



Major Passes in India

MAJOR PASSES IN INDIA



FACTS

- **Umling La pass** located in Eastern Ladakh has recently become the **world's highest motorable pass** (Project Himank).
- **Lipu Lekh Pass** is located close to the **tri junction of Uttarakhand (India), China and Nepal**.
- **Nathu La** (Sikkim) is situated on the **Indo-Tibetan border**. It is **one of the three open trading passes** between India and China (other two: **Shipki La and Lipu Lekh Pass**).
- **Naku La**, located in Sikkim, was recently in news due to the **Indo-China face-off along the LAC at the pass**.
- **Zoji La** links Leh with Srinagar and is known as the "**Mountain Pass of Blizzards**". The Zojila tunnel is **Asia's longest tunnel**.
- **Dungri La** (or Mana) Pass connects India and Tibet. It is **located in the Nanda Devi Biosphere Reserve** of the Zaskar mountain range (Uttarakhand). Even Indian nationals **need prior permits from the Army** to travel through this pass.
- **Rohtang Pass** (Himachal Pradesh) is situated in the **Pir Panjal Range** of the great Himalayas and **connects Kullu Valley with Lahaul and Spiti Valleys**.
- The **widest gap of Western Ghats is at Palakkad (or Pal Ghat)** in Kerala adjoining Tamil Nadu.

National Logistics Policy 2022

For Prelims: Multi Modal Logistics Park, Bharatmala Pariyojna, Tripartite Agreement

For Mains: Significance of National Logistics Policy

Why in News?

Recently, the Government has launched a **National Logistics Policy (NLP) 2022**, aiming to achieve 'quick **last-mile delivery**', **end transport-related challenges**.

What is Logistics?

- Logistics encompasses **planning, coordinating, storing, and moving resources** —people, raw materials, inventory, equipment, etc., from **one location to another**, from the production points to consumption, distribution, or other production points.
- The term "logistics" describes the **total process of controlling the acquisition, storage, and delivery of resources** to their intended location.
- It **entails locating potential distributors and suppliers and evaluating the viability and accessibility** of such parties.

What is NLP 2022?

- **About:**
 - The policy focuses on key areas such as **process re-engineering, digitisation, and multi-modal transport**.
 - It is a crucial move as **high logistics cost impacts the competitiveness** of domestic goods in the international market.
 - The need for a national logistics policy was felt **since the logistics cost in India is high as compared to other developed economies**.
- **Goals:**
 - **Logistics costs have to be cut by half to be near global benchmarks by 2030** by reducing the cost of logistics from 14-18% of GDP to global best practices of 8%.
 - Countries like the US, South Korea, Singapore, and certain European nations have such a **low logistics cost-to-GDP ratio**.
 - The current cost is 16% of GDP.
 - Being the 5th largest economy in the world, India aims to be **among the top 10 in the [LPI \(Logistics Performance Index\)](#) by 2030**. It has to match the pace of South Korea.
 - In 2018, India was ranked 44th in the LPI.
 - Creating data-driven Decision Support Systems (DSS) to **enable an efficient logistics ecosystem**.
 - The policy's target is to **ensure that logistical issues are minimised**, exports grow manifold, and small industries and the **people working in them benefit significantly**.
- **Key Building Blocks:**
 - **Digital Integration System:** It will lead to seamless and faster work-flow, making logistics significantly more efficient.
 - **Unified Logistics Interface Platform:** It aims to collapse **all logistics and transport sector digital services into a single portal**, thereby freeing manufacturers and exporters from the present tyranny of long and cumbersome processes.
 - **Ease of Logistics Services:** E-Logs, a new digital platform, will allow industry to **directly take up operational issues with government agencies** for speedy resolution.
 - **Comprehensive Logistics Action Plan:** The Comprehensive Logistics Action Plan

comprising **integrated digital logistics systems**, standardisation of physical assets, benchmarking service standards, human resource development, capacity building, development of logistics parks, etc.

What is the Significance of the Policy?

- **PM Gati Shakti** will get further boost and complementarity with the launch of the National Logistics Policy.
- The Policy will help make the sector an integrated, cost-efficient, resilient, and **sustainable logistics ecosystem in the country** as it covers all bases of the sector along with streamlining rules and **addressing supply-side constraints**.
- The policy is an endeavor to improve the competitiveness of Indian goods, enhance economic growth and increase employment opportunities.

What are the Initiatives Related to Logistics?

- [Multimodal Transportation of Goods Act, 1993.](#)
- [PM Gati Shakti Scheme](#)
- [Multi Modal Logistics Parks](#)
- [LEADS Report](#)
- [Dedicated Freight Corridor](#)
- [Sagarmala Projects](#)
- [Bharatmala Project](#)

Way Forward

- The rail sector suffers from many structural deficiencies which have to be eliminated fast if the logistics cost has to be halved to global benchmarks. The average speed of a freight train has stagnated at 25 kmph for decades— it has to be urgently doubled to 50 kmph at least.
 - The railways need to have a **time-table based goods operation**. It has to become an **aggregator at the source of freight**, and disaggregator at the destination, to capture the high-value small-load business.
- For decades the country has talked about eco-friendly and cost-effective inland waterways freight movement, but nothing has happened.
 - There is **valuable learning available from the river ports of China**, who puts key emphasis on Port Infrastructure.
- Road logistics is a totally fragmented sector, where a large chunk of truck owners have a very small fleet.
 - There is a clear case for **the aggregation of small operators** with government-supported aggregation apps. Similarly, there is **a need for large players in the sector to drag costs down**.
- Apart from improvement in key functional areas, the **size of our ports have to grow manifold** – it is not without reason that **10 of the world's top 20 ports are in China**.
- It is time to give **wings to air logistics** and drastically improve the transport of high-value and perishable items.

UPSC Civil Services Examination Previous Year Question (PYQ)

Q. The Gati-Shakti Yojana needs meticulous coordination between the government and the private sector to achieve the goal of connectivity. Discuss. **(2022)**

ECI Seeks Limit on Cash Donations

For Prelims: ECI Proposals to Electoral Reforms, Election Commission of India.

For Mains: Concerns Related to cash Donations in Election.

Why in News?

Recently, the [Election Commission of India \(ECI\)](#) has suggested a slew of amendments to [RP \(Representation of People Act\) Act, 1951](#) to increase **transparency and accountability on the part of candidates**.

What are the Concerns?

- It was found that while donations reported by some political parties were nil, **their audited accounts statement showed receipt of huge amounts**, proving large-scale transactions in cash, **below the threshold limit of Rs 20,000**.
- Another area of concern that has been identified by the EC is the **violation of foreign exchange regulations**.

What are the Key Recommendations of ECI?

- **Report Donations above Rs 2000.**
 - **All donations above Rs 2,000 should be reported**, thereby enhancing transparency in funding.
 - As per rules, political parties have to disclose all donations **above Rs 20,000** through their contribution report that is submitted to the EC.
- **Digital or Cheque Transactions:**
 - Make **digital transactions or account payee cheque transfers mandatory** for all expenses above **Rs 2,000 to a single entity/person**.
- **Limit Cash Donations:**
 - Restrict **cash donations at 20% or at maximum Rs 20 crore out of the total** funds received by a party, whichever is less.
- **Separate Bank Account:**
 - **Every fielding candidate should open a separate bank account for election purposes** and route all expenses and receipts through this account, and **furnish these details in their account** of election expenditure.
- **Segregate Foreign Donations:**
 - The EC has also sought **“electoral reforms” to ensure that no foreign donations creep into the funds of the parties** as stipulated under the RP Act and the [Foreign Contribution Regulation Act \(FCRA\), 2010](#).
 - At present, there is **no mechanism to segregate foreign donations** at the initial stages specifically, and the present format of contribution report.

What is ECI?

- **About:**
 - The Election Commission of India is **an autonomous constitutional authority**

responsible for **administering Union and State election** processes in India.

- The body administers elections to the **Lok Sabha, Rajya Sabha, and State Legislative Assemblies in India**, and the offices of the President and Vice President in the country.
- Originally the commission had only one election commissioner but after the Election Commissioner Amendment Act 1989, it has been made a multi-member body.
- The commission consists of one Chief Election Commissioner and two Election Commissioners

▪ **Constitutional Provisions:**

- **Part XV** of the Indian constitution deals with elections, and establishes a commission for these matters.
- The Election Commission was established in **accordance with the Constitution on 25th January 1950**.
- **Article 324 to 329** of the constitution deals with powers, function, tenure, eligibility, etc of the commission and the members.

Articles related to Elections	
324	Superintendence, direction and control of elections to be vested in an Election Commission.
325	No person to be ineligible for inclusion in, or to claim to be included in a special, electoral roll on grounds of religion, race, caste or sex.
326	Elections to the House of the People and to the Legislative Assemblies of States to be on the basis of adult suffrage.
327	Power of Parliament to make provision with respect to elections to Legislatures.
328	Power of Legislature of a State to make provision with respect to elections to such Legislature.
329	Bar to interference by courts in electoral matters.

UPSC Civil Services Examination Previous Year Question (PYQ)

Q. Consider the following statements: (2017)

1. The Election Commission of India is a five-member body.
2. Union Ministry of Home Affairs decides the election schedule for the conduct of both general elections and bye-elections.
3. Election Commission resolves the disputes relating to splits/mergers of recognised political parties.

Which of the statements given above is/are correct?

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

Ans: (d)

[Source: TH](#)

Self-reliance in Energy Sector

For Prelims: Renewable Energy, Gas Based Economy, Blending of ethanol in petrol

For Mains: India's Energy sector, Renewable Energy Transition

Why in News?

The Government of India has been undertaking various initiatives to attract more **E&P (Exploration & Production) investment** to increase self-reliance in the energy sector.

What is the Background?

- India's Energy sector is one of the **most diversified in the world**. Sources of power generation range from conventional sources such as **coal, lignite, natural gas, oil, hydro and nuclear power, to viable non-conventional sources** such as wind, solar, agricultural and domestic waste.
- India was **ranked fourth in wind power, fifth in solar power and fourth in renewable power** installed capacity, as of 2020.
- Near-universal household access to electricity was achieved in 2019, meaning that over 900 million citizens have gained an electrical connection in less than two decades.
- But, the per capita electricity consumption in India is **only one-third of the global average**, even though the demand for energy has doubled.
- So, to catch up with the increasing demand for energy, there is a need to make arrangements for a secure and **sustainable form of self-reliance in the energy sector**.

What is the need of Becoming Self-Reliant in the Energy Sector?

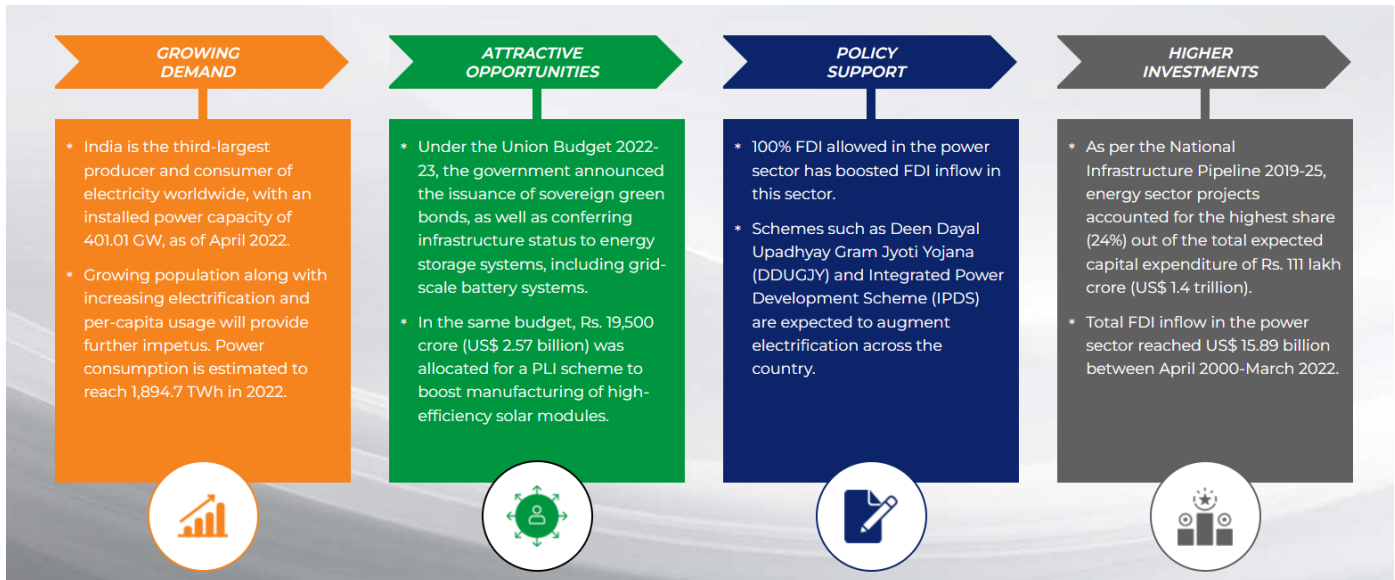
- India is **not energy independent**. It spends over Rs **12 lakh crore on importing energy**.
- The government is planning to get energy independence before 100 years of independence is completed i.e., by 2047.
- As green power takes precedence in the global scheme of things, the Indian government has already **kick-started its green hydrogen journey**.
- For a nation, 85% dependent on imports for meeting its oil needs and 50 % for gas requirements, the **key is alternate energy sources** - from renewable power to hydrogen and switching to electric vehicles from current petrol and diesel-run automobiles.
- From solar energy to Mission Hydrogen to adoption to EVs, we need to take these initiatives to the next level for energy independence.
- India is the **world's fifth largest producer of ethanol** after the US, Brazil, EU and China. Ethanol worldwide is largely used for consumption but nations like Brazil and **India also dope it in petrol**.
- Self-reliance through green energy initiatives is the **foundation of a green and sustainable economy**. Green energy initiatives focus on clean energy and its availability to all individuals and businesses.

What are the Government's Achievements in the Energy Sector?

- The target of supplying petrol mixed with **10% ethanol** (10% ethanol, 90% petrol) was **achieved in June 2022**, ahead of the original schedule of November 2022.
 - Encouraged by the success, the government **advanced the target of making petrol with 20% ethanol by five years to 2025**.
- As of March 2021, 2.82 crore households have been electrified under [Pradhan Mantri Sahaj Bijli](#)

Har Ghar Yojana, "Saubhagya".

- By June, 2022, over 36.86 crore LED bulbs, 72.18 lakh LED tube lights and 23.59 lakh energy-efficient fans have been distributed across the country, **saving around 48,411 million kWh per year and Rs. 19,332 crores in cost savings.**
- As of June 2022, over **44 lakh smart metres have been deployed under the [National Smart Grid Mission \(NSGM\)](#)**, with a further 67 lakhs to be deployed.
- Solar tariffs in India have reduced from Rs. 7.36/kWh (US 10 cents/kWh) in FY15 to Rs. 2.45/kWh (US 3.2 cents/kWh) in July 2021.
- India's rank **jumped to 22 in 2019 from 137 in 2014 on World Bank's Ease of doing business - "Getting Electricity" ranking.**



What are the Initiatives to Achieve Self-reliance in the Energy Sector?

- **[Gas Based Economy:](#)**
- **[Blending of Ethanol in Petrol](#)**
- **[Prime Minister Ujjwala Yojna](#)**
- **[Renewable Energy Initiatives](#)**
- **[National Hydrogen Mission](#)**

Way Forward

- India must **exploit solar and wind energy**, and especially green hydrogen energy, in its electricity system to meet the ever-increasing energy demand.
- The aspects like investment, infrastructure development, private-public partnership, green financing, policy framework **need to be strengthened both at the national level and regional level** to cater to inclusiveness in the development process.
- Green energy has tremendous potential in contributing to income, employment, and entrepreneurship and **undoubtedly fosters sustainable development.**
- In addition to job and income generation, it opens up opportunities/avenues for investment and markets for new products and services. So, India **should focus on achieving green energy and self-reliance in the Energy Sector** together.

UPSC Civil Services Examination Previous Year Question (PYQ)

Q1. Write a note on India's green energy corridor to alleviate the problem of conventional energy. **(2013)**

Q2. India has immense potential of solar energy though there are regional variations in its developments.

Elaborate. (2020)

Q3. Do you think India will meet 50 percent of its energy needs from renewable energy by 2030? Justify your answer. How will the shift of subsidies from fossil fuels to renewables help achieve the above objective? Explain (2022)

[Source: PIB](#)

Ethereum Merger

For Prelims: Ethereum Merge, Ethereum blockchain platform, 'proof-of-stake, decentralised apps (dApps), Non-fungible tokens (NFTs), Decentralised finance (DeFi), Cryptocurrency, Blockchain, Proof of Work(PoW).

For Mains: Cryptocurrency & Related Issues.

Why in News?

Recently, the [Ethereum](#) blockchain platform fully **transitioned from 'proof of work' to a 'proof-of-stake' consensus mechanism** and this revamp is known as the **Merge**.

What has Exactly Changed?

▪ Old Method:

- **Proof of Work:** As a decentralised platform, Ethereum doesn't have institutions like banks approving the transactions that happen on its network – the **approvals were earlier happening under the Proof of Work(PoW) consensus mechanism** which was essentially **done by miners**.
 - Under it, the **miners would compete to solve complex mathematical puzzles** using a massive infrastructure of cutting-edge computer hardware, and the first one to solve the puzzle would be chosen as the validator.
 - This method was almost **entirely dependent on crypto farms**, which are massive warehouses lined with rows of computers which would solve the puzzles.

▪ Issues:

- **High Energy Consumption:** These mining farms were **energy guzzlers** and they sometimes **consumed more electricity than entire countries** and were, therefore, a big concern in terms of [environmental sustainability](#).
- The crypto's total annualised power consumption nearly **matches that of Finland**, while its carbon footprint is comparable to Switzerland.
 - For some time, European countries even mulled a crypto mining ban, while China actually carried out a nationwide crackdown on crypto miners, sending them fleeing overseas.

▪ New Method:

- **Proof of Stake:** It would **set aside the need for crypto miners and gigantic mining farms**, which had previously driven the blockchain under a mechanism called '**proof-of-work' (PoW)**.
 - Instead, it has now **shifted to a 'proof-of-stake' (PoS) mechanism** that **assigns 'validators' randomly to approve transactions and earn a**

small reward.

- Validators are people who **volunteer a computer to maintain the blockchain's integrity** by constantly computing the linkage from the first block to the last.

▪ **Benefits:**

- This would entirely **eliminate the need for miners** on the Ethereum network.
- It will **reduce ethereum's energy consumption** by nearly 99.95%.
- It will make **transactions on the Ethereum network extremely secure.**

What do we Know about Ethereum?

- Ethereum is one of the **most used platforms by developers to build decentralised apps (dApps)**, smart contracts, and even crypto tokens. The platform's currency, Ether is only second to Bitcoin in terms of market capitalisation.
- Some of the most popular applications of cryptocurrencies such as **non-fungible tokens (NFTs)** and **decentralised finance (DeFi)** are based on the Ethereum network.

What is Cryptocurrency?

- **Cryptocurrency**, sometimes called crypto-currency or crypto, is any form of currency that exists digitally or virtually and uses cryptography to secure transactions.
- Cryptocurrencies don't have a central issuing or regulating authority, instead using a decentralized system to record transactions and issue new units.
 - It is supported by a decentralized **peer-to-peer network** called the **blockchain**.

What is Blockchain Technology?

- **Blockchain technology** ensures that **all transactions in cryptocurrencies are recorded** in a public financial transaction database.
 - Bitcoin, Ethereum, and Ripple are a few notable **examples** of cryptocurrencies.
- Blockchain derives its name from the **digital databases or ledgers** where information is stored as **"blocks"** that are coupled together to form **"chains"**.
 - It offers a **singular combination of permanent and tamper-evident record-keeping**, real-time transaction transparency, and auditability.
 - An exact copy of the blockchain is **available to each of the multiple computers** or users who are joined together in a network.
 - Any new information added or altered via a new block is to be vetted and **approved by over half the total users.**

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. With reference to "Blockchain Technology", consider the following statements: (2020)

1. It is a public ledger that everyone can inspect, but which no single user controls.
2. The structure and design of blockchain is such that all the data in it are about cryptocurrency only.
3. Applications that depend on basic features of blockchain can be developed without anybody's permission.

Which of the statements given above is/are correct?

- (a) 1 only
(b) 1 and 2 only

- (c) 2 only
(d) 1 and 3 only

Ans: (d)

Exp:

- **A blockchain is a form of public ledger, which is a series (or chain) of blocks on which transaction details are recorded and stored** on a public database after suitable authentication and verification by the designated network participants. A public ledger can be viewed but cannot be controlled by any single user. Hence, statement 1 is correct.
- The blockchain is not only about the cryptocurrency but it turns out that blockchain is actually a pretty reliable way of storing data about other types of transactions, as well.
- In fact, blockchain technology can be used in property exchanges, bank transactions, healthcare, smart contracts, supply chain, and even in voting for a candidate. Hence, statement 2 is not correct.
- Although cryptocurrency is regulated and needs approval of the central authorities, blockchain technology is not only about cryptocurrency. It can have various uses, and applications based on basic features of the technology can be developed without anybody' approval. **Hence, statement 3 is correct. Therefore, option (d) is the correct answer.**

Mains

Q. What is Cryptocurrency? How does it affect global society? Has it been affecting Indian society also? **(2021)**

Source: IE

Nordic Model of Social Democracy

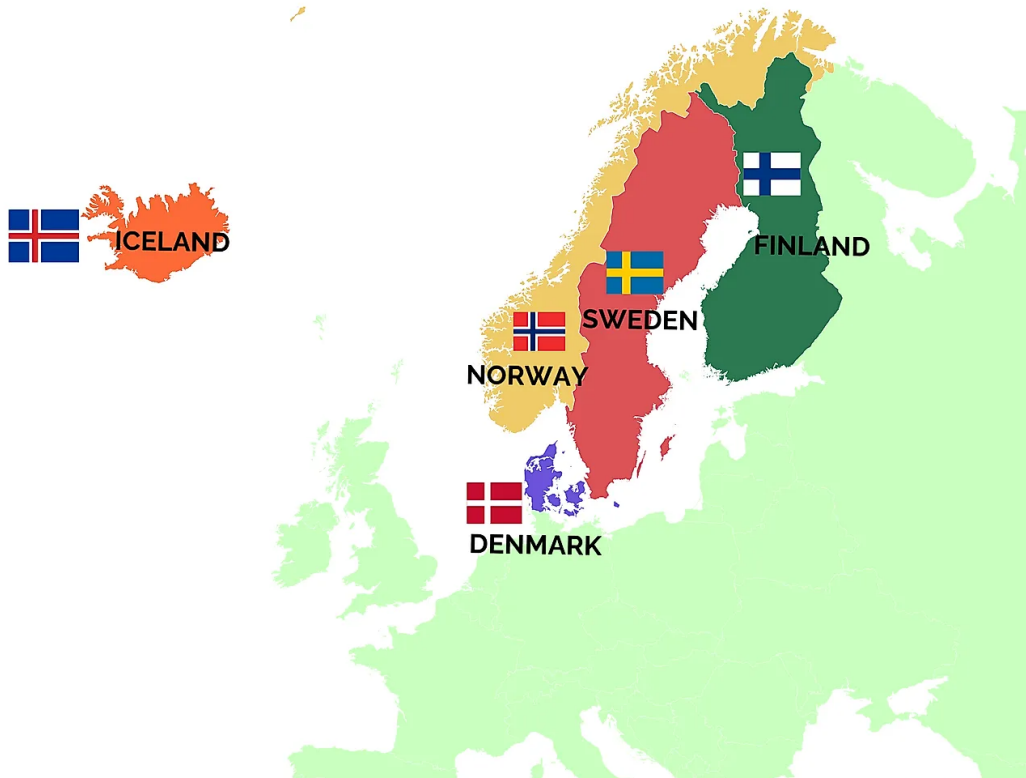
For Prelims: Challenges with the Nordic Model of Social Democracy, Social Democracy, Nordic Countries.

For Mains: Nordic Model of Social Democracy, its advantages and Disadvantages.

Why in News?

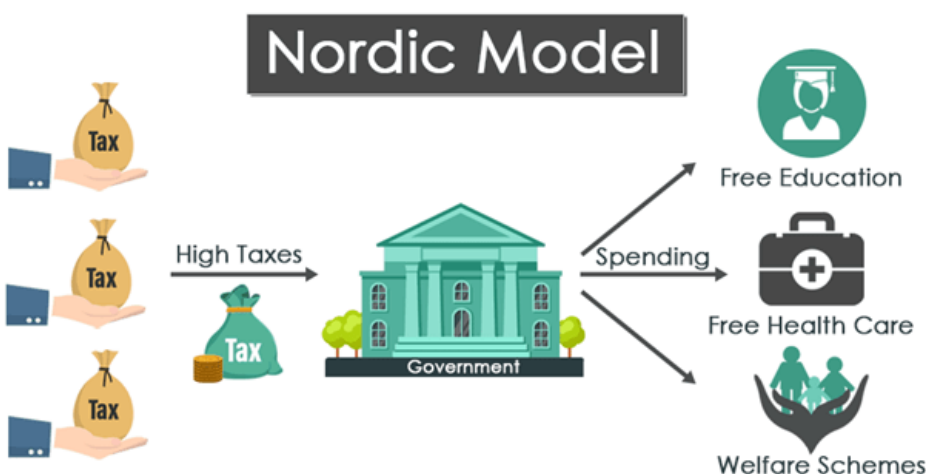
In Sweden the new right-wing government is about to form, which threatens the **Nordic (Also Scandinavian) Model of Social Democracy**.

- Sweden's right-wing coalition led by **Moderate Party has** defeated the **centre-left bloc coalition led by Social Democrats Party**, which notwithstanding remained the single largest party.
- Sweden, Norway, Finland, Denmark, and Iceland, collectively known as the **Nordic countries**.



What is the Nordic Model of Democracy?

- The Nordic model refers to the standards followed in Sweden, Norway, Finland, Denmark, and Iceland. These nations are known for **high living standards and low-income disparity**.
- The model is a **unique combination of Free-Market Capitalism and Social Welfare**.
 - An economic system that is based on supply and demand is known as the **Free Market**.
 - Social Benefits are **funded by taxpayers and administered by the government** for the benefit of all citizens.
- It is a **mixed economic system that reduces the gap between the rich and the poor** through **redistributive taxation** and a **robust public sector** while preserving the benefits of capitalism.
- Gender equality is a **hallmark trait of the culture** that results in not only a high degree of workplace participation by women but also a high level of parental engagement by men.



What Makes the Nordic Model Work?

- A combination of **shared history and societal development is credited** with much of its success.
 - Unlike areas that developed around the formation of large corporate-owned farms, the

history of **this part of the world is largely one of family-driven agriculture.**

- The result is a nation of small entrepreneurial enterprises directed by citizens **facing the same set of challenges.** Solutions that benefit one member of **society are likely to benefit all members.**
- This **collective mentality** results in a citizenry that trusts its government because the government is led by **citizens seeking to create programs that benefit everyone.**
- The result is **publicly funded services**, such as healthcare and education, are of such high quality that private enterprises have no reason to offer these services or room to improve them. This **mindset remained intact as capitalist enterprises developed.**

What are the Advantages and Disadvantages?

- **Advantage:**
 - The Nordic model yields **equality and social mobility.**
 - Everyone has **free access to decent public services**, including some of the best education and healthcare in the world, and people appear happy to pay their taxes to make sure that this continues.
 - These collective benefits are merged with entrepreneurship, creating an efficient blend of capitalism and socialism (Cuddly Capitalism).
- **Disadvantage:**
 - The model is criticized, because of the high taxes, high degree of government intervention, and relatively low **Gross Domestic Product (GDP)** and productivity, **limit economic growth.**
 - The Nordic model **redistributes assets, limits the amount of money available for personal spending** and consumption, and encourages reliance on government-subsidized programs.

What are the Challenges to this Model?

- **Aging Populations:**
 - In terms of an aging population, a large base of young taxpayers and a smaller population of older residents receiving services are the ideal scenario. As the population balance shifts the other way, benefit reductions are a likely outcome.
- **Immigration:**
 - In terms of immigration, these countries attract a notable influx of newcomers seeking to enjoy generous public benefits. **These new arrivals often come from nations that do not have a long, shared history of making decisions on** behalf of the common good.
 - New **arrivals can present a significant burden to the system and could**, ultimately, result in its demise.

Way Forward

- There are fears that an aging population, globalization, and growing immigration will gradually tear apart the efficient welfare state of the Nordic model.
- Taxes can only increase so far, **and there is always the risk that a more individualistic culture will begin to evolve.**
- The Nordic model has a habit of overcoming obstacles better than many critics have expected. There are reasons to believe that the basic values behind it are so ingrained in these countries that they will always exist in one form or another.

[Source: TH](#)

Market-Based Economic Dispatch of Power

For Prelims: Market-Based Economic Dispatch (MBED) of Power, Electricity Act 2003, One Nation, One Grid, One Frequency, One Price Formula, Central Electricity Regulatory Commission (CERC), Power Sector DISCOMs

For Mains: Power Sector Reforms, Associated Challenges and the Way Forward

Why in News?

The **Market-Based Economic Dispatch (MBED) mechanism** envisages **centralised scheduling for dispatching the entire annual electricity consumption** of around 1,400 billion units.

What is the Centralised Model of MBED?

- **MBED mechanism** proposes a **centralised scheduling of power dispatches**, both inter-state and intra-state.
- It will mark a clear **shift from a decentralised model which** is backed by [Electricity Act, 2003](#).
- MBED is a way forward to deepen power markets in line with the Centre's '[One Nation, One Grid, One Frequency, One Price](#)' formula.
 - It will ensure that the **cheapest electricity generating resources across the country are supplied to meet the overall system demand** and will therefore be a win-win for both the distribution companies and the generators and result in savings for consumers.
- The implementation of the first phase of MBED was **earlier planned to start with effect from April 1, 2022**.
 - However, it was **put off for later in 2022**, the date for which is yet to be announced.

What is the Electricity Act 2003?

- [The Electricity Act, 2003](#) is the **central law regulating the electricity sector**.
- The Act provides for **Electricity Regulatory Commissions at both the central and state levels** i.e., [Central Electricity Regulatory Commission \(CERC\)](#) and **State Electricity Regulatory Commissions (SERCs)**.
 - **Functions of these Commissions include:**
 - Regulating and determining tariff
 - Issuing licenses for transmission
 - Distribution, and electricity trading
 - Adjudicating upon disputes, within their respective jurisdiction.

What is the Electricity (Amendment) Bill 2022?

- **About:**
 - **The Electricity Amendment Bill, 2022** aims at giving **multiple players open access to [distribution networks of power suppliers](#)** and also allowing **consumers to choose any service provider**.
- **Implication:**
 - The Bill seeks to amend **Electricity Act 2003:**
 - To facilitate the **use of distribution networks** by all licensees, under provisions of **non-discriminatory "open access"** with the objective of **enabling competition, enhancing efficiency** of distribution licensees for improving services to consumers and **ensuring sustainability** of the power sector.
 - To facilitate **non-discriminatory open access to the distribution** network of a distribution licensee.
 - To make provisions vis-à-vis **graded revision in tariff** over a year besides **mandatory fixing of maximum ceiling and minimum tariff** by the appropriate commission.

- To convert the rate of punishment **from imprisonment or fine to fine.**
- To **strengthen functions** that will be discharged by the regulators.

What are the Concerns Associated with the Centralised Model of MBED?

- MBED will have **effect on the relative autonomy of states** in managing their electricity sector, including their own generating stations, and make the [Electricity Distribution Companies \(DISCOMs\)](#) (mostly state-owned) entirely dependent on the centralised mechanism.
- MBED is **inconsistent with the constitutional provisions, existing legislative framework and market structure**, and could end up creating more challenges than it resolves as it infringes on the autonomy of states.
- The **concerns regarding the viability of DISCOMs** really need to be tackled.
 - Currently, **power is in the Concurrent List** of the Constitution, with the **electricity grid being divided into** state-wise autonomous control areas managed by the **State Load Dispatch Centres (SLDCs)**, which in turn are supervised by **Regional Load Dispatch Centres (RLDCs)** and the **National Load Dispatch Centre (NLDC)**.
 - Each control area is **responsible in real time for balancing its demand with generation resources.**
 - The new model will **narrow the multiple options currently available** under the voluntary market design with day-ahead contracts turning redundant.
 - For instance, the **DISCOMs and SLDC wouldn't be able to buy or sell power in the real-time market.**
- It could **potentially clash with emerging market trends** i.e., **increase in renewable energy** in the overall generation mix and the increasing numbers of **electric vehicles** plugging into the grid.
 - All of these actually **necessitate greater decentralisation of markets** and voluntary pools for efficient grid management and operations.
- India has a diversified electricity market ranging from **long-term power purchase agreements (PPAs), cross border PPAs, short and medium term bilaterals**, day-ahead power exchange, and a real-time online market.
 - Around 87% of the installed power is tied up under long term PPAs and the remaining is transacted in the power markets.
 - At present, **each control area or state follows merit-order dispatch (cheapest power dispatched first)** from the basket of intra-state and inter-state resources and buys or sells on the day-ahead power exchange. **The schedules under long-term PPAs can be revised.**
 - However, this feature of **pan-India visibility of the available tradable power on a daily basis** on the power exchange **will not be available as per the MBED model.**
- The **must-run status of some power stations such as Trombay TPS, Mumbai or the Dadri TPS** in the NCR region **will come under question.**
 - These power stations are critical for security of supply to key cities such as Mumbai or Delhi and in islanding operations in the event of a grid failure.
- The proposed **Bilateral Contract Settlement (BCS) mechanism** under the scheme for refunding the difference between the Market Clearing Price and the contract price under the PPA, primarily to keep the PPA prices intact, is **another challenge.**
 - This will **dilute the objective of "market-driven prices"** while complicating the entire accounting and settlement process.
 - Further, it will **erode the sanctity of time tested PPAs and create a volatile wholesale market.**

What can be the Way Forward?

- Being a subject of **Concurrent List of Indian Constitution, recommendations from states should be taken into consideration** for effective implementation of the provisions of the bill.
- **Security Constrained Economic Dispatch (SCED)**, an algorithm developed by the NLDC **can be the potential solution**, which is aimed at **assisting regulators in making informed calls**

on scheduling decisions on a nationwide basis.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Q. Consider the following statements: (2019)

1. Petroleum and Natural Gas Regulatory Board (PNGRB) is the first regulatory body set up by the Government of India.
2. One of the tasks of PNGRB is to ensure competitive markets for gas.
3. Appeals against the decisions of PNGRB go before the Appellate Tribunals for Electricity.

Which of the statements given above are correct?

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

Ans: (b)

Exp:

- The Petroleum and Natural Gas Regulatory Board (PNGRB) was constituted under the Petroleum and Natural Gas Regulatory Board Act, 2006. The independent regulator, Telecom Regulatory Authority of India (TRAI), set up under TRAI Act of 1997, was the first independent regulator in India. Hence, statement 1 is not correct.
- PNGRB is tasked to protect the interests of consumers and entities engaged in specified activities relating to petroleum, petroleum products and natural gas and to promote competitive markets and for matters connected therewith or incidental thereto. Hence, statement 2 is correct.
- The Appellate Tribunal established under Section 110 of the Electricity Act, 2003 (Central Act 36 of 2003) shall be the Appellate Tribunal to appeal against the decisions of the PNGRB. Hence, statement 3 is correct.
- **Therefore, option B is the correct answer.**

Q. Which one of the following is a purpose of 'UDAY', a scheme of the Government? (2016)

- (a) Providing technical and financial assistance to start-up entrepreneurs in the field of renewable sources of energy
(b) Providing electricity to every household in the country by 2018
(c) Replacing the coal-based power plants with natural gas, nuclear, solar, wind and tidal power plants over a period of time
(d) Providing for financial turnaround and revival of power distribution companies

Ans: (d)

Exp:

- Ujwal DISCOM Assurance Yojana (UDAY) was launched by the Ministry of Power. It aimed to help to make state electricity distribution companies (DISCOMS) financially and operationally healthy so that they can supply adequate power at affordable rates.
- It envisages financial turnaround; operational improvement; reduction of the cost of generation of power; development of renewable energy; energy efficiency and conservation.
- The scheme seeks to impact financially and operationally sound DISCOMS; increased demand for power; improvement in Plant Load Factor (PLF) of generating plants; reduction in stressed assets; availability of cheaper funds; increased capital investment; development of renewable energy sector.
- **Therefore, option D is the correct answer.**

National Assessment and Accreditation Council (NAAC) Assessing System

For Prelims: National Assessment and Accreditation Council (NAAC), Higher education Institution's (HEIs), Accredited universities, University Grants Commission (UGC), Quacquarelli Symonds (QS) World University Rankings.

For Mains: Significance, Issues of Education and Related Initiatives.

Why in News?

Recently, there was a controversy related to the **National Assessment and Accreditation Council (NAAC) ratings** of the Maharaja Sayajirao University of Baroda as the institute's score changed from A to A+ on the back of improvement across parameters.

What do we Know about NAAC?

▪ About:

- It's an **autonomous body under the [University Grants Commission \(UGC\)](#)**, that **assesses and certifies Higher Education Institution's (HEIs)** with gradings as part of accreditation.
- Through a **multi-layered process**, a higher education institution learns whether it meets the standards of quality set by the evaluator in terms of curriculum, faculty, infrastructure, research, and other parameters.
- The ratings of institutions **range from A++ to C**. If an institution is graded D, it means it is not accredited.

▪ Mission:

- To arrange for periodic assessment and accreditation of institutions of higher education or units thereof, or specific academic programmes or projects;
- To **stimulate the academic environment** for promotion of quality of teaching-learning and research in higher education institutions;
- To encourage self-evaluation, accountability, autonomy and innovations in higher education;
- To undertake quality-related research studies, consultancy and training programmes, and
- To collaborate with other stakeholders of higher education for quality evaluation, promotion and sustenance.

▪ Process for Accreditation:

- **Input Based:** NAAC relies heavily on self-assessment reports of applicant institutions.
 - The first step is for an applicant **institution to submit a self-study report of information** related to quantitative and qualitative metrics.
 - The data is then **validated by NAAC expert teams**, followed by **peer team visits to the institutions**.

▪ Future Perspective:

- **Outcome-based approach:** The NAAC is **planning to adopt an outcome-based approach**, according to it the **emphasis would be given to finding out if students are equipped with relevant skills and academic abilities**.

What is the Status of Accredited Institutions in India?

- There are 1,043 universities and 42,343 colleges listed on the portal of the All-India Survey on Higher Education.
- Around 406 universities and 8,686 colleges are NAAC-accredited.
- Among the states, **Maharashtra accounts for the highest number of accredited colleges at 1,869** followed by Karnataka's 914, the second highest.
 - Tamil Nadu has the most **accredited universities** at 43.

GRADE-WISE				TOP FIVE STATES (Accredited)			
Grade	Universities	Colleges	Total	UNIVERSITIES		COLLEGES	
A	224	1,778	2,002	Tamil Nadu	43	Maharashtra	1,834
B	165	5,831	5,996	Uttar Pradesh	37	Karnataka	881
C	17	1,077	1,094	Maharashtra	35	Tamil Nadu	829
Total	406	8,686	9,092	Karnataka	33	Uttar Pradesh	604
				Rajasthan	31	Gujarat	492

Which Educational Institutes Can Apply for Accreditation?

- Only higher education **institutions that are at least six years old**, or from where **at least two batches of students have graduated**, can apply.
- The accreditation is **valid for five years**.
- Further, Aspiring institutes need to be recognised by the UGC and have regular students enrolled in their full-time teaching and research programmes.

What is the Present Status of India's Higher education Sector?

- India's higher education system is the **world's third-largest in terms of students**, next to China and the United States.
- India's Higher Education sector has witnessed a tremendous increase in the number of Universities/University level Institutions & Colleges since independence.
 - In the prestigious **Quacquarelli Symonds (QS) World University Rankings 2023**, only three Indian Universities- IIT-Bombay, IIT-Delhi and IISc (Bangalore)- have been included in the top 200 institutes.

What are the Challenges in India's Higher Education Sector?

- Enrolment:** The **Gross Enrolment Ratio (GER)** of India in higher education is only 25.2% which is quite low as compared to the developed and other major developing countries.
- Equity:** There is no equity in GER among different sections of society. GER for males (26.3%), females (25.4%), SC (21.8%) and ST (15.9%).
 - There are regional variations too. While some states have high GER some are far behind the national figures.
 - The college density (number of colleges per lakh eligible population) varies from 7 in Bihar to 59 in Telangana as compared to All India average of 28.
 - Most of the premier universities and colleges are centred in metropolitan and urban cities, thereby leading to the **regional disparity** in access to higher education.
- Quality:** Higher Education in India is plagued with rote learning, lack of employability and skill development due to the low quality of education.

- **Infrastructure:** Poor infrastructure is another challenge to higher education in India. Due to the budget deficit, corruption and lobbying by the vested interest group (Education Mafias), public sector universities in India lack the necessary infrastructure. Even the Private sector is not up to the mark as per the global standard.
- **Faculty:** Faculty shortages and the inability of the state educational system to attract and retain well-qualified teachers have been posing challenges to quality education for many years. Shortage of faculty leads to Ad-hoc expansion even in the premier institutions.
 - The Pupil-to-teacher ratio though has been stable in the country (30:1), however, it needs to be improved to make it comparable to the USA (12.5:1), China (19.5:1) and Brazil (19:1).

What are the Recent Initiatives taken by the Government in Higher Education?

- **Education Quality Upgradation and Inclusion Programme (EQUIP):** This is a five-year vision plan to improve the quality and accessibility of higher education over the next five years (2019-2024).
- **UGC's Learning Outcome-based Curriculum Framework (LOCF):** LOCF guidelines, issued by UGC in 2018, aims to specify what graduates are expected to know, understand and be able to do at the end of their programme of study. This is to make student active learner and teacher a good facilitator.
- **Graded Autonomy to Universities & Colleges:** Three-tiered graded autonomy regulatory system has been initiated, with the categorization based on accreditation scores. Category I and Category II universities will have significant autonomy to conduct examinations, prescribe evaluation systems and even announce results
- **Global Initiative for Academics Network (GIAN):** The programme seeks to invite distinguished academicians, entrepreneurs, scientists, experts from premier institutions from across the world, to teach in the higher educational institutions in India.
- **All India Survey on Higher Education (AISHE):** The main objectives of the survey are to- identify & capture all the institutions of higher learning in the country; and collect the data from all the higher education institutions on various aspects of higher education.
- **National Education Policy 2020.**

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. What is the aim of the programme 'Unnat Bharat Abhiyan'? (2017)

- (a) Achieving 100% literacy by promoting collaboration between voluntary organizations and government's education system and local communities.
- (b) Connecting institutions of higher education with local communities to address development challenges through appropriate technologies.
- (c) Strengthening India's scientific research institutions in order to make India a scientific and technological power.
- (d) Developing human capital by allocating special funds for health care and education of rural and urban poor, and organizing skill development programmes and vocational training for them.

Ans: (b)

Exp:

- **'Unnat Bharat Abhiyan' was launched by the Ministry of Human Resource Development, Govt with an aim to connect institutions of higher education**, including the Indian Institutes of Technology (IITs), National Institutes of Technology (NITs) and Indian Institutes of Science Education and Research (IISERs), etc., with local communities to address the development challenges through appropriate technologies.
- The objectives of Unnat Bharat Abhiyan are broadly two-fold:

- Building institutional capacity in institutes of higher education in research and training relevant to the needs of rural India.
- Provide rural India with professional resource support from institutes of higher education, especially those which have acquired academic excellence in the field of science, engineering and technology, and management. **Therefore, option (b) is the correct answer.**

[Source: IE](#)

Asian Development Bank (ADB) Loan to Himachal Pradesh

Why in News?

Recently, the [Asian Development Bank \(ADB\)](#) and the Government of India signed a USD 96.3-million loan agreement **to provide safe drinking water and improve water supply and sanitation services** in the state of Himachal Pradesh.

What are the Key Highlights of the Project?

- **About:**
 - The project is aligned with the objectives of the Government of India's [Jal Jeevan Mission](#) **which aims to provide piped water to all rural households by 2024.**
 - It will upgrade water supply infrastructure and strengthen institutional capacity to ensure safe, sustainable, and inclusive rural water supply and sanitation services.
- **Features:**
 - **Water Supply Infrastructure Revamping:**
 - Although **more than 90% of the state's rural population has access to drinking water**, the water supply infrastructure needs revamping, for efficient and improved service quality.
 - **Fecal Management Programme:**
 - A **pilot fecal sludge** management and sanitation programme will also be **implemented in Sirmaur District, benefiting 250,000 residents.**
 - **Strengthen Jal Shakti Vibhag:**
 - The project will strengthen the capacity of the **Jal Shakti Vibhag** of the Government of Himachal Pradesh and [gram panchayat](#) (local government) **village water and sanitation committees.**
 - It will support the **state government's water tariff policy reforms** and introduce an asset management system at the **state-level and district asset management plans.**
 - Key project stakeholders and **community-based organisations will be trained on water management**, including livelihood skills training for **women's self-help groups.**

What is Asian Development Bank?

- ADB, established in **1966** is owned by 68 members-49 from the region.
- It is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific while sustaining its efforts to eradicate extreme poverty.
- Further, it assists members and partners by providing loans, technical assistance, grants, and equity investments to promote social and economic development.

- It aims to promote social and economic development in Asia and the Pacific.
- As of 31st December 2019, **ADB's five largest shareholders** are **Japan and the United States** (each with **15.6% of total shares**), the **People's Republic of China (6.4%)**, **India (6.3%)**, and **Australia (5.8%)**.
- It is headquartered in **Manila, Philippines**.

[Source: PIB](#)

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