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GS 2 : Polity, Governance, International Relations

1. Taliban captures key dam in Afghanistan

What's in News?

The Taliban has captured **Dahla Dam**.

- **Dahla Dam is Afghanistan's second-biggest dam.**

The dam's capture comes amidst clashes, shortly after the U.S. military formally began withdrawing its troops from Afghanistan.

Background:

- President Joe Biden announced, "It's time to end America's longest war with the unconditional withdrawal of troops from Afghanistan, where they have spent two decades in a bloody, largely fruitless battle against the Taliban".
- He said the **U.S. will begin its final withdrawal from Afghanistan on May 1, 2021.**

Details:

- Around **7,000 non-U.S. forces from mainly NATO countries**, also from Australia, New Zealand and Georgia, outnumber the **2,500 U.S. troops in Afghanistan**.
- A key reason for a coordinated withdrawal is the fact that **NATO relies on U.S. airlift capabilities** and shipping to move valuable equipment in and out of landlocked Afghanistan.
- After withdrawing, the U.S. and NATO aim to rely on Afghan military and police forces, which they have developed with billions of dollars in funding, to maintain security though peace talks are struggling and the insurgency is resilient.

Resolute Support:

- An integral part of NATO's current mission, **Resolute Support**, is to **train and equip Afghan security forces fighting the Islamist Taliban**.
 - **Taliban was ousted from power** by a U.S. invasion in late **2001** and has since **waged an insurgency**.

- With non-U.S. troop numbers reaching as high as 40,000 in 2008, Europe, Canada and Australia have moved in tandem with the U.S., also providing long-term funding to rebuild Afghanistan despite the resurgence of Taliban-led violence and endemic official corruption in the country.

2. What's Facebook's Oversight Board

What's in News?

Facebook's Oversight Board upheld Facebook's January decision to block the then-U.S. President Donald Trump from its platform.

- Trump was blocked for “inciting violent insurrection against a democratically elected government”.
- Facebook then referred the case to its Oversight Board.

Facebook's Oversight Board:

- The Oversight Board has been set up as an **independent body** that will help Facebook figure out what content can be allowed on the platform and what ought to be removed.
- It was said to have emerged out of the tensions around the often-**conflicting goals of maintaining Facebook as a platform for free speech and effectively filtering out problematic speech.**
- The **board is autonomous** in the exercise of independent judgment.
- Facebook as well as its users can refer cases to the board. The decisions of the board are binding on Facebook.

3. China halts economic dialogue with Australia

Context:

China has called off the **China-Australia Strategic Economic Dialogue** and suspended all activities under the framework indefinitely.

Details:

- China's move is a largely symbolic act of fury, following clashes over a wide range of issues, including **human rights, espionage** and the **origins of COVID-19.**

- Tensions between the two sides have soared since **Australia called for an independent probe into the origins of the pandemic and banned telecom giant Huawei from building Australia's 5G network.**
- **China – Australia's biggest trading partner**, has already imposed tariffs or disrupted more than a dozen key industries.
- China's National Development and Reform Commission blamed Australia for "Cold War mindset" and "ideological discrimination".

4. Down Syndrome

- Down syndrome is a common congenital chromosomal anomaly.
- The condition occurs when there is one extra copy of chromosome 21 in cells in the body.
- The extra chromosome 21 material may affect the physical development and learning abilities of people with Down syndrome.
- Down syndrome is the most common genetic cause of learning disability. It often causes various degrees of cognitive impairment.
- It is not a disease or an illness that can be cured.

5. U.S. to support intellectual property waiver for COVID-19 vaccines

US in support of TRIPS waiver

- The United States announced its support to an initiative at the World Trade Organisation (WTO) to waive **Trade Related Intellectual Property Rights (TRIPS)** protection for COVID-19 vaccines.
- The initiative was first floated by India and South Africa last October.
- **Over a 100 countries have supported the proposal**, according to the Associated Press.

Opposition to the move

- Among the arguments proffered to retain IP protection are that **biotech jobs will be transferred from the U.S. to foreign countries** and that waiving IP still not does overcome bottlenecks like manufacturing capacity.
- Twelve Republican Members of Congress wrote to Mr. Biden on Tuesday urging him to consider other means to increase vaccine access that did not involve weakening IP protections.
- Weakening protections would hamper American competitiveness and innovation, they said.

GS 3 : Economy, Science and Technology, Environment

6. Intellectual property waiver for Covid-19 vaccines

Context:

- The United States under the **Biden administration has announced support for waiving patents on COVID-19 vaccines** and will pursue negotiations for the same at the World Trade Organization.

Background:

Patents:

- A patent is an exclusive monopoly granted by a government to an inventor for a limited, pre-specified time. It provides an enforceable legal right to prevent others from copying the invention.
- Patents can be either **process patents or product patents**.
 - A product patent ensures that the rights to the final product are protected, and anyone other than the patent holder can be restrained from manufacturing it during a specified period, even if they were to use a different process.
 - A process patent enables any person other than the patent holder to manufacture the patented product by modifying certain processes in the manufacturing exercise.
- India moved from product patenting to process patenting in the 1970s. But due to obligations arising out of the **TRIPS Agreement**, India had to amend the **Patents Act in 2005**, and switch to a product patents regime across the pharma, chemicals, and biotech sectors.

Proposal for a temporary waiver:

- In October 2020, India and South Africa had asked the WTO to waive certain conditions of the **Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement** that could impede their access to affordable medical products to combat Covid-19.
- The countries had asked the TRIPS Council to recommend a waiver on the implementation, application and enforcement of four sections in the second part of the agreement. These **sections – 1, 4, 5, and 7 – pertain to copyright and related rights, industrial designs, patents, and the protection of undisclosed information**.

- The demand had also been raised by human rights bodies and global advocacy groups. However, the appeals to do away with intellectual property rights have been unsuccessful so far in the face of lobbying by powerful pharmaceutical companies.

Details:

- The U.S. administration has stated that though it believes strongly in intellectual property protections, it supports the waiver of those protections for the COVID-19 vaccine given the need of the hour to end the pandemic.
- The move is aimed to get as many safe and effective vaccines to as many people as fast as possible.
- United States Trade Representative has said that the US will pursue “**text-based negotiations**” on the waiver at the World Trade Organization (WTO).
 - Text-based negotiations involve negotiators exchanging texts with their preferred wording and then thrashing out a consensus on the working.

Significance:

Movement towards global consensus:

- The opposition to IP related waivers has come from the developed nations and their industries. **The U.S. support for the temporary waiver would go a long way in building a global consensus for the proposed IP waiver.**
 - The **European Union**, which had earlier opposed the waiver, has now stated its intent to discuss the US-backed proposal.

Push for global vaccine production:

- Doing away with **intellectual property rights** will help scale up vaccine production.
- The IP waiver might open up space for large scale production of COVID-19 vaccines with emergency use authorisations (EUA) – such as those developed by Pfizer, Moderna, AstraZeneca, Novavax, Johnson & Johnson and Bharat Biotech – in middle-income countries.
 - Most production is currently concentrated in high-income countries; production by middle-income countries has been happening through **licensing or technology transfer agreements.**
- Hence, this will be a **big step in overcoming vaccine shortage.**

Ensure cheaper vaccines:

- Doing away with **intellectual property rights** will pave the way for **cheaper versions of the vaccine to enter the market.**

- The waiver would allow any company which possesses the required technology and infrastructure to produce vaccines. This will lead to cheaper and more generic versions of COVID-19 vaccines. It will mean that vaccines will be **more affordable**.

Ensure universal vaccination:

- Vaccine experts and human rights groups have warned that the longer Covid circulates in developing nations, there is the greater chance of more vaccine-resistant, deadly mutations of the virus emerging. An Oxfam International report warns that mutations could render current COVID vaccines ineffective in a year or less.
- This necessitates the need to vaccinate all. **Open sharing of technology and intellectual property could increase global vaccine coverage.**

Challenges:

Time-consuming process:

- The negotiations at WTO may take time given the **consensus-based nature of the institution** and the complexity of the issues involved.
 - All 164 WTO members must agree on the draft, and any one member can veto it.

Questions over production capacity:

- It must be noted that the mere elimination of IP protections may not necessarily speed up the production of the vaccines.
- **Ramping up production capacities will be a lengthy process** and most analysts expect this to take at least a few months.

Supply chain constraints:

- Besides patents, there are other roadblocks to scaling up the production of vaccines and ensuring their distribution. The International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) has pointed to challenges in scaling up the production and distribution of Covid-19 vaccines.
- **Challenges include trade barriers, bottlenecks in supply chains, scarcity of raw materials and ingredients in the supply chain**, and the unwillingness of rich countries to share doses with poorer nations.
- The **scarcity of raw materials** has been a growing issue for ramping up production; several manufacturers have been relying on specific suppliers, and alternatives are limited.

- Countries like the US had blocked exports of critical raw materials used in the production of some Covid-19 vaccines using regulations like the American Defence Production Act. This led to a delay in the production of COVID vaccines by some companies in India.

Economic ability of developing states to acquire vaccines:

- Given the propensity of **high-income countries to acquire “most of the supplies” there is the overwhelming possibility of global vaccine inequality.** This could impact the very basis of calls for a temporary waiver of IP rights- ensuring global access to quality vaccines.
 - The United States has been reportedly having an excess of over 80 million doses of various vaccines while the developing world continues to face vaccine shortages.

Arguments against the move:

Dis-incentivize further research:

- Pharma companies including Pfizer and AstraZeneca have opposed the proposed waiver arguing that eliminating IP protections would undermine the global response to the pandemic, including the ongoing efforts to tackle new variants. It **could dis-incentivize research into the ever-evolving SARS-CoV-2.**

Minimal impact on vaccine production:

- The mere elimination of IP protections may not necessarily speed up the production of the vaccines given the **lack of currently available production capacity.**

Questions over quality:

- The pharma companies of the western nations have been arguing that the lifting of patents would be a **compromise on control of safety and quality standards for vaccine manufacturing.**
- The pharma companies argue that the waiver could create confusion that could potentially **undermine public confidence in vaccine safety** and create a barrier to information sharing.

Flexibilities available in TRIPS:

- Arguments against a temporary waiver for IP rights contend that there are already existing flexibilities available in TRIPS that can be utilized by middle-

income countries. The temporary waiver would amount to a large dilution of IP rights and may lead to similar calls in future thus permanently impacting the IP rights under the TRIPS arrangement.

Counter arguments:

Financial viability of pharma companies not at stake:

- WHO Director-General, Tedros Adhanom Ghebreyesus has argued that the waiving of the patents do not mean the innovators will not get anything – they stand to get a **royalty for the products they manufacture**.

Previous case of generic medicine production:

- The argument that middle-income countries do not have the capacity to speedily produce vaccines goes against earlier moves towards a patents regime for generic drugs. Experts said the same reasoning can be used now for the production of vaccines.
- **A number of companies from different countries have said they are ready to produce the vaccines if a temporary waiver is provided.**
 - Countries including Canada, South Korea, and Bangladesh have shown interest in making COVID-19 vaccines if they can get a patent waiver.

Concerns over quality do not hold:

- The quality of the vaccines **can always be assessed and regulated**.
- The continued association of western companies with Indian companies for manufacturing their vaccines in India is indicative of the quality of products produced in India.
 - Between 1972 and 2005, India had adopted process patenting rather than product patenting, and built up a huge generic industry. India which is a significant producer of generic drugs on a global scale has enabled companies like Cipla to provide Africa with anti-HIV drugs in the 1990s.

Ineffectiveness of available flexibilities:

- The developing countries may face **institutional and legal difficulties when using flexibilities available in the TRIPS Agreement**.

Recommendations:

Negotiations should include all COVID-19 related interventions:

- Notably, the proposal for temporary waiver was for all COVID-19 interventions, including testing diagnostics and novel therapeutics. The IP waiver negotiations should include other interventions going forward.

Ensuring equitable access:

- Given the available evidence pointing to the ill effects of inequitable vaccine access, there should be an **increased emphasis on ensuring more equitable distribution of the vaccine doses available.**

Conclusion:

- In view of the ongoing global health crisis and the need for extraordinary measures in extraordinary circumstances of the Covid-19 pandemic, **the temporary waiver of IP rights seems to be the right way forward in the global fight against the pandemic.**
- If patents are waived, it will definitely be a shot in the arm to increase the scale and speed of vaccine rollout across the world.

7. EU to discuss U.S. vaccine patent plan at summit

What's in News?

In view of the global health crisis and the need to combat the Covid-19 pandemic, **India and South Africa proposed a relaxation in the norms of the agreement on TRIPS in WTO, to ensure quick and affordable access to vaccines and medicines for developing countries.**

- The proposal has received the **support of more than 120 countries.**
- France also has joined the United States in supporting an easing of patent and other protections on COVID-19 vaccines.
- Russia has also expressed its support for the idea of a waiver on patent protections for coronavirus vaccines.
- The relaxation **could help poorer countries get more doses and speed up the end of the pandemic.**
- The EU Commission President has also expressed willingness to discuss the proposal.
- The GAVI vaccine alliance, which co-leads the COVAX dose-sharing programme with the WHO welcomed Mr. Biden's support for waiving intellectual property rights.

Drug makers' concerns:

- The drug makers opine that the proposal if adopted by the WTO **would invite new manufacturers that lack essential know-how and oversight from the inventors** to crowd out established contractors.

8. RBI move to help firms with weaker credit profiles: CRISIL

Context:

According to CRISIL, companies with relatively weaker credit profiles, and part of low-resilience sectors, are expected to benefit more from the restructuring window offered under the **Resolution Framework 2.0** announced by the **Reserve Bank of India (RBI)**.

- RBI has announced a **slew of measures to mitigate the impact of the pandemic on businesses and individuals**, including a restructuring window for small businesses.
- The restructuring would entail **rescheduling of financial obligations**, thus **easing liquidity pressure**.
- This effort by RBI is to ensure that **credit keeps flowing to the economy, especially the weaker sectors**.

Details:

- RBI Governor announced a **Term Liquidity Facility of ₹50,000 crore** with a tenor of **up to three years**, at the **repo rate**, to ease access to credit for providers of emergency health services.
- Under the scheme, **banks will provide fresh lending support to a wide range of entities**, including vaccine manufacturers, importers/suppliers of vaccines and priority medical devices, hospitals/dispensaries, pathology labs, manufacturers and suppliers of oxygen and ventilators, and logistics firms.
- These loans will continue to be **classified under the priority sector till repayment or maturity**, whichever is earlier.
- Under the scheme, banks are expected to **create a COVID loan book**.
- As part of a **“comprehensive targeted policy response”**, the RBI has also unveiled **schemes to provide credit relief to individual and MSME borrowers** impacted by the pandemic.
 - To provide further support to small business units, micro and small industries, and other unorganised sector entities, the RBI decided to conduct **special three-year long-term repo operations (SLTRO) of ₹10,000 crore at the repo rate for Small Finance Banks**.
 - The SFBs would be able to deploy these funds for fresh lending of up to ₹10 lakh per borrower.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. Share of women, youth in new Assemblies

The age and gender profiles of 3 of the newly elected Assemblies show that the **share of women MLAs is unchanged in West Bengal**, has grown slightly in Kerala, and **fallen in Tamil Nadu**.

- West Bengal has **more young MLAs** than earlier while the other two Assemblies have less than 10% MLAs under 40.

Reasons for Less Number of Women MLAs

- Domestic responsibilities.
- Prevailing cultural attitudes regarding roles of women in society
- Lack of support from family
- Lack of confidence
- Lack of finance

Reasons for Less Number of Youth MLAs:

- They fear that Indian electors who respect older politicians **will not take young candidates seriously**.
- **Key party decision makers**, typically veterans, do not want to yield space.
- Politicians use muscle and money power to prevent entry of good people to enter politics.
- The chances of **failure are high** and very few people become successful.
- General perception of a common man about a politician is someone who is **deceptive and corrupt**. So people from well to do fields tend to avoid themselves being listed in categories of politicians.
- Many fail to enter due to dirty politics and due to fear of harm to good image.
- Unethical practices have become the norm in politics.
- **Nepotism** plays a major role and many youth who become successful politicians belong to influential political families.
- **Rising campaign spending** and rotational reservation in municipal, panchayat and mayoral elections have created barriers to upward movement for aspiring young politicians.

2. Petroleum Minister flags off 1st supply of Used Cooking Oil-based Biodiesel

Minister of Petroleum & Natural Gas flagged off the first supply of UCO (Used Cooking Oil) based Biodiesel blended Diesel under the EOI Scheme from Indian Oil's Tikrikalan Terminal, Delhi.

- It will be landmark in **India's pursuance of Biofuels** which will have a positive impact on the environment.

Background:

- To create an eco-system for **collection and conversion of UCO** into Biodiesel and developing entrepreneurship opportunities, other ministries had initiated Expressions of Interest for "Procurement of **Bio-diesel** produced from **Used Cooking Oil**" on the occasion of World Biofuel Day on **10th August 2019**.

Key highlights:

- Under this initiative, **OMCs offer periodically incremental price guarantees** for five years and extend off-take guarantees for **ten years to prospective entrepreneurs**.
- Biodiesel is an alternative fuel, similar to **conventional or 'fossil' diesel**.
- It can be **produced from vegetable oils, animal fats**, tallow and waste cooking oil.
- A significant advantage of Biodiesel is its carbon-neutrality, i.e. the oilseed absorbs the same amount of **CO₂ as is released** when the fuel is combusted in a vehicle.
- Also, Biodiesel is rapidly biodegradable and **completely non-toxic**.

Repurpose Used Cooking Oil:

- RUCO an initiative of The **Food Safety and Standards Authority of India (FSSAI)**, is an ecosystem that will **enable the collection and conversion** of Used Cooking Oil (UCO) to biodiesel.
- Under this initiative, **64 companies at 101 locations** have been identified to enable collection of used cooking oil.

About Used Cooking Oil (UCO):

- In India, the same cooking oil is **used for repeated frying** which adversely affects the health due to formation of polar **compounds during frying**.
- These polar compounds are associated with diseases such as **hypertension, atherosclerosis, Alzheimer's disease, liver diseases** among others.

- When used multiple times, cooking oil **becomes acidic and darkens in colour**.
 - This may **alter the fatty acid composition** of the oil.
- UCO is either **not discarded at all or disposed off** in an environmentally hazardous manner **choking drains and sewerage systems**.
 - The **National Policy on Biofuels 2018** envisages production of biofuel from UCO.
- The National Policy on Biofuels – 2018 envisages a **target of 5% blending of Biodiesel** in HSD by 2030.
- In order to **achieve the blending target, 500 crore litres of Biodiesel** is required in a year.
- In India, approximately, **2700 crore litres of Cooking Oil** is used out of **which 140 Crore UCO** can be collected from **Bulk Consumers** such as hotels for conversion giving 110 crore litres of Biodiesel in one year.
- Presently there is no established **collection chain for UCO**. Thus, there is a huge opportunity in production of **biodiesel from UCO**.

About Food Safety and Standards Authority of India (FSSAI):

- The Food Safety and Standards Authority of India (FSSAI) is an agency of the **Ministry of Health & Family Welfare, Government of India**.
- The FSSAI has been established under the **Food Safety and Standards Act, 2006** which is a consolidating statute related to **food safety and regulation in India**.
- The FSSAI is led by a **non-executive Chairperson**, appointed by the Central Government.
- The Chairperson is in the **rank of Secretary to Government of India**.
- The agency also **has 8 regional offices, 4 referral laboratories and 72 local laboratories** located throughout India.

3. Eyeing rural coverage, IRDAI pitches for model insurance villages

Insurance Regulatory and Development Authority of India (IRDAI) has come out with the concept to cover the entire population in village areas, with the financial support of various institutions like **NABARD and CSR funds**.

Key highlights:

- The idea behind the model village concept is to offer comprehensive insurance protection to all the major insurable risks that **villagers are exposed to and make available covers at affordable or subsidised cost**.

- The concept may be implemented in a **minimum of 500 villages** in different districts of the country in the first year and **increased to 1000 villages** in the **subsequent two years**.

Insurance Regulatory and Development Authority of India (IRDAI):

- The Insurance Regulatory and Development Authority of India (IRDAI) is an autonomous, statutory agency **tasked with regulating and promoting the insurance and re-insurance industries in India**.
- It was constituted following the recommendations of the **Malhotra Committee report**, by the **Insurance Regulatory and Development Authority Act, 1999**.
- **Headquarter:** Hyderabad, Telangana
- **Composition:** Total **10-member = 1 chairman + 5 full-time members + 4 part-time members** appointed by the government of India.

Functions of IRDA:

- **Protect the rights of insurance policy holders.**
- Provide **registration certification** to life insurance companies.
- **Renew, modify or suspend** this registration certificate.
- Promote **professional organisations** connected with insurance and reinsurance business; regulate investment of **funds by insurance companies**.
- **Adjudication of disputes between insurers and intermediaries** or insurance intermediaries.

GS 3 :Economy, Science and Technology,Environment

4.Eco Sensitive Zone around Thane Creek Flamingo Sanctuary

Why in News

Recently, the **Ministry of Environment, Forest and Climate Change (MoEFCC)** has notified an **Eco Sensitive Zone (ESZ)** around the **Thane Creek Flamingo Sanctuary (TCFS, Maharashtra)**.

- The **ESZ** is meant to act as a **buffer for protected areas** and **reduces developmental pressures** around a **wildlife sanctuary or national park**.

Key Points

- **About Thane Creek Flamingo Sanctuary:**
 - It is the **second marine sanctuary of Maharashtra after Malvan sanctuary**, and lies **along the western bank of the Thane Creek**.
 - It is recognized as an **“Important Bird Area”** by the **Bombay Natural History Society**.
 - TCFS is home to 39 categories of **mangrove** species, 167 species of birds like **flamingos**, 45 fish species, 59 species of butterflies, 67 insect species and mammals like jackals among others.

Thane Creek

- It is an **inlet in the shoreline of the Arabian Sea** that isolates the city of Mumbai from the Indian mainland.
- The creek is **divided into two parts**: the Ghodbunder-Thane stretch and the Thane -Trombay (Uran) stretch.
- The creek has been **formed due to seismic faults** lying below it which runs from Uran to Thane.

Other Protected Areas of Maharashtra

- Sanjay Gandhi National Park
- **Tadoba Andhari Tiger Reserve**
- Koyna Wildlife Sanctuary
- Bor Wildlife Sanctuary
- **Umed Paoni Kardhandla WS**
- Sahyadri Tiger Reserve
- **Melghat Tiger Reserve**
- Navegaon National Park

- **Eco Sensitive Zone:**
 - **About:**
 - **Eco-Sensitive Zones (ESZs) or Ecologically Fragile Areas are areas within 10 kms around Protected Areas, National Parks and Wildlife Sanctuaries.**
 - In case of places with sensitive corridors, connectivity and ecologically important patches, crucial for landscape linkage, **even areas beyond 10 km width can be included** in the eco-sensitive zone.
 - **Associated Ministry:**
 - ESZs are notified by the **Ministry of Environment, Forest and Climate Change (MoEFCC)**, under **Environment Protection Act, 1986**.

- **Aim:**
 - To **regulate certain activities** around National Parks and Wildlife Sanctuaries so as to minimise the negative impacts of such activities on the fragile ecosystem encompassing the protected areas.
- **Regulation of Activities in ESZs:**
 - **Prohibited Activities:** Commercial mining, saw mills, industries causing pollution (air, water, soil, noise etc), establishment of major hydroelectric projects (HEP), commercial use of wood, Tourism activities like hot-air balloons over the National Park, discharge of effluents or any solid waste or production of hazardous substances.
 - **Regulated Activities:** Felling of trees, establishment of hotels and resorts, commercial use of natural water, erection of electrical cables, drastic change of agriculture system, e.g. adoption of heavy technology, pesticides etc, widening of roads.
 - **Permitted Activities:** Ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, adoption of green technology for all activities.
- **Significance:**
 - To minimise the impact of urbanisation and other developmental activities, areas adjacent to protected areas have been declared as Eco-Sensitive Zones as it **acts as a shock absorber**.
 - They also **act as a transition zone** from areas of high protection to areas involving lesser protection.
 - ESZs **help in in-situ conservation**, which deals with conservation of an endangered species in its natural habitat, for example the conservation of the **One-horned Rhino** of Kaziranga National Park, Assam.
 - ESZs minimise forest depletion and man-animal conflict.
- **Challenges:**
 - **Climate Change:** The rise in global temperature has generated land, water and ecological stress on the ESZs.
 - **Local Communities:** Slash and burn techniques used in agriculture, pressure of increasing population and the rising demand for firewood and forest produce, etc. exerts pressure on the protected areas.

5)5G Trial

Why in News

The Department of Telecommunications (DoT) has given permissions to Telecom Service Providers (TSPs) for conducting trials for use and applications of 5G technology.

- This formally leaves out Chinese companies like Huawei and ZTE from the 5G race in India.

Key Points

- **About the Trials:**
 - In the initial phase, these trials **will be for 6 months**, including a 2 month period for procurement and setting up of the equipment.
 - TSPs will be required to **test their set up in urban areas, semi-urban areas as well as rural areas.**
 - TSPs will be **provided with experimental spectrum** in various bands, such as the mid-band of 3.2 GHz to 3.67 GHz, the millimeter wave band of 24.25 GHz to 28.5 GHz, and others.
 - **Applications** such as tele-medicine, tele-education, augmented/ virtual reality, drone-based agricultural monitoring, etc. will be tested. The **data generated during the trials will be stored in India.**
 - **Use of Indigenous Technology:** The TSPs are encouraged to conduct trials using **5Gi technology** in addition to the already known 5G Technology.
 - The **5Gi technology** was advocated by India and it is approved by **International Telecommunications Union (ITU)** - the United Nations specialized agency for information and communication technologies - ICTs.
 - The 5Gi technology **has been developed by IIT Madras, Centre of Excellence in Wireless Technology (CEWiT) and IIT Hyderabad.**
 - It **facilitates much larger reach of the 5G towers and Radio networks.**
- **Need for 5G Trial:**
 - The **telecom market in India is left with only three private telcos**, with the rest having surrendered to the **low returns on investments** over the years. The **two state-run companies, MTNL and Bharat Sanchar Nigam Limited (BSNL)** have survived but are making losses.
 - In order to **increase their average revenue per user**, it is pertinent for telcos to start offering the new 5G technology as soon as possible.

- **Chinese Telecom Companies in India:**
 - India's telecom ministry **has left out Chinese equipment makers Huawei and ZTE from its 5G trials, becoming the latest country to lock the firms out.**
 - The US says **Huawei could be used by China for spying**, via its 5G equipment and its Federal Communications Commission (FCC) has even ordered certain US telecommunications companies to remove Huawei equipment from their network.
 - **India is yet to implement any type of official ban on the Chinese companies**, which currently supply a significant amount of equipment to India's mobile providers.
 - However, the **government has signalled a tighter, more security-oriented approach to the country's networks**, which is widely expected to work against the Chinese companies.
 - In December 2020, the government said **it would identify "trusted" sources of telecoms gear its carriers can use** in their networks as part of the **new security directive** for the sector.
 - Those new procurement rules are expected to come into effect in June 2021, and will restrict Indian network providers to buying certain types of equipment from "trusted sources". **It might also include a list of banned suppliers.**

5G Technology

- **Features of 5G Technology:**
 - **Bands in 5G:** 5G mainly work in 3 bands, namely low, mid and high frequency spectrum – all of which have their own uses as well as limitations.
 - **Low band spectrum:** It has shown great promise in terms of coverage and speed of internet and data exchange however the maximum speed is limited to 100 Mbps (Megabits per second).
 - **Mid-band spectrum:** It offers higher speeds compared to the low band, but has limitations in terms of coverage area and penetration of signals.
 - **High-band spectrum:** It has the highest speed of all the three bands, but has extremely limited coverage and signal penetration strength.
 - **Upgraded LTE:** 5G is the **latest upgrade in the long-term evolution (LTE) mobile broadband networks.**
 - **Internet Speed and Efficiency:** In the high-band spectrum of 5G, internet speeds have been tested to be as high as 20 Gbps (gigabits per second) as compared to the maximum internet data speed in 4G recorded at 1 Gbps.

- 5G will provide up to three times greater spectrum efficiency and ultra low latency.
 - Latency is the amount of time data takes to travel between its source and destination.
- **Utility of 5G Applications:**
 - **Trigger Fourth Industrial Revolution:** Combined with **IoT**, cloud, **big data**, AI, and **edge computing**, 5G could be a critical enabler of the **fourth industrial revolution**.
 - **Real Time Relay of Information:** One of the primary applications of 5G will be implementation of sensor-embedded networks that will allow real time relay of information across fields such as manufacturing, consumer durables and agriculture.
 - **Efficient Transport Infrastructure:** 5G can also help make transport infrastructure more efficient by making it smart. 5G will enable vehicle-to-vehicle and vehicle-to-infrastructure communication, making driverless cars, among other things, a reality.
 - **Improve the Accessibility of Services:** 5G networks could improve the accessibility of services such as **mobile banking** and **healthcare**.
 - **Local Research:** It will stimulate the local Research and Development (R&D) ecosystem to develop innovative applications tailored to commercial needs.
 - **Economic Impact:** 5G is expected to create a cumulative economic impact of USD1 trillion in India by 2035, according to a report by a government-appointed panel (2018).

Evolution from First Generation to Fifth Generation

- **1G** was launched in the **1980s** and worked on **analog radio signals** and supported **only voice calls**.
- **2G** was launched in the **1990s** which uses **digital radio signals** and supported **both voice and data transmission** with a bandwidth of 64 Kbps.
- **3G** was launched in the **2000s** with a **speed of 1 Mbps to 2 Mbps** and it has the ability to transmit telephone signals including **digitised voice, video calls and conferencing**.
- **4G** was launched in **2009** with a peak **speed of 100 Mbps to 1 Gbps** and it **also enables 3D virtual reality**.

6. Report on Social Stock Exchanges

Why in News

A technical group on Social Stock Exchanges (SSEs), constituted by the Securities and Exchange Board of India (SEBI), has submitted its report.

- SEBI set up the technical group in September, 2020 under the **chairmanship of Harsh Bhanwala**, former chairman of NABARD.
- Earlier, a **Working Group (WG)** on the SSE, **chaired by Ishaat Hussain**, submitted its report in June 2020.

Key Points

- **About Social Stock Exchanges (SSEs):**
 - The **idea of the Social Stock Exchange (SSE)** as a platform for **listing social enterprise, voluntary and welfare organisations** so that they can **raise capital was mooted in the Union Budget 2019-20**.
 - **Social enterprise** can be defined as a **non-loss; non-dividend paying company** created and designed to **address a social problem**.
 - It was **proposed to be set up under the market regulator SEBI**.
 - The **aim of the initiative is to help social and voluntary organisations which work for social causes to raise capital** as equity or debt or a unit of mutual fund.
 - **SSE already exists in countries** such as Singapore, UK, Canada among others. These countries allow firms operating in sectors such as health, environment and transportation to raise capital.
- **Recommendations of the Group:**
 - **Type of the Organisation:** Political and religious organisations, trade organisations as well as corporate foundations should **not be allowed to raise funds through SSEs**.
 - **Eligibility: For Profit Enterprise (FPE) and Not for Profit Organisation (NPO)** will be eligible to tap the SSE if **they are able to show their primary goals are social intent and impact**.
 - Entities listed on SSE will have to disclose their social impact report on an annual basis covering aspects such as **“strategic intent and planning, approach, impact score card”**.
 - **NPOs** are usually structured as non-governmental organisations, **Section 8 companies**, trusts or societies. **FPEs** can be private limited companies, partnerships or sole proprietorships.
 - **Different Modes of Fund Raising:**
 - **For NPOs**, fundraising through equity, zero coupon zero principal bond, development impact bonds, social impact fund

- with 100% grants-in grants out provision, and donations by investors through mutual funds.
- **For FPEs**, fundraising through equity, debt, development impact bonds, and social venture funds.
 - **Eligible Activities:** Social enterprises can engage in activities in such as:
 - **Eradicating hunger, poverty, malnutrition and inequality;** promoting health care (including mental health) and sanitation; and making available safe drinking water.
 - **Promoting education, employability** and livelihoods.
 - **Promoting gender equality**, empowerment of women and LGBTQIA+ communities.
 - **Ensuring environmental sustainability**, addressing climate change (mitigation and adaptation), forest and wildlife conservation.
 - **Promoting livelihoods for rural and urban poor**, including enhancing income of small and marginal farmers and workers in the non-farm sector.
 - **Slum area development**, affordable housing and other interventions to build sustainable and resilient cities.

Way Forward

- As the Covid-19 effects on the world economy show, it is critical for public and private sources of capital to come together and develop ingenious methods to ensure that capital flow to the social sector is unhindered and capital is utilised effectively to generate a lasting impact for the community.
- Institutional support through SSEs ensures that more investors are encouraged to integrate **environmental aspects** (such as resource conservation, environmentally sustainable working practices), **social aspects** (including privacy, data protection, employee welfare) and **governance aspects** (like board diversity, conflicts of interest resolution mechanism, independent oversight of management) into the evaluation of enterprises, moving beyond financial statements.
- To this end, all efforts need to be directed to make sure that an **enabling regulatory environment** is created for the planned SSE with a minimal compliance burden imposed on the enterprises, social entrepreneurs and investors.

7. Falling Bond Yield

Why in News

Recently, the Reserve Bank of India's (RBI) decision to step up purchase of Government Securities (G-Sec) under the Government Securities Acquisition Programme (G-SAP) led to the yield on the benchmark 10-year bond falling below 6%.

- In India, the yield of 10-year G-Sec is considered the benchmark and shows the overall interest rate scenario.

Key Points

- **Bond Yield:**
 - Bond yield is the **return an investor realizes on a bond**. The **mathematical formula** for calculating yield is the **annual coupon rate divided by the current market price of the bond**
 - **Bond:** Is an **instrument to borrow money**. A bond could be issued by a country's government or by a company to raise funds.
 - **Coupon Rate:** It is the **rate of interest paid by bond issuers on the bond's face value**.
- **Effect of General Movement of Bond Yields:**
 - Movements in yields depend on trends in interest rates, **it can result in capital gains or losses for investors**.
 - A rise in bond yields in the market will bring the price of the bond down.
 - A drop in bond yield would benefit the investor as the price of the bond will rise, generating capital gains.
- **Reason for Decreasing Bond Yields:**
 - Due to **economic uncertainty caused by Covid-19**.
 - In April 2021, the RBI launched **G-SAP** which has **caused a decrease in G-sec yields** which has continued since then.
- **Impact:**
 - **Better Equity Markets:**
 - A decline in yield is also **better for the equity markets because money starts flowing out of debt investments to equity investments**.
 - **Equity market:** It is a **market in which shares of companies are issued and traded**, either through exchanges or over-the-counter markets. **Also known as the stock market**.

- That means as **bond yields go down, the equity markets tend to outperform** by a bigger margin and as bond yields go up equity markets tend to falter.
- **Reduced Cost of Capital:**
 - When **bond yields go up**, the cost of capital goes up. That means that **future cash flows get discounted at a higher rate.**
 - **Discounting** is the process of determining the present value of a payment or a stream of payments that is to be received in the future.
 - This compresses the valuations of these stocks. That is one of the reasons that **whenever the interest rates are cut by the RBI, it is positive for stocks.**
- **Reduces Risk of Bankruptcy:**
 - When **bond yields go up**, it is a signal that **corporates will have to pay a higher interest cost on debt.**
 - As debt servicing costs go higher, **the risk of bankruptcy and default also increases** and this typically makes mid-cap and highly leveraged companies vulnerable.
- **RBI's Stand:**
 - The RBI has been **aiming to keep yields lower as that reduces borrowing costs for the government** while preventing any upward movement in lending rates in the market.
 - A rise in bond yields will put pressure on interest rates in the banking system which will lead to a hike in lending rates. The RBI **wants to keep interest rates steady to kick-start investments.**

Government Securities Acquisition Programme

- **About:**
 - The RBI, for the year 2021-22, has decided to put in place a secondary market **G-SAP 1.0.**
 - It is part of RBI's **Open Market Operations (OMOs).**
 - Under the programme, the **RBI will commit upfront to a specific amount of Open Market Purchases of G-Secs.**
- **Objective:**
 - To **avoid volatility in the G-sec market** in view of its central role in the pricing of other financial market instruments across the term structure and issuers, both in the public and private sectors.
- **Significance:**
 - It will **provide certainty to the bond market participants** with regard to RBI's commitment of support to the bond market in **Financial Year (FY) 2021-2022.**

- It will help reduce the difference between the repo rate and the 10-year government bond yield.
 - That, in turn, will help to reduce the aggregate cost of borrowing for the Centre and states in FY 2021-22.
 - **Repo rate** is the rate at which RBI lends money to commercial banks.
- It will enable a stable and orderly evolution of the yield curve amidst comfortable liquidity conditions.
 - **Yield curve:** It is a line that plots yields (interest rates) of bonds having equal credit quality but differing maturity dates.
 - The slope of the yield curve gives an idea of future interest rate changes and economic activity.



Prelims Practice Questions

1. Consider the following statements with respect to Assamese Gamosa :

1. Uka and phulam are its two types.
2. It is also known as Bihuwaan.
3. They are made of cotton or Pat silk.

Which of the given statement/s is/are correct?

- a. 1 and 3 only
- b. 3 only
- c. 1, 2 and 3
- d. 2 only

Answer: c

- Gamosa is a symbol of Assamese culture, an important marker of cultural identity for the Assamese.
- This small piece of cloth has high esteem and wide usage in Assamese culture.
- It is also known as 'Bihuwaan', as it is an essential part of the Bihu festival of Assam.
- It is generally a white rectangular piece of cloth with primarily a red border on three sides and red woven motifs on the fourth.
- Although cotton yarn is the most common material for making/weaving gamosas, there are special occasion ones made from Pat silk.
- Assam has traditionally had two types of gamosas – the uka and the phulam.
- The uka or plain kind is used to wipe sweat or dry the body after a bath.
- The phulam is decorated with floral motifs to be gifted as a memento or during festivals such as Bihu.

2. Consider the following statements about a Blank-Cheque-Company:

1. It is a firm that is specifically set up with the objective of acquiring a firm in a particular sector.
2. It is also known as a shell company.

Which of the statements given above is/are correct?

- A 1 only
- B 2 only
- C Both 1 and 2

D Neither 1 nor 2

Answer : A

- A blank-cheque company is an entity specifically set up with the objective of **acquiring a firm in a particular sector. Hence, statement 1 is correct.**
 - It is also known as **Special Purpose Acquisition Company (SPAC). Hence, statement 2 is not correct.**
- The aim of this SPAC is to raise money in an Initial Public Offering (IPO), and at this point in time, it does not have any operations or revenues.
 - Once the money is raised from the public, it is kept in an escrow account, which can be accessed while making the acquisition.
 - If the acquisition is not made within two years of the IPO, the SPAC is delisted and the money is returned to the investors.
- A **shell company** is a firm that **does not conduct any operations in the economy**, but it is **formally registered**, incorporated, or legally organized in the economy.

3. Senkaku Islands or Diaoyu Islands are located in:

- a. South China Sea
- b. East China Sea
- c. Pacific Ocean
- d. Indian Ocean

Answer: b

- The Senkaku Islands dispute, or Diaoyu Islands dispute, concerns a territorial dispute over a group of uninhabited islands known as the Senkaku Islands in Japan, the Diaoyu Islands in the People's Republic of China (PRC), and Tiaoyutai Islands in the Republic of China (ROC or Taiwan).
- They are a group of uninhabited islands in the East China Sea.
- It concerns a territorial dispute between Japan and China.

4. With reference to PM Atmanirbhar Swasth Bharat scheme, consider the following statements:

1. This scheme was launched in the Union Budget 2021-22.
2. It aims to develop capacities of the tertiary health care systems only in the aspirational districts.

Which of the statements given above is/are correct?

- A 1 only
- B 2 only
- C Both 1 and 2
- D Neither 1 nor 2

Answer : A

- Recently, the Prime Minister talked about the need to address health issues in a holistic manner and to adopt a four-pronged strategy for a healthy India that includes implementing the **PM Atmanirbhar Swasth Bharat scheme**.
- This scheme was announced in the **Union Budget 2021-22**. Hence, **statement 1 is correct**.
- **It aims to develop capacities of primary, secondary as well as tertiary care health systems** throughout the country. Hence, **statement 2 is not correct**.

5. Consider the following statements with respect to Black Necked Cranes

1. Its habitat lies in Assam and adjoining low altitude grassland areas.
2. It has been listed as near threatened under the IUCN red list.

Which of the statement(s) given above is/are incorrect?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : a

Black Necked Cranes

- Both the sexes in the black necked crane are almost of the same size but male is slightly bigger than female.
- The upper long neck, head, primary and secondary flight feathers and tail are completely black and body plumage is pale gray/whitish.
- A conspicuous red crown adorns the head.
- In 2020, a re-assessment of the crane's population led its status to change from Vulnerable to Near Threatened on the IUCN Red List.

- The bird is revered by the community of Monpas (major Buddhist ethnic group of Arunachal Pradesh) as an embodiment of the sixth Dalai Lama (Tsangyang Gyatso).
- Monpas inhabit the West Kameng and Tawang districts, are essentially Buddhists who follow the Mahayana sect.
- The high altitude wetlands of the Tibetan plateau, Sichuan (China), and eastern Ladakh (India) are the main breeding ground of the species, the birds spend winter at lower altitudes.
- In Bhutan and Arunachal Pradesh, it only comes during the winters.
- In Arunachal Pradesh, it can be seen in West Kameng district and Tawang district.

6. Which of the following are found to be causative agents of Acute encephalitis syndrome (AES)?

1. Viruses
2. Bacteria
3. Fungus
4. Parasites
5. Chemical and Toxins

Select the correct answer using the codes given below:

- a. 1 & 5 only
- b. 2 & 4 only
- c. 1, 3 & 5 only
- d. All of the above

Answer : d

Acute Encephalitis Syndrome (AES)

- AES is characterized by an acute onset of fever and clinical neurological manifestation that includes mental confusion, disorientation, delirium, or coma.
- Viruses have been mainly attributed to be the cause of AES in India although other sources such as bacteria, fungus, parasites, spirochetes, chemical, and toxins have been reported over the past few decades.
- In some cases, encephalitis may be the result of an immune system disorder.
- The causative agent of AES varies with season and geographical location, and predominantly affects population below 15 years.
- Mild cases may cause no symptoms or mild flu-like symptom and severe cases can be life-threatening.

Mains Practice Questions

1Q. Is it a good idea to privatise even the profit-making public sector enterprises? Give reasons in support of your answer. (250 words)

Approach

- Highlight recent policy change in disinvestment policy with examples.
- Briefly discuss the pros and cons of such changes along with illustration (from India as well as from world).
- Based on the above arguments provide way forward (it must be conclusive in nature) with alternative solutions if possible.

2Q. Recent changes in filing complaints with Lokpal can significantly curb corruption. Critically analyse. (250 words)

Approach

- Briefly highlight what Lokpal is.
- Highlight recent changes in filing complaints.
- Highlight persisting lacunae.
- List out some measures to improve them.