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GOI & AIIB SIGN AGREEMENT FOR USD 145 MILLION

Why in news?

The Government of India, the Government of West Bengal and the Asian Infrastructure Investment Bank (AIIB) today signed a loan agreement for a US$145 million project to improve irrigation services and flood management in the Damodar Valley Command Area (DVCA) in West Bengal.

Details:

- The **West Bengal Major Irrigation and Flood Management Project** will benefit about 2.7 million farmers from five districts of West Bengal across 393,964 ha area with better irrigation services and improved protection against annual flooding to mitigate the impact of climate change.

This investment is focused on improving the livelihood of farmers and boosting the regional economy. The project will help thousands of farmers get adequate water by improving the irrigation efficiency through infrastructure rehabilitation and modernization.

- To deal with these challenges, several institutional reforms are planned under the project.
- These include introduction of a modern Management Information System (MIS), benchmarking and evidence-based decision making, promotion of conjunctive use of surface and groundwater, introduction of rational asset management and improving transparency through citizen engagement.

  Irrigation Service Providers will be recruited on a performance basis to improve the quality of irrigation services.

The total value of the project is $413.8 million, co-financed between the AIIB ($145 million), IBRD ($145 million) and the Government of West Bengal ($123.8 million).

About Asian Infrastructure Investment Bank:

- The Asian Infrastructure Investment Bank (AIIB) is an international financial institution proposed by China. The purpose of the multilateral development bank is to provide finance to infrastructure projects in the Asia-Pacific region.
- It is **headquartered in Beijing.**
- It commenced operations in January 2016.
- By investing in sustainable infrastructure and other productive sectors today, it aims to connect people, services and markets that over time will impact the lives of billions and build a better future.

Membership of AIIB

Membership in the AIIB is **open to all members of the World Bank** or the **Asian Development Bank** and is divided into **regional** and **non-regional** members.

- Regional members are those located within areas classified as Asia and Oceania by the **United Nations.**
- Unlike other MDBs (multilateral development bank), the **AIIB allows for non-sovereign entities** to apply for AIIB membership, **assuming their home country is a member.**

- Thus, sovereign wealth funds (such as the China Investment Corporation) or state-owned enterprises of member countries could potentially join the Bank.
- The China-led Asian Infrastructure Investment Bank (AIIB) has officially approved 57 nations as prospective founding members, with Sweden, Israel, South Africa, Azerbaijan, Iceland, Portugal and Poland the latest to be included.
- Countries accepted as AIIB founding members include China, India, Malaysia, Indonesia, Singapore, Saudi Arabia, Brunei, Myanmar, the Philippines, Pakistan, Britain, Australia, Brazil, France, Germany and Spain.
- Founding members have priority over nations that sign up later because they will have the right to set the rules for the bank.
- As of May, 2020, the bank currently has **78 members as well as 24 prospective members** from around the world.

Financial Capital of AIIB:

- The AIIB's initial total capital is USD 100 billion divided into **1 million shares of 100 000 dollars each**, with 20% paid-in and 80% callable.
- **Paid-Up Share Capital:** It is the amount of money that has already been paid by investors in exchange for shares of stock.
- **Called-Up Share Capital:** Some companies may issue shares to investors with the understanding they will be paid at a later date.
- This allows for **more flexible investment terms** and may **entice investors to contribute more share capital** than if they had to provide funds up front.
- **China** is the largest contributor to the Bank, contributing **USD 50 billion**, half of the initial subscribed capital.
- **India** is the second-largest shareholder, contributing **USD 8.4 billion.**
- **Voting Rights:**
- **China is the largest shareholder with 26.61** % voting shares in the bank followed by **India (7.6%),** Russia (6.01%) and Germany (4.2 %).
- The regional members hold 75% of the total voting power in the Bank.

RERA CAN RESTORE TRUST BETWEEN BUYER AND SELLER

Why in news?

The 3rd anniversary celebrations of RERA, through webinar, was held on 16th May 2020.

Views of Minister of Housing and Urban Affairs

- One of the principal objectives of RERA is to help restore the trust between a buyer and the seller and this trust can only be restored by the true and effective implementation of RERA.
- Effective implementation of RERA would not only help ease the burden of inventory pile-up in the sector, but also provide the necessary financial cushion to the developers to complete pending projects.
- Before RERA came into existence, Indian Real Estate sector was largely unregulated till 2016.
- With the enactment of Real Estate (Regulation and Development) Act, 2016 (RERA), the country got its first real estate regulator.
- The core objective of this transformative legislation is to ensure regulation and promotion of real estate sector in an efficient and transparent manner and to protect the interest of the home buyers.
- Affordable Rental Housing Complex (ARHC) scheme – Government funded houses in cities will be converted into Affordable Rental Housing Complex under PPP model.

Real Estate Regulatory Authority (RERA)

- Real Estate Regulatory Authority (RERA) is a **Statutory Body** established in each state by the **Real Estate (Regulation and Development) Act, 2016,** which came into effect fully from 1st May, 2017.
- The Act seeks to protect home-buyers as well as help boost investments in the real estate sector by bringing efficiency and transparency in the sale/purchase of real estate.
- The Act requires any project that has 8 dwelling units or is at least 500 sq m in area to be registered with the RERA. (Only the Projects coming up after the act was passed are covered).
- RERA is established in each state for regulation of the real estate sector and also acts as an adjudicating body for speedy dispute resolution.

The Mandatory Functions of RERA are:

1. Registering and maintaining a database of real estate projects
2. Publishing the database on its website for public viewing
3. Protection of interest of promoters, buyers and real estate agents
4. Development of sustainable and affordable housing
5. Render advice to the government and ensure compliance with its Regulations and the Act.

Decisions of RERAs can be appealed in Real Estate Appellate Tribunal.

Why was the Real Estate (Regulation and Development) Act Needed?

- Until RERA Real estate sector had been largely unregulated and there was no standardization of business practices and transactions.
- Issues like delay in delivery of flats, pricing issues, quality of construction problems were prevalent.
- Cases where developers cheated property buyers were rampant and there was No grievance redressal mechanism.
- There was also the issue of generation of black money in real estate sector.

GOVT. PLAN TO SELL AIRPORTS MAY FIND FEW TAKERS

Why in news?

The government's move to raise capital by privatizing half a dozen airports through 50-year concessions might find few takers when the aviation industry is facing acute financial stress, industry experts said.

Very few serious bidders = No Fair value

- It is expected that if the government proceeds with the privatization plan, it might find only two-three serious bidders that are able to raise the required debt and equity in a **liquidity-starved market**, lowering the chances of fair price discovery.
- It will be difficult for buyers to do adequate due diligence during lockdown, which would particularly curtail foreign interest.
- As the more profitable public airports are going under the hammer first, the government will get less than fair value on many of them.
- Airport sale prospects might not improve till airlines can get their businesses in order.

- Indian airlines need a direct cash infusion to pay salaries for the lockdown period, subvention on airport charges, relaxation on fuel taxes and statutory dues and government-backed credit lines that can stave off bankruptcy till passenger traffic revives and they can rebuild their balance sheets.

Current Situation

- On 16th May 2020 the Finance Minister announced that the bid process for the six airports will start soon.
- The six airports in the second round are likely to be Amritsar, Varanasi, Bhubaneswar, Indore, Raipur and Tiruchirapalli, which are owned and operated by state-run Airports Authority of India.
- The airline industry has been grounded since 25 March due to the lockdown. Carriers are estimated to report a 44% drop in revenue this fiscal and net debt may rise to ₹46,500 crore by 2021-22.

SHEKATKAR COMMITTEE RECOMMENDATIONS

Why in news?

The Government has accepted and implemented three important recommendations of Committee of Experts (CoE) under the Chairmanship of Lt General D B Shekatkar (Retd) relating to border Infrastructure.

These were related to speeding up road construction, leading to socio economic development in the border areas.

Details of what was accepted:

- On the matter related to creating border infrastructure, the Government has implemented recommendation of CoE to outsource road construction work beyond optimal capacity of Border Roads Organisation (BRO). It has been made mandatory to adopt Engineering Procurement Contract (EPC) mode for execution of all works costing more than Rs 100 crore.
- The other recommendation relating to introduction of modern construction plants, equipment and machinery has been implemented by delegating enhanced procurement powers from Rs 7.5 crore to Rs 100 crore to BRO.
- New Technology like blasting technology for precision blasting, use of Geo-Textiles for soil stabilisation, cementitious base for pavements, plastic coated aggregates for surfacing, is also being used to enhance the pace of construction.
- The land acquisition and all statutory clearances like forest and environmental clearance are also made part of approval of Detailed Project Report (DPR).

Shekatkar Committee

- Ministry of Defence, in 2015, had constituted a committee (under the chairmanship of Lt. Gen Retd. DB Shekatkar) **to recommend measures to enhance combat capability and rebalance defence expenditure of the armed forces**.
- Shekatkar committee had submitted its report on December 21, 2016, which made recommendations on enhancing the combat potential of India's three armed forces, rationalising the defence budget, and improving the teeth-to-tail ratio.

Key Recommendations of the Shekatkar Committee

- According to a 2017 report, the Shekatkar Committee had recommended that **India's defence budget should be in the range of 2.5 to 3 per cent of the GDP**, keeping in mind possible future threats.
- **Enhancement in standards for recruitment** of clerical staff and drivers in the Army was one of the recommendations.
- It recommended **Improving the efficiency of the National Cadet Corps.**
- It had also suggested the **establishment of a Joint Services War College** for training for middle-level officers, even though the three separate war colleges — Mhow, Secunderabad and Goa — could continue to train younger officers for their respective services.
- It had also recommended that the **Military Intelligence School at Pune be converted to a tri-service intelligence training establishment.**
- The report also focuses on **optimisation of Signals establishments** to include radio monitoring companies, corps air support signal regiments, air formation signal regiments, composite signal regiments, and merger of corps operating and engineering signal regiments.
- It included **restructuring of repair echelons** in the Army to include base workshops, advance base workshops and static/station workshops in the field Army.
- It also called for **the closure of military farms and army postal establishments in peaceful locations**, which is among the recommendations already implemented.

A JOLT TO NATIONAL ENERGY SECURITY

Why in news?

The Finance Minister announced the reform of power tariff policy — announced as part of the stimulus package following the pandemic.

DISCOM troubles

- These proposals have to be seen in the context of a continuing centralisation of control over the sector whose main impact in the last 25 years has been to drive up the cost of power purchase to 80% of the total costs of State DISCOMs.
- At the core of DISCOM woes is the two-part tariff policy, mandated by the Ministry of Power in the 1990s at the behest of the World Bank.
- As more private developers came forward to invest in generation, DISCOMs were required to sign long-term power purchase agreements (PPA), committing to pay a fixed cost to the power generator, irrespective of whether the State draws the power or not, and a variable charge for fuel when it does.
- Due to the CEA's overestimates, the all-India plant load factor of coal power plants is at an abysmal 56% even before COVID-19.

Factor of renewable energy

- From 2010, solar and wind power plants were declared as "must-run", requiring DISCOMs to absorb all renewable power as long as there was sun or wind, in excess of mandatory renewable purchase obligations.
- This means backing down thermal generation to accommodate all available green power, entailing further idle fixed costs payable on account of two-part tariff PPAs.
- Since the power demand peaks after sunset, in the absence of viable storage, every megawatt of renewable power requires twice as much spinning reserves to keep lights on after sunset.
- The Centre announced an ambitious target of 175 gigawatts of renewable power by 2022, offering a slew of concessions to renewable energy developers, and aggravating the burden of DISCOMs.

The fine print: Electricity Act 2020

- The amendment proposes sub-franchisees, presumably private, in an attempt to usher in markets through the back door.
- Going by past privatisation experiments, private sub-franchisees are likely to cherry-pick the more profitable segments of the DISCOM's jurisdiction.
- The amendment proposes even greater concessions to renewable power developers, with its cascading impact on idling fixed charges, impacting the viability of DISCOMs even more.
- The Amendment seeks to eliminate in one stroke, the cross-subsidies in retail power tariff. This means each consumer category would be charged what it costs to service that category. Rural consumers requiring long lines and numerous step-down transformers and the attendant higher line losses will pay the steepest tariffs.
- State regulators will henceforth be appointed by a central selection committee, the composition of which inspires little confidence in its objectivity, jeopardising not only regulatory autonomy and independence but also the concurrent status of the electricity sector.
- The establishment of a centralised Electricity Contract Enforcement Authority whose members and chairman will again be selected by the same selection committee referred to above.

ELECTRIC VEHICLE ECOSYSTEM'S TAKING SOLID SHAPE IN INDIA

- The number of electric cars grew by about 300% in the last decade
- The absolute number is only around 4,000 electric cars on Indian roads, which is just about 0.1% of close to 3.5 million cars sold in the last year
- India is a market that provides a tremendous opportunity in the EV space
- Government has a set a target of 30% electric vehicles on Indian roads
- The government is doing laudable work in creating an enabling environment for EVs. Recently, the GST Council reduced the taxes on EVs from 12% to 5%.
- Similarly, to promote 'Made In India' EVs, the finance minister increased the customs duty on completely built units and SKD to 40% and 30%, respectively.
- This will definitely boost Indian manufacturing of EVs—as we did for the Kona EV.
- Achieving the target of 30% electric mobility by 2030 looks challenging, and investment, innovation, research and development (R&D) across the right technologies will be key.
- From charging infrastructure to investment in R&D for EV products suitable for the Indian roads, the industry is up for the task.

INDIAN RAILWAYS PRODUCES HIGH HORSE POWER LOCOMOTIVE

Why in news?

The First 12000 HP made in India Locomotive, manufactured by Madhepura Electric Loco Factory situated in Bihar, was put into operation by Indian Railways.

Significance!

- It is the **first time, high horse power locomotive has been operationalised on broad gauge track in the world.**
- Proud moment for Indian Railways, as it **became 6th country in the world** to join the elite club of **producing high horse power locomotive indigenously.**
- The locomotive has been produced under Make in India programme.

Details and Advantages of the Project

- The loco is named WAG12 and is a state of art IGBT based, 3 phase drive, 9000 KW (12000 horse power) electric locomotive.
- Madhepura Electric Locomotive Pvt. Ltd. (MELPL) will manufacture 800 State of the Art 12000 HP Electric Freight Locomotives in 11 years and being one of the most power full electric locomotive in the world will increase the speed of freight trains and will allow faster, safer and heavier freight trains to move across the country, thus reducing congestion in traffic.
- It will also lead to considerable **savings in energy consumption through re-generative braking.**
- **The project will create more than 10,000 direct and indirect jobs** in the country.
- As part of CSR initiative skill centres are being set up in Madhepura to impart training to local people.

GREENFIELD EXPRESSWAY TO AMRITSAR DEMAND

Why in news?

Union Minister for Road Transport & Highways and MSMEs Shri Nitin Gadkari announced the development of a new Greenfield connectivity to Amritsar City from Nakodar on 2nd June, as part of Delhi-Amritsar Expressway.

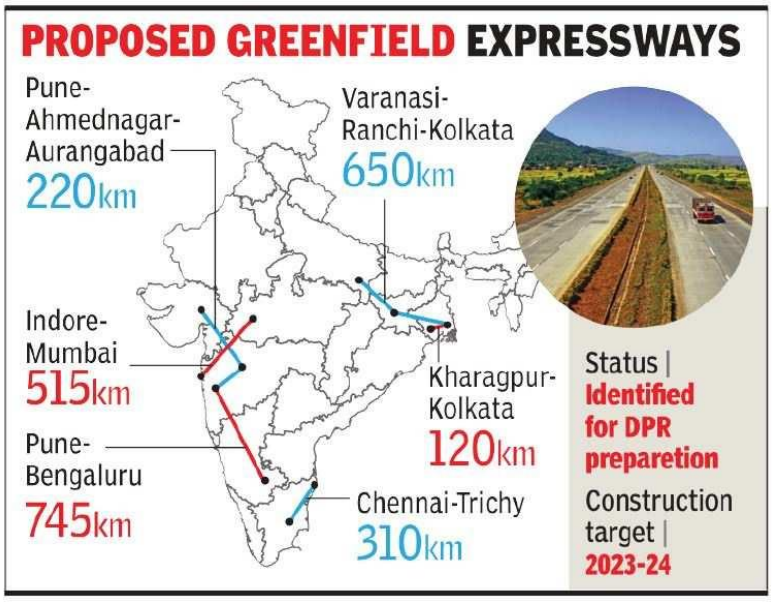
Significance of this Delhi-Amritsar Expressway

- This greenfield alignment will not only provide shortest and alternate express connectivity to Amritsar city but also to other religious centres of Sultanpur Lodhi, Goindwal Sahib, Khadoor Sahib as well as the recently developed Dera Baba Nanak/Kartarpur Sahib International Corridor in Punjab.
- With this expressway, travel time from Amritsar to Delhi International airport would reduce to about four hours from the present about eight hours.

Bharatmala Project

Don't Focus on Numbers

- Bharatmala Project is one of the biggest highway construction plan so far in the country, to develop approximately 83,677 km of roads at an investment of Rs 6.92 lakh crore by 2022.
- The programme includes the Bharatmala scheme, under which 34,800 km of highways would be constructed at the cost of Rs 5.35 lakh crore.
- Under Bharatmala, the road transport and highways ministry will construct 9,000 km of economic corridors across the country.
- The project also entails constructing 6,000 km long inter corridor and feeder routes, 2,000 km of border and international connectivity roads, 5,000 km to be upgraded under the national corridor efficiency programme, 800 km of greenfield expressways, 10,000 km under the national highway development programme and 2,000 km of coastal and port connectivity roads.
- Under the second phase of Bharatmala, the government has proposed to build nearly 3,000 km of expressways, including Aurangabad-Ahmadnagar-Pune, Varanasi-Ranchi-Kolkata, Indore-Mumbai, Bengaluru-Pune and Chennai-Trichy.



LONG-AWAITED DSDBO ROAD NOW UPSETS CHINA

Why in news?

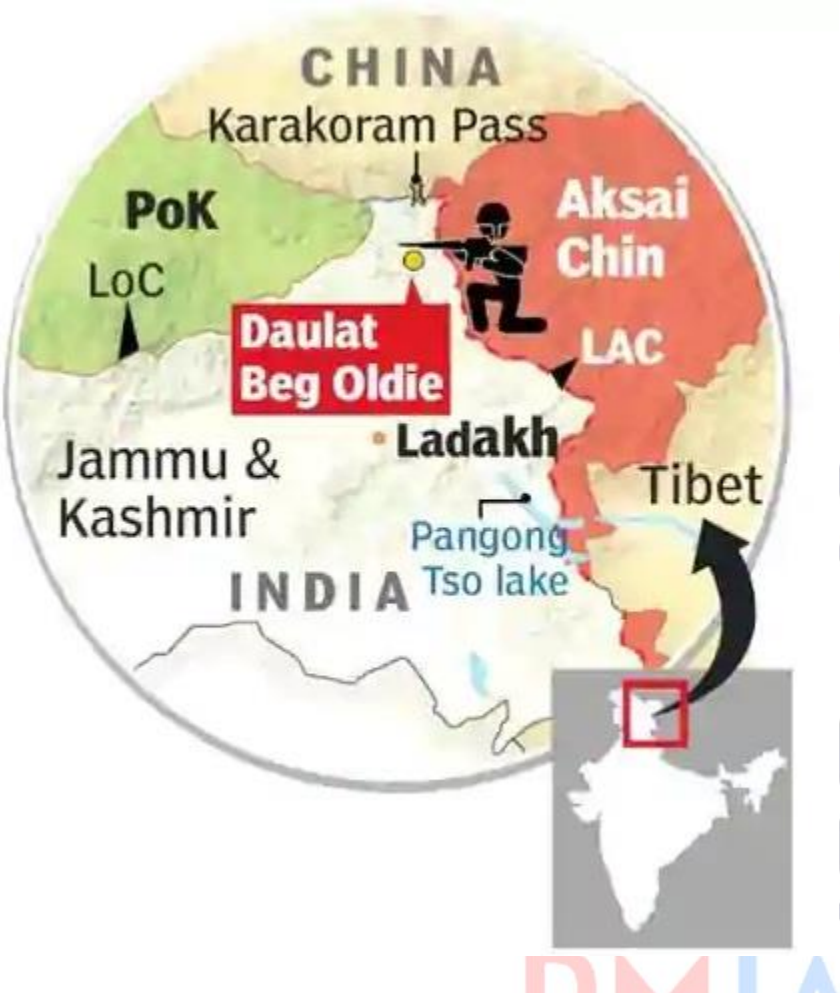
Darbuk-Shyok-Daulat Beg Oldie (DSDBO) road joining Leh to the Karakoram Pass has been in the making for around two decades and is expected to be completed by 2020.

Details

- The road from Darbuk traverses at an altitude of 14,000 feet and reaches Shyok, the last Indian village in the region.
- Between Shyok and Karakoram Pass (that divides Ladakh from China's Xinjiang province) lies Daulat Beg Oldie (DBO).

- From the DSDBO road, a road branches off towards Galwan Valley, a hill feature, which India wants to protect because it overlooks the area around the main road. The branch road has prompted the stand-off in Galwan Valley.

Significance of DBO



- Daulat Beg Oldie (DBO) is a historic campsite and current military base located on an ancient trade route connecting Ladakh to the Tarim Basin.
- DBO is on a plateau at an altitude of over 16,000 feet and is the location of an Advanced Landing Ground (ALG) used by the air force to drop supplies.
- DBO is India's northernmost corner, which in army parlance is called Sub-Sector North, and building a road till here has been of vital importance to India.
- DBO is located only 9 km away from the Line of Actual Control with China and the road will help manage the border and the areas adjoining Aksai Chin, Chip Chap River and Jiwan Nalla.
- It will also ensure faster deployment of troops in the area. Before the laying of the road, the only way to reach the area was via the ALG, where heavy-lift aircraft, such as the C-130J, can land.
- It is named after Sultan Said Khan (Daulat Beg), who died here on his return journey after the invasion of Ladakh and Kashmir.

CHAMBAL EXPRESSWAY PROJECT

Why in news?

Union Minister for Road Transport & Highways and MSME reviewed the proposed Chambal Express Project.

Highlights

Land acquisition should cater to the development of way side amenities besides industrial and commercial clusters with potential for having smart cities, mandis, humar haats etc on both sides.

Apart from providing smooth traffic & goods movement the project will immensely benefit the area and people of the backward region along the Expressway.

Chambal Expressway

- Chambal Expressway is a proposed Six-lane expressway in the state of Madhya Pradesh.
- The proposed highway will connect the historic towns of kota in Rajasthan to Etawah in Uttar Pradesh alongside of Chambal River which will cover towns like Sheopur Morena, Shampur, Ater and Gohad.
- It also will provide cross connectivity with Golden Quadrilateral's Delhi-Kolkata corridor, North-South Corridor, East-West Corridor and Delhi-Mumbai -Expressway.

Golden Quadrilateral

Difference between Expressways and Highways

- In expressways, roads are not multiples, controlled access is there where vehicle can enter through a limited place and no further or other road merges or crosses the expressway anywhere. Due to this the possibility of accidents are also less. But in the case of highways, multiple roads are there which merge with or cross the highways at many places
- Highway is a generic term given to roadways which connect important cities; towns etc, and usually have 4 lanes to provide high speed traffic. But expressway is a high-speed road with little access and consists of several facilities like access ramps, lane dividers etc.

REPLACE MULTI-MODAL TRANSPORTATION OF GOODS ACT

Why in news?

- The Commerce Ministry is considering replacing the Multi-Modal Transportation of Goods Act (MMTG) with a full-fledged national logistics law with a view to promote growth of the sector.
- National Logistics Efficiency and Advancement Predictability and Safety Act (NLEAPS) is under consideration and this law tends to define various participants of the logistics space and create a light regulatory ecosystem.

Highlights

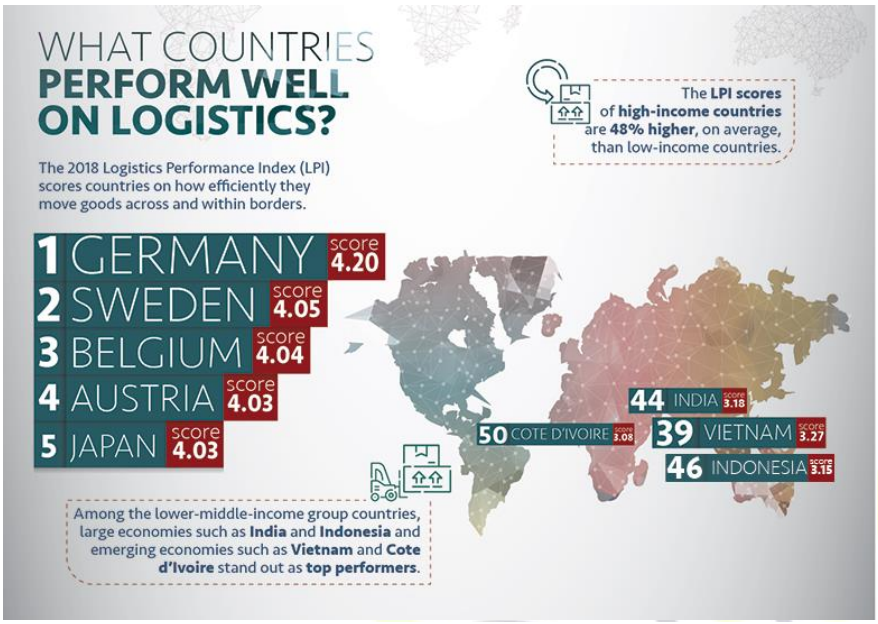
- Multimodal transportation refers to a combination of more than one mode of movement, such as rail, road or sea, for end-to-end delivery of goods.
- The move assumes significance as high logistics cost impacts the competitiveness of domestic goods in the international market.
- Effective implementation of the policy would help provide an impetus to trade, enhance export competitiveness, and improve India's ranking in the Logistics Performance Index.
- India's logistics sector is highly fragmented and the government aims to reduce the logistics cost from the present 14% of the Gross Domestic Product to less than 10%.

Logistics Performance Index (LPI)

The Logistics Performance Index (LPI) is an interactive benchmarking tool **created by the World Bank** to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance.

It is the weighted average of the country scores on six key dimensions:

1. Efficiency of the clearance process by border control agencies, including Customs.
2. Quality of trade and transport related infrastructure.
3. Ease of arranging competitively priced shipments.
4. Competence and quality of logistics services.
5. Ability to track and trace consignments.
6. Timeliness of shipments in reaching destination.



This measure indicates the relative ease and efficiency with which products can be moved into and inside a country. Germany and Singapore are the most efficient and highest ranked LPI countries.

NHAI TO RANK ROADS

Why in news?

National Highways Authority of India (NHAI) under the Ministry of Road Transport and Highways has decided to undertake performance assessment and ranking of the highways in the country.

More about news?

The criteria for the assessment have been broadly categorised in three main heads:

1. Highway Efficiency (45%)
2. Highway Safety (35%)
3. User Services (20%).

On the basis of outcome of the assessment, the authority will undertake a comprehensive analysis and decide on the level of intervention required to enhance the overall service quality.

Importance of Roadways in India:

1. It provides better connectivity between Rural and Urban area and hence advancement of Rural India occurs.
2. During the transportation of goods from ports to its destination it is very important to have better Road connectivity so that time, fuel and money can be saved and hence ultimate economic development occurs.
3. To link every remotest areas(example : J&K, Northeast part, mountainous regions etc) of this country with the mainstream of economy it's very much important to have better connectivity so that overall development of those people can be ensured.

4. Even road connectivity is very much important in linking Intra-state Urban areas and Inter-states for better transportation of various goods and services and hence for overall development in terms of saving time, money etc and reduction in pollution and CO2 emission level.

How it can be further improved:

1. Govt have launched one initiative known as Bharatmala programme which connects all major cities of this country
2. Quality of roads in many parts of country is still pity so it needs better attention by respective state govt and local govt to improve the quality of roads
3. Road pricing system is very much important as it provides as income for Govt and it can spend on constructing roads in much better way
4. Due to traffic congestion in cities and many times on highways , pollution level rise. So increasing width of roads in India should be a priority

Road accidents in India

- According to data tabled by the Ministry of Road Transport & Highways in the Parliament, Road accidents in India killed between 1.46 lakh and 1.5 lakh people every year between 2015 and 2017, which works out to a daily average of 400 or more deaths in each of the three years.

- According to WHO report, road accidents are the eighth leading cause of death for all age groups surpassing HIV/AIDS, tuberculosis and diarrhoeal diseases.

SIX STRATEGIC BRIDGES IN JAMMU & KASHMIR

Why in news?

The Defence Minister dedicated six major bridges, in sensitive border areas close to the International Border (IB) and Line of Control (LoC) in Jammu and Kashmir, to the nation through video conferencing,

Details

- Two bridges on the Tarnah Nallah in Kathua District and four bridges located on Akhnoor-Pallanwala road in Akhnoor/Jammu district were constructed.
- These bridges constructed by Project Sampark of the BRO will facilitate movement of Armed Forces in this strategically important sector and will also contribute towards the overall economic growth of remote border areas.
- These bridges of strategic importance were completed by the Border Roads Organisation (BRO) in a record time.
- BRO has executed about 30 per cent more works in the financial year (FY) 2019-20 as compared to FY 2018-19.

Border Roads Organisation (BRO)

- The Border Roads Organisation (BRO) develops and maintains road networks in India's border areas and friendly neighbouring countries.
- BRO is under the control of the Ministry of Defence since 2015.

- BRO is engaged in road construction to provide connectivity to difficult and inaccessible regions in the border areas of the country.
- The BRO operates in 18 Projects namely: **Arunank, Beacon, Brahmank, Chetak, Deepak, Dantak, Himank, Hirak, Pushpak, Sampark, Setuk, Sewak, Shivalik, Swastik, Udayak, Vartak, Vijayak and sela tunnel.**
- BRO has played a very important role in both maintenance of security and in the development of border areas.
- Socio economic development in the most inaccessible nooks and corners of our country are a result of the infrastructural work undertaken by the BRO.
- BRO works in close association with the Indian Army in cases of natural disasters.
- BRO also undertakes work in neighbouring countries such as Afghanistan, Bhutan, Myanmar, and Sri Lanka. Hence, it helps greatly in maintenance of friendly and diplomatic relations.
- Officers from the Border Roads Engineering Service (BRES) and personnel from the General Reserve Engineer Force (GREF) form the parent cadre of the Border Roads Organisation. It is also staffed by officers and troops drawn from the Indian Army's Corps of Engineers on extra regimental employment (on Deputation).

AIDS TO NAVIGATION BILL 2020

Why in news?

Ministry of Shipping has issued the draft of Aids to Navigation Bill, 2020 for suggestions from the stakeholders and general public.

Aids to Navigation Bill 2020

- The draft bill Aids to Navigation Bill, 2020, is proposed to replace the almost nine decades old Lighthouse Act, 1927, to incorporate the global best practices, technological developments and India's International obligations in the field of Aids to Marine Navigation.
- The bill aims to regulate state-of-the-art technologies of marine navigation which was earlier used to tangle in statutory provisions of Lighthouse Act, 1927.
- The draft bill provides for empowering Directorate General of Lighthouses and Lightships (DGLL) with additional power and functions such as Vessel Traffic Service, Wreck flagging etc.
- The DGLL also takes up the function of implementation of other obligations under International Conventions, where India is a signatory.
- It also provides for identification and development of heritage lighthouses.
- The draft bill comprises a new schedule of offences, along with commensurate penalties for obstructing and damaging the aids to navigation, and non-compliance with directives issued.
- **Therefore, the new law encompasses a major shift from lighthouses to modern aids of navigation.**

REWA ULTRA MEGA SOLAR POWER PROJECT

Why in news?

The Prime Minister dedicated to the Nation the Rewa Ultra Mega Solar Power project.

Rewa Ultra Mega Solar Power project

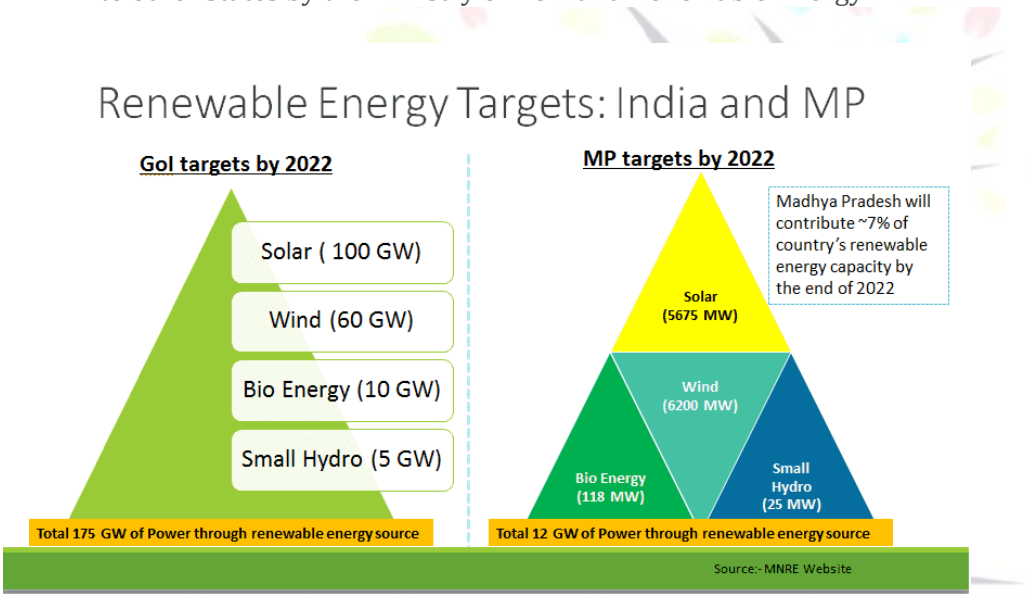
- The Prime Minister has inaugurated the 750 MW (Mega Watt) solar project set up in Rewa, Madhya Pradesh.
- **It is Asia's largest power project.**

- It is in line with India's commitment to attain the target of 175 GW of installed renewable energy capacity by 2022 including 100 GW of solar installed capacity.
- **It is the first solar project in the country to break the grid parity barrier.**

(Grid parity occurs when an alternative energy source can generate power at a cost of electricity that is less than or equal to the price of power from the electricity grid.)

- It is India's first solar project to get funding from Clean Technology Fund (CTF), which is available at a very low rate (0.25%) for a 40-year period from the World Bank.
- It will help in reducing the carbon emission equivalent to 15 lakh ton of CO2 per year.

- It has also received the World Bank Group President's Award for innovation and excellence
- It is the first renewable energy project to supply an institutional customer outside the state where it is produced. (In this case, power is supplied from Madhya Pradesh to the Delhi Metro)
- Its payment security mechanism for reducing risks to power developers has been recommended as a model to other states by the Ministry of New and Renewable Energy.



AUTOMOTIVE TECHNOLOGY E-PORTAL: ICAT

Why in news?

- Five portals are being developed for specific sectors by different organizations viz, BHEL for power sector equipment, HMT for machine tools, CMFTI for manufacturing technology, ICAT and ARAI for automotive sector.
- ICAT is developing technology platform for automotive industry called ASPIRE – Automotive Solutions Portal for Industry, Research and Education.

Benefits

The objective of these portals is to create an ecosystem which will bring solution seekers and problem solvers together. These include, industry, academia, research institutes, start-ups, professionals and experts.

ASPIRE – Automotive Solutions Portal for Industry, Research and Education

- The key objective of this portal is to facilitate the Indian Automotive Industry to become self-reliant by assisting in innovation and adoption of global technological advancements by bringing together the stakeholders from various associated avenues.
- The e-portal will act as a one stop solution providing a technology platform which will help to bring together the various stakeholders from the Indian auto industry, providing the necessary impetus for ushering the industry into future with combined efforts.
- Apart from acting as a solution and resource platform, the portal will also host grand challenges in line with the need of the industry as will be identified from time to time, for development of key automotive technologies.

KAKRAPAR ATOMIC POWER PLANT-3 ACHIEVED CRITICALITY

Why in news?

Indigenously designed 700 MWe Kakrapar Atomic Power Plant-3 in Gujarat achieved criticality

Kakrapar Atomic Power Station

- Kakrapar Atomic Power Station is a nuclear power station in India, which lies in the proximity of the city of Vyara in the state of Gujarat.
- KAPS-1 went critical on 1992 and KAPS-2 went critical on 1995.
- The first two units at Kakrapar of 220 MWe (Megawatt electric) each were based on Canadian technology.
- The KAPS-3 unit, however, is **Fully Indigenous.**
- The third reactor at Kakrapar is the front runner in a series of 16 indigenous 700 MWe PHWRs which are under various stages of development.
- Nuclear Power Corporation of India Limited (NPCIL) has seven more reactors under construction which includes a fourth unit of 700 MWe at Kakrapar.

What does "Criticality" mean?

The normal operating condition of a reactor, in which nuclear fuel sustains a fission chain reaction. A reactor achieves criticality (and is said to be critical) when each fission event releases a sufficient number of neutrons to sustain an ongoing series of reactions.

LARGEST SOLAR POWER PLANT OF NAVY COMMISSIONED

Why in news?

A 3 MW Solar Power Plant was commissioned at Indian Naval Academy, Ezhimala.

Significance

- The solar plant is the largest in the Indian Navy and has an estimated life of 25 years.
- All components have been indigenously sourced, including highly efficient monocrystalline solar panels employing the latest technology.
- This is in line with the Govt of India initiative of 'National Solar Mission' to achieve 100GW of solar power by 2022.
- The Solar Power Plant project will help Naval Station Ezhimala in reducing the carbon foot print and is one of the many initiatives undertaken by INA towards a clean and green environment.
- Surplus power generated will also feed the Kerala State Electricity Board (KSEB) electricity grid.

National Solar Mission

- The Jawaharlal Nehru National Solar Mission (JNNSM), or the National Solar Mission, is an initiative of the Government of India and State Governments to promote solar power in India.
- The JNNSM has been revised twice and now boasts a target of 100 GW of solar PV by 2022.
- The Objective of JNNSM is to establish India as a global leader in solar energy by creating the policy conditions for its deployment across the country. Each Phase is supported by differing key policies and targets.

THE SIGNIFICANCE OF KAKRAPAR-3

Why in news?

The third unit of the Kakrapar Atomic Power Project (KAPP-3) in Gujarat achieved its 'first criticality' — a term that signifies the initiation of a controlled but sustained nuclear fission reaction.

Why is this achievement significant?

- This is a landmark event in India's domestic civilian nuclear programme given that KAPP-3 is the country's first 700 MWe (megawatt electric) unit, and **the biggest indigenously developed variant of the Pressurised Heavy Water Reactor (PHWR).**
- The PHWRs, which use natural uranium as fuel and heavy water as moderator, are the mainstay of India's nuclear reactor fleet.
- Until now, the biggest reactor size of indigenous design was the 540 MWe PHWR, two of which have been deployed in Tarapur, Maharashtra.
- The operationalisation of India's first 700MWe reactor marks a significant scale-up in technology, both in terms of optimisation of its PHWR design and an improvement in the economies of scale.

As India works to ramp up its existing nuclear power capacity of 6,780 MWe to 22,480 MWe by 2031, the 700MWe capacity would constitute the biggest component of the expansion plan.

PROJECTS ACCORDED ADMINISTRATIVE APPROVAL, FINANCIAL SANCTION

Plant	Location	Capacity
KKNPP 5&6	Kudankulam, Tamil Nadu	2X1000
Chutka 1&2	Chutka, Madhya Pradesh	2X700
Kaiga 5&6	Kaiga, Karnataka	2X700
Mahi Banswara 1&2	Mahi Banswara, Rajasthan	2X700
GHAVP 3&4	Gorakhpur, Haryana	2X700
Mahi Banswara 3&4	Mahi Banswara, Rajasthan	2X700

**Being implemented with Russian assistance, VVER-1000 reactors*

***Being implemented by state-owned BHAVINI*

Note: All projects that have been accorded administrative approval and financial sanction, barring KKNPP 5&6, are coming up in fleet mode

Source: NPCIL

What does achieving criticality mean?

- Reactors are the heart of an atomic power plant, where a controlled nuclear fission reaction takes place that produces heat, which is used to generate steam that then spins a turbine to create electricity.
- Fission is a process in which the nucleus of an atom splits into two or more smaller nuclei, and usually some byproduct particles.
- When the nucleus splits, the kinetic energy of the fission fragments is transferred to other atoms in the fuel as heat energy, which is eventually used to produce steam to drive the turbines.
- For every fission event, if at least one of the emitted neutrons on average causes another fission, a self-sustaining chain reaction will take place.
- A nuclear reactor achieves criticality when each fission event releases a sufficient number of neutrons to sustain an ongoing series of reactions.

History of PHWR in India

- PHWR technology started in India in the late 1960s with the construction of the first 220 MWe reactor, Rajasthan Atomic Power Station, RAPS-1 with a design similar to that of the Douglas Point reactor in Canada, under the joint Indo-Canadian nuclear co-operation.
- Canada supplied all the main equipment for this first unit, while India retained responsibility for construction, installation, and commissioning.

SCHEMES, BULK DRUGS PARKS & MEDICAL DEVICES PARKS

Why in news?

Union Minister for Chemicals and Fertilizers launched four schemes of Department of Pharmaceuticals for promotion of domestic manufacturing of bulk drugs and medical devices parks in the country.

Introduction

- **India is often referred to as 'the pharmacy of the world' and this has been proved true especially in the ongoing Covid-19 pandemic when India continued to export critical lifesaving medicines to needy countries even during the countrywide lockdown.**
- However, despite these achievements, it is a matter of concern that our country is critically dependent on imports for basic raw materials, viz. Bulk Drugs (Key Starting Materials (KSMs)/ Drug Intermediates (DIs) and Active Pharmaceutical Ingredients (APIs)) that are used to produce some of the essential medicines.
- Similarly, in medical devices sector, our country is dependent on imports for more than 85% of its requirements of medical devices.

Details of what is being done:

- The Government of India has approved four schemes, two each for Bulk Drugs and Medical Devices parks.
- The list of products contained in the scheme guidelines will enable domestic production of more than 50 bulk drugs.
- Financial incentives will be given to manufacturers selected under the scheme as a fixed percentage of their domestic sales of the lister products manufactured locally with required level of domestic value addition.

Scheme for promotion of Bulk Drug Parks

- The scheme envisages creation of 3 bulk drug parks in the country.
- The grant-in-aid will be 90% of the project cost in case of North-East and hilly States and 70% in case of other States.
- The creation of a centre of excellence is also envisaged to enable an ecosystem for Research and Development.

Production Linked Incentive (PLI) scheme for promoting domestic manufacturing of Medical Devices

The scheme intends to boost domestic manufacturing of medical devices in four target segments by giving financial incentives on sales.

Four target segments are:

1. Cancer care / Radiotherapy medical devices
2. Radiology & Imaging medical devices (both ionizing & non-ionizing radiation products) and Nuclear Imaging devices
3. Anaesthetics & Cardio-Respiratory medical devices including catheters of Cardio Respiratory Category & Renal Care medical devices
4. All Implants including implantable electronic devices

Conclusion

- It is expected that these schemes will make India not only self-reliant but also capable of catering to the global demand for the selected bulk drugs and medical devices.
- This is a golden opportunity for the investors since incentivisation to industry and world-class infrastructure support simultaneously will help in bringing down the cost of production significantly.
- These schemes along with the liberal FDI policy in these sectors and an effective corporate tax rate will give a competitive edge to India in the selected products vis-à-vis other economies.

CII NATIONAL DIGITAL CONFERENCE

Why in news?

Commerce and Industry Minister said that the Government is committed to policy simplification and asked for industry's feedback and cooperation. Inaugurating CII National Digital conference on Ease of Doing Business for Atmanirbhar Bharat.

Highlights

- The Minister emphasized that a single window system for industrial approvals will soon be in place.
- He urged both industry and government to work as partners and urged the industry to play a proactive role in helping the government identify the tax evaders and violators.
- On the incentive scheme for exports- Merchandise Export from India Scheme (MEIS) – the Government is looking for an early solution and the government will find a way that does not impact exports.
- The Minister said that his Ministry has already identified 20 industrial sectors for giving focused push.

Merchandise Exports From India Scheme (MEIS)

- MEIS was introduced in the Foreign Trade Policy (FTP) for the period 2015-2020.
- The MEIS was launched as an incentive scheme for the export of goods. The rewards are given by way of duty credit scrips to exporters.
- The MEIS is notified by the DGFT (Directorate General of Foreign Trade) and implemented by the Ministry of Commerce and Industry.

PRIVATE FIRMS IN INDIAN RAILWAYS

Introduction

- To upgrade the country's railway system, the government has laid the roadmap for long-term partnerships with the private sector.
- The government envisages around Rs 50 lakh crore of investment in rail projects up to 2030, but as per the Union Budget 2019, only a part of it can be financed through government coffers, and public-private partnerships are needed for faster development.

Why private players?

- It is estimated that almost 70 per cent of freight trains, which now jostle for space with passenger trains on the overcrowded Indian Railway network, will shift to the two upcoming Dedicated Freight Corridors.
- This will free up a lot capacity to introduce more passenger trains with better services and higher speeds.
- In the normal course, demand for train seats is much more than available, on all busy routes. The result – waiting lists, overcrowded trains, and even losing business to other modes like air and road.
- Introducing new, modern trains requires heavy investment in rolling stock like coaches and engines, and the cost of operations.
- As it is, running of passenger trains is a loss-making business for Indian Railways.
- In this context, to cut its losses and convert that opportunity into a money-making enterprise, the government has decided that some of the trains to be introduced in the future will be run by private companies, in a business model never tried in India before.

Details

- This move envisages a total investment of around Rs 30,000 crore into the railway system through rolling stock and other expenditure, to be borne by the private players.
- The only precondition is that the trains introduced by private players are a definite upgrade from what Indian Railways offers.
- The idea is to give passengers an option of superior train services without the Railways having to spend any money for it.

What kind of companies are expected to run the trains?

- Since the business of running passenger trains in India has been a monopoly of Indian Railways, no private company in the country has any experience in this sector.
- Additionally, the invitation is extended to anyone in the world, with or without any experience in train operations.
- However, Railways has set certain financial eligibility for companies.

How will private companies make money running passenger trains when Indian Railways suffers loss from the same business?

As per internal studies by Railways, private investors may see between 17 and 27 per cent Equity Internal Rate of Return (IRR), translating into very healthy profits.

What will Indian Railways get from the private players?

- In this business model, the private operator is supposed to share revenues with Railways.
- The qualifying company that agrees to share the maximum percentage of the yearly revenue with Railways will win the bid.

What will Railways give to the private players?

- Railways will be contractually bound to provide "non-discriminatory access" to private trains.
- This means that even though its own trains on the same route will, theoretically, be in competition with the private trains, Railways being the owner of the network, cannot give unfair advantage to its own trains.

CABLE CONNECTIVITY TO ANDAMAN & NICOBAR ISLANDS (CANI)

Why in news?

Prime Minister launched and dedicated to the nation, the submarine Optical Fibre Cable (OFC) connecting Andaman & Nicobar Islands to the mainland through video conferencing.

Details

- The Services have already begun on a major chunk of the islands from Chennai to Port Blair, Port Blair to Little Andaman and Port Blair to Swaraj Island.
- The main obstacles were: the laying of cables for about 2300 kilometers under the sea as surveying in the deep sea, maintaining the quality of the cable and laying of the cable with specialised vessels overcoming challenges such as high waves, storms and monsoons and the tough times owing to Corona Pandemic.

Benefits highlighted by the PM

Ease of Living

- This Optical Fibre Project which links A&N Islands with the rest of the country will improve ease of living and aid speedy development of national security linked border areas and island states.

Increase Opportunities through Digital India

- The Submarine Cable will help A&N in getting cheaper & better connectivity and all the benefits of Digital India, especially in improving online education, tele-medicine, banking system, online trading and in boosting tourism.
- This is very crucial as Andaman & Nicobar is an important centre for India's Economic-Strategic Cooperation and the Indian Ocean has been the center of India's trade and strategic prowess for thousands of years.

- Under the Act-East policy, the role of Andaman and Nicobar in India's strong relations with East Asian countries and other countries connected to the sea is very high and is going to increase.

Port Led Development

- Andaman & Nicobar will be developed as a hub of Port Led Development as it is at a Competitive Distance from many ports of the World and the CANI will help in the effort.
- A country which has better network of ports and their connectivity will be able to provide a boost to trade in the 21st Century.

International Maritime Trade

- The focus of these projects including CANI are also on promoting Ease of Business in the sea and simplifying Maritime Logistics.
- The speedy construction of the deep draft inner harbor and the proposal to construct TransShipment Port in Great Nicobar etc., are along the same lines of thought.

High Impact Projects & Better Land, Air and Water Ways

- High Impact Projects are being expanded in 12 islands of Andaman and Nicobar.
- The effort is to further improve physical connectivity through road, air and water apart from providing for better internet & mobile connectivity.
- Main focus is on the work on two major bridges and the NH-4 in order to improve the road connectivity of North and Middle Andaman.
- the Port Blair Airport is being enhanced to handle larger capacity and Passenger Terminals in Swaraj Dweep, Shaheed Dweep and Long Island along with Water Aerodrom Infrastructure like Floating Jetty will be ready in the near future.
- 4 Ships are also being built at Kochi Shipyard and shall be delivered soon to improve the Water connectivity between the islands and the mainland.

INDIGENISATION PORTAL SRIJAN

Why in news?

The Ministry of Defence launched Department of Defence Production, MoD's portal SRIJAN which is a 'one stop shop online portal that provides access tothe vendors to take up items that can be taken up for indigenization.

'SRIJAN' portal

- On this portal, DPSUs/OFB/SHQs can display their items which they have been importing or are going to import which the Indian Industry can design, develop and manufacture as per their capability or through joint venture with OEMs.
- The Indian Industry will be able to show their interest. The concerned DPSUs/OFB/SHQs, based on their requirement of the items and their guidelines & procedures will interact with the Indian industry for indigenization.
- Self-reliance in Defence manufacturing has been envisioned not only as domestic requirement but also with export perspective and can be made possible with concerted efforts.

BHADBHUT PROJECT EXPLAINED

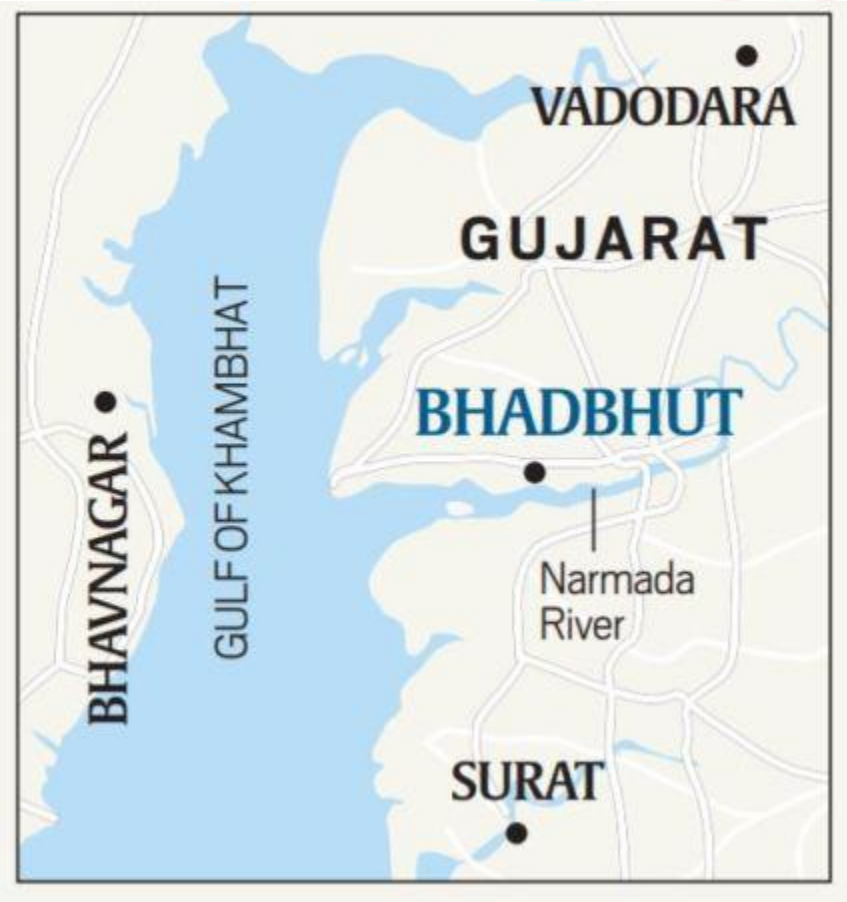
Why in news?

The Gujarat government recently awarded the contract for a barrage project – The Rs-4,167-crore Bhadbhut project in Bharuch.

Details

- The Bhadbhut project in Bharuch is meant to solve freshwater problems in this region of Gujarat.
- It has also faced protests from local fishermen for its likely impact on fishing patterns, notably those of hilsa.

What is the Bhadbhut project?



- It is planned to be a causeway-cum-weir barrage with 90 gates, across the river Narmada, near Bhadbhut village about 25km away from the mouth of the river, where it flows into the Gulf of Khambhat.
- The barrage will stop most of the excess water flowing out of the Sardar Sarovar Dam from reaching the sea and thus create a "sweet water lake" on the river.
- The barrage will also have a six-lane road that will connect the left and right banks of the river and provide shorten the land distance between two large industrial estates in Surat and Bharuch.
- The project also aims to prevent flooding in years when rainfall is higher than normal.
- The barrage design also has a navigation lock to enable any future plans to run a ferry service or boats under the inland waterway scheme.

Why was the need felt?

- The main purpose of the project is to prevent **salinity ingress.**
- When the height of the dam rose, flow into the river reduced, and due to the reduced flow of fresh water, saline seawater gushes into the Narmada estuary during high tide, thus increasing salinity along the banks.
- The sweet water from the reservoir will aim to meet the residential and industrial water requirements of Bharuch, Ankleshwar and Dahej.
- The project is part of the larger Kalpasar Project, which entails construction of a 30-km dam across the Gulf of Khambhat between Bharuch and Bhavnagar districts.
- The reservoir is meant to tap the waters of the Narmada, Mahisagar and Sabarmati.

Concerns raised by fishermen

- The barrage is expected to interfere with the migration and breeding cycle of hilsa.
- A marine fish, hilsa migrate upstream and arrives in the brackish water of the Narmada estuary near Bharuch for spawning usually during the monsoon months of July and August, and continue doing so till November.
- Once the barrage is built, it is expected to block their natural entry.

What is the government's stand on this?

- Government officials say the entry of hilsa will not be restricted on account of the barrage.
- The Government has planned fish passes for hilsa fish.
- Designs will be made by the EPC (Engineering, Procurement and Construction) contractor based on the report based on study of migration patterns of hilsa.

What other areas will the project impact?

- Part of Aliya Bet, and island in the delta of the Narmada and known for shrimp farming, is likely to get submerged.
- A portion of the forest in Aliya Bet too will get affected by the project.

'NO-GO' FORESTS CLEARED FOR COAL MINING

Why in news?

- Since 2015, of the 49 blocks cleared for coal mining, 9 were in 'No-Go' areas, according to a Centre for Science and Environment (CSE) report.
- In 2020, of the 41 blocks put up for auction, 21 feature in the original No-Go list.
- The CSE investigation pointed out that currently India was not utilizing its existing capacity fully and according to the Union Coal Ministry 67% of the mines auctioned since 2015 are not operational yet.

What is 'No-Go' Area?

- In 2009, the Environment and Coal Ministries had jointly placed the country's forested areas under two categories – Go and No-Go zones.
- 'No-Go' areas are regions that were classified by the Ministry of Environment and Forests and Climate Change as containing very dense forests and hence closed to coal mining.
- The exercise is aimed at prioritising forest areas under the Forest Conservation Act, 1980.

- **'No Go' areas are those having either more than 10 per cent weighted forest cover (WFC) or more than 30 per cent gross forest cover (GFC).**

Why no mining in those areas?

- Diversion of forest land, which are rich in flora and fauna, for coal mining in these areas is the main cause of concern as they will have "*avoidable* serious adverse impact on forests and wildlife".
- If mining were to continue, even with afforestation and reclamation, it would not be possible to restore the regions biodiversity.

How were No-Go Areas given clearance?

- The government determines which of the dense forests are too ecologically important to leave untouched and which of them are *amenable* to be opened up using a 'decision support system software' that rated forest lands on environmental parameters.
- In some cases, the CSE investigation found that results of the software evaluation were "tweaked" to make 'No-Go' land into 'Go-forests'.
- It also found that officials from the Coal Ministry, the beneficiary organisation, were "deputed" to work with the Forest Survey of India to "rework" conditions and clear forests for mining.

Recently in news: Privatization of coal sector

- Recently, the Prime Minister launched the auction of 41 coal blocks for commercial mining – following the center's announcement under the Aatmanirbhar Bharat Abhiyan, of opening the coal sector for commercial mining, ending the government monopoly on the sector.
- Foreign Direct Investment (FDI) Policy, 2017 was amended in 2019 to permit 100% FDI under automatic route in coal mining activities.

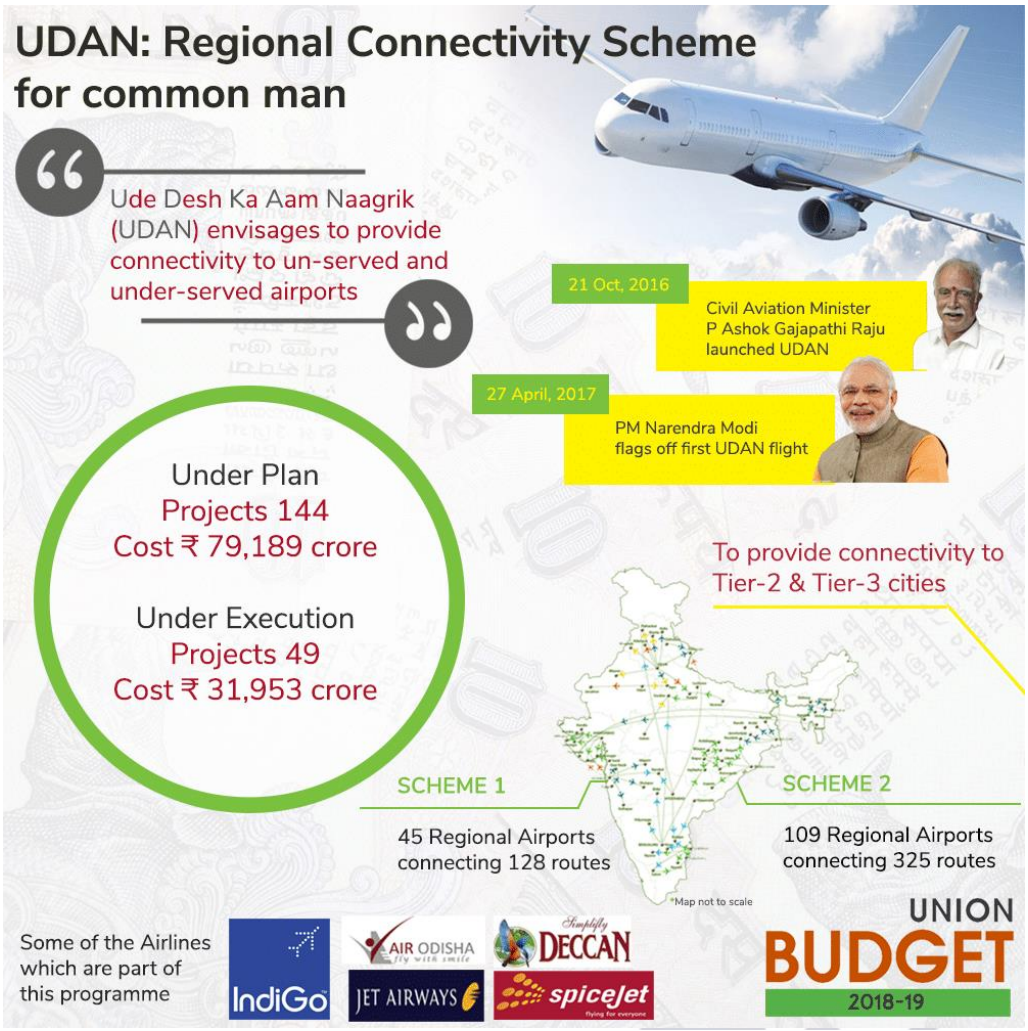
NEW ROUTES APPROVED UNDER UDAN 4.0

Why in news?

78 new routes under the 4th round of Regional Connectivity Scheme (RCS)- Ude Desh Ka Aam Nagrik (UDAN) have been approved following the three successful rounds of bidding by the Ministry of Civil Aviation.

What is UDAN scheme?

- UDAN is a regional connectivity scheme spearheaded by the Government of India (GoI). The full form of UDAN is 'Ude Desh ka Aam Nagarik' and aims to develop smaller regional airports to allow common citizens easier access to aviation services.
- This scheme is a part of the National Civil Aviation Policy (NCAP) and is funded jointly by the GoI and the state governments.



The following are its salient features:

1. The scheme duration is for 10 years
2. Airlines participating in UDAN are selected through a competitive bidding process
3. The Central government will provide the following:
   - Subsidy to cover Value Gap funding (VGF) for participating airlines
   - Concessional GST on tickets booked using the scheme
   - Codesharing for flights under the policy
4. State Governments will extend the following measures:
   - GST reduction to 1% for 10 years
   - Coordination with oil companies to facilitate refuelling facilities
   - Provide land for airport and ancillary development
   - Trained security personnel
   - Utilities at subsidised rates
   - 20% of VGF
5. Airport operators such as AAI will provide the following concessions:
   - No parking, landing and storage charges at participating airports
   - Nil TNLC (Terminal Navigation Landing Charges)
   - Allow ground handling by the airline selected through the bidding process

- RNCF (Route Navigation and Facilitation Charges) will be discounted to 42.4% of normal rates by the Airports Authority of India

Value Gap Funding is not provided to cargo airlines. All other terms and conditions remain the same as passenger airlines. The fares are graded based on distance and flight hours for both fixed-wing and rotary-wing services. The RCS subsidy is funded by a levy of Rs 5000 per flight on major routes. Flights regulated under this policy framework can be booked from the UDAN website and major travel portals by passengers.

NATIONAL PHARMACEUTICALS PRICING AUTHORITY (NPPA)

Why in news?

On the foundation day of National Pharmaceuticals Pricing Authority (NPPA) Union Minister of Chemicals and Fertilizers congratulated NPPA for working tirelessly to ensure availability of life-saving drugs at reasonable prices consistently.

National Pharmaceutical Pricing Authority (NPPA)

- The National Pharmaceutical Pricing Authority (NPPA) is a government regulatory agency that controls the prices of pharmaceutical drugs in India.
- National Pharmaceutical Pricing Authority (NPPA) was constituted by Government of India Resolution dated 29th August, 1997.
- NPPA is Neither a Statutory nor a Constitutional Body.
- NPPA acts as an attached office of the Department of Pharmaceuticals (DoP), Ministry of Chemicals & Fertilizers as an independent Regulator for pricing of drugs and to ensure availability and accessibility of medicines at affordable prices.
- The NPPA regularly publishes lists of medicines and their maximum ceiling prices (Drug Price Control Orders DPCO).

NPPA is propelling Digital India mission by:

1. **Pharma Sahi Daam**– App to check prices of medicines
2. **Pharma Jan Samadhan**– Public grievance system to help people resolve their problems.
3. **Pharma Data Bank**– Online information collection from Pharma manufacturers."

Functions of NPPA

1. To implement and enforce the provisions of the Drugs (Prices Control) Order in accordance with the powers delegated to it.
2. To deal with all legal matters arising out of the decisions of the Authority.
3. To monitor the availability of drugs, identify shortages, if any, and to take remedial steps.
4. To collect/ maintain data on production, exports and imports, market share of individual companies, profitability of companies etc, for bulk drugs and formulations.
5. To undertake and/ or sponsor relevant studies in respect of pricing of drugs/ pharmaceuticals.
6. To recruit/ appoint the officers and other staff members of the Authority, as per rules and procedures laid down by the Government.
7. To render advice to the Central Government on changes/ revisions in the drug policy.
8. To render assistance to the Central Government in the parliamentary matters relating to the drug pricing.

FOSSIL FUEL USE TO PLUNGE FOR THE FIRST TIME

Why in news?

Fossil fuel consumption is set to shrink for the first time in modern history as climate policies boost renewable energy while the coronavirus pandemic leaves a lasting effect on global energy demand, BP said in a forecast.

Details

- London-based BP expects global economic activity to only partially recover from the epidemic over the next few years as travel restrictions ease.
- But some "scarring effects" such as work from home will lead to slower growth in energy consumption.
- BP this year extended its outlook into 2050 to align it with the company's strategy to slash the carbon emissions from its operations to net zero by the middle of the century.
- It includes three scenarios that assume different levels of government policies aimed at meeting the 2015 Paris climate agreement to limit global warming to "well below" 2 degrees Celsius from pre-industrial levels.

Scenarios

- In its two aggressive scenarios, Covid-19 accelerates the slowdown in oil consumption, leading to it peaking last year. In the third scenario, oil demand peaks at around 2030.
- In the longer term, demand for coal, oil and natural gas is set to slow dramatically.
- The share of fossil fuels is set to decline from 85% of total primary energy demand in 2018 to between 20% and 65% by 2050 in the three scenarios.
- At the same time, the share of renewables is set to grow from 5% in 2018 to up to 60% by 2050.

RE-INVEST 2020

Why in News?

Prime Minister Shri Narendra Modi will inaugurate the virtual 3rd Global Renewable Energy Investment Meeting and Expo (RE-Invest 2020).

POLAVARAM PROJECT

Why in news?

Work on construction of the Polavaram project is going on as per schedule and 41% of the works has so far been completed.

Polavaram Project

- The Polavaram Project is an under construction multi-purpose irrigation National project on the Godavari River in the West Godavari District and East Godavari District in Andhra Pradesh.
- Its reservoir back water spreads into parts of Chhattisgarh and Odisha.
- It gives major boost to tourism sector in Godavari Districts as the reservoir covers the famous Papikonda National Park, Polavaram Hydroelectric project (HEP) and National waterway 4 are in under construction at left side of the river.

National River Linking Project (NRLP)

- The National River Linking Project (NRLP) formally known as the National Perspective Plan, envisages the transfer of water from water 'surplus' basins where there is flooding to water 'deficit' basins where there is drought/scarcity, through inter-basin water transfer projects.
- Digging further into the term 'surplus' as per the Government, states that it is the extra water available in a river after it meets the humans' requirement of irrigation, domestic consumption and industries thereby underestimating the need of the water for the river itself.
- The National River Interlinking Project will comprise of 30 links to connect 37 rivers across the nation through a network of nearly 3000 storage dams to form a gigantic South Asian Water Grid.

It includes two components:

1. **Himalayan Rivers Development Component**
   - Himalayan Rivers Development Component under which 14 links have been identified.
   - This component aims to construct storage reservoirs on the Ganga and Brahmaputra rivers, as well as their tributaries in India and Nepal. The aim is to conserve monsoon flows for irrigation and hydropower generation, along with flood control.
   - The linkage will transfer surplus flows of the Kosi, Gandak and Ghagra to the west.
   - A link between the Ganga and Yamuna is also proposed to transfer the surplus water to drought-prone areas of Haryana, Rajasthan and Gujarat.
2. **Peninsular Rivers Development Component**
   - Peninsular Rivers Development Component or the Southern Water Grid, which includes 16 links that propose to connect the rivers of South India.
   - It envisages linking the Mahanadi and Godavari to feed the Krishna, Pennar, Cauvery, and Vaigai rivers.
   - This linkage will require several large dams and major canals to be constructed.
   - Besides this, the Ken river will also be linked to the Betwa, Parbati, Kalisindh, and Chambal rivers.

Proposed benefits of the Project

1. **Hydropower generation**
   - The river interlinking project claims to generate total power of 34,000 MW (34 GW).
   - Out of this, 4,000 MW will come from the peninsular component while 30,000 MW from the Himalayan component.

- The addition of hydropower is expected to curb the drinking water woes of millions and supply water to industries in drought-prone and water-scarce cities in south and west India.

2. **Irrigation benefits**
   - The project claims to provide additional irrigation to 35 million hectares (m ha) in the water-scarce western and peninsular regions, which includes 25 m ha through surface irrigation and 10 m ha through groundwater.
   - This will further create employment, boost crop outputs and farm incomes and multiply benefits through backward (farm equipment and input supplies) and forward linkages (agro-processing industries).
   - Along with this the project is expected to create several benefits for navigation and fisheries.

THE SURGE OF GEOPOLITICS IN SOUTH ASIA'S POWER TRADE

Context:

India has released new rules governing the trade of electricity across its borders.

Relevance:

GS-III: Indian Economy, Industry and Infrastructure (Implications and Ramifications of International Trading policies and deals, Energy Sector), GS-II: International Relations

Mains Questions:

What are the ramifications of India's "new rules governing the trade of electricity" on electricity markets of India's Neighbours? Discuss how India can plan a stable institutional model in this context. (10 marks)

Dimensions of the Article:

1. History of India's Energy Cooperation
2. Key Points in the new rules
3. Dynamics in India's Electricity market
4. India's Cross-border Trade of Electricity: Position of the Neighbours in the Market
5. About the Impact of the new rules
6. Mega solar project
7. Way Forward

History of India's Energy Cooperation

Before 2014

- In the early 2000s, India tried with the SAARC countries for cross-border energy flows.
- It began to gain steam with substantial power trade agreements between India and Bhutan (2006) and Bangladesh (2010).
- These were driven by India's need for affordable power to fuel quickened growth in a recently liberalised economy.

2014

- The SAARC Framework Agreement for Energy Cooperation and the India-Nepal Power Trade Agreement were signed in 2014 which imposed only few restrictions on trade along with an institutional structure to allow private sector participation and to facilitate market rationality in electricity commerce.
- The 2014 government in India aimed for a seamless SAARC power grid, for power transmission within SAARC countries, like the offshore wind projects set up in Sri Lanka's coastal borders to power Pakistan or Nepal.
- From 2014, India began using the framework of the South Asian Association for Regional Cooperation (SAARC) to make historical moves towards liberalising electricity trade. China soon began to make its presence felt in the region, and India responded by walking back its free-market impulses.

2016

- However, in 2016, the Union Ministry of Power released certain guidelines which imposed a slew of major restrictions on who could engage in cross-border electricity trade.
- They seemed to be a reaction to perceptions of increased Chinese investment and influence in the energy sectors of South Asian neighbours.
- India imposed stringent restrictions that dissuaded everyone other than Indian and government entities from participating. That threatened to undermine private sector participation and promising joint ventures across the region.

2018

- Nepal and Bhutan protested for years, leading to new guidelines in 2018 that tried to find a middle ground; these rules formalise that balancing act. They allow private sector participation but exclude Chinese investments.

Key Points in the new rules

- The new rules strongly discourage the participation of plants owned by a company situated in "a third country with whom India shares a land border" and "does not have a bilateral agreement on power sector cooperation with India".
- Chinese companies hoping to establish plants in Nepal, Bhutan, or Bangladesh will presumably have a hard time making good on their investments with the Indian market cut off.
- The new rules also establish elaborate surveillance procedures to detect changes in the ownership patterns of entities trading with India.

Dynamics in India's Electricity market

- Between 2008-09 and 2019-19, the share of private sector generation capacity has increased from 15 percent to 46 percent.
- Two electricity exchange platforms, Indian Energy Exchange (IEX) and Power Exchange India Limited (PXIL), have emerged and are providing a wide range of energy trading products.
- Securities and Exchange Board of India (SEBI) is likely to authorize introduction of forward and derivate contracts for electricity in the near future, which will allow power distribution companies to use financial instruments, such as futures, forwards, swaps, and options to hedge risks, reduce costs and better manage long term power purchase contracts.

India's Cross-border Trade of Electricity: Position of the Neighbours in the Market

- India's power trade with its neighbours is largely one-sided. The country annually imports around 1,200 mw power from Bhutan, exports 1,200 Mw to Bangladesh, exports 450 Mw to Nepal and 3 Mw to Myanmar. India is also working on a plan to develop an under-sea cable for trade with Sri Lanka.
- While India and Pakistan both have large capacities in coal and hydro, Bhutan and Nepal rely only on hydropower for meeting their power demand.
- Bhutan has only tapped 6 per cent of its 30 Gw hydro power potential. A majority of its revenue comes from energy export to India. Bhutan has an installed generation capacity of 1,606 Mw currently and exports around 70 per cent of its annual electricity production to India.
- For Nepal, its overall electricity supply is inadequate to meet rising power demand and therefore the country relies on imported diesel.

About the Impact of the new rules

- The Central Electricity Authority (CEA) has released new rules governing the trade of electricity across its borders which define the contours of the South Asian electricity market, placing clear limits on who can buy from and sell into India.
- This has ramifications for the electricity markets of Bangladesh, Bhutan, and Nepal, which, to varying degrees, have aligned their energy futures with the Indian market.
- The new rules show that India's approach is an attempt to balance China's growing influence in the region with developmental aims.

Mega solar project

- India's ambition of anchoring a global super-grid called One Sun One World One Grid, or OSOWOG needs an institutional vision as it aims to begin with connections to West Asia and Southeast Asia and then spread to Africa and beyond.
- Renewable energy transitions benefit from grids that cover vast areas and diverse geographic conditions.
- Multi-country grids allow for the unpredictable outputs from renewable energy plants to be balanced across countries, thus avoiding expensive country-specific balancing technologies such as hydropower and gas plants.

Way Forward

- The government needs to actively promote cross-border electricity trade to utilize existing/upcoming generation assets. The SAARC electricity grid is a step in the right direction.
- Cross-country electricity trade should be depoliticized and should be made market-based with cooperation between grid operators of different countries.
- It is quite likely, though, that India's plans will be one among many in a soon-to-be competitive space.
- An attractive institutional model can lock countries into the pool by setting standards that investors and utilities plan towards and profit by. Once locked in, countries are thus unlikely to defect to other pools.
- However, impartial institutions for planning, investments and conflict resolution are crucial to multi-country power pools.
- It is worth considering releasing the vice-like grip on South Asia, aimed at countering China, by creating a rule-based regional institution that can counter Chinese offerings in other theatres.

FIRST FARM-BASED SOLAR POWER PLANT UNDER PM- KUSUM

Context:

The first farm-based solar power plant under the Prime Minister's Kisan Urja Suraksha Evam Utthan Mahabhiyan (PM-KUSUM) scheme has come up in Jaipur (Rajasthan) district's Kotputli tehsil with a provision for production of 17 lakh units of electricity every year.

Relevance:

GS-III: Industry and Infrastructure (Energy related Infrastructure, Renewable energy sources, Government Policies and Interventions)

Dimensions of the Article:

1. About Pradhan Mantri – Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM)
2. Benefits of PM-KUSUM
3. Challenges in implementation of PM-KUSUM

About Pradhan Mantri – Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM)

- The PM-KUSUM scheme was launched by **the Ministry of New and Renewable Energy (MNRE)** to support installation of off-grid solar pumps in rural areas and reduce dependence on grid, in grid-connected areas.
- The Cabinet Committee on Economic Affairs (CCEA) had in February 2019 approved the launch of the scheme with the objective of providing financial and water security.
- The government's Budget for 2020-21 expanded the scope for the scheme with 20 lakh farmers to be provided assistance to install standalone solar pumps; another 15 lakh farmers to be given help to solarise their grid-connected pump sets.
- This will enable farmers to set up solar power generation capacity on their barren lands and to sell it to the grid.

PM-KUSUM consists of three components and aims to add a solar capacity of 30.8 GW by 2022:

1. Component-A: 10,000 MW of decentralised ground-mounted grid-connected renewable power plants.
2. Component-B: Installation of two million standalone solar-powered agriculture pumps.
3. Component-C: Solarisation of 1.5 million grid-connected solar-powered agriculture pumps.

Benefits of PM-KUSUM

- PM-KUSUM, supports the financial health of electricity distribution companies (Discoms) by reducing the burden of subsidy to the agriculture sector and helps them meet the RPO (Renewable Purchase Obligation) targets.
- PM-KUSUM promotes decentralised solar power production, and reduces transmission losses and a potential way to reduce their subsidy outlay towards irrigation.
- If farmers are able to sell surplus powers, they will be incentivised to save power and, in turn, it will mean the reasonable and efficient use of groundwater, and it will also increase their income.

Challenges in implementation of PM-KUSUM

- Due to the strict DCR (Domestic Content Requirements), the suppliers of solar equipment have to raise the domestic cell sourcing. However, there isn't enough domestic cell manufacturing capacity.
- There has been the relative omission of small and marginal farmers, as the scheme focuses on pumps of 3 HP and higher capacities. It is due to this, solar pumps are not reaching the majority of farmers, as nearly 85% of them are small & marginal.
- Due to power subsidies, the recurring cost of electricity is so low that farmers keep on pumping water and the water table is going down.
- In a solar installation, it becomes a more difficult job to upgrade to higher capacity pumps in case the water table falls because one will have to add new solar panels which are expensive.

ARCH CLOSURE OF CHENAB BRIDGE COMPLETED

Context:

The Railways said it had completed the arch closure of the 1315m Chenab bridge, the world's highest railway bridge.

Relevance:

Prelims, GS-III: Industry and Infrastructure (Transport and Connectivity related infrastructure)

Dimensions of the Article:

1. About the Chenab Bridge
2. Chenab valley
3. Recently in news: Ratle Hydroelectric Project

About the Chenab Bridge

- It is one of the biggest civil engineering challenges faced by any project in India and at 359m above the river bed level, the bridge would be 35 metres higher than the Eiffel Tower in Paris.
- The Chenab bridge is part of the Udhampur-Srinagar-Baramulla rail link project (USBRL) and completion of the steel arch is an important construction milestone.
- The Northern Railways undertook the project of constructing a new railway line across Jammu and Kashmir between the towns of Udhampur in Jammu and Baramulla on the northwestern edge of the Kashmir Valley. This project was declared a national project in 2002.
- A challenging aspect of this project is building a large number of runners – a total of 63 km – in the rugged and mountainous terrain of the Himalayas.

Chenab valley

- Chenab Valley, also known as the Chenab Region, is the river valley of the Chenab River flowing through the Kishtwar, Doda, and Ramban districts of Jammu Division in Jammu and Kashmir, India.
- Erstwhile Doda lies between the middle and outer Himalayan range in the Jammu region of Jammu and Kashmir.
- The area is an active seismic zone.

Recently in news: Ratle Hydroelectric Project

- Ratle Hydroelectric Project is a run-of-the-river hydroelectric power station on the Chenab River, Kishtwar district of the Indian Union Territory of Jammu and Kashmir.
- The Project includes a gravity dam and two power stations adjacent to one another.
- Pakistan has frequently alleged that it violates the Indus Water Treaty, 1960.

AVERAGE SPOT POWER PRICE AT IEX JUMPS 65%

Context:

- Average spot power price rose by 65% per unit in March compared to the year earlier month at the Indian Energy Exchange (IEX) mainly due to increase in demand on account of rise in temperature and revival of economic activities.
- The electricity market at Indian Energy Exchange (IEX) achieved an all-time high volume of more than 8 thousand million units in the month of March 2021 surpassing all the previous milestones.

Relevance:

GS-III: Industry and Infrastructure (Development of Renewable Energy Sources), GS-III: Indian Economy

Dimensions of the Article:

1. About Indian Energy Exchange (IEX)
2. Renewable Energy Certificates (REC)
3. Energy Saving Certificates (ESCerts)

About Indian Energy Exchange (IEX)

- The Indian Energy Exchange (IEX) is the first and largest energy exchange in India providing a nationwide, automated trading platform for physical delivery of electricity, Renewable Energy Certificates and Energy Saving Certificates.
- The exchange platform enables efficient price discovery and increases the accessibility and transparency of the power market in India while also enhancing the speed and efficiency of trade execution.
- It is a publicly listed company with National Stock Exchange (NSE) and Bombay Stock Exchange (BSE).
- It is approved and regulated by Central Electricity Regulatory Commission (CERC) and has been operating since 2008.
- The IEX was established to leverage technology and innovation to establish transparent and efficient energy marketplaces for delivering affordable, reliable energy to consumers.

Indian Energy Exchange (IEX) is a trading platform for:

1. Physical Delivery of Electricity
2. Renewable Energy Certificates (REC)
3. Energy Saving Certificates (ESCerts)

Renewable Energy Certificates (REC)

- Renewable Energy Certificates (RECs) are a market-based instrument that certifies the bearer owns one megawatt-hour (MWh) of electricity generated from a renewable energy resource.

- Once the power provider has fed the energy into the grid, the REC received can then be sold on the open market as an energy commodity.
- RECs earned may be sold, for example, to other entities that are polluting as a carbon credit to offset their emissions.
- RECs can go by other names, including Green Tags, Tradable Renewable Certificates (TRCs), Renewable Electricity Certificates, or Renewable Energy Credits.

Energy Saving Certificates (ESCerts)

- Energy Saving Certificates (ESCerts) are the tradable certificates under the Perform, Achieve, Trade (PAT) Scheme of the Bureau of Energy Efficiency (BEE).
- It is a market-based mechanism to incentivise energy efficiency in large energy-intensive industries.

CHINA'S LEAD IN SHARE OF CRITICAL BATTERY MINERALS

Context:

A group of 17 elements, dubbed rare earths and placed at the bottom of periodic table, have remarkable electrical and magnetic properties, while a dozen others can store energy and transmit them with minimal losses. These elements, such as neodymium, molybdenum, titanium, lithium, cobalt, vanadium etc., are crucial in the new energy era where a battery is key for storing the variable solar and wind energy and powering vehicles.

Relevance:

GS-III: Industry and Infrastructure, GS-I: Geography (Distribution of Key Natural Resources, Mineral & Energy Resources), GS Paper-II: International Relations (India and its Neighborhood)

Dimensions of the Article:

1. Understanding the battery and the minerals used
2. Scramble for the availability of these minerals
3. Dominance of China
4. Reasons for Dominance of China
5. De-risk supply disruption: How other countries are reacting?

Understanding the battery and the minerals used

- Essentially, batteries have three main parts: cathode, anode and electrolyte, which collect and discharge electricity.
- Different minerals are used for making these parts depending on the technology. For instance, rechargeable batteries in hybrid electric vehicles (EVs) use a nickel-metal hydride which involves rare earth elements.

Batteries are basically classified into 2 types:

1. Non-rechargeable batteries (primary batteries) – they can be used only once.
2. Rechargeable batteries (secondary batteries) – can be recharged and can be reused.

Important Types of Batteries

1. **Alkaline batteries:** It is basically constructed with the chemical composition of Zinc (Zn) and Manganese dioxide (MnO_2), as the electrolyte used in it is potassium hydroxide (KOH) which is purely an alkaline substance.
2. **Coin cell batteries:** Apart from alkaline composition, lithium and silver oxide chemicals will be used to manufacture these batteries.
3. Lead-acid batteries: It consists of lead-acid which is very cheap and seen mostly in cars and vehicles to power the lighting systems in it.
4. **Ni-Cd batteries:** These batteries are made of Nickel and Cadmium chemical composition. These are very rarely used; these are very cheap and their discharge rate is very low.
5. **Ni-MH batteries:** The Nickel – Metal Hydride batteries are much preferable than Ni-Cad batteries because of their lower environmental impact.
6. **Li-ion batteries:** These are made up of Lithium metal and are latest in rechargeable technology. As these are compact in size, they can be used in most of the portable applications which need high power specifications. These are the best rechargeable batteries available.

Scramble for the availability of these minerals

The global scramble is particularly high for lithium, cobalt, nickel, copper and graphite that are key to the dominant lithiumion (Li-ion) batteries, used to power anything from mobile phones to electric cars to power grids.

Global uncertainties around their supply loom large as these minerals are concentrated in a few pockets and their supply chain is controlled by even fewer players.

Example: Lithium:

- In theory, Li is sufficiently available in the Earth's crust, subsurface brines and even seawater.
- The salt flats of Argentina, Bolivia and Chile hold 54 % of the world's lithium resources. The dominant position of the **Latin American trio makes them known as the lithium triangle.**
- But when it comes to production, Australia takes the top spot (by contributing almost 50 % of the global trade flow), followed by Chile (22 %) and China (17 %).
- This disruption has become possible as supply chains are heavily concentrated – and Chinese companies have pursued mine investments in both Australia and Latin America to ensure an overall command of lithium supply chain.
- Most mines of these critical minerals are located in fragile and unstable parts of the world.

Dominance of China

- **China today controls 70-80 % of the global trade of most critical minerals.**
- This growing dominance of China over reserves and supply chain of critical minerals has sent jitters across most parts of the world, which is wary of the Asian giant's intentions.
- During the early part of the last decade, when China cut its export quota of rare earths making global supply uncertain, it had stirred trade disputes – as US, Japan and EU had filed a complaint with the World Trade Organization (WTO), which in 2014 said China's rare earth export quota was inconsistent with the body's regulations.
- **With mega battery factories, China dominates more than 70 % of the battery supply chain.**

Reasons for Dominance of China

- China has grabbed the advantage of being the sector's early bird to systematically build its trade and industry.
- Starting around 2010, its electro-economy has grown to dominate the entire chain — from upstream mining of battery raw material (lithium, cobalt, nickel, graphite, manganese and rare earth elements), to midstream production of battery grade chemicals, cathode and anode; and to downstream production of Li-ion battery cells and other end products.
- In 2019, China accounts for 23 % of the global mine-output of battery minerals. Yet its chemical companies churn out 80 % of the world's processed battery-grade raw materials and 66 % of the global production of cathodes and anodes for Li-ion batteries.
- In 2020 China led the world's battery cell production with a more than 60 % share, while the US was in second place with less than 15 %.

Where China does not have enough reserves, it is accessing mines overseas.

- China has supported mining and processing firms and mega battery manufacturing facilities with low-interest loans. Trade policy has, thus, secured minerals needed for batteries, especially for EVs.
- China has developed a comprehensive battery manufacturing supply chain internally and also the world's largest public charging network.
- To help build the domestic industry, China requires foreign automakers to enter joint ventures with Chinese firms to share profits and technology. Several global vehicle brands have entered into joint ventures with Chinese companies to access markets and secure supplies of battery materials.

De-risk supply disruption: How other countries are reacting?

- With decarbonisation and the net-zero race gaining pace, countries have started to strategise to reduce dependence on China. The US and EU are taking steps to reduce supply risks and price volatility. Nations are jostling to invest in mines of these critical minerals to secure direct access to raw material outside China or getting into offtake agreements.
- New mines are opening up in Latin America and other regions. Countries are improving stockpiling of these minerals, particularly cobalt which faces severe supply constraints. They are exploring substitution of such materials either by increasing battery-cell efficiency or by changing to a different chemistry. Focus is also shifting towards recycling of end-of-life of batteries to recover rare earths and other such critical minerals.
- The US is prioritising mining and processing at home and in partner countries. Three North American companies are setting up a rare earths supply chain to reduce dependence on China for EVs and other technologies.
- Europe is aggressively building its own supply network, with rise in EV sales. The European Commission has launched an action plan on critical raw materials and an industry alliance to strengthen EU's "strategic autonomy" on key raw materials. Europe aims to be 80 per cent self-sufficient in lithium for battery storage by 2025.
- The World Economic Forum (WEF) has proposed the idea of the G20 nations setting up a process to handle emerging tensions and also the possibility of the US, EU, China, Japan and South Korea pledging to increase support to international R&D initiatives on EVs.

INDIAN OFFSHORE MODEL TO DOMINATE IT SECTOR

Context:

Analysis said that IT markets are picking up to such a degree that both the U.S. and Europe are running out of critical skills, and with this, offshore and Indian alternatives are increasingly becoming attractive for tech buyers.

Relevance:

GS-III: Industry and Infrastructure (IT Sector), Indian Economy

Dimensions of the Article:

1. About the attractiveness of the Indian Offshore model
2. Service Sector boom in India
3. Has the growth in service sector ensured adequate employment opportunities?

About the attractiveness of the Indian Offshore model

- Typically, offshore accounts for 70-80% of a project while onshore is in the 20-30% range. In the COVID-19 era, markets are seeing a clear 50% reduction in onshore and 5-15% rise in offshore share.
- For all IT work conducted remotely, it makes perfect sense to run it from India and the Indian model will dominate the IT service scene for at least another decade.
- Offshore providers have ended up being 'pandemic winners', seeing quantum growth in revenues and substantial decline in operational cost after the WFH trend kicked in.
- In addition to the skills shortage, the pandemic-induced work-from-home has further raised the openness of global tech buyers to working in a distributed environment, away from onshore (or the client's location).
- There is now some of the most aggressive pricing ever as an impact of the pandemic, with some deals priced as low as $4-6 per hour for IT and business process work.

Service Sector boom in India

- India's economic growth since the 1990s has largely been on account of an expansion of the services sector, in which exports are seen as having played an important role.
- The rise in the share of services in GDP was particularly sharp after 1996-97.
- In the event, services as a group came to dominate the Indian economy, accounting for more than half its GDP.
- The Economic Survey 2013-14 noted that India has the second fastest growing services sector with CAGR (compound annual growth rate) at 9%, just below China's 10.9%, during the last 11-year period from 2001 to 2012.
- This trend has continued which is shown by gross value added (GVA) from services growing at 8.7% per annum and accounted for 58% of the increase in total GVA between 2011-12 and 2016-17.
- This growth in services has also been accompanied by a significant increase in the exports of services.
- India's success in the services exports area has meant that its share of services in total exports (38%) is much higher than in countries such as China, Mexico and Brazil and close to ratios in the UK and the US.

Has the growth in service sector ensured adequate employment opportunities?

- Despite the presence of unorganised services, the share of the services sector in total employment was relatively low.
- Between 1999-00 and 2004-05, employment in the tertiary sector increased by only 22%, whereas GDP at constant prices contributed by the services sector expanded by 44%.
- Tertiary sector employment in 2009-10 amounted to only 25% of the work force, despite the fact that around 55% of GDP came from this sector.

- Also, NSSO reveals that the share of services in employment increased by far less than the huge increase in its share in GDP.
- India is also unusual in terms of the wide divergence of the shares of the services sector in total gross value added and employment.
- The GVA and employment shares in India were 53 and 29%, as compared with 50 and 42% in China, 60 and 61% in Mexico, and 72 and 69% in Brazil.
- The Economic Survey 2016-17 says that among the top 15 services producer countries, India has the lowest share (28.6%) of total employment in 2016.

SMUGGLING OF URANIUM: ATS SEIZES 7KG URANIUM

Context:

The Maharashtra Anti-Terrorism Squad (ATS) arrested two persons under the Atomic Energy Act, 1962, with 7 kg natural uranium estimated to be worth around Rs 21 crore.

Relevance:

GS-III: Industry and Infrastructure, Mineral & Energy Resources, GS-III: Environment and Ecology (Environmental Pollution & Degradation)

Dimensions of the Article:

1. What exactly is uranium and what are its uses?
2. Uranium Deposits in India
3. Legislations regarding Regulation of Uranium
4. Atomic Energy Act, 1962
5. Atomic Energy Regulatory Board (AERB)
6. Bhabha Atomic Research Centre

What exactly is uranium and what are its uses?

- Uranium occurs naturally in low concentrations in soil, rock and water and is commercially extracted from uranium-bearing minerals.
- Uranium that has a silvery grey metallic appearance is mainly used in nuclear power plants due to its unique nuclear properties.
- Depleted uranium is also used as shield against radiation in medical processes using radiation therapy and also while transporting radioactive materials.
- Though itself radioactive, uranium's high density makes it effective in halting radiation. Its high density also makes it useful as counterweights in aircraft and industrial machinery.

Uranium Deposits in India

- In India, Uranium deposits occur in the Dharwar rocks.
- It occurs along the Singhbhum Copper belt (Jharkhand); Udaipur, Alwar and Jhunjhunu districts of Rajasthan, Durg district of Chhattisgarh, Bhandara district of Maharashtra and Kullu district of Himachal Pradesh.
- Significant quantities of reserves have been recently discovered in parts of Andhra Pradesh and Telangana between Seshachalam forest and Sresailam (Southern edge of Andhra to Southern edge of Telangana).

Legislations regarding Regulation of Uranium

- Since Uranium is a major mineral, it is managed by the Union Government under provisions of 'The Mines & Minerals (Development and Regulation) Act, 1957 (MMDR Act)'.
- The policy and legislation relating to Major minerals are managed by the Ministry of Mines, but Uranium being an atomic mineral is managed by the Department of Atomic Energy (DAE).
- Many of these mineral deposits are found in rich forest reserves and thus approval of the Union Ministry of Environment, Forest and Climate Change becomes necessary.

Atomic Energy Act, 1962

- The Atomic Energy Act, 1962, was enacted to provide for the development, control and use of atomic energy for the welfare of the people of India and for other peaceful purposes.
- It provides the basic regulatory framework for all activities related to atomic energy programme and use of ionising radiation in India.
- The Atomic Energy Act refers to control over radioactive substance and special provisions for safety along with empowering the Regulatory Body Atomic Energy Regulatory Board (AERB) with administration of Factories Act 1948, including enforcement of its provisions, appointment of inspection staff and making of rules in the installations of Department of Atomic Energy (DAE).
- The Atomic Energy Regulatory Board (AERB) is the primary institution tasked to look at issues regarding everything related to nuclear safety constituted in 1983 by the President of India under the powers conferred in the Atomic Energy Act, 1962.
- Atomic Energy act of 1962, protects information related to nuclear establishment and empowers Department of Atomic Energy (DAE) to deny information.

Atomic Energy Regulatory Board (AERB)

- The main mission of the Atomic Energy Regulatory Board (AERB) is to ensure that the use of ionizing radiation and nuclear energy in India does not cause undue risk to health and the environment.
- The Atomic Energy Regulatory Board (AERB) was constituted under the provisions of Atomic Energy Act, 1962 and the regulatory authority of AERB is derived from the rules and notifications promulgated under the Atomic Energy Act and the Environmental (Protection) Act, 1986.
- Currently, the Board consists of a full-time Chairman, an ex officio Member, three part-time Members and a Secretary.
- AERB is supported by the Safety Review Committee for Operating Plants (SARCOP), Safety Review Committee for Applications of Radiation (SARCAR) and Advisory Committees for Project Safety Review (ACPSRs).
- AERB also receives advice from the Advisory Committee on Nuclear Safety (ACNS), composed of experts from AERB, DAE and institutions outside the DAE.
- The administrative and regulatory mechanisms which are in place ensure multi-tier review by experts available nationwide – who are from reputed academic institutions and governmental agencies.

Bhabha Atomic Research Centre

- Dr. Homi Jehangir Bhabha conceived the Nuclear Program in India. Dr Bhabha established the Tata Institute of Fundamental Research (TIFR) for carrying out nuclear science research in 1945.
- To intensify the effort to exploit nuclear energy for the benefit of the nation, Dr Bhabha established the Atomic Energy Establishment, Trombay (AEET) in January 1954 for a multidisciplinary research program essential for the ambitious nuclear program of India. AEET was renamed Bhabha Atomic Research Centre (BARC) in 1966.

SEMICONDUCTOR CHIPS SHORTAGE

Context:

- A protracted shortage of inputs, especially semiconductor chips, has made India-based car manufactures and premium bike makers curtail production across categories.
- While carmakers in India appear to be waiting to ride out the chip famine by constraining production, their global counterparts have got more creative in addressing the shortage.

Relevance:

GS-III: Industry and Infrastructure (Industrial Policy and Indigenization of Production and Technology, Government policies and Interventions)

Dimensions of the Article:

1. Indian electronics sector
2. Why did the chip famine occur?
3. What is the impact of the chip famine?
4. Trend in importance of semiconductor chips

Indian electronics sector

- The Indian electronics sector is tremendously growing with the demand expected to cross USD 400 billion by 2023-24.
- Domestic production has grown from USD 29 billion in 2014-15 to nearly USD 70 billion in 2019-20 (Compounded Annual Growth Rate of 25%).
- Despite the impressive growth of electronic production in India, the net value added by production units is very low. The net value addition ranges between 5% and 15%, as most components are imported rather than locally sourced.
- In the era of global supply chains, the value addition at the final stages of production is very low, especially in electronics because the more complicated processes, involving greater value addition, occur prior to assembly, in 'upstream' industries.
- Currently, these imports nearly constitute 80% of these components, with approximately 67% of the imports coming from China alone.
- **In the absence of foundries (semiconductor fabrication plants where microchips are produced), India has to rely on foreign contractors to produce microchips. –[There are about 170 commercial foundries globally but India does not have a single one.]**
- Chip manufacturers like Intel, TSMC and Samsung choose other countries instead of India citing uncertain domestic demand and poor cost efficiencies here.

Why did the chip famine occur?

- The trigger point was the beginning of the Covid-19 pandemic and the subsequent lockdowns across the world that forced shut crucial chip-making facilities in countries including Japan, South Korea, China and the US.
- This is coupled with a 13% increase in global demand for PCs owing to some countries' shift to a stay-at-home economy. This has impacted the availability of key chips necessary for the manufacturing of a broad range of electronics being a necessary component of every industry.

- A key feature in a chip shortage is that it almost always causes cascading effects, given that the first one creates pent-up demand that becomes the cause for the follow-up famine.

What is the impact of the chip famine?

- Consumers of semiconductor chips, which are mainly car manufacturers and consumer electronics manufactures, have not been receiving enough of this crucial input to continue production.
- Chip shortage is measured in chip lead time, which is the gap between when a chip is ordered and when it is delivered.
- With just-in-time deliveries, carmakers typically kept low inventory holdings and relied on an electronics industry supply chain to feed production lines as per demand. There were two reasons for this: a steady decline in input prices and improvements in the processing power of chips.

What are global carmakers doing?

- In addition to delaying vehicle deliveries, some companies have reportedly started discarding features and high-end electronic capabilities on a temporary basis to deal with the chip shortage.
- Some companies are leaving navigation systems out of thousands of vehicles and stopped offering digital components and parts like screen.

Trend in importance of semiconductor chips

- The number of transistors mounted in IC circuit chips has doubled every two years.
- Notably, the increase in chip consumption over the last decade is also partly attributable to the rising contribution of electronic components in a car's bill of materials.
- Electronic parts and components today account for 40% of the cost of a new internal combustion engine car, up from less than 20% two decades ago. Chips account for a bulk of this increase.

WHY OIL PRICES ARE RISING? IMPACT ON INDIA

Context:

Crude oil prices have hit a two-year high with Brent crude rising above the $71 per barrel mark on May 2021, hitting the highest level since May 2019 as key oil-producing countries announced that they would adhere to plans entailing a gradual increase in crude oil production.

Relevance:

GS-III: Indian Economy (International Trade, Mobilization of Resources, Growth and Development of Indian Economy), GS-III: Industry and Infrastructure

Dimensions of the Article:

1. Why are crude oil prices rising?
2. How are high crude oil prices impact India?
3. India and Oil Imports

Why are crude oil prices rising?

- Crude oil prices have been rising steadily since the beginning of 2021 when Brent Crude was trading at about $52 per barrel buoyed both by hopes of improving demand due to economic recoveries across geographies as well as supply cuts by key oil-producing countries.
- The Organisation of Petroleum Exporting Countries extended supply cuts made in 2020 when crude oil prices had reached a low of under $19 per barrel through the first five months of 2021.
- Saudi Arabia notably made an additional voluntary production cut of 1 million barrels per day between February and April 2021 of which only 250,000 barrels of production has been restored in May and 750,000 barrels of production is set to be restored over June and July 2021.
- Experts have noted however that the gradual withdrawal of cuts is unlikely to have any significant impact on prices as demand for petroleum products increases as demand increases spurred by increasing economic activity.
- A potential breakthrough in international efforts for a new Iran nuclear deal which would see international sanctions on Iranian oil removed would also not have a major impact on oil prices according to OPEC which expects that any increase in crude oil production from Iran would happen gradually and would not destabilise crude oil prices.

How are high crude oil prices impact India?

- Rising crude oil prices have contributed to petrol and diesel prices rising to record high levels across the country.
- The price of petrol has been hiked by Rs 10.8 per litre since the beginning of the year while the price of diesel has been hiked by Rs 11.5 per litre in the same time period.
- Officials at oil marketing companies have however noted that even current record-high prices are lower than what refiners should be charging in line with international prices and that prices are set to rise further unless there is a cut on levies on autofuels or a fall in crude oil prices.
- The prices of petrol and diesel are benchmarked to a 15-day rolling average of the international prices of the petroleum products.

India and Oil Imports

- India is heavily dependent on crude oil and LNG imports with over 82% import dependence for crude oil and more than 45% for natural gas/LNG.
- India generated more than 35 million tons of petroleum products from indigenous crude oil production whereas the consumption of petroleum products is more than 200 million tons. Similarly, India generated 30 bcm natural gas locally against the consumption of almost 60 bcm (double).
- LNG price is linked to the prevailing crude oil price in global markets.
- India is the third biggest oil importer after US and China in 2018 and expected to occupy second place surpassing the US in 2019.

Diversifying India's Oil Imports

- India's imports of Middle Eastern oil plunged to a four-year low in 2019.
- India imports about almost 85% of its oil needs and traditionally relies on the Middle East for the majority of its supplies, however, the region's share of India's crude shrank to 60% in 2019.
- The reason being: a record output from the United States and countries like Russia offered opportunities for importers to tap other sources.

REVISED SUBSIDIES TO SPUR EV DEMAND

Context:

Electric two-wheeler makers termed the government's decision to increase subsidy for such vehicles by 50% under the FAME II scheme saying it would be a game changer in the adoption of eco-friendly vehicles as phenomenal.

Relevance:

GS-III: Industry and Infrastructure

Dimensions of the Article:

1. Electric Vehicles (EVs) and their need in India
2. FAME-II
3. Revamped FAME-II scheme

Electric Vehicles (EVs) and their need in India

- An electric vehicle, uses one or more electric motors or traction motors for propulsion. An electric vehicle may be powered through self-contained battery, solar panels or an electric generator to convert fuel to electricity.
- India has committed to cutting its GHG emissions intensity by 33% to 35% percent below 2005 levels by 2030 – replacing combustion engine vehicles with electric vehicles is a step in the right direction.
- According to a recent study by WHO, India is home to 14 out of 20 most polluted cities in the world. EVs will help in tackling this problem by reducing local concentrations of pollutants in cities.
- India imports oil to cover over 80 percent of its transport fuel. EVs can reduce dependence on imported crude oil promoting India's energy security.
- It will encourage cutting edge technology in India through adoption, adaptation, and research and development. EVs manufacturing capacity will promote global scale and competitiveness.
- The shift towards renewable energy sources has led to cost reduction from better electricity generating technologies. This has introduced the possibility of clean, low-carbon and inexpensive grids.
- Advances in battery technology have led to higher energy densities, faster charging and reduced battery degradation from charging. Combined with the development of motors with higher rating and reliability, these improvements in battery chemistry have reduced costs and improved the performance and efficiency of electric vehicles.

FAME-II

- FAME India is a part of the National Electric Mobility Mission (NEMM) Plan. Main thrust of FAME is to encourage electric vehicles by providing subsidies.
- NEMM intends to allow hybrid and electric vehicles to become the first choice for the purchasers so that these vehicles can replace the conventional vehicles and thus reduce liquid fuel consumption in the country from the automobile sector.
- The scheme covers Hybrid & Electric technologies like Mild Hybrid, Strong Hybrid, Plug in Hybrid & Battery Electric Vehicles.
- Monitoring Authority: Department of Heavy Industries, the Ministry of Heavy Industries and Public Enterprises.
- Under this scheme, demand incentives will be availed by buyers (end users/consumers) upfront at the point of purchase and the same shall be reimbursed by the manufacturers from Department of Heavy Industries, on a monthly basis.

- Fame India Scheme has four focus areas:
  1. Technology development
  2. Demand Creation
  3. Pilot Projects
  4. Charging Infrastructure

Revamped FAME-II scheme

- The Centre has made a partial modification of the FAME-II, including increasing the demand incentive for electric two-wheelers to Rs. 15,000 per KWh from an earlier uniform subsidy of Rs 10,000 per KWh for all EVs, including plug-in hybrids and strong hybrids except buses.
- The government has also capped incentives for electric two-wheelers at 40% of the cost of vehicles, up from 20% earlier.
- It will bring down the prices of electric two-wheelers nearer to the IC (internal combustion engine) vehicles and remove one of the biggest blocks of the high sticker price of electric two-wheelers.
- Together with the other important factors like extremely low running cost, low maintenance and zero emission, such price levels will surely spur a substantial demand for electric two-wheelers.

CORPORATISATION OF ORDNANCE FACTORY BOARD (OFB)

Context:

Addressing a long pending reform, the Union Cabinet approved a plan to corporatise the Ordnance Factory Board (OFB), which has 41 factories, into seven fully government owned corporate entities on the lines of Defence Public Sector Undertakings (DPSU).

Relevance:

GS-III: Indian Economy (Privatization and Commercialization, Fiscal Policy, Budgeting), GS-III: Industry and Infrastructure

Dimensions of the Article:

1. Basics: What is Public Sector and Private Sector?
2. What is Privatization?
3. What is Corporatization?
4. Privatization and Corporatization in the Economic Survey 2020, Volume 1 Chapter 9
5. Lack of traction for privatisation in India
6. Ordnance Factory Board (OFB)
7. About the Current Major decision regarding OFB

Basics: What is Public Sector and Private Sector?

- In general, two main sectors compose an economy: the public sector and the private sector. Government agencies generally run operations and industries within the public sector.
- Enterprises not run by the government comprise the private sector. Private companies include the majority of firms in the consumer discretionary, consumer staples, finance, information technology, industrial, real estate, materials, and healthcare sectors.

What is Privatization?

- Privatization occurs when a government-owned business, operation, or property becomes owned by a private, non-government party.
- Note: This is NOT to be Confused with "corporate privatization" that describes the transition of a company from being publicly traded to becoming privately held.
- It generally helps governments save money and increase efficiency, where private companies can move goods quicker and more efficiently.
- Privatization is considered to bring more efficiency and objectivity to the company, something that a government company is not concerned about. India went for privatization in the historic reforms budget of 1991, also known as 'New Economic Policy or LPG policy'.
- Critics of privatization suggest that basic services, such as education, shouldn't be subject to market forces.

What is Corporatization?

- Corporatization refers to the restructuring or transformation of a state-owned asset or organization into a corporation. These organizations typically have a board of directors, management, and shareholders.
- However, unlike publicly traded companies, the government is the company's only shareholder, and the shares in the company are not publicly traded.
- The main goal of corporatization is to allow the government to retain ownership of the company while allowing the company to run as efficiently as its private counterparts. Government departments are often inefficient due to internal bureaucratic conventions.
- Additionally, the government may consider that joining the private sector might improve a company's performance. If this is the case, the government might conduct an offering on the stock market to divest the organization.

Privatization and Corporatization in the Economic Survey 2020, Volume 1 Chapter 9

Evolution of Disinvestment Policy in India

- The liberalization reforms undertaken in 1991 ushered in an increased demand for privatization/ disinvestment of PSUs.
- In the initial phase, this was done through the sale of a minority stake in bundles through auction. This was followed by a separate sale for each company in the following years, a method popularly adopted till 1999-2000.
- India adopted strategic sale as a policy measure in 1999-2000 with the sale of a substantial portion of government shareholding in identified Central PSEs (CPSEs) up to 50% or more, along with transfer of management control. This was started with the sale of 74 % of the Government's equity in Modern Food Industries Limited (MFIL).
- Thereafter, 12 PSUs (including four subsidiaries of PSUs), and 17 hotels of Indian Tourism Development Corporation (ITDC) were sold to private investors along with transfer of management control by the Government.
- Another major shift in disinvestment policy was made in 2004-05 when it was decided that the government may "dilute its equity and raise resources to meet the social needs of the people", a distinct departure from strategic sales.
- Department of Investment and Public Asset Management (DIPAM) has laid down comprehensive guidelines on "Capital Restructuring of CPSEs" in May 2016 by addressing various aspects, such as payment of dividends, buyback of shares, issues of bonus shares and splitting of shares.

Privatization in 2019

- In November 2019, India launched its biggest privatization drive in more than a decade. An "in-principle" approval was accorded to reduce the government of India's paid-up share capital below 51% in select Central Public Sector Enterprises (CPSEs).
- Among the selected CPSEs, strategic disinvestment of the Government's shareholding of 53.29% in Bharat Petroleum Corporation Ltd (BPCL) was approved which led to an increase in value of shareholders' equity of BPCL by INR 33,000 crore when compared to its peer Hindustan Petroleum Corporation Limited (HPCL) and this reflects an increase in the overall value from anticipated gains from consequent improvements in the efficiency of BPCL when compared to HPCL which will continue to be under Government control.

Lack of traction for privatisation in India

- **Typically, privatisation policy in India has been motivated by the need to raise resources in tough fiscal conditions. This is evident in the choice of the word 'disinvestment', as opposed to 'privatisation', which implies that the ownership and management of companies or assets move to private hands.**
- In sectors such as defence and national security, which could be the termed 'strategic', the government may continue to play a role. However, in areas where there are private players and where there is already a competitive market (such as steel, pharmaceuticals), or where the market has a few dominant players but is regulated (such as telecom), it makes sense for the government to exit.
- Past efforts at privatisation through strategic sales — when it was attempted by the first NDA government in the early 2000s — have faced several hurdles. One reason is endless litigation, sometimes by the labour unions, and sometimes on account of valuation of government assets and the prices at which they were sold.
- Concerns on valuation have also got officials in charge of privatisation tangled in legal battles, even well past their retirements. This has made civil servants risk-averse and unwilling to sign off on any sale at any price.

Ordnance Factory Board (OFB)

- Ordnance Factory Board (OFB) consisting of the Indian Ordnance Factories is a Government agency under the control of department of defence production (DDP) Ministry of Defence (MoD), Government of India.
- **OFB is the world's largest government-operated production organisation, and the oldest organisation in India.**
- It is engaged in research, development, production, testing, marketing and logistics of a product range in the areas of air, land and sea systems.
- OFB comprises forty-one ordnance factories, nine training institutes, three regional marketing centres and four regional controllerates of safety, which are spread all across the country.
- OFB is the 35th largest defence equipment manufacturer in the world, 2nd largest in Asia, and the largest in India.
- Ordnance Factory Board predates all the other organisations like the Indian Army and the Indian Railways by over a century. The first Indian ordnance factory can trace its origins back to the year 1712 when the Dutch Ostend Company established a Gun Powder Factory in Ichhapur.
- The Indian Ordnance Factories have not only supported India through the wars, but played an important role in building India with the advancement of technology and have ushered the Industrial Revolution in India starting with the first modern steel plant of India much before Tata Steel, first modern electric textile mill of India, first chemical industries such as smokeless propellant plants of India, established the first engineering colleges of India as its training schools, played key role in the founding of research and industrial organisations like ISRO, DRDO, BDL, BEL, BEML and SAIL.

About the Current Major decision regarding OFB

- This restructuring is aimed at transforming the ordnance factories into productive and profitable assets, deepening specialisation in the product range, enhancing competitiveness, improving quality and achieving cost efficiency.
- Currently, the Kolkata headquartered OFB functions as a department under the Department of Defence Production. There have been several recommendations by high-level committees in the past for corporatising it to improve efficiency and accountability.
- All employees of the OFB (Group A, B and C) belonging to the production units would be transferred to the corporate entities on deemed deputation initially for a period of two years without altering their service conditions as Central government employees.
- The 41 factories would be subsumed into seven corporate entities based on the type of manufacturing.
- The new structure would also help in overcoming various shortcomings in the existing system of the OFB by eliminating inefficient supply chains and provide these companies incentive to become competitive and exploring new opportunities in the market, including exports.

INTEGRATED POWER DEVELOPMENT SCHEME

Context:

As part of the 'Azadi ka Amrit Mahotsav', a 50 kWp Solar roof top was inaugurated in Solan, Himachal Pradesh under the Integrated power development scheme of Ministry of Power, Government of India.

Relevance:

GS-III: Industry and Infrastructure (Energy Sources and Infrastructure, Government Schemes and Initiatives)

Dimensions of the Article:

1. Integrated Power Development Scheme (IPDS)
2. Government efforts towards solar power.
3. Similar Government Schemes
4. Way Forward for India's Clean Energy?

Integrated Power Development Scheme (IPDS)

- Ministry of Power, Government of India notified "Integrated Power Development Scheme" (IPDS) in 2014.
- The scheme will help in reduction in AT&C losses; establishment of IT enabled energy accounting / auditing system, improvement in billed energy based on metered consumption and improvement in collection efficiency.
- The Objectives of IPDS are:
  1. 24×7 Power supplies for consumers.
  2. Reduction of AT&C (aggregate technical and commercial) losses.
  3. Providing access to power to all households.
- All Power Distribution Companies (Discoms) are eligible for financial assistance under the scheme.
- Components of the IPDS Scheme are:
  1. Strengthening of sub-transmission and distribution networks in the urban areas.
  2. Metering of distribution transformers / feeders / consumers in the urban areas.
  3. IT enablement of distribution sector and strengthening of distribution network under R-APDRP for 12th and 13th Plans by carrying forward the approved outlay for R-APDRP to IPDS.

4. Schemes for Enterprise Resource Planning (ERP) and IT enablement of balance urban towns are also included under IPDS. Scope of IT enablement has been extended to all 4041 towns as per Census 2011.
- Underground cabling to include additional demand of States and smart metering solution for performing UDAY States and Solar panels on Govt. buildings with net-metering are also permissible under the scheme.

Government efforts towards solar power.

- India expanded its solar generation capacity 8 times from 2,650 MW in May, 2014 to over 20 GW in January, 2018, and 28.18 GW in March, 2019.
- The government had an initial target of 20 GW of solar capacity by 2022, which was achieved 4 years ahead of schedule.
- In 2015, according to Paris climate deal, India agreed to the target of 100 GW of solar capacity by 2022.

Achievements so far in terms of Clean Energy

- Solar tariffs in India have reduced from Rs. 7.36/kWh in FY15 to Rs. 2.63/kWh in FY20.
- As of December 2020, over 36.69 crore LED bulbs, 1.14 crore LED tube lights and 23 lakh energy-efficient fans have been distributed across the country, saving 47.65 billion kWh per year.
- In the first half of November 2020, India's power consumption increased 7.8% to 50.15 billion units (BU), indicating an improvement in economic activity.
- Energy generation from thermal sources stood at 472.90 billion units (BU) in April-September 2020.
- India's rank jumped to 22 in 2019 from 137 in 2014 on World Bank's Ease of doing business – "Getting Electricity" ranking.
- As of 28th April, 2018, 100% village electrification was achieved under DDUGJY.

Similar Government Schemes

1. **Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya):** To ensure electrification of all willing households in the country in rural as well as urban areas.
2. **Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY):** The rural electrification scheme provides for (a) separation of agriculture and non-agriculture feeders; (b) strengthening and augmentation of sub-transmission and distribution infrastructure in rural areas including metering at distribution transformers, feeders and consumers end.
3. **GARV (Grameen Vidyutikaran) App:** To monitor transparency in implementation of the electrification schemes, Grameen Vidyut Abhiyanta (GVAs) have been appointed by the government to report progress through the GARV app.
4. **Ujwal Discom Assurance Yojana (UDAY):** For operational and financial turnaround of Discoms.
5. **'4 Es' in the Revised Tariff Policy:** The 4Es include Electricity for all, Efficiency to ensure affordable tariffs, Environment for a sustainable future, Ease of doing business to attract investments and ensure financial viability.

Way Forward for India's Clean Energy?

- Clean energy will be a major driver of India's economic recovery and international competitiveness, and working to leverage India's domestic innovation ecosystem will bring value to the country and industry.
- Four principles can be considered as a framework for policymakers and other key decision-makers considering programmes to support India's clean energy future
  - Invest in least-cost-energy solutions,
  - Support resilient and secure energy systems,
  - Prioritize efficiency and competitiveness, and

- Promote social and environmental equity.
- India needs to identify strategic opportunities for economic recovery in the short, medium, and long terms that can translate challenges posed by the pandemic into clean energy transition opportunities.

INDIA'S FIRST MARITIME ARBITRATION CENTRE GIMAC

Context:

The Gujarat Maritime University signed a Memorandum of Understanding (MoU) with the International Financial Services Centres Authority in GIFT City to promote the Gujarat International Maritime Arbitration Centre (GIMAC).

Relevance:

GS-III: Industry and Infrastructure (Industrial Growth and Industrial Policies), GS-II: (Government Policies and Interventions)

Dimensions of the Article:

1. What is GIFT City?
2. About GIMAC
3. What is the Gujarat Maritime Cluster?

What is GIFT City?

- GIFT (Gujarat International Finance Tec-City), located in Gandhinagar is India's first International Financial Services Centre.

International Financial Service Centre (IFSC)

- An IFSC caters to customers outside the jurisdiction of the domestic economy. Such centres deal with flows of finance, financial products and services across borders.
- An expert panel headed by former World Bank economist Percy Mistry submitted a report on making Mumbai an international financial centre in 2007. However, the global financial crisis in 2008 made countries including India cautious about rapidly opening up their financial sectors.
- In India, IFSC has been defined in Special Economic Zone (SEZ) Act, 2005.
- Since India has many restrictions on the financial sector, such as partial capital account convertibility, high SLR (statutory liquidity ratio) requirements and foreign investment restrictions, an SEZ can serve as a testing ground for financial sector reforms before they are rolled out in the entire nation.
- As per the SEZ Act the Central Government may approve the setting up of an International Financial Service Centre in a Special Economic Zone and may prescribe the requirements for setting up and operation of such centre. The Central Government shall approve only one International Financial Services Centre in a Special Economic Zone.

About GIMAC

- Gujarat International Maritime Arbitration Centre (GIMAC) will be the first centre of its kind in the country that will manage arbitration and mediation proceedings with disputes related to the maritime and shipping sector.

- The idea is to create a world-class arbitration centre focused on maritime and shipping disputes that can help resolve commercial and financial conflicts between entities having operations in India.
- The GIMAC will be part of a maritime cluster that the Gujarat Maritime Board (GMB) is setting up in GIFT City at Gandhinagar.
- There are over 35 arbitral institutions in India, however, none focus exclusively on the disputes related to the maritime sector, hence the GIMAC will help in this regard with Gujrat continuing to witness a rapid extension in maritime activities and inching closer to becoming a global maritime hub with the implementation of Gujarat Maritime Cluster project.
- The GIMAC will facilitate faster dispute resolution while improving the attractiveness of GIFT Special Economic Zone (SEZ) and the ease of doing business.

What is the Gujarat Maritime Cluster?

- Gujarat Maritime Cluster is conceived as a dedicated ecosystem of Ports, Maritime Shipping and Logistics services providers.
- It will host an array of maritime, shipping industry players and service providers, along with relevant Government regulatory agencies, in GIFT City, Gandhinagar – India's first International Financial Services Centre (IFSC).
- It will be a one stop solution for all maritime services while attaining economic growth, employment generation and industry – academia confluence in the region.

"THE INDIA STORY" BOOKLET ON INDIA'S ENERGY TRANSITION

Context:

Union Minister of State Power, New and Renewable Energy launched "The India Story" booklet which is a compilation of Indian initiatives that are shaping India's energy transition.

Relevance:

GS-III: Industry and Infrastructure (Energy Security, Renewable energy, Energy Sources and Infrastructure, Government Schemes and Initiatives)

Dimensions of the Article:

1. Highlights – Statements made during the launch
2. Indian Initiatives regarding renewable Energy

Highlights – Statements made during the launch

- Power Minister has said that as much as USD 70 billion (about Rs 5.2 lakh crore) has been invested in renewable energy across the country in the past seven years.
- In the last 6 years, India's installed renewable energy capacity has increased by over two and a half times and stands at more than 141 Giga Watts (including large Hydro), which is about 37 per cent of the country's total capacity (as on 16th June 2021).
- In the last 6 years, the installed solar energy capacity in India has increased by over 15 times, and stands at 41.09 GW.
- India's renewable energy capacity is the 4th largest in the world.
- India's annual renewable energy addition has been exceeding that of coal based thermal power since 2017.

Indian Initiatives regarding renewable Energy

- National Solar Mission (NSM): The 100 GW solar ambition at the heart of the world's largest renewable energy expansion programme
- The Wind Energy Revolution: Leveraging India's robust wind energy sector to boost clean energy manufacturing and the rural economy
- National Biofuels Policy and SATAT: Building value chains to reduce fuel imports, increase clean energy, manage waste, and create jobs
- Small Hydro Power (SHP): Harnessing the power of water to integrate remote communities into the economic mainstream.
- National Hydrogen Energy Mission (NHEM): Exploring the commercial viability of a versatile clean fuel
- Production-Linked Incentive (PLI) Scheme: Integrating India into the global clean energy value chains
- National Biofuels Policy and SAYAY: Building value chains to reduce fuel imports, increase clean energy, manage waste and create jobs

CABINET APPROVES VIABILITY GAP FUNDING FOR BHARATNET

Context:

The Union Cabinet approved a viability gap funding support of up to ₹19,041 crore for the implementation of the BharatNet project through Public-Private Partnership (PPP) model in 16 States.

Relevance:

Prelims, GS-III: Industry and Infrastructure (Government Policies & Interventions)

Dimensions of the Article:

1. About the BharatNet project
2. What is the Universal Service Obligation Fund (USOF)?

About the BharatNet project

- BharatNet is a flagship mission implemented by Bharat Broadband Network Ltd. (BBNL) – BharatNet Project is basically the National Optical Fibre Network (NOFN) that was launched in 2011 and got renamed as BharatNet project in 2015.
- The project is being executed by BSNL, RailTel, and Power Grid and is being funded by the Universal Service Obligation Fund (USOF) and has subsumed all the ongoing and proposed broadband network projects.
- The BharatNet Project aims to facilitate the delivery of e-governance, e-health, e-education, e-banking, Internet and other services to rural India.
- It aims to connect all of India's households, specifically rural households through demand, affordable high-speed internet connectivity to fulfill the objectives of the Digital India programme in partnership with the states and the private sector.
- The Bharat Net project proposes broadband connectivity to households under village Panchayats and even to government institutions at the district level.
- It intends to cover all 2.5 lakh Gram Panchayats for the provision of E-governance, E-healthcare, E-Commerce, E-Education, and Public Interest Access services.
- The deadline for completion of the BharatNet Project had been extended till June 2021 from December 2020, and a notice had been issued to Tata Projects Ltd for failing to meet projected milestones.

- The three-phase implementation of the BharatNet project is as follows
    1. The first phase envisages providing one lakh gram panchayats with broadband connectivity by laying underground optic fibre cable (OFC) lines by Decmeber 2017.
    2. The second phase will provide connectivity to all 2,50,500 gram panchayats in the country using an optimal mix of underground fiber, fiber over power lines, radio and satellite media. This is a new element of the BharatNet strategy as the mode of connectivity by aerial OFC has several advantages, including lower cost, speedier implementation, easy maintenance and utilization of existing power line infrastructure. The last mile connectivity to citizens was proposed to be provided creating Wi-Fi hotspots in gram panchayats
    3. In the third phase from 2019 to 2023, state-of-the-art, future-proof network, including fiber between districts and blocks, with ring topology to provide redundancy would be created.

What is the Universal Service Obligation Fund (USOF)?

- The Universal Service Obligation Fund (USOF) was established with the primary objective of providing access to 'Basic' telecom services to people in the remote and rural areas at reasonable and affordable prices.
- Universal Service stands for universal, interdependent and intercommunicating, affording the opportunity for any subscriber to any exchange to communicate with any other subscriber of any other exchange.
- The USOF proposes to meet its social, economic, political and constitutional objectives which are as follows:
    - To extend the telecommunication network.
    - To stimulate the uptake of Internet and Communication Technologies (ICT) services.
    - To bring the underserved and unserved areas of the country into the telecom spectrum and narrow down the access gap.
    - To use the pooled USO levy for an equitable distribution through target subsidies.
- Subsequently, the scope was widened to provide subsidy support for enabling access to all types of telegraph services including mobile services, broadband connectivity, and creation of infrastructure like Optical Fiber Cable (OFC) in rural and remote areas.
- With access to affordable telecom services in remote and rural areas, the USOF is the right step towards stemming urban migration. This would ensure to generate employment opportunities in the rural areas which would help generate more income.

Who are the partners of USOF?

As per the Department of Telecommunications, there are 24 partners of USOF. It includes:

- Bharat Sanchar Nigam Limited
- Tata Tele Services Limited
- Reliance Communications Limited
- Vodafone
- Bharti Airtel Limited, etc.

WHAT IS ONDC PROJECT?

Context:

The government has appointed National Health Authority CEO Ram Sewak Sharma and Infosys non-executive chairman Nandan Nilekani as members of an advisory council for creating an Open Network for Digital Commerce (ONDC).

Relevance:

GS-III: Industry and Infrastructure (Industrial Growth, Industrial Policy, e-Commerce)

Dimensions of the Article:

1. Open Network for Digital Commerce (ONDC) project
2. Department for Promotion of Industry and Internal Trade (DPIIT)
3. What is Electronic Commerce (e-commerce)?
4. About the Consumer Protection (E-Commerce) Rules, 2020

Open Network for Digital Commerce (ONDC) project

- The Open Network for Digital Commerce (ONDC) is a project which is an initiative of the Department of Promotion of Industry and Internal Trade (DPIIT) under the Ministry of Commerce and Industry.
- The task of promoting open networks developed on open-source methodology has been given to the Quality Council of India (QCI) for ONDC project.
- The expectations for ONDC are to digitise the entire value chain, standardise operations, promote inclusion of suppliers, derive efficiencies in logistics, and enhance value for consumers.
- The main aims of ONDC are to:

1. Promote open-source methodology, using open specifications and
2. Promote open network protocols independent of any specific platform
3. Digitise value chains,
4. Promote inclusion of suppliers,
5. Standardize operations,
6. Derive efficiencies in logistics
7. Enhance value for consumers.

Department for Promotion of Industry and Internal Trade (DPIIT)

- The Department for Promotion of Industry and Internal Trade (DPIIT) is a central government department working under Ministry of Commerce and Industry.
- The Department is responsible to formulate and implement promotional & developmental measures for growth of industrial sector based on national priorities and socio-economic objectives.
- Individual administrative ministries are responsible for planning – production, distribution and developmental aspects of industries allocated to them. But the DPIIT is responsible for overall industrial policy.
- DPIIT is also responsible to facilitate and increase foreign direct investment (FDI) flows India.

AERA AMENDMENT BILL, 2021

Context:

The Lok Sabha passed the Airports Economic Regulatory Authority of India (AERA) Amendment Bill, 2021 (without any discussions due to disruptions).

Relevance:

GS-III: Industry and Infrastructure, GS-III: Indian Economy (Growth & Development of Indian Economy, Government Policies & Interventions)

Dimensions of the Article:

1. Airports Economic Regulatory Authority of India (AERA)
2. AERA Amendment Bill, 2021

Airports Economic Regulatory Authority of India (AERA)

- The Airports Economic Regulatory Authority of India Act, 2008 established the **Statutory body –** Airports Economic Regulatory Authority of India (AERA).
- AERA was established to ensure that private airport operators do not misuse their monopoly, the need for an independent tariff regulator in the airport sector was felt.
- AERA regulates tariffs and other charges for aeronautical services provided at civilian airports with annual traffic above 15 lakh passengers.
- It also monitors the performance standard of services across these airports.

AERA Amendment Bill, 2021

- The AERA Amendment Bill, 2021 proposes to amend the definition of major airport to include a group of airports.
- It will allow AERA to regulate tariff and other charges for aeronautical services for not just major airports with annual passenger traffic of more than 35 lakh, but also a group of airports.
- The government will be able to club profitable and non-profitable airports as a combination/package to bidders to make it a viable combination for investment under PPP (Public-Private Partnership) mode.
- It will help in expanding the air connectivity to relatively remote areas and as a result, expediting the UDAN regional connectivity scheme.
- Lack of clarity in the bill on the criterion for deciding which airports will be clubbed together to qualify under 'a group of airports' definition, whether it will be the passenger traffic of more than 3.5 million or some other factors too.

OPEN ACREAGE LICENSING PROGRAMME

Context:

Ministry of Petroleum and Natural Gas launches Open Acreage Licensing Programme Bid Round-VI which offers the potential investors freedom to carve out blocks of their choice through submission of Expression of Interest (EoI).

Relevance:

GS-III: Industry and Infrastructure (Industrial Policy, Infrastructure, Government Policies and Interventions)

Dimensions of the Article:

1. Open Acreage Licensing Programme (OALP)
2. About Hydrocarbon Exploration & Licensing Policy (HELP)

Open Acreage Licensing Programme (OALP)

- The Hydrocarbon Exploration and Licensing Policy (HELP) replacing the erstwhile New Exploration Licensing Policy (NELP) was approved in March 2016 and the Open Acreage Licensing Policy (OALP) along with the National Data Repository (NDR) were launched in June 2017 as the key drivers to accelerate the Exploration and Production (E&P) activities in India.
- Under OALP, companies are allowed to carve out areas they want to explore oil and gas in.
- Companies can put in an expression of interest (EOI) for any area throughout the year but such interests are accumulated thrice in a year. The areas sought are then offered for bidding.
- This policy is different from the past where the government identified areas and offered them for bidding.
- The successful roll-out of the HELP regime, followed by OALP Bid Rounds, has led to an increase in exploration acreages in India.
- OALP has helped in removing red-tapism and brought in a quantum jump in the Exploration & Production sector.

About Hydrocarbon Exploration & Licensing Policy (HELP)

- The Hydrocarbon Exploration & Licensing Policy (HELP), which adopts the Revenue Sharing Contract model, is a giant step towards improving the 'Ease of Doing Business' in the Indian Exploration and Production (E&P) sector.
- It comes with attractive and liberal terms like reduced royalty rates, no Oil Cess, marketing and pricing freedom, round the year bidding, freedom to investors for carving out blocks of their interest, a single license to cover both conventional and unconventional hydrocarbon resources, exploration permission during the entire contract period, and an easy, transparent and swift bidding and awarding process.
- Bid Round-IV onwards, bidding rounds are being carried out under the further liberalized policy terms, which focused on production maximization with higher weightage to Committed Work Programme in Category I basin and no revenue share bids required for less explored Category II & III basins.
- Category-I basins have established reserves and fields that are already producing while Category-II basins are ones that have contingent resources pending commercial production. Category-III basins are ones that have prospective resources awaiting discovery.