it also contains the required nutrients.
- Using **straw for electricity generation** is another productive way of generating wealth from residue.
- **Expansion of schemes like the MGNREGA** for harvesting and composting of parali can be considered.
- Paddy straw can be **converted into ethanol**, a renewable fuel which helps India in achieving the target of 20% ethanol blending with petrol by 2030.

Innovative solution

- The Union government is testing an innovative method, the **PUSA Decomposer**, developed at the Indian Agricultural Research Institute, Pusa.
- The PUSA Decomposer is a set of **four tablets made by extracting fungi strains** that help the paddy straw to decompose at a much faster rate than usual, giving farmers the option to shred the straw, spray a solution containing the fungal strains, and mix it with the soil for decomposition.
- If methods such as this become successful, it will be a **new revolution in farming** which has the potential to both **reduce air pollution and increase soil fertility**.
- However in the long term, **shifting the cropping pattern** away from paddy to

maize, cotton or fruits etc., and promoting the practice of conservation of agriculture with **low lignocellulosic crop residues** can be a way forward.

4) Time for a sponge cities mission in India

Context

- The torrential rains in the third week of October in Hyderabad claimed the lives of over 50 people and hundreds of riverbed hutments were flushed away.
- The scale of destruction has been **unprecedented** and this experience is not unique to the city of Hyderabad but something that cities across India have been experiencing in recent years.

The case of Hyderabad- Reasons for urban flood

Unprecedented rainfall

- The rainfall received in 2020 has been the highest for the month of October in a century.

Inability to manage the city's drainage systems

- The floods of October 2020 occurred because we did not discharge the water in time and when it was discharged it was in a sudden, uncontrolled manner.

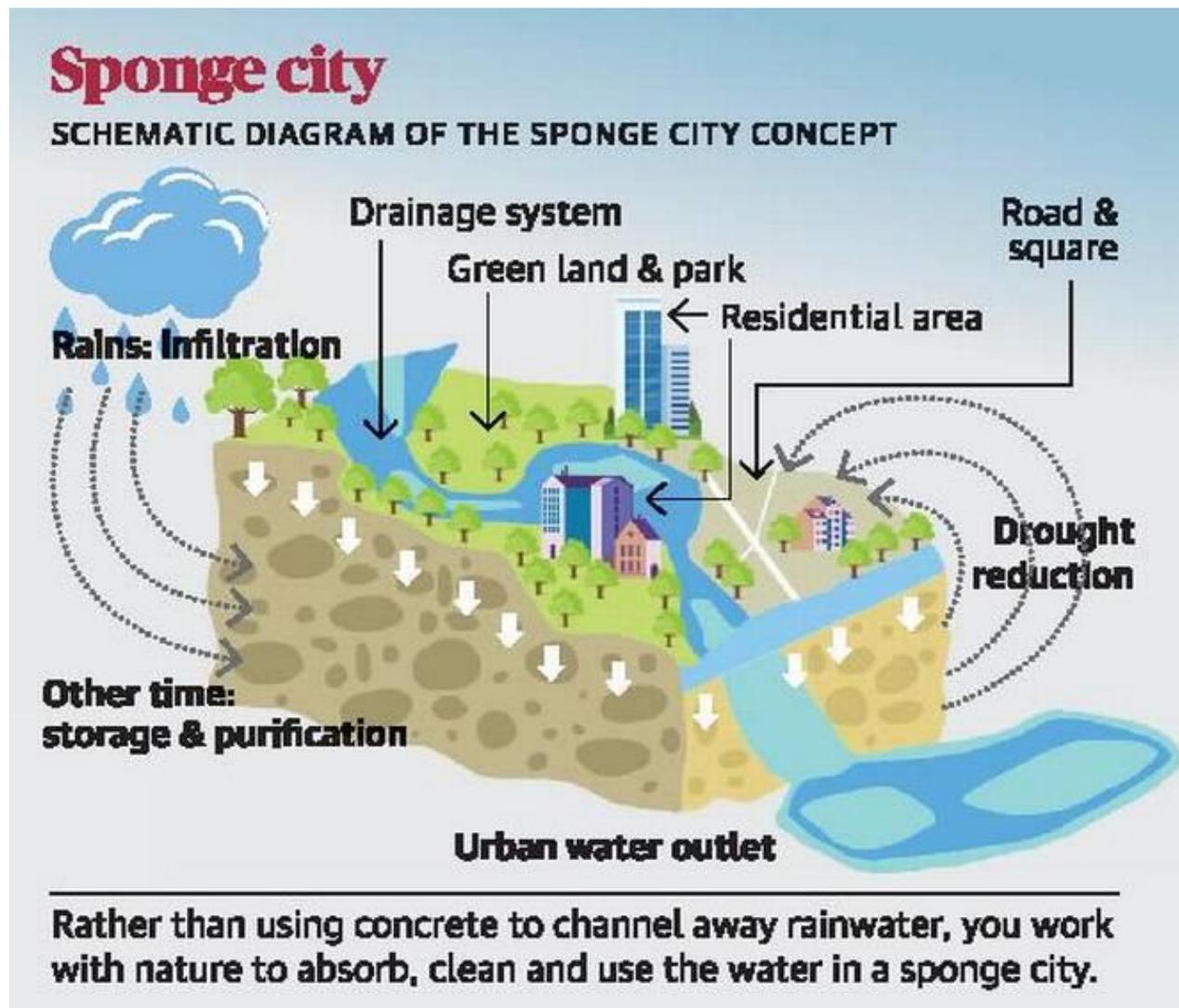
Antiquated infrastructure

- Hyderabad's century-old drainage system (developed in the 1920s) covered only a small part of the core city. In the last 20 years, the city has grown at least four times its original built-up area.
- As the city grew beyond its original limits, not much was done to address the absence of adequate drainage systems.

Incremental land use change

- Neglecting the issues of incremental land use change particularly of those commons which provide us with necessary ecological support — wetlands.

Sponge cities - Making cities permeable



- The most promising idea that **mitigates flood risk** and provides a pathway to **water security** appears to be the idea of “**sponge cities**”.
 - The idea of a sponge city is to make **cities more permeable** so as to hold and use the water which falls upon it.
 - Sponge cities absorb the rain water, which is then naturally filtered by the soil and allowed to reach urban aquifers. This allows for the extraction of water from the ground through urban or peri-urban wells. This water can be treated easily and used for city water supply.
 - In built form, this implies contiguous open green spaces, interconnected waterways, and channels and ponds across neighbourhoods that can naturally detain and filter water.
 - It implies **support for urban ecosystems, bio-diversity** and **newer cultural and recreational opportunities**.
 - These can all be delivered effectively through an urban mission along the lines of the **Atal Mission for Rejuvenation and Urban Transformation (AMRUT), National Heritage City Development and Augmentation Yojana (HRIDAY) and Smart Cities Mission**.
- What should the sponge cities mission address?**
- Wetland policy**
- In most of our lakes, the shallow ends which are best characterised as wetlands often lie beyond the full tank level, have disappeared.
 - Regardless of ownership, land use on even this small scale needs to be **regulated by development control**.
- Watershed management and emergency drainage plan**

- *A watershed is an area of land that drains or “sheds” water into a specific waterbody.*
- Watershed management and emergency drainage plan should be clearly enunciated in policy and law.
- Urban watersheds are **micro ecological drainage systems**, shaped by contours of terrain.
- **Detailed documentation** of these must be held by agencies which are not bound by municipal jurisdictions; instead, we need to consider natural boundaries such as watersheds instead of governance boundaries like electoral wards for shaping a drainage plan.
- The Metropolitan Development Authorities, National Disaster Management Authority, State revenue and irrigation departments along with municipal corporations should be involved in such work together.

Ban against terrain alteration

- Lasting **irreversible damage** has been done to the city by builders, property owners, and public agencies by **flattening terrain and altering drainage routes**.
- Thus terrain alteration needs to be **strictly regulated** and a ban on any further alteration of terrain needs to be introduced.

Change in nature of material used

- Our cities are becoming increasingly impervious to water, not just because of increasing built up but also because of the **nature of materials used** (hard, non-porous construction material that makes the soil impervious).
- To improve the city's capacity to absorb water, new **porous materials and technologies** must be encouraged or mandated across scales which not only **reduce run-off** and the load on infrastructure, but also help **keep water in the city for later use**.
- Examples of these technologies are **bioswales and retention systems**, permeable material for roads and pavement, drainage systems which allow storm water to trickle into the ground, **green roofs** and harvesting systems in buildings.

- We need to urgently **rebuild our cities** such that they have the **sponginess to absorb** and release water without causing so much misery and so much damage to the most vulnerable of our citizens.

5) India's outreach to Myanmar

Context

- The recent visit of India's Foreign Secretary and Chief of the Army Staff to Myanmar reflected **India's multidimensional interests** in the country and the **deepening of ties** between Delhi and Naypyidaw.

Significance of the visit

- The visit underscored two lines of thinking that drive India's Myanmar policy:
- **Engagement with key political actors and balancing neighbours.**
- For Myanmar, the visit would be viewed as India's support for its efforts in **strengthening democratisation.**

Non-interference in internal politics

Support democratisation

- The political logic that has shaped India's Myanmar policy since the 1990s has been to **support democratisation** driven from within the country.
- This has allowed Delhi to **engage with the military** that played a key role in Myanmar's political transition and is still an important political actor.
- It has also enabled Delhi to **work with the party in power.**

Geopolitical dimension

- India is cognisant of the **geopolitical dimension** of Myanmar's democratisation that it would create **challenges for Naypyidaw** and limit its ties with the West.
- India and a few Asian countries have engaged Myanmar keeping in mind the **need to reintegrate it** with the region and world.
- By engaging Myanmar, Delhi provides **alternative options** to Naypyidaw.
- This driver in India's Myanmar policy has perhaps gained greater salience in the rapidly changing regional geopolitics.

Recent initiatives

- Delhi is taking steps to leverage its political, diplomatic, and security ties with Myanmar.

Diplomatic ties

- The inauguration of the **liaison office of the Embassy of India** in Naypyidaw.
- Though it may seem a routine diplomatic activity, establishing a permanent presence in the capital where only a few countries have set up such offices does matter.
- Interestingly, China was the first country to establish a liaison office in Naypyidaw in 2017.

Energy security

- India has also proposed to build a **petroleum refinery** in Myanmar that would involve an investment of \$6 billion.
- This is another indication of Myanmar's growing significance in India's strategic calculus, particularly in energy security.
- **Development of border areas**
- The joint visit reiterated the **mutual commitment** not to allow respective territories to be used for activities hostile to each other.
- Both Delhi and Naypyidaw have been **collaborating in the development of border areas** with the understanding that it is the best guarantee to secure their borders.

Balancing act

- The balancing act between **Bangladesh and Myanmar** remains one of the keys to India's overall approach to the Rohingya issue.
- By positioning as playing an active role in facilitating the return of Rohingya refugees to Myanmar, India has made it clear that it **supports Myanmar's efforts** and also understands Bangladesh's burden.

Conclusion

- For India, Myanmar is **key in linking South Asia to Southeast Asia** and the eastern periphery becomes the focal point for New Delhi's regional outreach.
- The aforementioned initiatives could be the beginning of change on the ground by establishing India's presence in sectors where it ought to be more pronounced.

6) Deepfakes

What are Deepfakes?

- Deepfakes are synthetic media in which a person in an existing image or video is replaced with someone else's likeness. While the act of faking content is not new, deepfakes leverage powerful techniques from machine learning and artificial intelligence to manipulate or generate visual and audio content with a high potential to deceive.
- Deepfakes have garnered widespread attention for their uses in celebrity pornographic videos, revenge porn, fake news, hoaxes, and financial fraud.
- Deepfakes, hyper-realistic digital falsification, can inflict damage to individuals, institutions, businesses and democracy. They make it possible to fabricate media — swap faces, lip-syncing, and puppeteer — mostly without consent and bring threat to psychology, security, political stability, and business disruption.

Why in News?

- Recently the government banned various sites and groups that shared pornographic videos of women that were made using deepfakes.

Need for protecting the dignity of women

- The very first use case of malicious use of a deepfake was seen in pornography, inflicting emotional, reputational, and in some cases, violence towards the individual.
- Pornographic deepfakes can threaten, intimidate, and inflict psychological harm and reduce women to sexual objects. Deepfake pornography exclusively targets women.

Other issues

- Deepfakes of a person denigrating a religious section can cause riots and, along with property damage, may also cause life and livelihood losses. A deepfake could act as a powerful tool by a nation-state to undermine public safety and create uncertainty and chaos in the target country.
- A deepfake can also aid in altering the democratic discourse and undermine trust in institutions and impair diplomacy. False information about institutions, public policy, and politicians powered by

a deepfake can be exploited to spin the story and manipulate belief.

- Voters can be confused and elections can be disrupted. A high-quality deepfake can inject compelling false information that can cast a shadow of illegitimacy over the voting process and election results.
- Another concern is a liar's dividend; an undesirable truth is dismissed as deepfake or fake news. Leaders may weaponise deepfakes and use fake news and an alternative-facts narrative to replace an actual piece of media and truth.

Way Forward

- We need a multi-stakeholder and multi-modal approach to defend the truth and secure freedom of expression.
- Collaborative actions and collective techniques across legislative regulations, platform policies, technology intervention, and media literacy can provide effective and ethical countermeasures to mitigate the threat of malicious deepfakes.
- Media literacy for consumers and journalists is the most effective tool to combat disinformation and deepfakes.
- Meaningful regulations with a collaborative discussion with the technology industry, civil society, and policymakers can facilitate disincentivizing the creation and distribution of malicious deepfakes.
- Citizens and government machinery should also need easy-to-use and

accessible technology solutions to detect deepfakes, authenticate media, and amplify authoritative sources.

Negative Impacts of AI

- **Artificial intelligence (AI)** refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions.
- **AI Bias-** Since AI algorithms are built by humans, they can have built-in bias by those who either intentionally or inadvertently introduce them into the algorithm. If AI algorithms are built with a bias or the data in the training sets they are given to learn from is biased, they will produce results that are biased.
- **Global Regulations-** While our world is a much smaller place than ever before because of technology, this also means that AI technology that requires new laws and regulations will need to be determined among various governments to allow safe and effective global interactions.
- **AI Terrorism-** Similarly, there may be new AI-enabled form of terrorism to deal with: From the expansion of autonomous drones and the introduction of robotic swarms to remote attacks or the delivery of disease through nanorobots.
- **Accelerated Hacking**
- **Loss of Certain Jobs**

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INDIAN EXPRESS EXPLAINED

1) Panel for New Delhi's air: role, powers, what's new

Why in the news?

- Due to year on year decrease in air quality of Delhi and NCR region, the central government has come up with an **ordinance to establish a statutory body**. The provisions of the ordinance shall apply to the National Capital Region and the adjoining areas concerning the air pollution in the National Capital Region.

Commission for Air Quality Management in National Capital Region and Adjoining Areas Ordinance, 2020

- The "adjoining areas" means the areas in the States of **Haryana, Punjab, Rajasthan and Uttar Pradesh**, adjoining the National Capital Territory of Delhi and the National Capital Region, where any source of pollution is located, causing adverse impact air quality in the National Capital Region.

The Commission shall consist of the following Members

- a) A full-time Chairperson who is or has been Secretary to the Government of India or Chief Secretary to the Government of a State.
- b) A representative of the Secretary to the Government of India in the **Ministry Of Environment, Forest and Climate Change**, who shall be an officer below the rank of Joint Secretary, ex officio;
- c) Five ex-officio who are either Chief Secretaries, or Secretaries in-charge of the department dealing with environment protection in the States of Delhi, Punjab, Haryana, Rajasthan and Pradesh;
- d) Two full-time members who are or have been Joint Secretaries to the Government of India;
- e) Three full-time independent technical Members to be appointed from amongst persons having specific scientific knowledge and experience in matters relating to air pollution;
- f) Technical member from the Central Pollution Control ex officio;

- g) One technical member to be nominated by the **Indian Space Research Organisation**, ex officio;

- h) Three members from non-Governmental organisations having experience in matters concerning combating of air pollution

- i) One representative of the National Institution for Transforming India, not below the rank of Joint Secretary or Advisor, ex officio.

- According to the ordinance Commission shall have at least the following **three sub-committees**:

1. Sub-Committee on Monitoring and Identification
2. Sub-Committee on Safeguarding and Enforcement
3. Sub-Committee on Research and Development

- The full-time Chairperson and full-time Members, other than ex officio Members, Of the Commission shall be **appointed by the Central Government** through a **selection committee** consisting of :

- Minister in-charge of Ministry of Environment, Forest and Climate Change in the Government Of India - **Chairperson**;
- Minister in-charge of the Ministry of Commerce and Industry in Government Of India — member;
- Minister in-charge Of the Ministry Of Road Transport and Highways in the Government of India - member;
- Minister in-charge of the Ministry of Science and in the Government Of India— member,
- Cabinet Secretary - member

Powers and Functions of the Commission are:

- Shall issue directions and entertain complaints for the purpose of protecting and improving the quality of the air in the National Capital Region and Adjoining Areas and shall also have the duty to take all such measures for protecting and improving the air quality.
- Commission can take measures to abate air pollution and to regulate or prohibit

activities that are likely to cause or increase pollution in NCR and adjoining areas.

- Commission or any officer authorised by it shall for the purpose of analysis have power to **take samples of air from any factory, premises or other place** in such manner as may be prescribed.
- In regard to discharge of functions and exercising of its authority, the Commission and the sub-committees mentioned above will be **bound by the directions and orders of the Central Government.**
- Commission can take up **matters suo motu or on the basis of complaints** made by any individual, representative body or organisation functioning in the field of environment.
- Commission shall provide the mechanism and the means to implement in the National Capital Region and adjoining areas
- It can provide an effective framework and platform in the National Capital Region and Adjoining Areas.
- In case the directions issued by a state and the Commission clash, **the decision of the Commission will be implemented.**
- **Only National Green Tribunal**, and not civil courts, is authorised to hear cases where the commission is involved

What is the difference between EPCA and ordinance established commission?

Environment Pollution (Prevention and Control) Authority (EPCA)	Commission of Air Quality Management in National Capital Region and Adjoining Areas
<ul style="list-style-type: none"> ▪ Not backed by law but drew legitimacy from the Supreme Court. ▪ (Came up as part of 	<ul style="list-style-type: none"> ▪ Backed by Ordinance.

the judgment in M C Mehta vs Union of India (1988)	
<ul style="list-style-type: none"> ▪ It did have the authority to issue fines or directions and guidelines to the governments in other states. 	<ul style="list-style-type: none"> ▪ Powers of fine may lie with the commission.
<ul style="list-style-type: none"> ▪ No state representatives, just two permanent members. 	<ul style="list-style-type: none"> ▪ Will have representation from the state.

What are the benefits of forming the committee?

- By forming this new commission, the government has taken the issue of air pollution out of the purview of the judiciary.
- It will allow **streamline participation** from states and experts.

Issue

- The committee consists more of central government representatives than the state government one, hence the political differences may lead to unsuccessfulness of the aim concerned.

2) How to read the Index of 8 Core Industries

What is in the news?

- The Office of Economic Advisor released the Index of 8 core industries of April to September 2020.

What is the Index of eight core industries?

- It is an index of the eight most **fundamental industrial sectors** of the Indian economy and it **maps the volume of production** in these industries.
- The index **gives different weights** to each of these sectors to arrive at a final figure.
-

Table 1.1: Composition of Eight Core industries for series at base year 2011-12

SI No	Industry	Unit	Item (Weights in IIP 2011-12 corresponding to these items have been considered)	Source Agency
1	Coal	Million Tonnes	Coal Raw Coal Middling Washed Coal	M/o Coal Controller
2	Natural Gas	Million Cubic Meter	Natural Gas (UT)	M/o Petroleum & Natural Gas
3	Crude Oil	Thousand Tonnes	Petroleum (Crude)	M/o Petroleum & Natural Gas
4	Refinery Products#	Thousand Tonnes	Bitumen Diesel Aviation Turbine Fuel (ATF) Furnace oil Liquefied Petroleum Gas (LPG) Kerosene Naphtha Petrol/motor spirit PET coke	M/o Petroleum & Natural Gas
5	Fertilizers S	TMT	Urea NPK fertilizers Diammonium Phosphate (DAP) Superphosphate* Ammonia Sulphate (A/S) Calcium Ammonium Nitrate (CAN)	Department of Fertilizers
6	Steel	Thousand Tonnes	Bars and Rods of Mild Steel Bars and Rods of Alloy and Stainless Steel CR Coils & Sheets HR coils and sheets of mild steel HR Plates of mild steel Pipes and tubes of Steel Rail and rail materials Steel Structural (including angles, shapes, section, etc.) Flat products of Alloy Steel Flat products of Stainless Steel Galvanised products of Steel (including colour coated, tin plates, TMBP and Tin free steel)	Joint Plant Committee
7	Cement	Thousand Tonnes	Cement- all types	DIPP
8	Electricity	Million Kwh	Electricity	Central Electricity Authority

*: Reported as Single Super Phosphate

#: For consideration of weight, these 9 items of IIP basket is mentioned, but ICI takes into the account the entire basket of refinery sector.

S: The fertilizer industry, includes, A/S and CAN in addition to the other 4 items which are present in the IIP basket. For the weight, only 4 items of IIP viz. Urea, NPK fertilizers, DAP and Superphosphate are considered.

- Presently, the **Refinery Products** have the largest weight while **Fertilizer** has the lowest weight.
- The Index is compiled and released by the **Office of the Economic Adviser (OEA)**, Department for Promotion of Industry and Internal Trade (DPIIT), **Ministry of Commerce & Industry**.
- These 8 industries are vital for the functioning of the broader economy, mapping their health provides a fundamental understanding of the state of the economy.

What does the latest index tell about the Indian Economy?

- When compared to September 2019, the index has **contracted by 0.8 per cent in September 2020**.
- In terms of cumulative growth in the first half of the current financial year — that is, between April 2020 to September 2020 — this index **contracted by 14.9 per cent**.
- While the ICI in September contracted but the rate of contraction was less than 1 per cent — which is far less than the rate of contraction in any of the past 6 months.
- In other words, the September data shows **promise of an economy that may be extricating itself out of the Covid-induced downturn**.



3) Water on the Moon: a discovery, an estimate, and why it matters

Earth's Moon

- The Moon is Earth's only natural satellite and the fifth largest moon in the solar system.
- The Moon's presence helps stabilize our planet's wobble (movement side to side), which helps stabilize our climate.
- The Moon's distance from Earth is about **240,000 miles (385,000km)**.
- The Moon has a very thin atmosphere called an exosphere. It is not breathable.

- The Moon's entire surface is cratered and pitted from impacts.
- The Earth and Moon are **tidally-locked**. Their rotations are so in sync we only see one side of the Moon all the time. Human's didn't see the lunar far side until a Soviet spacecraft flew past in 1959.
- So the moon has two sides to it, one the **sunlit surface** and other the **dark surface**.

SOFIA telescope



- Stratospheric Observatory for Infrared Astronomy, (SOFIA) is a Boeing 747SP aircraft modified to carry a 2.7-meter (106-inch) reflecting telescope.
- It flies at around 45,000 ft to put it above 99 percent of Earth's infrared-blocking atmosphere, allowing astronomers to study the solar system and beyond in ways that are not possible with ground-based telescopes.
- It is designed to observe the **infrared** universe.

What is in the news?

- In the *Nature Astronomy*, two of the reports predicted that there are potentially huge implications for sustaining humans on the Moon in the future. One study reports the **detection of water on the Moon's sunlit surface for the first time**. The other estimates that the Moon's dark, shadowy regions, which potentially contain ice, are more widespread.

Why is the discovery of water important?

- Water is vital for human establishments. Water is not only important for human

sustenance but also to generate rocket fuel.

- Research organisations are moving towards sustainable human presence on the moon.
- NASA's **Artemis programme** plans to send the first woman and the next man to the Moon in 2024. If we could get access to the moon's water we can reduce the transport of water from earth to the moon.

How water could have formed on the moon?

- Space rocks carrying small amounts of water could have bombarded the Moon.
- Or the Sun's solar wind could have carried hydrogen, which then reacted with minerals in the lunar soil to create hydroxyl, which later transformed into water.

Chronology

- It was **Chandrayan I of ISRO** which first detected the water molecules on the moon. But it was not confirmed whether it was H₂O molecules or hydroxyl (OH) molecules.
- Recently, the SOFIA telescope with its latest technology confirmed the H₂O molecules in the brighter side.
- Scientists were amazed how the water molecules survive the sunlight and lack of thick atmosphere on the moon. It has been predicted that water might have got trapped into tiny bead-like structures that were created in the soil by impacts from space rocks. Or water might have got hidden in lunar soil.

Way forward

- NASA's **Volatiles Investigating Polar Exploration Rover (VIPER)** will carry out a mission to create the first water resource maps of the Moon.
- SOFIA is about to look for water in additional sunlit locations to learn more about how the water is produced, stored, and moved across the Moon.

For doubts and queries email us at: doubts@officerspulse.com

References

POLITY:

- <https://www.thehindu.com/news/national/other-states/caa-to-be-implemented-soon-says-nadda/article32893606.ece>
- <https://www.thehindu.com/news/national/the-hindu-explains-what-can-cji-bobde-do-about-charges-levelled-against-judges-by-the-andhra-pradesh-chief-minister/article32883894.ece>
- <https://indianexpress.com/article/explained/election-funding-poll-funding-election-commission-bjp-on-election-expenditure-congress-on-election-funding-election-expenditure-election-campaign-election-campaign-expenditure-bjp-election-exp/>
- <https://www.thehindu.com/news/national/govt-enhances-expenditure-limit-of-candidates-facing-lok-sabha-assembly-elections/article32898293.ece>

Environment

- <https://www.thehindu.com/sci-tech/energy-and-environment/study-predicts-massive-habitat-decline-for-the-himalayan-brown-bear-by-2050-due-to-climate-change/article32935974.ece#:~:text=The%20Himalayan%20brown%20bear%20is,in%20the%20highlands%20of%20Himalayas.&text=The%20study%20carried%20out%20in,habitat%20by%20the%20year%202050.>
- <https://round.glass/sustain/species/rocky-road-change-air-himalayan-brown-bear/>
- <http://www.bearconservation.org.uk/himalayan-brown-bear/>
- <http://www.indiaenvironmentportal.org.in/files/file/Permissible%20Level%20for%20Pollutants.pdf>
- <https://indianexpress.com/article/india/dashboard-to-monitor-air-quality-of-indian-cities-6907849/>
- <http://www.utrenvis.nic.in/data/namp.pdf>
- <https://www.britannica.com/place/Yamuna-River>
- <https://www.wqa.org/learn-about-water/common-contaminants/ammonia>
- [https://www.epa.gov/wqc/aquatic-life-criteria-](https://www.epa.gov/wqc/aquatic-life-criteria-ammonia#:~:text=When%20ammonia%20is%20present%20in,ammonia%20toxicity%20to%20aquatic%20animals.)

[ammonia#:~:text=When%20ammonia%20is%20present%20in,ammonia%20toxicity%20to%20aquatic%20animals.](https://www.epa.gov/wqc/aquatic-life-criteria-ammonia#:~:text=When%20ammonia%20is%20present%20in,ammonia%20toxicity%20to%20aquatic%20animals.)

Economy

- <https://www.thehindu.com/business/uk-to-partner-for-developing-gift-city-funding-infra-pipeline/article32966539.ece>
- <https://www.livemint.com/Opinion/svjUfdqWwbbVzRjFNkUK/Making-laws-with-sunset-clauses.html>
- <https://www.thehindu.com/business/Industry/govt-to-provide-production-linked-incentives-to-more-sectors-says-niti-aayog/article32982855.ece>

IR

- <https://www.thehindu.com/sci-tech/science/indias-potential-participation-in-covax-advance-market-commitment-is-under-way/article32992026.ece>
- <https://www.thehindu.com/news/national/india-us-22-dialogue-rajnath-singh-raises-chinas-action-in-ladakh/article32955117.ece>
- <https://www.thehindu.com/business/op/ec-hopeful-fresh-lockdowns-will-not-dent-energy-demand/article32947264.ece>

S&T

- <https://www.thehindu.com/sci-tech/science/room-temperature-superconductivity-possible-but-under-severe-pressure/article32937247.ece>
- <https://www.thehindu.com/news/cities/Hyderabad/india-much-safer-against-tsunami-threat-in-cois-director/article32947534.ece>
- <https://www.thehindu.com/sci-tech/science/isro-to-launch-earth-observation-satellite-eos-01-on-november-7/article32965548.ece>
- <https://indianexpress.com/article/explained/explained-98-6f-vs-new-normal-why-are-our-body-temperatures-declining-over-time-6910259/>
- <https://www.thehindu.com/news/cities/chennai/apollo-group-to-adopt-ai-for-treating-stroke-patients/article32977089.ece>

Editorials

- <https://indianexpress.com/article/education/coronavirus-impact-aser-survey-in-covid-year-more-kids-in-govt-schools-many-not-enrolled-6907947/>
- <https://www.thehindu.com/opinion/editorial/gaps-in-learning-the-hindu-editorial-on-rural-students-and-the-pandemic/article32975943.ece>
- <https://www.thehindu.com/news/national/coronavirus-20-of-rural-school-children-had-no-textbooks-due-to-covid-19-impact-finds-aser-survey/article32966299.ece>
- <https://www.thehindu.com/opinion/lead/indias-discom-stress-is-more-than-the-sum-of-its-past/article32957608.ece>
- <https://indianexpress.com/article/explained/explained-why-the-govt-had-to-inject-money-into-the-power-sector-6414547/>
- <https://indianexpress.com/article/opinion/editorials/power-sector-demand-covid-19-uday-6517073/>
- <https://www.thehindu.com/todays-paper/tp-opinion/less-pollution-more-soil-fertility/article32977233.ece>
- <https://www.thehindu.com/opinion/lead/time-for-a-sponge-cities-mission-in-india/article32985979.ece#:~:text=The%20idea%20of%20a%20sponge,allowed%20to%20reach%20urban%20aquifers.>
- <https://www.thehindu.com/todays-paper/tp-opinion/indias-outreach-to-myanmar/article32958917.ece>
- <https://www.thehindu.com/opinion/lead/countering-deepfakes-the-most-serious-ai-threat/article32966578.ece>

PIB

- 1) <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1665630>
- 2) <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1665625>
- <https://www.csir.res.in/about-us/vision-and-mission>
- 3) <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1665683>
- 4) <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1665830>

- <https://www.thehindu.com/news/national/australia-to-join-malabar-naval-exercise-next-month/article32892277.ece>
- 5) <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1665849>
- <https://vikaspedia.in/agriculture/agri-credit/revised-kisan-credit-card-scheme>
- 6) <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1667099>
- 7) <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1667118>
- 8) <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1667117>
- 10) <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1666435>

ART and CULTURE

- <https://www.thehindu.com/news/national/tamil-nadu/vck-calls-for-state-wide-protest-demanding-ban-on-manusmriti/article32933356.ece>
- <https://www.thehindu.com/news/national/other-states/malik-praises-sir-syeds-vision-of-a-nation/article32884036.ece>
- <https://www.thehindu.com/news/national/kerala/allow-overnight-stay-at-nilakkal-says-hc/article32901557.ece>
- <https://www.thehindu.com/news/national/national-museums-miniature-paintings-on-google-arts-culture-app/article32923226.ece>

Defence

- <https://www.thehindu.com/news/national/defence-minister-lauds-armys-andling-of-current-security-environment/article32962330.ece>

AIR

- <http://newsonair.com/News?title=Railways-launches-%e2%80%98Meri-Saheli%e2%80%99-initiatives-for-safety-of-women-passengers&id=403347>
- <https://www.thehindu.com/news/national/modi-interacts-with-street-vendors-benefitted-from-pm-svanidhi-scheme/article32951002.ece>

Indian Express

- <https://www.sconline.com/blog/wp-content/uploads/2020/10/222804.pdf>

- <https://indianexpress.com/article/explained/delhi-air-pollution-panel-role-powers-6909139/>
- <https://indianexpress.com/article/explained/explained-how-to-read-the-index-of-eight-core-sector-industries-6910293/>
- [http://www.arthapedia.in/index.php%3Ftitle%3DIndex of Eight Core Industries](http://www.arthapedia.in/index.php%3Ftitle%3DIndex%20of%20Eight%20Core%20Industries)
- <https://solarsystem.nasa.gov/moons/earth-moon/overview/#:~:text=Our%20moon%20is%20the%20fifth,planets%20in%20our%20solar%20system.&text=NASA%20currently%20has%20three%20robotic, astronauts%20back%20to%20the%20Moon>
- https://www.nasa.gov/mission_pages/SOFIA/overview/index.html
- <https://indianexpress.com/article/explained/nasa-discovery-moon-water-explained-6897526/>