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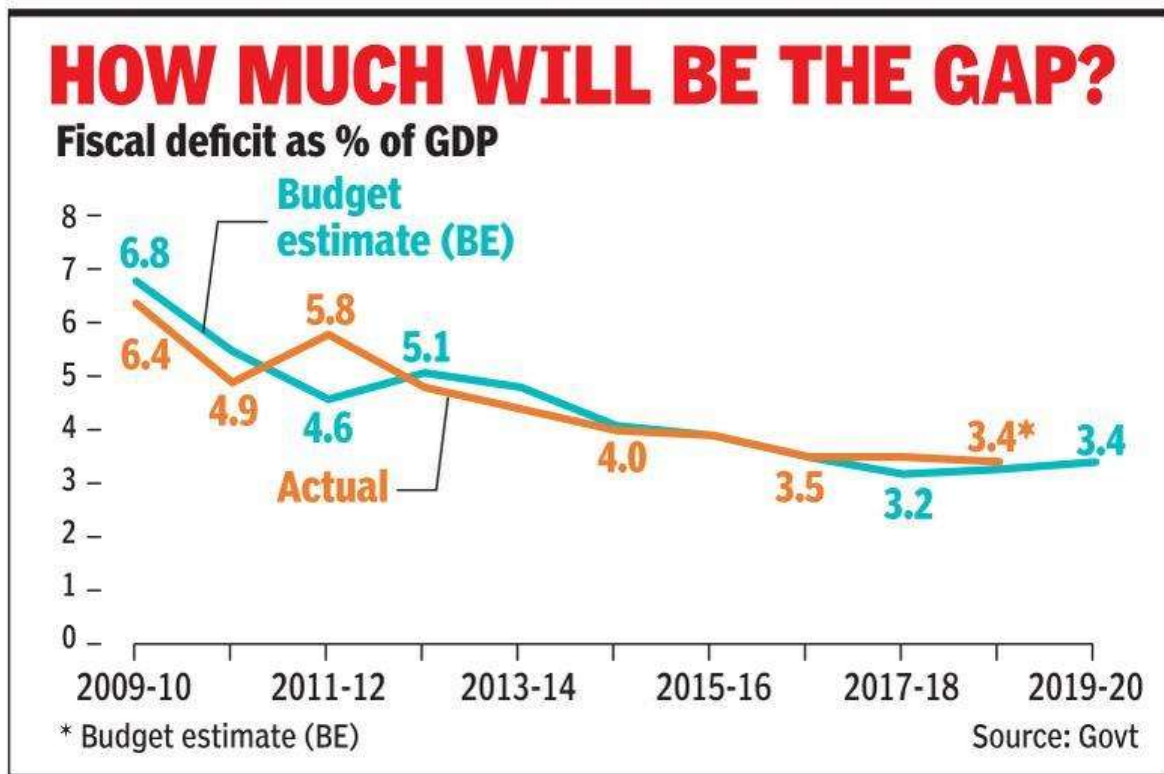
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Success is born of action...

Topic 1:FISCAL DEFICIT

Importance for Prelims: Economics



India's fiscal deficit shot up to 135.1% of the Budget target of nearly ₹8 lakh crore for 2020-21, in the 8 months from April to November 2020, as per data released by the Controller General of Accounts.

Fiscal Deficit

- The government describes fiscal deficit of India as “the excess of total disbursements from the Consolidated Fund of India, excluding repayment of the debt, over total receipts into the Fund (excluding the debt receipts) during a financial year”.
- It is calculated as a percentage of Gross Domestic Product (GDP), or simply as total money spent in excess of income.
- **Fiscal Deficit = Total expenditure of the government** (capital and revenue expenditure) – **Total income of the government** (Revenue

receipts + recovery of loans + other receipts).

Expenditure component:

- The government in its Budget allocates funds for several works, including payments of salaries, pensions, etc. (revenue expenditure) and creation of assets such as infrastructure, development, etc. (capital expenditure).

Income component:

- The income component is made of two variables, revenue generated from taxes levied by the Centre and the income generated from non-tax variables.
- The taxable income consists of the amount generated from corporation tax, income tax, Customs duties, excise duties, GST, among others.
- Meanwhile, the non-taxable income comes from external grants, interest receipts, dividends and profits, receipts from Union Territories, among others.
- It is different from revenue deficit which is only related to revenue expenditure and revenue receipts of the government.
- The government meets the fiscal deficit by borrowing money. In a way, the total borrowing requirements of the government in a financial year is equal to the fiscal deficit in that year.
- A high fiscal deficit can also be good for the economy if the money spent goes into the creation of productive assets like highways, roads, ports and airports that boost economic growth and result in job creation.
- The Fiscal Responsibility and Budget Management Act, 2003 provides that the Centre should take appropriate measures to limit the fiscal deficit upto 3% of the GDP by 31st March, 2021.
- The NK Singh committee (set up in 2016) recommended that the government should target a fiscal deficit of 3% of the GDP in years up to March 31, 2020 cut it to 2.8% in 2020-21 and to 2.5% by 2023.

Additional Information

Revenue deficit :

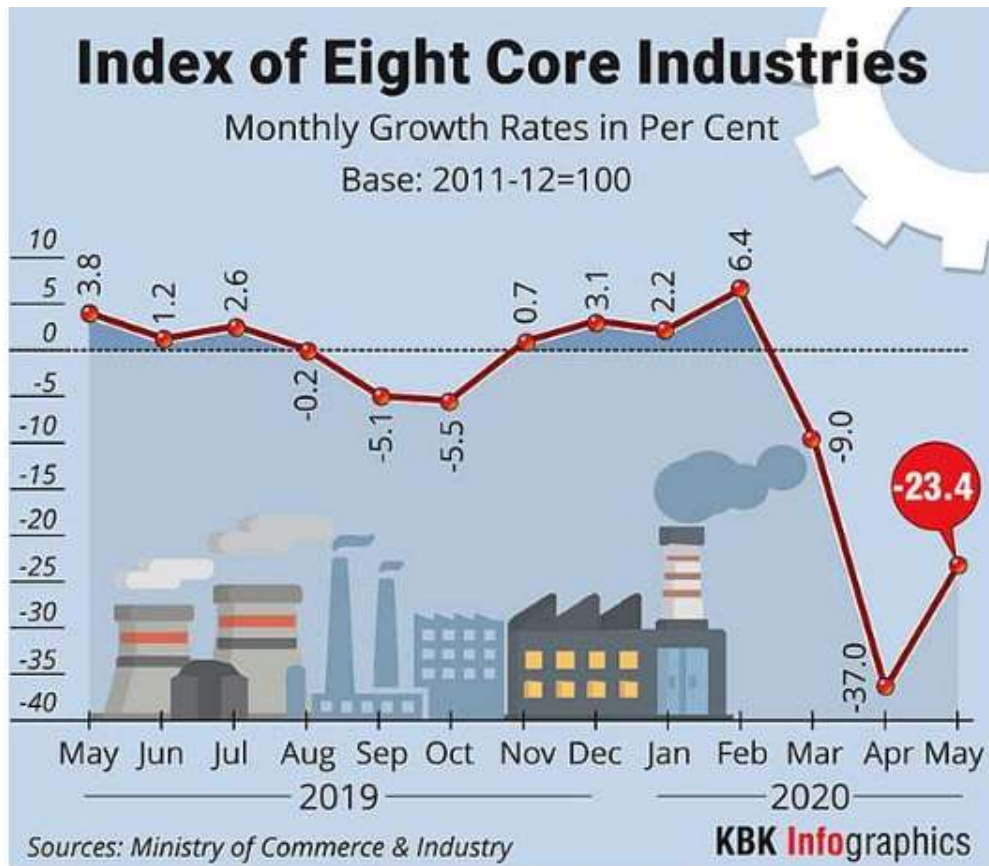
- The revenue deficit mentions to the surplus of government's revenue expenditure over the revenue receipts.
- Revenue deficit = Revenue expenditure – Revenue Receipts
- This deficit only incorporates current income and current expenses. A high degree of deficit symbolises that the government should reduce its expends.

Primary Deficit

- A primary deficit is the amount of money that the government requires to borrow apart from the interest payments on the formerly borrowed loans.
- The aim of quantifying the primary deficit is to concentrate on current fiscal imbalances.
- To attain an approximate of borrowing on account of current expends overreaching revenues, we need to compute what has been known as the primary deficit. It is the fiscal deficit – the interest payments.
- **Gross primary deficit = Gross fiscal deficit – Net interest liabilities**
- Net interest liabilities comprise of interest payments – interest receipts by the government on net domestic lending.

Topic 2: CORE INDUSTRIES OUTPUT CONTRACTS

Importance for Prelims: Economy



Contracting for the ninth consecutive month, the output of eight core infrastructure sectors dropped by 2.6 per cent in November, 2020.

- The production of eight core sectors had recorded a growth of 0.7 per cent in November 2019, data released by the commerce and industry ministry showed.
- Barring coal, fertiliser and electricity, all sectors — crude oil, natural gas, refinery products, steel and cement — recorded negative growth in November 2020.

Core Industries

- Core industry can be defined as the main industry which has a multiplier

effect on the economy.

- In most countries, there is particular industry that seems to be backbone of all other industries and it qualifies to be the core industry.
- The Eight Core Industries **comprise 40.27% of the weight of items included in the Index of Industrial Production (IIP).**
- The eight Core Industries in decreasing order of their weightage: Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers.
- Weightage for Industries (In percentage)
 - ✓ Petroleum & Refinery production 28.04
 - ✓ Electricity generation 19.85
 - ✓ Steel production 17.92
 - ✓ Coal production 10.33
 - ✓ Crude Oil production 8.98
 - ✓ Natural Gas production 6.88
 - ✓ Cement production 5.37
 - ✓ Fertilizers production 2.63.

Additional Information

Index of Industrial Production

- The Index of Industrial Production (IIP) is an index which details out the growth of various sectors in an economy such as mineral mining, electricity, manufacturing, etc.
- It is compiled and published monthly by the Central Statistical Organisation (CSO), Ministry of Statistics and Programme Implementation six weeks after the reference month ends, i.e a lag of six weeks.
- The Base Year of the Index of Eight Core Industries has been revised from the year 2004-05 to 2011-12 from April, 2017.

Topic 3: FOREIGNER'S TRIBUNAL

Importance for Prelims: Governance

After a year-and-a-half in a detention centre as 'illegal foreigners', the New Year has brought freedom and citizenship to Mohammad Nur Hussain, 34, his wife Sahera Begum, 26, and their two minor children, who have been declared Indians in a retrial by a Foreigners' Tribunal (FT).

Foreigners Tribunal

- In 1964, the govt brought in the Foreigners (Tribunals) Order.
- **Composition:** Advocates not below the age of 35 years of age with at least 7 years of practice (or) Retired Judicial Officers from the Assam Judicial Service (for assam) (or) Retired IAS Officers (not below the rank of Secretary/Addl. Secretary) having experience in quasi-judicial works.

Who can setup these tribunals?

- The Ministry of Home Affairs (MHA) has amended the Foreigners (Tribunals) Order, 1964, and has empowered district magistrates in all States and Union Territories to set up tribunals (quasi-judicial bodies) to decide whether a person staying illegally in India is a foreigner or not.
- Earlier, the powers to constitute tribunals were vested only with the Centre. Typically, the tribunals there have seen two kinds of cases: those concerning persons against whom a reference has been made by the border police and those whose names in the electoral roll has a "D", or "doubtful", marked against them.

Who can approach?

- The amended order (Foreigners (Tribunal) Order, 2019) also empowers individuals to approach the Tribunals. Earlier, only the State administration could move the Tribunal against a suspect.

Process

- Foreigners Tribunals, quasi-judicial authorities, have been deciding on matters pertaining to citizenship in order to identify foreigners.
- The process begins by the border police or the Election Commission referring the case of a suspected foreigner to the Foreigners Tribunal.
- The tribunal calls on the person to appear before it and prove that they are not a foreigner, and then passes an order in favour or against them.

Topic 4: TIDE – RAINFALL FLOOD QUOTIENT

Importance for Prelims: Disaster Management



To understand if a coastal city is more prone to floods caused by tidal events or extreme rainfall, a team from the **Indian Institute of Technology Bombay** devised a new metric or measure called the Tide–Rainfall Flood Quotient.

- Using the past rainfall data, tidal data, and topography of the region this framework can be applied to pinpoint the major factor at play.
- The team selected three geographically diverse flood-prone coastal regions – Mithi Catchment in Mumbai, Maharashtra, Jagatsinghpur District in Odisha, and Greater Chennai Corporation in Tamil Nadu to test their new metric.
- The new method helped classify these regions into ‘storm-tide dominated’ or ‘pluvial (rainfall) dominated’ regions.
- The metric can help disaster management experts in framing better flood risk management systems directed towards long term planning.

Additional Information

- The C40 Cities report of 2018 notes that by 2050, over 570 low-lying

coastal cities will face projected sea level rise by at least 0.5 meters, putting over 800 million people at risk from the impacts of rising seas and storm surges.

- While the inland areas can be flooded due to the heavy rainfall, the coasts are threatened by the impact of tidal surges.

Topic 5: FATF

Importance for Prelims: International Organizations



The Financial Action Task Force (FATF) had deferred its once-a-decade evaluation of India's anti-money laundering regime scheduled for this year, citing the COVID-19 pandemic, and indicated that the onsite review to be conducted by global experts may now take place in early 2021.

- The FATF undertakes peer reviews of each member on an on going basis to assess the implementation of its recommendations and provides a detailed analysis of each country's system for preventing criminal abuse of the financial system.

About FATF

- The Financial Action Task Force (FATF) is an inter-governmental body established in 1989 on the initiative of the G7.
- It is a "policy-making body" which works to generate the necessary political will to bring about national legislative and regulatory reforms in various areas.

- The FATF Secretariat is housed at the OECD headquarters in Paris.

Roles and functions:

- Initially it was established to examine and develop measures to combat money laundering.
- In October 2001, the FATF expanded its mandate to incorporate efforts to combat terrorist financing, in addition to money laundering.
- In April 2012, it added efforts to counter the financing of proliferation of weapons of mass destruction.

Composition:

- The FATF currently comprises 37 member jurisdictions and 2 regional organisations, representing most major financial centres in all parts of the globe.
- It also has observers and associate members.

Blacklist and Grey list

Black List: Countries known as Non-Cooperative Countries or Territories (NCCTs) are put in the blacklist. These countries support terror funding and money laundering activities. The FATF revises the blacklist regularly, adding or deleting entries.

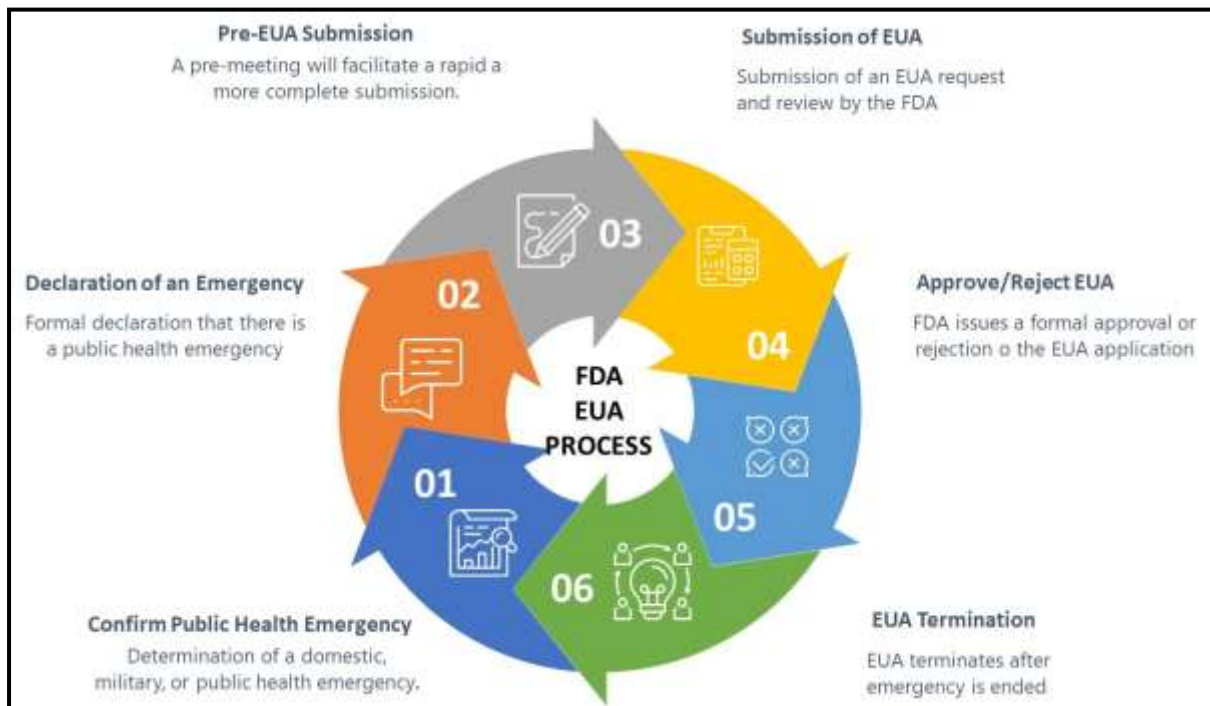
Grey List: Countries that are considered safe haven for supporting terror funding and money laundering are put in the FATF grey list. This inclusion serves as a warning to the country that it may enter the blacklist.

Considered in the grey list may face:

- Economic sanctions from IMF, World Bank, ADB.
- Problem in getting loans from IMF, World Bank, ADB and other countries.
- Reduction in international trade.
- International boycott.

Topic 6: EMERGENCY USE AUTHORIZATION

Importance for Prelims: Governance



The government-appointed expert panel on Friday emergency use approval for the Oxford University-AstraZeneca Vaccine made and distribute by the Serum Institute of India.

- After Drugs Controller General of India (DCGI) gives its approval India too will likely begin the mass immunisation programme with a dosing regimen that had shown an efficacy rate of 62 Percent.
- AstraZeneca had said its vaccine had shown 90% efficacy in a small subset of volunteers — none older than 55 administered with a half dose followed by a full dose a month.

Emergency Use Authorisation (EUA)

- Vaccines and medicines, and even diagnostic tests and medical devices, require the approval of a regulatory authority before they can be administered.
- In India, the regulatory authority is the **Central Drugs Standard**

Control Organisation(CDSCO).

- The approval is granted after an assessment of their safety and effectiveness, based on data from trials. In fact, approval from the regulator is required at every stage of these trials.
- This is a long process, designed to ensure that medicine or vaccine is absolutely safe and effective.
- The fastest approval for any vaccine until now — the mumps vaccine in the 1960s —took about four-and-a-half years after it was developed.

Accelerated Approval Process in India

- Under this process, a new drug is approved based on data generated in clinical trials. The Rules provide a relaxation for skipping Phase III clinical trials, which crucially test for a vaccine or drug's efficacy in preventing disease in the local population.
- Phase III trial is allowed to be skipped if 'remarkable efficacy' is observed with a defined dose in the Phase II clinical trial of the new drug.
- The regulator can then also grant market approval for the new drug or vaccine based on Phase II data to meet what the Rules call 'unmet medical needs of serious and life threatening diseases in the country'.
- The Rules also state that in such cases, additional studies 'may' be required after approval to generate data on a larger population to verify its benefits.
- Unmet medical needs essentially means a situation where treatment or diagnosis of disease is not addressed adequately with the available therapy.
- Further, the Rules provide for relaxations for unapproved or imported drugs or vaccines.
- The regulator relies on clinical trial data generated abroad to approve the vaccines in such scenarios and additional non-clinical or clinical data may

be required to back the claims.

Exceptions for emergency

- In emergency situations, like the current one, regulatory authorities around the world have developed mechanisms to grant interim approvals.
- However, there should sufficient evidence to suggest a medical product is safe and effective.
- Final approval is granted only after completion of the trials and analysis of full data; until then, EUA allows the medicine or the vaccine to be used on the public.
- India's drug regulations do not have provisions for a EUA, and the process for receiving one is not clearly defined or consistent.

Topic 7: DIGITAL PAYMENTS INDEX

Importance for Prelims: National Report

Digital payment transactions surge in lockdown to surpass pre-Covid levels according to the report.

About the Index

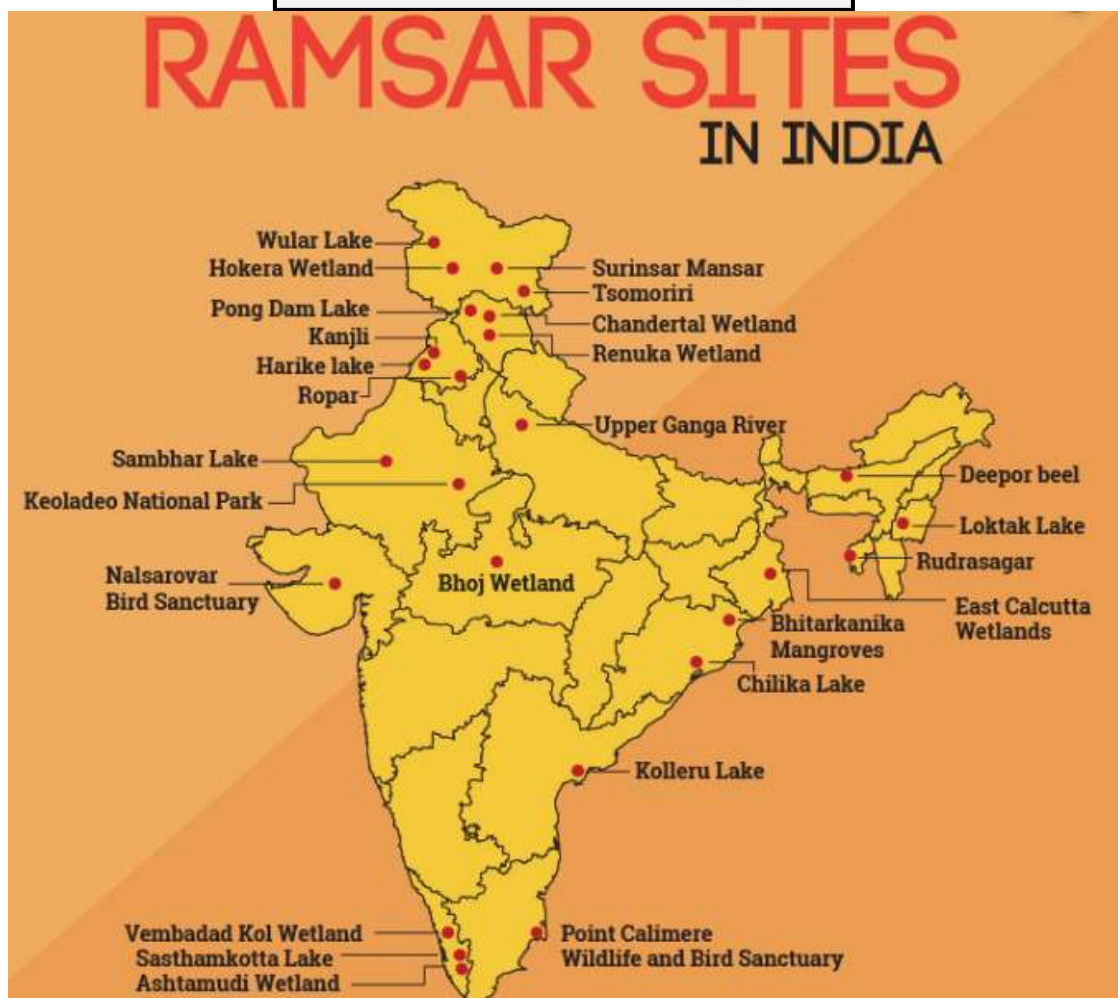
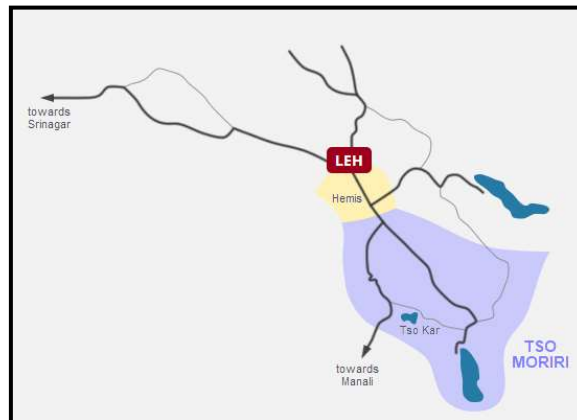
- The RBI has constructed a composite Digital Payments Index (DPI) with March 2018 as the base period to capture the extent of digitization of payments across the country.
- It was recommended by a committee headed by Nandan Nilekani on deepening digital payment.
- RBI-DPI will be published on the central bank's website on a semi-annual basis from March 2021 onwards with a lag of four months.
- It comprises of five broad parameters that enable measurement of deepening and penetration of digital payments in the country over different time periods.
- The parameters are:
 - ✓ Payment enablers (weight 25 per cent)
 - ✓ Payment infrastructure—demand-side factors (10 per cent)
 - ✓ Payment infrastructure – supply-side factors (15 per cent)
 - ✓ Payment performance (45 per cent) and
 - ✓ Consumer centricity (5 per cent)
- Each of these parameters has sub-parameters which, in turn, consist of various measurable indicators, RBI said.

Significance

- Digital payments in India have been growing rapidly.
- The DPI reflects accurately the penetration and deepening of various digital payment modes.

Topic 8: TSO KAR WETLAND COMPLEX

Importance for Prelims: Geography



One more wetland in India has been added to the list of recognised sites of international importance under the treaty of Ramsar Convention, taking the number of such wetlands in the country to 42, the highest in South Asia.

- The latest site to be added to the list is a high-altitude wetland complex of two connected lakes, StartsapukTso and TsoKar, in Ladakh.
- Last month, two wetlands — the Lonar lake in Maharashtra and Sur Sarovar, also known as Keetham lake, in Agra — were added to the list of Ramsar sites.

About Wetland Complex

- The TsoKar Basin is a high-altitude wetland complex, consisting of two principal water bodies, StartsapukTso, a freshwater lake of about 438 hectares to the south, and TsoKar itself, a hyper-saline lake of 1,800 hectares to the north, situated in the Changthang region of Ladakh.
- It is called TsoKar, meaning white lake, because of the white salt efflorescence found on the margins due to the evaporation of highly saline water.

Flora and Fauna

- The inlets of the TsoKar are a source of non-saline water; pondweeds and basic nettles grow there, forming **floating islands of vegetation in the spring** and dying off in the winter.
- Sedge and large numbers of buttercups grow on the shores of StartsapukTso and of the tributaries of the TsoKar, while some parts of the high basin are marked by **steppe vegetation interspersed with tragacanth and pea bushes**.
- Due to the salinity of the TsoKar, most of the resident fauna is found in its tributaries and in StartsapukTso.
- There are large breeding colonies of grebes and brown-headed gulls, and some strip geese, rust geese and terns. In the vicinity of the lake **black-necked cranes** and Tibetan grouse are relatively common.
- The basin of the TsoKar and the adjoining More Plains constitute one of the most important habitats of the kiang, **Tibetan gazelles**, **Tibetan**

wolves and foxes; there are himalayan marmots in the higher reaches. Yaks and horses are kept by the nomads.

Ramsar Site

- Ramsar Convention on Wetlands is an **intergovernmental treaty** adopted in 1971 in the Iranian city of Ramsar, on the southern shore of the Caspian Sea.
- It came into force for India on 1st February, 1982. Those wetlands which are of international importance are declared as Ramsar sites.
- The Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".
- The **Montreux Record** is a register of wetland sites on the List of Wetlands of International Importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference. It is maintained as part of the Ramsar List.
- At present, two wetlands of India are in Montreux Record: Keoladeo National Park (Rajasthan) and Loktak Lake (Manipur).
- Chilika Lake (Odisha) was placed in the record but later removed from it.

Topic 9:UMRED PAONI KARHANDALA SANCTUARY

Importance for Prelims: Environment

A tigress and her two cubs were found dead on Friday evening in Umred Paoni Karhandala Sanctuary, some 50 kilometres from Nagpur, an official said.

About the Sanctuary

- Umred Karhandla Wildlife Sanctuary, about 58 km from Nagpur and 60 km from Bhandara spread over Pauni Tahsil of Bhandara district and Umred, Kuhi and Bhivapur Taluka of **Nagpur district, Maharashtra**.
- This Sanctuary has also connection with Tadoba Andhari Tiger Reserve through forest along **Wainganga river**.
- The sanctuary is home to **resident breeding tigers, herds of Gaur, wild dogs and also rare animals like flying squirrels pangolins and honey badger**.
- It is bounded roughly by the Wainganga river and the Gose Khurd Dam on the northeast, State Highway 9 and Bhiwapur Town on the south, Umred on the west and a narrow 10 km long range of 600-800 m hills to the northwest.
- It is located 40 km north of Tadoba-Andhari Tiger Reserve and 50 km southwest of Nagzira Wildlife Sanctuary & 60 km from Nagpur, Maharashtra. Pench Tiger Reserve is 80 km to the northwest.

Wainganga River

- Wainganga River is one of the key tributaries of the river Godavari.
- The river **rises in the Mahadeo Hills** in the Seoni District of Madhya Pradesh.
- It drains Madhya Pradesh and Maharashtra.
- The Wainganga after joining the **Wardha River** at Chaprala in Gadchiroli district (Maharashtra) is **known as the Pranahita River**.

- Wardhariver originates in Satpura Range in Betul District, Madhya Pradesh.
- Penganga river is a major tributary of the Wardha river and rises in the Ajanta range.
- Pranahita river empties into the Godavari River at Kaleshwaram, Telangana.
- Pranahita river is **the largest tributary of the Godavari river** covering about 34% of its drainage basin.
- Gosekhurdh irrigation project is being constructed on the Wainganga River.

Topic 10:GLOBAL CORRUPTION PERCEPTION INDEX

Importance for Prelims: International Reports

Status check

The Corruption Perceptions Index uses a scale of zero (highly corrupt) to 100 (very clean). The global average for 2019 is 43

Country	Score in 2019	Rank in 2019	Change in rank from '18
Denmark	87	1	0
New Zealand	87	1	1
U.K.	77	12	-1
U.S.	69	23	-1
India	41	80	-2
China	41	80	7
Brazil	35	106	-1
Pakistan	32	120	-3
Russia	28	137	1
Bangladesh	26	146	3
Somalia	9	180	0

India and China both share the 80th rank with a CPI score of 41 in the Global Corruption Perception Index 2019—an empirical measure for corruption accepted worldwide.

- Released by Transparency International from 1995.
- This index is annually released (once a year.)
- Corruption is defined as the misuse of public power for private benefit by Corruption Perception Index.
- It ranks about 180 countries globally.
- Transparency International undertakes multiple surveys and assessments from different international organizations including the World Bank.

Topic 11: INSIDER TRADING

Importance for Prelims: Economics



The Securities and Exchange Board of India (Sebi) imposed penalties totaling Rs 70 crore on Reliance Industries Ltd (RIL), its chairman & managing director and two other entities for alleged manipulative trading in the shares of erstwhile Reliance Petroleum Ltd (RPL) in November 2007.

- The RPL case has been hanging fire for the last 13 years. RIL had sold 4.1 per cent of its stake in RPL. However, to prevent a plunge in the RPL share price, the equity was apparently sold first in the futures market and later in the spot market.
- The crux of the Sebi notice is that the company was aware there would be a sale of shares in the spot market and hence, its sales in the futures market before that amounted to **insider trading**.

Insider Trading

- Insider trading is the buying or selling of a publicly-traded company's shares/debt papers by someone who has confidential information about that shares/debt papers.

- Insider trading is defined as a malpractice wherein trade of a company's securities is undertaken by people who by virtue of their work have access to the otherwise non-public information/confidential information which can be crucial for making investment decisions.
- When insiders, e.g. key employees or executives who have access to the strategic information about the company, use the same for trading in the company's stocks or securities, it is called insider trading.
- An insider is a person who possesses either access to valuable non-public information about a corporation or ownership of stock equaling more than 10% of a firm's equity. This makes a company's directors and high-level executives insiders.

Mechanism to prevent insider trading

- According to SEBI Promoters will be held responsible for violation of insider trading norms, if they possess unpublished price-sensitive information (UPSI) regarding the company without any "legitimate purpose".

Legitimate purpose –

- Sharing of the UPSI by an insider with partners, collaborators, lenders, customers, suppliers, merchant bankers, legal advisors, auditors, insolvency professionals or other advisors or consultants, provided that such sharing has not been carried out to evade or circumvent the prohibitions of these regulations.

Recommendation of Kotak committee

- The committee has recommended flow of unpublished price sensitive information(UPSI) shall be considered for 'legitimate purpose', and not an offence under the SEBI (Insider Trading) for those who:
 - Is part of the promoter group.
 - Has a nominee director on the board.

- The information should be pursuant to a formal agreement in accordance with the regulations.
- Communication of information must comply with the Insider Trading Regulations.

Topic 12: TiHAN-IIT HYDERABAD

Importance for Prelims: Science & tech

Union Minister of Education laid foundation stone of ‘TiHAN-IIT Hyderabad’, India’s first Test bed for Autonomous Navigation Systems (Terrestrial and Aerial).

- The Department of Science and Technology (DST), Government of India, has sanctioned Rs. 135 crores to IIT Hyderabad under the **National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)** to set up a Technology Innovation Hub on Autonomous Navigation and Data Acquisition Systems (UAVs, RoVs, etc.).
- The Technology Innovation Hub on Autonomous Navigation Systems for Unmanned Aerial Vehicles and Remotely Operated Vehicles at IIT Hyderabad, known as ‘TiHAN Foundation’ has been incorporated as a Section-8 company by the institute in June 2020.
- TiHAN Foundation is a multi-departmental initiative, including researchers from Electrical, Computer Science, Mechanical and Aerospace, Civil, Mathematics, and Design at IIT Hyderabad with collaboration and support from reputed institutions and industry.
- Special Features of this Facility include Test Tracks, Emulation of Real-World Scenarios, State of the Art Simulation Technologies, Road Infrastructure, V2XCommunication, Drone Runways and Landing Area, Mechanical Integration Facility, Centralized Control Room/Ground Control Station, Hangars and many more.

National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS):

- Union Cabinet approved the launch of National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) in 2018.
- It had a total outlay of INR 3,660 crores for a period of five years.

- The mission implementation would develop and bring:
 - ✓ Cyber Physical Systems (CPS) and associated technologies within reach in the country,
 - ✓ adoption of CPS technologies to address India specific National / Regional issues,
 - ✓ produce Next Generation skilled manpower in CPS,
 - ✓ catalyze Translational Research,
 - ✓ accelerate entrepreneurship and start-up ecosystem development in CPS,
 - ✓ give impetus to advanced research in CPS, Technology development and higher education in Science,
 - ✓ Technology and Engineering disciplines, and
 - ✓ place India at par with other advanced countries and derive several direct and indirect benefits.

Topic 13:Expert panel clears first indigenous COVID-19 vaccine by Bharat Biotech and Biosafety level

Importance for Prelims: Science and Technology

A day after restricted emergency approval for **Covishield**, the Oxford-AstraZeneca vaccine manufactured under license in India by the Serum Institute of India, similar approval has been granted to **Covaxin**, first indigenous COVID-19 vaccine by Bharat Biotech.

- COVAXIN is India's indigenous COVID-19 vaccine by Bharat Biotech. It is developed in collaboration with the Indian Council of Medical Research (ICMR)– National Institute of Virology (NIV).
- It is being developed in Bharat Biotech's BSL-3 (Bio-Safety Level 3) high containment facility.
- BSL-levels from 1 to 4 are a series of protection for carrying out industrial and scientific processes (particularly in medical fields) requiring elevated temperature and pressure in biological labs.
- These levels are designated based on the agents or organisms that are being researched or worked on in any given laboratory setting. BSL-1 is lowest safety level and BSL-4 is highest biosafety level.

These biosafety levels are determined by:

- ✓ Risks related to containment
- ✓ Severity of infection
- ✓ Transmissibility
- ✓ Nature of the work conducted
- ✓ Origin of the microbe
- ✓ Agent in question
- ✓ Route of exposure

Topic 14: Agriculture: Division of power between states and the Centre by the Constitution

Importance for Prelims: Schemes

India has been witnessing a month-long farmers' protest over three farm acts passed by the Parliament. One of the issues in whole saga has been "agriculture" as a subject which is majorly in states subject list is being encroached by the Centre.

The Constitution under article 246 divides subject in three lists:

- 1) **Union list** with exclusive power of legislation to the Parliament. Ex- Defence, Citizenship etc.
- 2) **State list**: Exclusive power to the state legislatures in normal circumstances (Exception examples are like Emergency). Ex- Policing, Public order etc.
- 3) **Concurrent List**: Both can make laws with the Parliament having overriding power. Ex- Education
- 4) **Residuary list**: Any subject not in above list to be legislated by the Parliament.

Agriculture subjects under state list:

- **Entry 14**: Agriculture, including agricultural education and research, protection against pests and prevention of plant diseases energy;
- **Entry 18**: Rights in or over land, land tenures, rents, transfer agricultural land, agricultural loans, etc.
- **Entry 26**: Trade and commerce within the State subject to the provisions of entry 33 of List III or concurrent list (Trade and commerce in, and the production, supply and distribution of foodstuffs, including edible oilseeds and oils)
- **Entry 28**: Markets and fairs
- **Entry 30**: Money-lending and money-lenders;

- **Entry 45:** Land revenue, land records, etc.)
- **Entry 46:** Taxes on agricultural income
- **Entry 47:** Succession of agricultural land
- **Entry 48:** Estate duty in respect of agricultural land
- **Entry 52:** Taxes on the entry of goods in to a local area for consumption, use or Sale therein

Concurrent List:

- **Entry 6** mentions transfer of property other than agricultural land;
- **Entry 7** is about various contracts not relating to agricultural land; and
- **Entry 41** deals with evacuee property, including agricultural land.

Parliament enacted law for contract farming, inter-state commerce as in farm laws under the entry 33 of the concurrent list:

- **Trade and commerce in, and the production, supply and distribution of foodstuffs, including edible oilseeds and oils)**
- The committees headed by Ashok Dalwai and Ramesh Chand recommended that 'agricultural market' be entered in the Concurrent List.

Topic 15: D Voters

Importance for Prelims: Indian Polity

A group of 100 volunteers from various fields have teamed up with lawyers to arm economically and educationally weak people with knowledge about their rights against victimisation in Assam as many have been categorised as “D Voters” or default voters.

- **D Voters** is a category of voters in Assam whose citizenship has been doubtful (due to lack of citizenship credentials in form of supporting documents) or is under dispute.
- Foreigner Tribunal set up under Foreigner Tribunals order 1964 determines once status as D voters and such persons can't hold voter I-card.
- Category was introduced in 1997 when the Election Commission of India (ECI) was revising the state's voter list in the wake of huge immigration from Bangladesh.
- While 'D' voters continue to remain on Assam's electoral roll, they cannot vote in an election unless their case is decided by a Foreigners' Tribunal.

Topic 16: Deepor beel

Importance for Prelims: Environment

Community fishing has been banned in Deepor beel as the only Ramsar site in Assam shrank by 35% from 1991 level.

- Deepor Beel, a **freshwater lake** on the south-western edge of Guwahati, was designated a Ramsar site in 2002 for sustaining a range of aquatic life forms besides sustaining 219 species of birds.
- It sustains a major population of wild elephants from the adjoining **Rani Reserve Forest** and **Deepor Beel Wildlife Sanctuary**.

Why it is shrinking?

1. Wetland losing connectivity with the small local rivers like Kalmoni, Khonajan and Basistha flowing through Moral Bharalu channel.
2. Expansion of the city and encroachment upon natural channel
3. Community fishing has impacted its ecosystem.

Ramsar sites:

- A Ramsar site is a wetland designated to be of international importance under the Convention on Wetlands on February 2, 1971, in the Iranian city of Ramsar on the Caspian Sea
- Aim of Ramsar sites is **to develop and maintain an international network of wetlands** which are important **for the conservation of global biological diversity** and for **sustaining human life** through the maintenance of their ecosystem components, processes and benefits
- With **TsoKar Wetland Complex in Ladakh** has 42 Ramsar site in India, it has highest number of Ramsar sites in South Asia.

Topic 17:Woolly rhino

Importance for Prelims: Environment



Preserved carcass of an Ice Age-era woolly rhino has been unearthed as a result of melting permafrost.

- Recent years have seen major discoveries of the remains of mammoths, **woolly rhinos, foal, several puppies and cave-lion cubs** in parts of Siberia. Such discoveries are becoming too frequent as a result of global warming melting permafrost across Arctic.
- It is **an extinct species of rhinoceros found in fossil deposits of the Pliocene and Pleistocene epochs** (5.3 million to 11,700 years ago) in **Europe, North Africa, and Asia.**
- It is estimated it became extinct at the end of most recent ice age.
- It was **also present in more temperate, non-glacial regions, where it inhabited grasslands.**
- Evidence so far suggest that they were not hunted to extinction by human beings, rather climate change was the cause.

Topic 18: INVISIBLE DISABILITIES

Importance for Prelims: Social Issue

- Invisible conditions are more difficult to detect by medical doctors. Many such conditions go undiagnosed or are misdiagnosed.
- The stigma surrounding a chronic disease or disorder and the realisation that a seemingly healthy child is having a condition which affects functional efficiency throughout life, may in many cases compel parents to conceal the disability in social settings.

Common Invisible Disabilities:

Some of the most common invisible disabilities in which people appear healthy and in control of their lives and bodies are:

- **Minimal brain injury** and developmental cognitive disorders which interfere with memory, motor skills planning, organisational abilities, cognition and communication. Children may find it difficult to perform higher level of academics, planning, and as adults they may make 'mistakes' in tasks which involve precision and multi-step processes such as digital transactions. Outwardly, they appear clumsy, distracted and disorganised.
- **Learning Disabilities:** Neurological disorders resulting in impairment in reading(dyslexia) writing (dysgraphia) or mathematics (dyscalculia), commonly associated with Attention Deficit and Hyperactivity disorder. Appearance: Lazy, distracted, intentionally avoiding work.
- **Autism Spectrum Disorders:** Neuro developmental disorders beginning early in childhood and severely affecting the ability to communicate, learn social skills and social interaction, associated with rigid and repetitive behaviours.
- Appearance: Rude, undisciplined, fussy, stubborn, avoiding instructions, and not cooperating.

- **Chronic diseases** such as certain renal disorders as also Fibromyalgia which is a chronic rheumatic condition that causes widespread pain and throughout the soft tissue in the body, accompanied by fatigue. Appearance will be lazy and constantly avoiding work.
- **Depression:** Mental health and mood disorders involving persistent feelings of sadness, hopelessness and loss of interest strong enough to affect normal functioning; commonly associated with anxiety disorders causing persistent feelings of worry and fear.
Outwardly appearance: Being unnecessarily sensitive, exerting oneself to become cheerful and trying to adjust.
- **Sensory Disorders:** Children who have sensory issues may have an aversion to anything that triggers their senses, such as light, sound, touch, taste, or smell. Common symptoms of sensory processing issues may include avoidance or hyperactivity.
They will appear too fussy, not cooperating, need for strict discipline.

Topic 19: ASIATIC LION CONSERVATION PROJECT

Importance for Prelims: Environment

PROJECT LION

Head	Year I	Year II	Year III
Translocation to Barda	54.21	24.21	9.21
Monitoring of Lion	2.24	1.66	0.58
MSTripes Patrolling	1.48	0.32	0.12
Disease Profiling	1.22	1.15	1.15
Other exenses	0.35	0.34	0.34

* Rs in crores

SALIENT FEATURES

➤ **Rs 99 crore** project approved for **lion conservation**

➤ **NTCA, Gujarat forest department** and **WII** to **implement** it

➤ **Barda** to be developed as **second home for lions** within Gujarat

➤ **40-odd lions** will be **radio collared**

➤ **Maldharis** from **Barda** to be **relocated** and will receive **compensation** of **Rs 15 lakh** each

➤ **Vaccination** of **feral dogs** and **cattle**

➤ **Samples** from **feral dogs** and **cattle** to be **regularly collected** to test for **CDV, rabies** and other **diseases**

➤ **Samples** from **other wild animals** will also be collected to monitor for **diseases**



- Asiatic Lion Conservation Project” has been launched by the Union Ministry of Environment, Forests and Climate Change (MoEFCC).
- MoEFCC has approved the project for three financial years from 2018 to 2021.
- The Asiatic Lion, endemic to Gir landscape of Gujarat is one of the 21 critically endangered species identified by the Ministry for taking up recovery programmes.

- The project envisages scientific management with the involvement of communities in coordination with multi-sectoral agencies for disease control and veterinary care for overall conservation of Asiatic lion.
- This project has “Species Conservation over a large landscape” approach.

Large Landscape Conservation

- Large landscape conservation is an approach to conservation and management that focuses on actions that are taken across large areas, such as entire watersheds. Large landscape conservation generally involves many forest divisions, government agencies, and conservation organizations.
- As Asiatic Lions are found only in the Gir Landscape, this project will focus on conservation efforts of Asiatic Lions over whole Gir Range.
- Modern Information and Communication Technology (ICT) is proposed in the conservation, protection and development efforts of the Greater Gir Region.

Additional ICT will include the following:

- GPS Based Tracking like Surveillance Tracking Animal Tracking and Vehicle Tracking
- Automated Sensor Grid like Magnetic Sensors, Movement Sensors, and Infra-red heat sensors
- Night vision capability enhancement
- GIS-based real-time monitoring, analysis and report generation.

Asiatic lion (*Panthera leopersica*)

- Asiatic lions are slightly smaller than African lions.
- Males have only moderate mane growth at the top of the head so that their ears are really visible.
- The most striking morphological character, which is always seen in Asiatic lions, and rarely in African lions, is a longitudinal fold of skin

running along its belly.

- Wildlife (Protection) Act 1972: Schedule 1
- CITES : Appendix I
- IUCN Red List: Endangered
- Asiatic lions were once distributed to the state of West Bengal in east and Rewa in Madhya Pradesh, in central India.
- At present Gir National Park and Wildlife Sanctuary is the only abode of the Asiatic lion.

Topic 20:SWACHH SURVEKSHAN 2020

Importance for Prelims: Governance

Swachh Survekshan 2020 report has been launched by the Union Ministry of Housing and Urban Affairs (MoHUA).

It is the fifth edition of the annual cleanliness urban survey conducted by the MoHUA. It is one of the world's largest sanitation surveys.

Key Points

- This year the Ministry has released rankings based on the categorisation of cities on population, instead of releasing overall rankings.
- The categories based on population were introduced in 2019 for the first time but the exact groupings have been changed this year.

Major Categories and Rankings:

Cities with a population of more than 10 lakh:

- Indore was ranked first, securing the rank for the fourth consecutive year, followed by Surat and Navi Mumbai.
- All the National Capital Region (NCR) cities, Greater Mumbai, Bruhat Bengaluru, Amritsar, Kota, Chennai, etc. have performed poorly.
- Patna with the rank 47, is at the bottom of the list.

Cities with a population of 1-10 lakh:

- Chhattisgarh's Ambikapur has been surveyed as the cleanest city in the country, followed by Mysore and New Delhi.
- Bihar's Gaya with a rank of 382, is at the bottom.

Topic 21: LITHIUM TRIANGLE

Importance for Prelims: Economy



India, through a newly-floated state-owned company, inked a pact with an Argentine firm mid-last year to jointly prospect lithium in the South American country that has the third largest reserves of the silver-white alkali metal — a crucial building block of the lithium-ion rechargeable batteries.

- The new company, Khanij Bidesh India Ltd — incorporated in August, 2019 by three state-owned companies, NALCO, Hindustan Copper and Mineral Exploration Ltd, with a specific mandate to acquire strategic mineral assets such as lithium and cobalt abroad — is also learnt to be exploring options in Chile and Bolivia, two other top lithium-producing countries.

Lithium Triangle

- Lithium Triangle is an intersection of Chile, Bolivia and Argentina, known for high quality salt flats.
- Salar de Uyuni in Bolivia, Salar de Atacama in Chile and Salar de Arizaro in Argentina contains over 45% of known global lithium reserves.
- Beneath Salar de Uyuni, the world's largest salt flat lies the world's greatest lithium deposits.
- Bolivia, one of South America's poorest countries, envisions

development by harvesting lithium on an industrial scale from underground saltwater brines.

- It can be mined from rock or processed from brine.
- Lithium dissolved in underground saline aquifers called “brine”, pumped to surface by wells and then allowed to evaporate in vast knee-deep ponds.

About Lithium

- Lithium is a chemical element with symbol Li and atomic number 3.
- It is a soft, silvery-white alkali metal.
- Under standard conditions, it is the lightest metal and the lightest solid element.
- Lithium is highly reactive and flammable, and is stored in mineral oil.
- It never occurs freely in nature, but only in (usually ionic) compounds, such as pegmatitic minerals, which were once the main source of lithium.
- Due to its solubility as an ion, it is present in ocean water and is commonly obtained from brines.
- Lithium metal is isolated electrolytically from a mixture of lithium chloride and potassium chloride.

Applications

- Lithium and its compounds have several industrial applications, including heat resistant glass and ceramics, lithium grease lubricants, flux additives for iron, steel and aluminium production, lithium batteries, and lithium-ion batteries.
- It works with other elements, drugs, enzymes, hormones, vitamins, and growth factors in the body in many different ways. People use it for medicine.
- Lithium salts have proven to be useful as a mood-stabilizing drug in the treatment of bipolar disorder in humans.

Topic 22: EFFICACY RATE IN VACCINES

Importance for Prelims: Science& tech

Different pharmaceutical companies are now coming out with the success stories of their potential vaccines, and the efficacy rates of these vaccines are reported to be high – 70%, 90%, 95%, and so on.

- ‘Vaccine efficacy’ is defined to measure whether the vaccine is able to prevent the disease significantly or not, and if so, to what extent.
- Vaccines are usually approved on the basis of results from three stages of clinical trials. The trials aim to assess short-term safety, ability to generate an immune response, and efficacy

How Efficacy is calculated?

- Phase III trial, which is often the most elaborate one, investigates the efficacy of the vaccine under trial – usually in comparison to a placebo, which maybe a similar looking injection having no medical effect.
- In a phase III trial, often thousands of people are given the vaccine or a placebo, and then these people are monitored over several months to see whether the people receiving the vaccine get infected at a lower rate than people who get the placebo, on average.
- Thus, the performance of the vaccinated group is compared to that of the unvaccinated group.
- Vaccine efficacy is expressed as a proportionate reduction in disease attack rate, AR, between the unvaccinated, (ARU) and vaccinated, (ARV) groups under the phase III trial.
- The ratio of ARV to ARU is called the risk ratio,(RR). A lower value of RR clearly indicates better performance of the potential vaccine.
- When both the vaccinated and unvaccinated groups have, more or less, equal number of individuals, RR is the simple ratio of the number of

infected in the vaccine group to that in the placebo group.

- And, one minus RR, expressed in percentage, is called the “Vaccine Efficacy”.

Topic 23: TRANSFAT

Importance for Prelims: Health

The Food Safety and Standards Authority of India (FSSAI) has capped the amount of trans fatty acids (TFA) in oils and fats to 3% for 2021 and 2% by 2022 from the current permissible limit of 5% through an amendment to the Food Safety and Standards (Prohibition and Restriction on Sales) Regulations.

- Trans fatty acids (TFAs) or Trans fats are the most harmful type of fats which can have much more adverse effects on our body than any other dietary constituent.
- These fats are largely produced artificially but a small amount also occurs naturally.
- Thus in our diet, these may be present as Artificial TFAs and/ or Natural TFAs.
- Artificial TFAs are formed when hydrogen is made to react with the oil to produce fats resembling pure ghee/butter.
- In our diet the major sources of artificial TFAs are the partially hydrogenated vegetable oils (PHVO)/ vanaspati / margarine while the natural TFAs are present in meats and dairy products, though in small amounts.
- WHO recommendation: Limited to less than 1% of total energy intake. It has called for the total elimination of TFAs in global food supply by 2023.

Harmful effects:

- TFAs pose a higher risk of heart disease than saturated fats. While saturated fats raise total cholesterol levels, TFAs not only raise total cholesterol levels but also reduce the good cholesterol (HDL), which helps to protect us against heart disease.
- Trans fats consumption increases the risk of developing heart disease and

stroke.

- It is also associated with a higher risk of developing obesity, type 2 diabetes, heart disease, metabolic syndrome, insulin resistance, infertility, certain types of cancers and can also lead to compromised fetal development causing harm to the yet to be born baby.

Topic 24: FACELESS TAX SCHEME

Importance for Prelims: Economy

The government's faceless tax assessment scheme, an attempt to remove individual tax officials' discretion and potential harassment for income tax payers, has managed to deliver about 24,000 final orders since its introduction in August 2020.

- The government has now passed the Taxation and Other laws (Relaxation and Amendment of certain Provisions) Act, 2020 on September 2020 to incorporate the Faceless Assessment Scheme under the provisions of Income Tax Act, 1961.

Key Features

- The National Faceless Assessment Centre (NFAC) will serve a notice to the taxpayer under section 143(2) of the Act. The taxpayer should file his/her response to the notice within 15 days of receipt of the notice from the NFAC.
- The NFAC will assign the case selected for the purpose of faceless assessment to a specific assessment unit in any one Regional Faceless Assessment Centre (RFAC) through an automated allocation system (AAS).
- After considering the material available on record, the assessment unit will prepare draft assessment order either accepting or modifying the returned income of the taxpayer and send it to NFAC along with the details of penalty proceedings to be initiated (if any).
- The NFAC will examine the draft assessment order in accordance with the risk management strategy by way of an automated examination tool.
- NFAC will then finalise the assessment and serve the order to the taxpayer or issue a show cause notice to the taxpayer. NFAC can even assign

the draft order to the review unit through AAS if required.

Significance

- Taxpayer has to comply with assessment without requirement for physical attendance in the offices of the Income tax Department.
- Faceless assessment is expected bring positive changes to the assessment system, thereby saving travel time and cost for the taxpayer.
- Being environment friendly as there will not be any submission made physically, review by more than one assessment unit for a single assessment making the entire assessment process more transparent and objective.

Topic 25: JEEVAN PRAMAAN

Importance for Prelims: Technology



JEEVAN PRAMAAN CENTRE

Authorised CSC Center
under Ministry of Information & Technology (MeitY)
Govt. of India

Center for submission of Digital Life Certificate for Pensioners

Along with the extension of various tax deadlines recently, the submission of life certificate by pensioners was also extended to February 28, 2021.

Life Certificate

- A life certificate is a proof of existence produced to an authorised pension distributor or agency such as bank or post office by an individual stating that he/she is alive.
- The government and insurance companies insist on this certificate before making pension or annuity payments. The certificate is usually required annually.
- The individual drawing the pension is required to be personally present before the pension disbursing agency.

- However, with the outbreak of pandemic, digital life certificate (DLC) is sufficient proof for pension payments.

Jeevan Pramaan /DLC's

- Jeevan pramaan is one of the main requisites for the pensioners to avail pension is to provide Life Certificates (LCs).
- “Jeevan Pramaan ” – an “Aadhar-based Digital Life Certificate” for pensioners. It is a move that could eventually benefit over a crore pensioners.
- The proposed digital certification will do away with the requirement of a pensioner having to submit a physical Life Certificate in November each year, in order to ensure continuity of pension being credited into his account.
- It can be operated on a personal computer or a smartphone, along with an inexpensive biometric reading device.
- This facility will also be made available at Common Service Centres being operated under the National e-Governance Plan, for the benefit of pensioners residing in remote and inaccessible areas.

Topic 26: AJANTA CAVE PAINTINGS

Importance for Prelims: Culture



Ajanta is a series of rock-cut caves in the Sahyadri ranges (Western Ghats) on Waghorariver near Aurangabad in Maharashtra.

Number of Caves: There are a total of 29 caves (all buddhist) of which 25 were used as Viharas or residential caves while 4 were used as Chaitya or prayer halls.

Time of Development

- The caves were developed in the period between **200 B.C. to 650 A.D.**
- The Ajanta caves were inscribed by the Buddhist monks, under the patronage of the Vakataka kings – Harishena being a prominent one.
- Reference of the Ajanta caves can be found in the travel accounts of Chinese Buddhist travellers FaHien (during the reign of Chandragupta II; 380- 415 CE) and Hieun Tsang (during the reign of emperor Harshavardhana; 606 – 647 CE).

Painting

- The figures in these caves were done using **fresco painting**.

- The outlines of the paintings were done in red colour. One of the striking features is the absence of blue colour in the paintings.
- The paintings are generally themed around Buddhism – the life of Buddha and Jataka stories.

UNESCO Site: The caves were designated a UNESCO World Heritage site in 1983.

About Aurangabad :

- Aurangabad, city, west-central Maharashtra state, western India. It is situated in a hilly upland region on the Kaum River.
- The city, originally known as Khadki, was founded by Malik Ambar in 1610. Its name was changed by the Mughal emperor **Aurangzeb**, who built the **Bibi Ka Maqbara tomb near the city as an imitation of the Taj Mahal in Agra.**
- Aurangabad remained the headquarters of the independent nizams (rulers), but it declined when the capital was moved to Hyderabad in Hyderabad princely state.
- The city is also a popular tourist destination, mainly the result of its proximity to the Ellora and Ajanta cave temples, both of which were designated UNESCO World Heritage sites in 1983.

Topic 27: EPIZOOTICS

Importance for Prelims: Science & tech

Samples of dead migratory water birds found at the Pong Dam Lake in Himachal Pradesh have tested positive for avian influenza or bird flu. It has now become the fifth state to report suspected cases of bird flu after Haryana, Rajasthan, Kerala and Madhya Pradesh .

- Bird flu is a highly infectious and severe respiratory disease in birds **caused by the H5N1 influenza virus**, which can occasionally infect humans as well, although human-to-human transmission is unusual, according to the World Health Organisation.

EPIZOOTICS

- An epidemic outbreak of disease in an animal population akin to an epidemic in humans, often with the implication that it may extend to humans.
- An epizootic may be restricted to a specific locale (an “outbreak”), general (an “epizootic”), or widespread (“panzootic”).
- High population density is a major contributing factor to epizootics.
- For Example; Kyasanur Forest Disease Virus , avian influenza, Swine flu , Foot and Mouth disease etc.
- It generally causes serious economic or public health issues and are of major importance in the international trade of animals and animal products

Topic 28: BASAVESHWARA

Importance for Prelims: Culture

Karnataka Chief Minister laid the foundation stone for the ‘**New Anubhava Mantapa**’ in **Basavakalyan**, the place where 12th century poet-philosopher Basaveshwara lived for most of his life.

- The New Anubhava Mantapa, as envisaged now, will be a six-floor structure in the midst of the 7.5 acre plot and represent various principles of Basaveshwara’s philosophy.
- It will showcase the 12th Century Anubhava Mantapa (often referred to as the “first Parliament of the world”) established by him in Basavakalyan, where philosophers and social reformers held debates.
- The building will adopt the **Kalyana Chalukya style of architecture**.
- **About Basaveshwara** Basavanna was a **12th-century philosopher**, statesman, Kannada poet and a social reformer during the reign of the **Kalachuri-dynasty king Bijjala I in Karnataka, India**.
- Basavanna spread social awareness through his poetry, popularly known as **Vachanaas**. Basavanna rejected gender or social discrimination, superstitions and rituals.
- He introduced new public institutions such as the AnubhavaMantapa (or, the “hall of spiritual experience”), which welcomed men and women from all socio-economic backgrounds to discuss spiritual and mundane questions of life, in open.
- As a leader, he developed and **inspired a new devotional movement named Virashaivas**, or “ardent, heroic worshippers of Shiva”.
- This movement shared its roots in the Tamil Bhakti movement, particularly the Shaiva Nayanars traditions, over the 7th- to 11th-century.

Lingayats

- The term Lingayat denotes a person who wears a personal linga, an iconic form of god Shiva, on the body which is received during the initiation ceremony.
- Lingayats are the followers of the 12th-century social reformer-philosopher poet, Basaveshwara.
- The Lingayats are strict monotheists. They enjoin the worship of only one God, namely, Linga (Shiva).
- The word 'Linga' does not mean Linga established in temples, but universal consciousness qualified by the universal energy (Shakti).
- Lingayats had been classified as a Hindu subcaste called "Veerashaiva Lingayats" and they are considered to be Shaivites.

Sharana movement:

- The Sharanamovement , Basaveshwara presided over attracted people from all castes, and like most strands of the Bhakti movement, produced a corpus of literature, the vachanas, that unveiled the spiritual universe of the Veerashaiva saints.
- The egalitarianism of Basavanna's Sharana movement was too radical for its times.
- He set up the Anubhava Mandapa, where the Sharanas, drawn from different castes and communities, gathered and engaged in learning and discussions.
- Sharanas challenged the final bastion of the caste order: they organised a wedding where the bridegroom was from a lower caste, and the bride a Brahmin.

Topic 29: WOMEN SCIENTIST PROGRAMME

Importance for Prelims: Government Schemes

Vice President said that while India produces the highest percentage of women STEM (Science, Technology, Engineering and Management) graduates in the world — about 40 percent but their share in jobs these categories in the country is very low — 14 per cent.

He also lauded the Centre's 'Women Scientists' programme that encourages women to take up careers in science and maths.

About the Scheme:

- **Department of Science and Technology (DST)** launched “Women Scientists Scheme (WOS).
- Under this scheme, women scientists are being encouraged to pursue research in frontier areas of science and engineering, on problems of societal relevance and to take up S&T-based internship followed by self-employment
- This initiative primarily aimed at providing opportunities to women scientists and technologists between the **age group of 27-57 years who had a break in their career** and not having regular employment, to explore possibility of re-entry into the profession.

Following three categories of fellowships, with research grants, are available for India citizen:

- ✓ **Women Scientist Scheme-A(WOS-A):** Research in Basic/Applied Science
- ✓ **Women Scientist Scheme-B (WOS-B):** S&T interventions for Societal Benefit
- ✓ **Women Scientist Scheme-C (WOS-C):** Internship in Intellectual Property Rights (IPRs) for the Self-Employment.

Qualifications:

- Minimum Post Graduate degree, equivalent to M.Sc. in Basic or Applied Sciences or
- B.Tech. or
- MBBS or other equivalent professional qualifications
- Phil/M.Tech/M.Pharm/M.VSc or
- equivalent qualifications in Basic or Applied Sciences.

Topic 30: AEPS AND ABPS

Importance for Prelims: Economy

Aadhaar Enabled Payment system (AEPS)

- Aadhaar Enabled Payment System is a payment service empowering a bank customer to use Aadhaar as his/her identity to access his/ her respective Aadhaar enabled bank account and perform basic banking transactions.
- This initiative has been taken up by **National Payments Corporation of India (NPCI)**, which is an umbrella organization for all retail payments system in India and was started by **joint efforts of Reserve Bank of India (RBI) and Indian Banks' Association (IBA)**.

Under AEPS currently following services are present:

- ✓ Balance Enquiry
- ✓ Aadhaar to Aadhaar Fund Transfer
- ✓ Cash Withdrawal
- ✓ Cash Deposit
- ✓ Best finger detection.

Benefits of AEPS :

- Aadhaar enabled Payment system is easy to use, safe and secure payment platform to avail benefits by using Aadhaar number & finger prints.
- Aadhaar enabled Payment System facilitate disbursements of Government
- entitlements like NREGA, Social Security pension, Handicapped Old Age Pension etc. of any Central or State Government bodies, using Aadhaar authentication.
- Aadhaar enabled Payment System facilitates inter-operability across banks in a safe and secured manner – Reaching the unreachable.
- The model enable banks to extend financial services to the unreachable

clients beyond their branch network as beneficiaries of the BCs are mostly located at unbanked and under banked areas.

Aadhaar Payment Bridge System

- APBS is a gateway **created by National Payments Corporation of India** to enable departments and agencies administering government schemes to transfer funds to Aadhaar-enabled bank accounts of beneficiaries.
- It acts on the principle that a person's Aadhaar number becomes their financial address.
- Instead of providing multiple account details to receive a bank transfer, one only has to provide their Aadhaar number which significantly eases out the entire process.
- Induction of a bank account into APBS involves two distinct steps, both of which are meant to be based on informed consent. First, the account must be linked or 'Seeded' with the customer's Aadhaar number.
- Second, it must be connected to the NPCI mapper, which serves as a repository of Aadhaar numbers linked with particular bank and used for the purpose of routing the Aadhaar based payment transactions to the destination banks. This step is known as "mapping".
- In cases of multiple accounts for the same person, the APBS automatically sends money to the latest-mapped account.

Benefits of APBS

- It sub-serves the goal of financial inclusion and provides an opportunity to the government to attempt financial re-engineering of its subsidy management program.
- The implementation of ABP System has also led to electronification of a large number of retail payment transaction which were predominantly either in cash or cheque.

- It eliminates inordinate delays, multiple channels & paper-work involved in the existing system making the process less cumbersome and eco-friendly and transfers benefits& subsidies in a seamless & timely manner and directly into the Aadhaar Enabled Bank Account.

Topic 31: STATE DISASTER

Importance for Prelims: Disaster Management

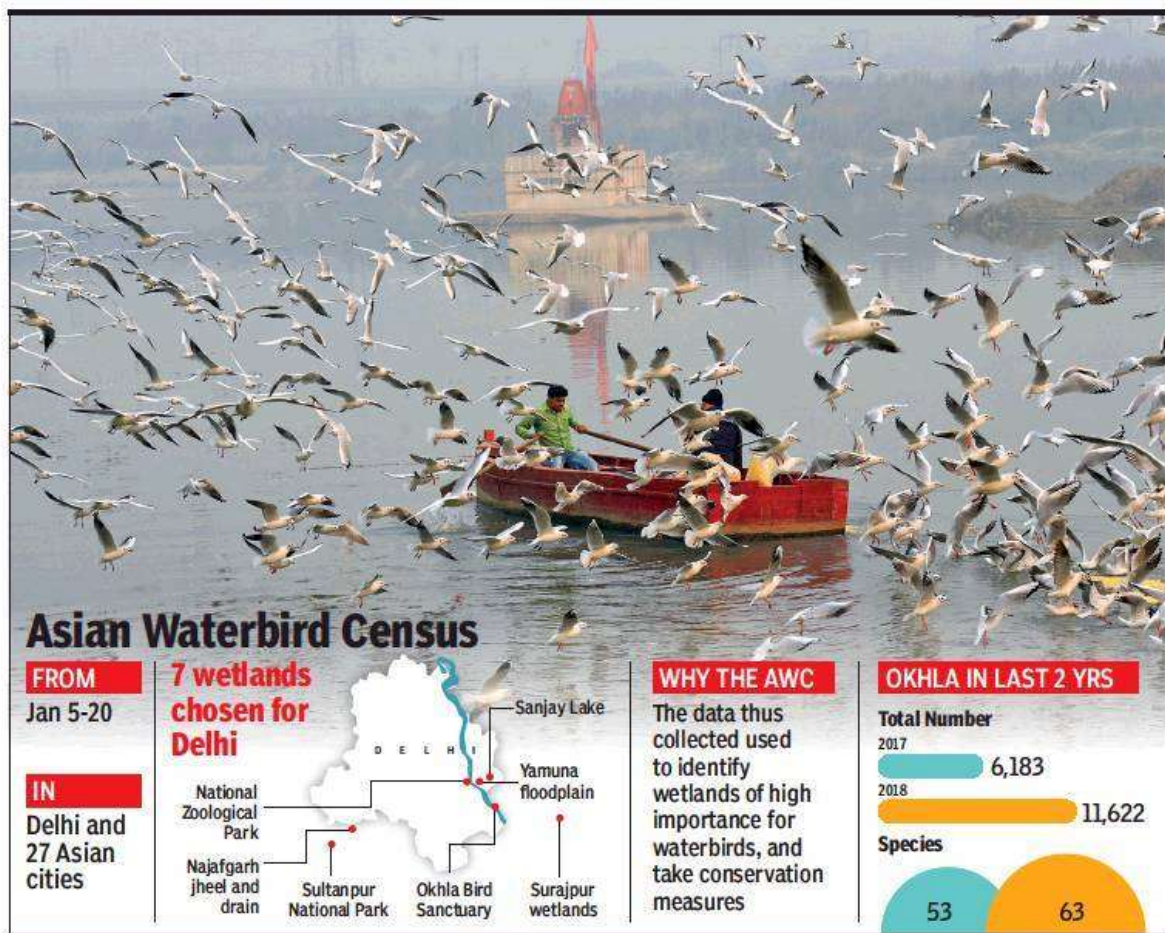
The avian flu outbreak has been classified as a ‘state disaster’ in Kerala after the Centre notified the outbreak of H5N8 subset of Influenza A in two districts.

State Disaster :

- A State Government may use up to 10 percent of funds available under SDRF for providing immediate relief to the victims of natural disasters that they consider to be ‘disasters’ within the local context in State
- It should not be included in the notified list of disasters of the Ministry of Home Affairs.
- is subject to the condition that the State Government has **listed the State specific natural disasters** and notified clear and transparent norms and guidelines for such disasters with the approval of the State Authority, i.e., the State Executive Authority (SEC).
- **Influenza A(H5N8) virus:**
- Influenza A viruses are classified into subtypes based on two surface proteins, Hemagglutinin (HA) and Neuraminidase (NA).
- H5N8 avian influenza is a disease of birds, caused by Type “A” influenza viruses, which can affect several species of domestic poultry, such as chickens, turkeys, quails, guinea fowl, ducks, as well as pet birds, wild migratory birds and water fowl.
- There are no known cases of H5N8 in human beings. Risk to general public is very low.
- There is also no evidence that consumption of poultry meat or eggs could transmit the virus to humans.
- But necessary precautions are required while handling sick/dead birds and contaminated material during control and containment operations .

Topic 32: ASIAN WATER BIRD CENSUS

Importance for Prelims: Environment



The two-day Asian Water bird Census-2020 commenced in Andhra Pradesh under the aegis of experts from the Bombay Natural History Society (BNHS), covering at least two dozen sites, including Coringa Wildlife Sanctuary, Kolleru Lake and Krishna Sanctuary.

Asian Water bird Census:

- The Asian Water bird Census (AWC) is an international programme that focuses on monitoring the **status of water birds and wetlands**. It also aims to increase public awareness on issues related to wetland and water bird conservation.
- In India, the AWC is annually coordinated by the Bombay Natural

History Society (BNHS) and Wetlands International.

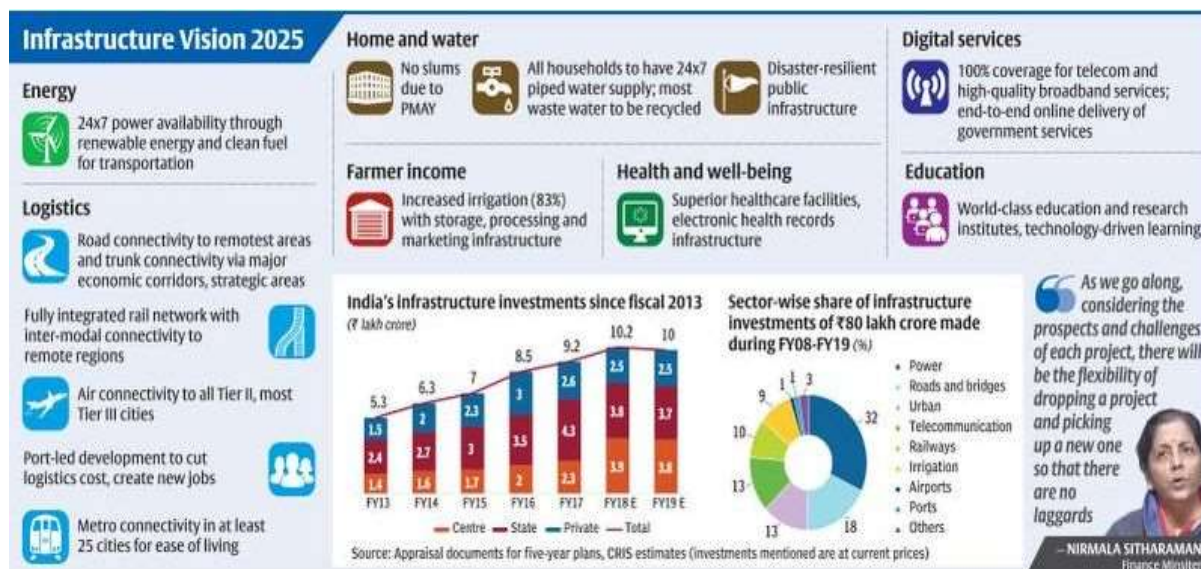
- Asian Water bird Census is a part of the global project ‘International Water bird Census Programme’ and is carried out every year in January.
- The data collected each year is shared by Wetlands International with global conservation organisations such as IUCN and Ramsar Convention, while state coordinators share data with local wildlife departments to ensure conservation and sustainable management of wetlands in the region.

Bombay Natural History Society:

- BNHS is a non government Organisation (NGO) founded in the year 1883, and is engaged in conservation and biodiversity research.
- BNHS is the partner of Bird Life International in India. It has been designated as a ‘Scientific and Industrial Research Organisation’ by the Department of Science and Technology.

Topic 33: NATIONAL INFRASTRUCTURE PIPELINE

Importance for Prelims: Economy



Finance and Corporate Affairs Minister Minister Nirmala Sitharaman on Wednesday reviewed the progress of the National Infrastructure Pipeline (NIP) as the government seeks to accelerate infrastructure spending in the economy.

- The NIP has been expanded from 6,385 projects at the time of its introduction a year ago, to more than 7,300 projects, and is making progress despite the pandemic, the government said in a statement.

About NIP:

- NIP was announced in union budget in 2019-20 for an outlay of Rs 100 lakh Crore for infrastructure projects over the next 5 years.
- NIP is a first-of-its-kind initiative to provide world-class infrastructure across the country and improve the quality of life for all citizens.
- It will improve project preparation, attract investments (both domestic & foreign) into infrastructure, and will be crucial for attaining the target of becoming a \$5 trillion economy by FY 2025.
- Covers both economic and social infrastructure projects.

Atanu Chakraborty Report :

- The task force headed by Atanu Chakraborty on National Infrastructure Pipeline (NIP), in May 2020, submitted its final report to the Finance Minister. It has recommended the following ,

Investment needed:

- 111 lakh crore over the next five years (2020-2025) to build infrastructure projects and drive economic growth.
- Energy, roads, railways and urban projects are estimated to account for the bulk of projects (around 70%).
- The centre (39 percent) and state (40 percent) are expected to have an almost equal share in implementing the projects, while the private sector has 21 percent share.
- Aggressive push towards asset sales.
- Monetisation of infrastructure assets.
- Setting up of development finance institutions.
- Strengthening the municipal bond market.

Topic 34: SIXTH SCHEDULE

Importance for Prelims: Polity

<p>MEGHALAYA</p> <ul style="list-style-type: none"> ● Khasi Hills Autonomous District Council ● Jaintia Hills Autonomous District Council ● Garo Hills Autonomous District Council 	<ul style="list-style-type: none"> ● Mara Autonomous District Council
<p>MIZORAM</p> <ul style="list-style-type: none"> ● Chakma Autonomous District Council ● Lai Autonomous District Council 	<p>TRIPURA</p> <ul style="list-style-type: none"> ● Tripura Tribal Areas Autonomous District Council
	<p>ASSAM</p> <ul style="list-style-type: none"> ● Dima Hasao Autonomous Council ● Karbi Anglong Autonomous Council ● Bodoland Territorial Council

A committee would be constituted under Minister of State for Home G. Kishan Reddy to find an appropriate solution to the issues related to language, culture and conservation of land in the Union Territory of Ladakh, the Home Ministry said in a statement.

- The representatives expressed their concern with respect to conservation of language, culture and land of Ladakh. A protest was also held in this regard before the **LAHDC [Ladakh Autonomous Hill Development Council]** elections.

LAHDC

- The Ladakh Autonomous Hill Development Council-Leh was created in 1995 under the Ladakh Autonomous Hill Development Council Act 1995 and an Autonomous Hill Council has also been established in neighbouring Kargil District.
- The autonomous hill councils work with village panchayats to take decisions on economic development, healthcare, education, land use,

taxation, animal husbandry and local governance which are further reviewed at the block headquarters in the presence of the chief executive councillor and executive councillors.

- As per Hill Council norms, the Chief Executive Councilor possess the rank and powers of a Cabinet Minister while as the Executive Councilors possess the rank and status of Deputy Minister.
- The council is **composed of 30 Councillors of which 26 are directly elected and 4 are nominated members.**
- The executive arm of the council consists of an executive committee composed of a Chief Executive Councillor and four other executive councillors.
- National Commission for Scheduled Tribes in 2019 recommended that the Union Territory of Ladakh be brought under the Sixth Schedule of the Constitution.

The Sixth Schedule



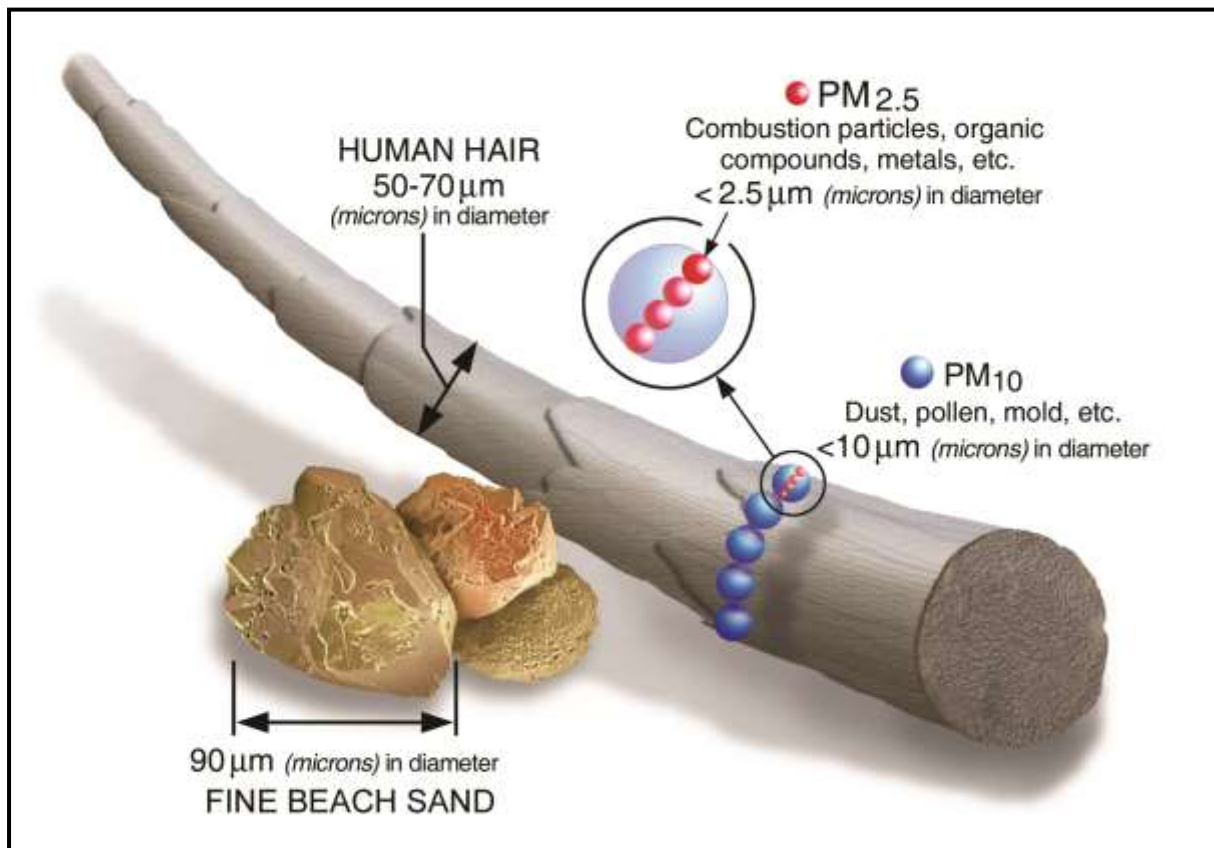
- The Sixth Schedule of the Constitution consists of provisions for the administration of **tribal areas in Assam, Meghalaya, Tripura and Mizoram, according to Article 244 of the Indian Constitution.**
- Passed by the Constituent Assembly in 1949, it seeks to safeguard the rights of tribal population through the formation of Autonomous District

Councils (ADC).

- ADCs are bodies representing a district to which the Constitution has given varying, degrees of autonomy within the state legislature.
- The Governors of these states are empowered to reorganise boundaries of the tribal areas.
- In simpler terms, she or he can choose to include or exclude any area, increase or decrease the boundaries and unite two or more autonomous districts into one.
- They can also alter or change the names of autonomous regions without a separate legislation.
- **Along with ADCs, the Sixth Schedule also provides for separate Regional Councils** for each area constituted as an autonomous region.
- In all, there are **10 areas in the Northeast that are registered as autonomous districts – three in Assam, Meghalaya and Mizoram and one in Tripura.**
- These regions are named as district council of (name of district) and regional council of (name of region).
- Each autonomous district and regional council consists of **not more than 30 members**, of which **four are nominated by the governor** and the rest via elections. All of them remain in power for a term of five years.
- The Bodoland Territorial Council, however, is an exception as it can constitute up to 46 members.

Topic 35: PARTICULATE MATTER 2.5

Importance for Prelims: Environment



Particulate matter

- Particulate matter, or PM, is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets.
- Particles can be suspended in the air for long periods of time.
- Some particles are large or dark enough to be seen as soot or smoke. Others are so small that individually they can only be detected with a microscope.
- Many manmade and natural sources emit PM directly or emit other pollutants that react in the atmosphere to form PM.

PM 2.5

- Particles less than 2.5 micrometers in diameter (PM_{2.5}) are referred to as “fine” particles and are believed to pose the greatest health risks.

- Because of their small size (approximately 1/30th the average width of a human hair), fine particles can lodge deeply into the lungs.
- Particles with diameters between 2.5 and 10 micrometers are referred to as “coarse” particles.
- PM 2.5 particles can only be detected with the help of electron microscope.

Sources of PM

- Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes.
- Sources of coarse particles include crushing or grinding operations, and dust from paved or unpaved roads.
- Other particles may be formed in the air from the chemical change of gases. They are indirectly formed when gases from burning fuels react with sunlight and water vapor. These can result from fuel combustion in motor vehicles, at power plants, and in other industrial processes.

Topic 37: PULICAT LAKE

Importance for Prelims: Geography



The Expert Appraisal Committee (EAC) of the Environment Ministry has directed a sub-committee to visit the coastal stretch of Pulicat lake where the Department of Fisheries, Tamil Nadu, has proposed two training walls for permanent stability for the bar mouth of the lake.

Concept:

- Pulicat Lagoon is the second largest brackish water lagoon in India, after Chilika Lake. It is present in the Coromondal Region i.e. Andhra Pradesh–Tamil Nadu Border.
- The barrier island of Sriharikota separates the lake from the Bay of Bengal and is home to the Satish Dhawan Space Centre.
- The lake encompasses the **Pulicat Lake Bird Sanctuary**.
- **Flamingo Festival is held every year** to promote tourism in Pulicat lake

and Nellapattu. It has been organised for the past 12 years

- The primary inflows to the Pulicat Lake are Arani, Kalangi and Swarnamukhi.
- About 96% of the Pulicat Lake is present in Andhra Pradesh while only 3% is present in Tamil Nadu.
- The **Buckingham Canal, a navigation channel, is part of the lagoon** on its western side.