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GS 2 : Polity, Governance, International Relations

1. Oxfam report highlights sharp inequalities in health indicators

Context:

India Inequality Report 2021: India's Unequal Healthcare Story has been published by Oxfam India.

Key Findings:

- India's low spending on public healthcare systems and focus on supporting private healthcare has led to serious inequalities in access to healthcare, especially during the Covid 19 pandemic.
- The average medical expenditure per hospitalisation case has tripled between 2004 and 2017, making it difficult for poorer and rural households.
- Rural India houses 70 percent of the population, while it has 40 percent of hospital beds.
- Sharp inequalities exist across different caste, religious, class and gender categories on various health indicators.
- The General category is better off than SCs and STs, Hindus are better off than Muslims, the rich are better off than the poor, men are better off than women, and the urban population is better off than the rural population" on most health determinants, interventions and indicators including access to improved, non-shared sanitation facilities.
- Vaccination drive against Covid-19 ignores the country's digital divide.
- Despite improvement in child immunisation, the rate of immunisation of girls continues to be below that of the male child; immunisation of children in urban areas is more than those in rural areas; and immunization of SCs and STs is behind that of other caste groups.
- While women's literacy has improved across social groups over the years, SC and ST women lag behind the general category by 18.6% and 27.9% respectively.
- There exists a gap of 55.1% between the top and bottom 20% of the population in 2015-16.
- The Oxfam report has marked the state of Kerala as a success story in the handling of the COVID-19 pandemic.

Note:

- Oxfam is a **confederation of independent charitable organizations** focusing on the alleviation of **global poverty**.
- It was **founded in 1942** and is led by **Oxfam International**.

2. Speedy trial a fundamental right: HC

Context:

The Bombay High Court has said “**speedy trial is a fundamental right**”.

Details:

- The comments were made **highlighting the issue of people languishing in prisons waiting for the trial to begin**.
- The right to a speedy trial is a fundamental right **inherent under Article 21 of the Constitution** which provides for the **right to life and personal liberties**.
- The Constitution of India provides that, **whenever there is a violation of fundamental rights, a person can move to the Supreme Court under Article 32 and to the High Court under Article 226 of the Constitution**.

Need for Speedy trial:

- **Both the prisoner and his guard equally suffer** human rights violations in case of delayed trials.
 - The undertrial prisoner, who is yet to get his day in court, suffers the most, **languishing behind bars for years without a hearing**.
- Speedy trial remains one of the best ways to remedy the **unwarranted phenomenon of overcrowding of prisons**.
- Speedy trial is important to ensure justice as well as undue and oppressive imprisonment and ensures **dispensation of justice by providing fair and just trial to all its citizens**.
- ‘Justice delayed is justice denied’ is the cornerstone in delivering justice.

3. Surveillance reform is the need of the hour

Context:

- ‘**Pegasus Project**’ report produced by the collaborative investigation of journalists from around the world.

Details:

- As per the initial reports, the Pegasus spyware is reported to have been **used to hack phones and install spyware to enable surveillance**.
- As per the report, **over 300 verified Indian mobile telephone numbers**, including those used by ministers, opposition leaders, journalists, the legal community, businessmen, government officials, scientists, rights activists and others were targeted using the spyware.

Legal provision:

- Notably, there are no provisions in existing laws that allow the government to hack the phones of any individual since the **hacking of computer resources, including mobile phones and apps, is a criminal offence under the IT Act**.

Concerns:

Against rights of citizens:

- Surveillance, whether under a provision of law or without it, is a gross violation of the **fundamental right of citizens to the exercise of freedom of speech and personal liberty and privacy under Articles 19 and 21 of the Constitution**, respectively.
- The perceived threat of surveillance impacts the ability of people to express, receive and discuss unorthodox or controversial ideas. This results in what has been defined by the judiciary as a **“chilling effect on free speech”**.

Threat to press freedom:

- The emerging reports of usage of Pegasus spyware against journalists raise concerns over the right to privacy and free speech of journalists which is so very important for free and fair news reporting.

Weak protection for surveilled:

- **Existing laws seem to offer impunity for surveillance**
 - The existing provisions of law under the **Indian Telegraph Act of 1885** and the **Information Technology (IT) Act of 2000 (Section 69)** seem to offer the government total opacity and impunity in respect of its interception and monitoring activities.
 - Even the **Interception Rules of 2009** offer weak protection to the surveilled.

- There is also no scope for an individual subjected to surveillance to approach a court of law to challenge acts of surveillance.
- Even the **proposed personal data protection law** fails to consider surveillance while also providing wide exemptions to government authorities.

Threat posed by technical developments:

- Given the **increasing affordability and accessibility of spywares and increasing sophistication in their modus operandi**, the scope for large scale surveillance is only bound to increase over time. This raises concerns over state-sponsored mass surveillance.

Lack of oversight:

- There is an **almost total absence of parliamentary or judicial oversight on surveillance activities undertaken by the executive**.
- This is worrisome despite the executive's claims that any surveillance which takes place happens through a "due process of law". The lack of oversight makes surveillance activities **liable for misuse**.
- This **violates not only the ideals of due process but also goes against the requirement of procedural safeguards** as mandated in **K.S. Puttaswamy (Retd) v. Union of India (2017)**.

Threat to separation of power:

- Vesting disproportionate surveillance power with the executive threatens the separation of powers of the government.
- Given the secrecy involved in surveillance activities, the affected person is unable to show a breach of his/her rights. Thus, there is limited scope for the Supreme Court and High Courts to **issue writs under Articles 32 and 226 of the Constitution**.

Recommendations:

- Surveillance reform is the need of the hour in India.

Balancing the contrasting needs:

- There is a need to **balance the necessity of the government's objectives of surveillance with the rights of the impacted individuals**.

Role of judiciary:

- In order to satisfy the ideal of “due process of law”, to maintain an effective separation of powers and to **fulfil the requirements of procedural safeguards**, there needs to be an oversight from another branch of the government over the executive’s power of surveillance.
- Such a role can be effectively played by the judiciary.

4. Karnataka opposes river linking project by T.N.

What’s in News?

Karnataka has approached the Supreme Court staking claim to 91 tmc ft of surplus water annually in the **Cauvery Basin** while **opposing the Cauvery-Vaigai-Gundar (CVG) link** project planned by Tamil Nadu.

- **Tamil Nadu has planned the Cauvery-Vaigai-Gundar (CVG) link project** for transferring 45 tmc ft of surplus water yearly.
 - It is a 262 km **river-linking project**.
 - It aims to **divert surplus water during floods and increase the groundwater levels** in the state’s southern districts to meet drinking water needs.
- Karnataka argues that the project would compel an advance commitment of the surplus water. It says that the project is not in accordance with **the Interstate River Water Disputes Act**.
- As per the Act, **surplus water should be adjudicated** and the **tribunal has to decide on it**.

5. Making India a sporting nation

Context:

- Upcoming **summer Olympic games in Tokyo**.

Background:

India’s performance in Olympics:

- The early exposure to international sporting events during colonial rule gave India an edge over other ‘Third World’ nations in the 1950s and early 1960s. However, as more and more nations started coming into the international sports arena, **India’s relative position started declining from the 1970s**.

- India's best performance at the Olympics was in London (2012) where it won two silver medals and four bronzes and ranked 56th in the medal's tally. At the **Rio Olympics (2016)**, with one silver and one bronze, **India's rank came down to 67.**
- Smaller Asian countries such as Kazakhstan, Singapore and Malaysia continue to perform better than India at the Olympics.

Factors that impact Olympic performance:

- There are many factors that are important in determining the performance of a nation in various sports.

Economic prosperity:

- The **economic prosperity of a nation and the general standard of living in a nation** could be seen as good indicators of the nation's sports prowess with some exceptions.
 - Economic prosperity and good standards of living for the citizens also implies the **nutritional and health security of the citizens**. A person of poor health can never be a good sportsman.
 - A decent standard of living will help **people take up sports as a hobby** and this is what gives rise to a **sporting culture**.
 - The economic strength of the nation in providing **quality sports infrastructure and training facilities** for its upcoming athletes has a major impact on the performance of the athletes.

Genetic factors:

- **Genetic impacts on the physical features of a person** like height affect the person's performance in certain sports like swimming, basketball, etc. Thus genetic factors are also an important factor that has a bearing on the Olympic performance of nations.

Availability of sports infrastructure:

- **Quality infrastructure and world-class training** provide an edge to sportspersons and their performance.
 - Example - The availability of world-class training facilities with adequate and accessible sports infrastructure explains the U.S.'s excellent performance in athletics and gymnastics, and the U.K.'s commendable performance in diving, sailing and cycling.

Recommendations:

Initial focus on a few sports:

- Given the limited financial resources for sports in the Indian context, these **scarce financial resources are spread thinly across sports disciplines.**
- Also, India has been moderately good at many sports but not good enough to be the best at any of them. This could be observed in the relatively few Olympic medals for India.
- In this regard, there is the need to concentrate more on sports where the physical build of an average Indian will not stand as a disadvantage.
 - Example – Jamaica does well at the Olympics in sprinting and Kenya gets medals in long-distance running.
- Sports like **shooting, amateur boxing, wrestling, gymnastics and badminton** in which India has shown promise in recent years need to be focussed upon initially.

One State, one sport:

- **States need to be integrated into India's sports policy.**
- Given that people of different States have different food habits and build, there is a need to **develop different States as centres of excellence for different sports.**
- This involves developing training infrastructure for different sports in different parts of the country depending on the inclination of people of that area and their habits and build.

Government's lead role:

- Given that individual talent alone cannot make India a great sporting nation, the government has an important role in this regard by setting up a **suitable ecosystem for sports development in India.**
- This could involve **appropriate policy measures and schemes** to promote the uptake of sports from a very young age. There is also the need to provide **adequate sporting infrastructure and training facilities.** There need to be **regular sporting events** right from school levels up to the national level. A bottom-up approach to **identifying young sporting talents and their grooming** needs to be prioritized.

6. A more humane police force

Background:

- **Custody-related deaths** and instances of **custodial torture in India** are relatively very high as compared with other nations.
- There are also ample reports of **improper police behaviour with the general citizenry**.

Work culture in the lower rungs of the police system:

- In the Indian police force, the lower ranks of police personnel are often verbally abused by their superiors. Their **relationship with their superior officers is stressful and sycophantic**. The lower-ranked police personnel often **work in inhumane conditions** and also their **work environments are not harmonious**.
- This in turn seems to have a negative impact on the way the lower rung police personnel interact with the public.

Recommendations:

- While improvements in pay scale and promotions are necessary aspects of police reforms, there is also the important need for **reforms at the psychological level**.
- There is an urgent need for appropriate reforms in this direction as noted by several committees' recommendations and the Supreme Court of India judgement in the **Prakash Singh case (2006)**.

GS 3 : Economy, Science and Technology, Environment

7. SC reserves order on telcos' pleas in AGR case

Context:

The Supreme Court has reserved orders on **pleas made by telecom majors** for a chance to place their grievances about arithmetical errors in the **calculation of Adjusted Gross Revenue (AGR)** dues before the Department of Telecom (DoT).

Background:

- The Supreme Court in September 2020 had **granted 10 years to telecom firms for paying the Adjusted Gross Revenue (AGR)-related dues** to the DoT with certain conditions.
- The SC asked telcos to pay **10 per cent of the AGR-related dues by March 31, 2021**.

What is Adjusted Gross Revenue (AGR)?

- Telecom operators are **required to pay licence fees and spectrum charges in the form of 'revenue share' to the Centre.**
- The **revenue amount used to calculate this revenue share** is termed the Adjusted Gross Revenue (AGR).
- According to the DoT, the calculations should incorporate all revenues earned by a telecom company – **including from non-telecom sources such as deposit interests and sale of assets.**
- The **companies, however, have been of the view that AGR should comprise the revenues generated from telecom services only** and non-telecom revenues should be kept out of it. They had argued that AGR must only include license and spectrum fees.

8. Rahul, Prashant Kishor, ex-EC Lavasa on list of spyware targets

Context:

Former Congress president, former Election Commissioner, Union Ministers have appeared on a **leaked list of potential or actual targets for spying by the Pegasus spyware.**

How does Pegasus Spyware Work?

Spyware is software with **malicious behaviour** that aims to **gather information about a person or organization** and send it to another entity in a way that **harms the user.**

Details:

- Amnesty stated Pegasus had been used in some of the “**most insidious digital attacks**” on **human rights activists in the world.**
- In 2020, Amnesty and Citizen Lab revealed that the spyware was used on **nine human rights defenders who were accused in the Bhima Koregaon case.**

Pegasus spyware:

- Pegasus is a spyware tool from **Israeli firm NSO Group.**
- In 2020, WhatsApp’s report stated that 1,400 of its users were **hacked by Pegasus.**

- It was used to **spy on journalists and human rights activists** across the globe, including in India.
- Pegasus works by **sending an exploit link**, and if the target user clicks on the link, the malware or the code that allows the surveillance is installed on the user's phone.
 - A presumably newer version of the malware does not even require a target user to click a link.
- Once Pegasus is installed, the **attacker has complete access to the user's phone**. Every call, message, can be intercepted and monitored. It can also access any document stored on the phone.
- Pegasus can also **control the phone's camera and microphone** and has access to the device's location data.
- The Pegasus delivers "a chain of **zero-day exploits** to penetrate security features on the phone and installs Pegasus without the user's knowledge or permission".
 - "zero-day exploit" is a completely unknown feature (vulnerability). There is no fix for it as even the manufacturer is not aware of it.

9. Climate change has added over 1,000 lakes in Swiss Alps: study

Context:

According to a study published by the Swiss Federal Institute of Aquatic Science and Technology (Eawag), **climate change has dramatically altered the Swiss Alp landscape**.

Concerns:

- **Almost 1,200 new lakes have formed in formerly glaciated regions of the Swiss Alps** since the end of the **Little Ice Age around 1850**.
 - **About 180 have been added in the last decade alone**.
- **Glaciers in the Swiss Alps are in steady decline**, losing a full 2% of their volume in 2020 alone.
- According to a 2019 study, even if the world were to fully implement the 2015 Paris Agreement **two-thirds of the Alpine glaciers will likely be lost**.

Swiss Alps:

- The Alps are the highest and extensive mountain range system that **lies entirely in Europe**.
- It stretches across eight Alpine countries (from west to east): France, Switzerland, Monaco, Italy, Liechtenstein, Austria, Germany, and Slovenia.

- The mountains were formed as the **African and Eurasian tectonic plates collided**.
- **The Alpine region of Switzerland** is conventionally referred to as the **Swiss Alps**.
- The Alps cover 60% of Switzerland's total surface area, making it **one of the most alpine countries**.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. China's role in stabilising Afghanistan

Context

Amid the gloom that has enveloped Afghanistan, one hope for many countries has been China's potential role in stabilising it.

Factors that call for China to play role in Afghanistan

- **Scope for India-China cooperation:** In the past, even India thought that Afghanistan would be a **natural area for India and China to work together**.
- But little came out of the understanding after the Wuhan summit in 2018.
- **Northern neighbours:** Afghanistan's northern neighbours, **Turkmenistan, Uzbekistan, and Tajikistan** all have expanding political and economic ties with China but have traditionally relied on Russia for their security.
- They might support a larger role for Beijing in Afghanistan in partnership with Russia.
- **Iran**, Kabul's western neighbour, also has deepening ties with China.
- **Bilateral cooperation with the U.S.:** Washington, now locked in an escalating confrontation with Beijing, sees Afghanistan as a **potential area of bilateral cooperation**.
- **Role of Pakistan:** Beijing is indeed critical in Pakistan's plans for Afghanistan.
- Afghan leaders have also been eager to draw China's BRI into their plans for economic modernisation.
- China was also important for Kabul's political calculus in **limiting Pakistan's quest for dominance**.

Two challenges in China playing role in stabilising Afghanistan

1) Caution in Chinese policy

- The first relates to the **deep sources of caution in Chinese policy**.
- Neither the prospect of mining Afghanistan's natural resources nor the vanity of being the newest superpower will compel China to rush into the Afghan vacuum.
- China has deep concerns about Taliban's ideology and its potential role in fomenting **instability in its restive Muslim-majority province, Xinjiang**.
- Beijing cannot depend on its special relationship with the Pakistan army to ensure the security of China's frontiers as well as its investments in Afghanistan.
- The growing attacks on CPEC projects in Pakistan, underline the **difficulty of pursuing economic development amid endemic violence**.

2) Priorities of Taliban

- The second set of problems relate to the priorities of Taliban.
- It remains to be seen whether the economic development of Afghanistan is a top priority for the Taliban or not.
- Also, is it open to let in foreign capital and all the baggage that comes with it?
- More fundamentally, there is no clarity on the **role of economic modernisation** in Taliban's fierce insistence on the creation of an Islamic emirate in Afghanistan.

Conclusion

It is against this backdrop that the chances of China playing a major role in stabilising Afghanistan remain slim.

2. Conjugal rights before Supreme Court

The Supreme Court is expected to begin hearing a fresh challenge to the provision allowing restitution of conjugal rights under Hindu personal laws.

What is the provision under challenge?

- Section 9 of the Hindu Marriage Act, 1955, which deals with restitution of conjugal rights.

What are conjugal rights?

- Conjugal rights are rights created by marriage, i.e. the right of the husband or the wife to the society of the other spouse.
- The law recognizes these rights – both in personal laws dealing with marriage, divorce etc and in criminal law requiring payment of maintenance and alimony to a spouse.
- The concept of restitution of conjugal rights is codified in Hindu personal law now, but has colonial origins and has genesis in ecclesiastical law.
- Similar provisions exist in Muslim personal law as well as the Divorce Act, 1869, which governs Christian family law.
- Incidentally, in 1970, the United Kingdom repealed the law on restitution of conjugal rights.

How can a case under Section 9 be filed?

- If a spouse refuses cohabitation, the other spouse can move the family court seeking a decree for cohabitation.
- If the order of the court is not complied with, the court can attach property.
- However, the decision can be appealed before a High Court and the Supreme Court.
- Normally, when a spouse files for divorce unilaterally, the other spouse files for restitution of conjugal rights if he or she is not in agreement with the divorce.
- The provision is seen to be an intervention through legislation to strike a conciliatory note between sparring spouses.

Why has the law being challenged?

- The law is being challenged now on the main grounds that is violative of the fundamental right to privacy.
- The plea argues that court-mandated restitution of conjugal rights amounted to a “coercive action” on the part of the state, which violates one’s sexual and decisional autonomy, and right to privacy and dignity.
- In 2019, a nine-judge Bench of the Supreme Court recognised the right to privacy as a fundamental right.
- The verdict in the privacy case set the stage for potential challenges to several laws such as the criminalization of homosexuality, marital rape, restitution of conjugal rights, the two-finger test in rape investigations.

Question over gender-neutrality

- Although the law is ex-facie ('on the face if it') gender-neutral since it allows both wife and husband to seek restitution of conjugal rights, the provision disproportionately affects women.
- Women are often called back to marital homes under the provision and given that marital rape is not a crime, leaves them susceptible to such coerced cohabitation.
- It will also be argued whether the state can have such a compelling interest in protecting the institution of marriage that it allows legislation to enforce the cohabitation of spouses.

What has the court said about the law earlier?

Supreme Court:

- In 1984, the Supreme Court had upheld Section 9 holding that the provision "serves a social purpose as an aid to the prevention of break-up of marriage".
- Leading up to the Supreme Court intervention, two High Courts – those of Andhra Pradesh and Delhi – had ruled differently on the issue.

AP High Court:

- In 1983, AP High Court had for the first time struck down the provision and declared it null and void. It cited the right to privacy among other reasons.
- The court also held that in "a matter so intimately concerned the wife or the husband the parties are better left alone without state interference".
- The court had, most importantly, also recognised that compelling "sexual cohabitation" would be of "grave consequences for women".

Delhi High Court:

- In the same year, a single-judge Bench of the Delhi High Court took a diametrically opposite view of the law and upheld the provision.
- From the definitions of cohabitation and consortium, it appears that sexual intercourse is one of the elements that go to make up the marriage.
- But it is not the summum bonum (the ultimate aim). As if marriage consists of nothing else except sex.

3. Parliament Sessions

Why in News

Recently, the **Monsoon session of Parliament** has begun, after the reshuffling of the **Council of ministers** and the **Cabinet committees**.

Key Points

- **Sessions of Parliament:**
 - The summoning of Parliament is **specified in Article 85** of the Constitution.
 - The **power to convene a session of Parliament rests with the Government.**
 - The **decision is taken by the Cabinet Committee on Parliamentary Affairs which is formalised by the President**, in whose name MPs (Members of Parliament) are summoned to meet for a session.
 - India **does not have a fixed parliamentary calendar**. By convention (i.e. not provided by the Constitution), Parliament **meets for three sessions in a year.**
 - The **longest, Budget Session (1st session)**, starts towards the end of January, and concludes by the end of April or first week of May.
 - The **second session is the three-week Monsoon Session**, which usually begins in July and finishes in August.
 - **Winter Session (3rd session)**, is held from November to December.
- **Summoning of Parliament:**
 - Summoning is the **process of calling all members of the Parliament** to meet. The **President summons each House** of the Parliament from time to time. The **gap between two sessions of the Parliament cannot exceed 6 months**, which means the Parliament meets at least two times in one year.
- **Adjournment:**
 - Adjournment **terminates the sitting of the House** which meets again at the time appointed for the next sitting. The **postponement may be for a specified time** such as hours, days or weeks.
 - If the meeting is terminated without any definite time/date fixed for the next meeting, it is **called Adjournment sine die**.
 - The power of adjournment as well as adjournment sine die **lies with the presiding officer (Speaker or Chairman) of the House**.
- **Prorogation:**

- Prorogation is the **end of session and not the dissolution** of the house (in case of Lok Sabha, as Rajya Sabha does not dissolve).
- It is **done by the President of India**.
- **Quorum:**
 - Quorum refers to the **minimum number of the members required** to be present for conducting a meeting of the house.
 - The Constitution has fixed **one-tenth strength** as quorum for both Lok Sabha and Rajya Sabha.
 - Thus, to conduct a sitting of **Lok Sabha**, there should be **at least 55 members present** while to conduct a sitting of **Rajya Sabha**, there should be **at least 25 members present**.
- **Joint Session of Parliament (Article 108):**
 - The Constitution of India provides for the joint sitting of the **Parliament's two Houses, the Lok Sabha and the Rajya Sabha**, in order to break any deadlock between the two.
 - The joint sitting is **called by the President**. Such a session is **presided over by the Speaker**, and in his/her absence, by the Deputy Speaker of the Lok Sabha.
 - In the absence of both, it is presided over by the **Deputy Chairman of the Rajya Sabha**.
 - If any of the above are not present, **any other member of the Parliament can preside** by consensus of both the Houses.

GS 3 : Economy, Science and Technology, Environment

4. NASA's New Spacecraft: NEA Scout

Why in News

Recently, **National Aeronautics and Space Administration (NASA)** has announced that its new spacecraft, named **Near-Earth Asteroid Scout or NEA Scout**, has completed all required tests and has been safely tucked inside the **Space Launch System (SLS) rocket**.

Key Points

- **About NEA Scout:**
 - Near-Earth Asteroid Scout, or NEA Scout, is a **miniaturized spacecraft**, known as a **CubeSat**, developed under **NASA's Advanced Exploration Systems (AES) Program**.

- AES pioneers new approaches for rapidly developing prototype systems, demonstrating key capabilities, and validating operational concepts for future human missions beyond **low-Earth orbit**.
- Its **main mission** is to fly by and collect data from a **near-Earth asteroid**.
 - It will take about **two years to cruise to the asteroid** and will be about **93 million miles away from Earth** during the asteroid encounter.
- It will also be **America's first interplanetary mission** using a **special solar sail propulsion**.
 - So far, **spacecraft have been using solar energy to power them** and execute critical functions.
 - This will be the **first time that a spacecraft uses it as wind to generate thrust and move forward**.
- It is **one of several payloads** that will hitch a ride on **Artemis I**, which is expected to be launched in **November, 2021**.
 - **Artemis I** will be an **uncrewed testflight** of the **Orion spacecraft and SLS rocket**.
 - It is the first in a series of increasingly complex missions that will enable human exploration to the Moon and Mars.
- **NEA Scout launches to the Moon in 2021 with a fleet of other small satellites aboard Artemis 1**.
 - At the Moon, NEA Scout will deploy its 86-square-meter solar sail and slowly spiral out of lunar orbit.
 - It will travel to a near-Earth asteroid and perform a slow fly-by, capturing up-close images of the surface.
- **Significance:**
 - The images gathered by NEA Scout will **provide critical information** on the asteroid's physical properties such as orbit, shape, volume, rotation, the dust and debris field surrounding it, plus its surface properties.
 - The spacecraft **will pave the way for the Solar Cruiser**, which will use a sail 16 times larger when it flies in 2025.
 - **Studying Near-Earth asteroids can help in developing strategies for reducing the potential damage** caused in the event of an impact.
 - Data can be used to determine what is required to **reduce risk, increase effectiveness, and improve the design and operations of robotic and human space exploration**.
- **Near-Earth Objects (NEOs):**
 - NEOs are **comets and asteroids** pushed by the gravitational attraction of nearby planets into orbits which allow them to enter the Earth's neighbourhood.

- These objects are **composed mostly of water ice with embedded dust particles.**
- NEOs occasionally approach close to the **Earth as they orbit the Sun.**
- NASA's **Center for Near-Earth Object Study (CNEOS)** determines the time and distances of these objects, when their approach to the Earth is close, through the **Asteroid Watch Widget.**

Asteroids

- These are **rocky objects that orbit the Sun**, much smaller than planets. They are also called minor planets.
- According to NASA, **9,94,383 is the count of known asteroids**, the remnants from the formation of the solar system over 4.6 billion years ago.
- Asteroids are divided into three classes:
 - **First**, those found in the **main asteroid belt between Mars and Jupiter**, which is estimated to contain somewhere between 1.1-1.9 million asteroids.
 - The **second group** is that of **trojans**, which are asteroids that share an orbit with a larger planet.
 - The third classification is **Near-Earth Asteroids (NEA)**, which have orbits that pass close to the Earth. Those that **cross the Earth's orbit are called Earth-crossers.**
 - More than 10,000 such asteroids are known, out of which over 1,400 are classified as **Potentially Hazardous Asteroids (PHAs).**
 - **PHAs** are currently defined based on parameters that measure the asteroid's potential to make threatening close approaches to the Earth.
 - Specifically, all asteroids with an Earth Minimum Orbit Intersection Distance (MOID) of 0.05 au or less and an absolute magnitude (H) of 22.0 or less are considered PHAs.

5. Internet Through High Altitude Balloons

Why in News

Recently, the US has planned to transmit the Internet to the people in Cuba via **high-altitude balloons** when their government has blocked access.

- There is an ongoing **protest in Cuba** against long standing restrictions on rights, scarcity of food and medicines, and the government's poor response to the **Covid-19** pandemic.

Key Points

- **High Altitude Balloons for Internet:**
 - They are commonly known as **Loon Balloons** as the first High Altitude Balloon for providing internet was used under **Project Loon**.
 - They are **made of the commonplace plastic polyethylene** and are the **size of a tennis court**.
 - They are **powered by solar panels** and controlled by **software on the ground**.
 - While up in the air, **they act as floating cell towers**, transmitting internet signals to ground stations and personal devices.
 - They float **60,000 to 75,000 feet, above the Earth**, well above commercial jetliner routes.
 - They last for **well over 100 days in the stratosphere** before being returned to earth.
 - Each balloon can serve thousands of people. But they **had to be replaced every five months or so because of the harsh conditions in the stratosphere**. And the balloons can be difficult to control.
- **Requirements:**
 - **Network:**
 - Beyond the balloons themselves, it **needed network integration** with a telecom to provide service and some equipment on the ground in the region.
 - **Permission:**
 - It also needs **permission from local regulators**.
- **Significance:**
 - **Cheap:**
 - By allowing phone companies to **expand their coverage where needed**, the balloons **are intended to offer countries a cheaper option** than laying cables or building cell towers.
 - **Access to Remote Areas:**
 - They are able to **bring Internet access to remote and rural areas** poorly served by existing provisions, and **to improve communication during natural disasters to affected regions**.
- **Challenges:**
 - **Need Unused Band:**
 - It would need an **unused band of spectrum, or radio frequencies, to transmit a connection**, and spectrum use is **typically controlled by national governments**.
 - Anyone trying this would have to find a **free block of spectrum** that wouldn't be interfered with.
 - **Uneconomical:**

- Balloon- or **drone**-powered networks **aren't likely to be economical over the long term.**
- **Operational Challenges:**
 - Developing **algorithms** to appropriately map balloon positions, determining a good strategy **to deal with unpleasant weather** and addressing the concern of **relying on the non-renewable resources** are among other challenges.

Project Loon

- It was **started in 2011** by Alphabet, the parent company of Google. It was a **network of stratospheric balloons** designed to bring Internet connectivity to rural and remote areas.
- It **shut down that project in January 2020** as it **wasn't commercially viable.**
- Prior to the shutdown, Loon balloons **had been providing service in mountainous** areas in **Kenya** through a partnership with a local telecom.
- The service **also helped provide wireless communications in Puerto Rico** in the aftermath of **Hurricane Maria.**

6. External Benchmarks Lending Rate

Why in News

According to a recent **RBI** report on '**Monetary transmission in India**', the share of outstanding loans linked to **External Benchmarks Lending Rate (EBLR** - like repo rate), increased from as low as **2.4%** during September 2019 to **28.5%** during March 2021.

- This increase in EBLR linked lending will **contribute to significant improvement in monetary policy transmission.**
- However, still **71.5% of outstanding loans are Internal Benchmark Lending Rate (IBLR**- like base rate and MCLR) linked loans, which continues to impede the monetary policy transmission.

Note

- **Transmission of Monetary Policy:** The transmission of monetary policy describes how changes made by the Reserve Bank of India (RBI) to the policy rate flow through to economic activity (like lending) and inflation.
- **Repo Rate:** It is also known as the benchmark interest rate and is the rate at which the RBI lends money to the banks for a short term. Here, the central bank purchases security.

Key Points

- **Internal Benchmark Lending Rate (IBLR):**
 - The Internal Benchmark Lending Rates are a **set of reference lending rates which are calculated after considering factors like the bank's current financial overview, deposits and non performing assets (NPAs) etc.** BPLR, Base rate, MCLR are the examples of Internal Benchmark Lending Rate.
 - **Benchmark Prime Lending Rate (BPLR):**
 - BPLR was **used as a benchmark rate by banks for lending till June 2010.**
 - Under it, bank loans were **priced on the actual cost of funds.**
 - However, **the BPLR was subverted**, resulting in an opaque system. The bulk of wholesale credit (loans to corporate customers) was **contracted at sub-BPL rates** and it comprised nearly 70% of all bank credit.
 - Under this system, **banks were subsidising corporate loans** by charging high interest rates from retail and small and medium enterprise customers.
 - **Base Rate:**
 - Loans taken **between June 2010 and April 2016** from banks were on base rate.
 - During the period, base rate was the **minimum interest rate** at which commercial banks could lend to customers.
 - Base rate is calculated on **three parameters – the cost of funds, unallocated cost of resources and return on net worth.**
 - Hence, the rate depended on individual banks and they changed it whenever their cost of funds and other parameters changed.
 - **Marginal Cost of Lending Rate (MCLR):**
 - It came into effect in **April 2016.** It is a **benchmark lending rate for floating-rate loans.** This is the minimum interest rate at which commercial banks can lend.
 - This rate is based on **four components – the marginal cost of funds, negative carry on account of cash reserve ratio, operating costs and tenor premium.**
 - MCLR is **linked to the actual deposit rates.** Hence, when deposit rates rise, it indicates the banks are likely to hike MCLR and lending rates are set to go up.
- **Issues Related to IBLR Linked Loans:**
 - The problem with the IBLR regime was that when RBI cut the repo and reverse repo rates, banks did not pass the full benefits to borrowers.

- In the IBLR Linked Loans, the interest rate has **many variables** including bank's spread, their current financial overview, deposits and non performing assets (NPAs) etc.
 - Due to this, such internal benchmarks **did little to facilitate any swift change in interest rates** as per changes in RBI repo rate policy.
 - The **opacity in interest rate** setting processes under internal benchmark regime hinders transmission to lending rates.
- **EBLR and Its Benefits:**
 - **About:**
 - To ensure **complete transparency and standardization**, RBI mandated the banks to adopt a uniform external benchmark within a loan category, effective **1st October, 2019**.
 - Unlike MCLR which was internal system for each bank, RBI has offered banks the options to choose from **4 external benchmarking mechanisms:**
 - The RBI repo rate
 - The 91-day T-bill yield
 - The 182-day T-bill yield
 - Any other benchmark market interest rate as developed by the **Financial Benchmarks India Pvt. Ltd.**
 - **T-Bill or Treasury bills** are money market instruments issued by the Government of India as a promissory note with guaranteed repayment at a later date.
 - **Financial Benchmarks India Pvt. Ltd** was recognised by the Reserve bank of India as an independent Benchmark administrator on 2nd July 2015.
 - **Benefits:**
 - Banks are **free to decide the spread** over the external benchmark.
 - However, the interest rate must be reset as per the external benchmark at least once every three months.
 - Being an external system, this means any **policy rate cut decision will reach borrowers faster.**
 - The adoption of external benchmarking will make the **interest rates transparent.**
 - The borrower will also know the spread or profit margin for each bank over the fixed interest rate making loan comparisons easier and more transparent.

Way Forward

- Higher interest rates offered by competing saving instruments such as small saving schemes and debt mutual fund schemes have impeded transmission especially during the easing cycle.
- Thus, the government should synchronise the **Fiscal policy** with the monetary policy in the long-term.

7. Near-Earth Asteroid Scout Mission

Last week, NASA announced that its new spacecraft, named NEA Scout, has completed all required tests and has been safely tucked inside the Space Launch System (SLS) rocket.

For landing on Moon

- NEA Scout is one of several payloads that will hitch a ride on Artemis I, which is expected to be launched in November.
- Artemis I will be an uncrewed test-flight of the Orion spacecraft and SLS rocket.
- Under the Artemis programme, NASA has aimed to land the first woman on the Moon in 2024 and also establish sustainable lunar exploration programs by 2030.

What is NEA Scout?

- Near-Earth Asteroid Scout, or NEA Scout, is a small spacecraft, about the size of a big shoebox. Its main mission is to fly by and collect data from a near-Earth asteroid.
- It will also be America's first interplanetary mission using special solar sail propulsion.
- This type of propulsion is especially useful for small, lightweight spacecraft that cannot carry large amounts of conventional rocket propellant.
- NEA Scout will use stainless steel alloy booms and deploy an aluminium-coated sail measuring 925 square feet.
- The large-area sail will generate thrust by reflecting sunlight.
- Energetic particles of sunlight bounce off the solar sail to give it a gentle, yet constant push.

How will it study the asteroid?

- NEA Scout is equipped with special cameras and can take pictures ranging from 50 cm/pixels to 10 cm/pixels.
- It can also process the image and reduce the file sizes before sending them to the earth-based Deep Space Network via its medium-gain antenna.
- The spacecraft will take about two years to cruise to the asteroid and will be about 93 million miles away from Earth during the asteroid encounter.

Why should we study near-Earth asteroids?

- Despite their size, some of these small asteroids could pose a threat to Earth.
- Understanding their properties could help us develop strategies for reducing the potential damage caused in the event of an impact.
- Scientists will use this data to determine what is required to reduce risk, increase effectiveness, and improve the design and operations of robotic and human space exploration.

8. Bad Bank launched for stressed assets

The Government has launched a Bad Bank with all the regulatory approvals in place.

What is a Bad Bank?

- A bad bank conveys the impression that it will function as a bank but has bad assets to start with.
- Technically, it is an asset reconstruction company (ARC) or an asset management company that takes over the bad loans of commercial banks, manages them and finally recovers the money over a period of time.
- Such a bank is not involved in lending and taking deposits, but helps commercial banks clean up their balance sheets and resolve bad loans.
- The takeover of bad loans is normally below the book value of the loan and the bad bank tries to recover as much as possible subsequently.

Global examples of Bad Bank

- US-based BNY Mellon Bank created the first bad bank in 1988, after which the concept has been implemented in other countries including Sweden, Finland, France and Germany.

- However, resolution agencies or ARCs set up as banks, which originate or guarantee to lend, have ended up turning into reckless lenders in some countries.

Do we need a bad bank?

- The idea gained currency during Rajan's tenure as RBI Governor.
- The RBI had then initiated an asset quality review (AQR) of banks and found that several banks had suppressed or hidden bad loans to show a healthy balance sheet.
- However, the idea remained on paper amid lack of consensus on the efficacy of such an institution.
- ARCs have not made any impact in resolving bad loans due to many procedural issues.

What is the stand of the RBI and government?

- While the RBI did not show much enthusiasm about a bad bank all these years, there are signs that it can look at the idea now.
- Experts, however, argue that it would be better to limit the objective of these asset management companies to the orderly resolution of stressed assets, followed by a graceful exit.

Good about the bad banks

- The problem of NPAs continues in the banking sector, especially among the weaker banks.
- The bad bank concept is in some ways similar to an ARC but is funded by the government initially, with banks and other investors co-investing in due course.
- The presence of the government is seen as a means to speed up the clean-up process.
- Many other countries had set up institutional mechanisms such as the Troubled Asset Relief Programme (TARP) in the US to deal with a problem of stress in the financial system.

9. Monkey B Virus

Why in News

Recently, **China** has reported the **first human infection case with Monkey B virus (BV)**.

Key Points

- **About:**
 - Monkey B virus is an **alphaherpesvirus enzootic** (endemic) **in macaques** and it was initially **isolated in 1932**.
 - Alphaherpesviruses are pathogens or **neuroinvasive viruses** that establish lifelong **infections in the peripheral nervous system** of humans and many other vertebrates.
 - B virus is also commonly referred to as **herpes B, herpesvirus simiae, and herpesvirus B**.
 - B virus **can survive for hours on surfaces**, particularly when moist.
- **Transmission:**
 - The infection **can be transmitted via direct contact and exchange of bodily secretions of monkeys** and has a **fatality rate of 70% to 80%**.
 - **Human-to-human Transmission:** Till date, **only one case has been documented** of an infected person spreading B virus to another person.
- **Symptoms:**
 - The **first indications** of B virus infection are typically **flu-like symptoms** such as fever and chills, muscle ache, fatigue and headache, following which an infected person **may develop small blisters** in the wound or area on the body that came in contact with the monkey.
 - In the later stage, the virus can lead to the **loss of muscle coordination and neurological damage**.
- **Treatment:**
 - Currently, there are **no vaccines** that can protect against B virus infection.
 - **Timely antiviral medications** could help in reducing the risk to life.

Prelims Practice Questions

1. Which of the following statements is/are correct?

1. Great Barrier Reef is the world's largest coral reef system located in the Gulf of Carpentaria.
2. Australia is the world's largest coral reef nation.

Options:

- a. 1 only
- b. 2 only
- c. Both
- d. None

Answer: d

Explanation:

- Great Barrier Reef is the world's largest coral reef system located in the Coral Sea on the North-Eastern side of Australia.
- Indonesia is the world's largest coral reef nation.

2. Which of the following statement(s) is/are correct with respect to District Mineral Foundation (DMF)

1. It is established by Ministry of Coal in all the mining districts.
2. Mining companies contribute 10-30% on the royalty amount that they pay to the government to DMF Trust.

Select the correct answer using the codes given below:

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

Answer : b

District Mineral Foundation

- As per the Mine and Minerals Development Regulation (Amendment) Act, 2015, in every district affected by mining-related operations, the state government shall, by notification, establish a trust as a non-profit body to be called the District Mineral Foundation.
- Mining companies contribute 10-30% on the royalty amount that they pay to the government to DMF Trust in the district they are operating in.
- DMFs have been set-up in 572 districts of the country, with a cumulative accrual of more than Rs. 40,000 crore so far as per Ministry of Mines (MoM) data.

3. With reference to Tipu Sultan, which of the following statements is/are correct?

1. He took the help of the French to set up an arms factory at Dindigul.
2. The Third Anglo-Mysore War fought by Tipu ended with the Treaty of Madras.

Options:

- a. 1 only
- b. 2 only
- c. Both
- d. None

Answer: d

Explanation:

- Hyder Ali, Tipu Sultan's father took the help of the French to set up an arms factory at Dindigul.
- The Third Anglo-Mysore War fought by Tipu ended with the Treaty of Seringapatnam.

4. With reference to Sedition law, consider the following statements:

1. The law was originally drafted in 1837 by Thomas Macaulay.

2. The sedition is a non-bailable offence under Section 124A of the Indian Penal Code.
3. The KedarNath case is related to sedition law.

Which of the statements given above are correct?

- A 1 only
B 2 only
C 1 and 3 only
D 1, 2 and 3

Answer : D

Explanation

- Sedition law was **originally drafted in 1837 by Thomas Macaulay**, the British historian-politician, but was inexplicably omitted when the Indian Penal Code (IPC) was enacted in 1860. **Hence, statement 1 is correct.**
- Sedition is a **non-bailable offence**. Punishment under the **Section 124A** ranges from imprisonment up to three years to a life term, to which fine may be added. **Hence, statement 2 is correct.**
- The Supreme Court in **KedarNath case** said “a statute criminalising expression based on unconstitutionally vague definitions of ‘disaffection towards Government’ etc. is an unreasonable restriction on the fundamental right to free expression guaranteed under Article 19 (1)(a) and **causes constitutionally impermissible ‘Chilling Effect’ on speech**”. **Hence, statement 3 is correct.**

5. Which one of the following statements best describes Moon Wobble?

- a. It is an intense geological activity on the largest moon in the solar system
- b. When there are two full moons within a month, the second full moon is called a Moon Wobble
- c. It is a cyclical shift in the moon’s orbit that happens every 18.6 years
- d. None of the above

Answer: c

Explanation:

- The moon wobble is a regular swaying/cyclical shift in the moon’s orbit. It was first documented in 1728.

- This wobble takes over an 18.6-year period to complete and continues to occur in a cyclic fashion.
- One half of the 18.6-year cycle suppresses the tides, which means that the high tides get lower, while the low tides get higher than normal. Once this cycle completes, the situation flips with high tides getting higher and low tides, lower.

6. The mind of the makers of the Constitution of India is reflected in which of the following?

- a. The Preamble
- b. The Fundamental Rights
- c. The Directive Principles of State Policy
- d. The Fundamental Duties

Answer: a

Explanation:

The mind of the makers of the Constitution is reflected in the Preamble. It contains a summary or the essence of the Constitution. The Preamble to the Constitution of India comprises the aims and vision of the Constituent Assembly as well as makes a mention of the source of authority of the Constitution.

Mains Practice Questions

1. Explain the value-added, income and expenditure methods of estimating national income.

Approach:

- Briefly explain the concept of national income.
- Explain the value added, income and expenditure methods of estimating national income.
- Conclude with a brief note on the methods employed in India.

2. Agricultural marketing in India suffers from various shortcomings. Explain. Highlight the measures taken by the government to improve the agricultural marketing system in India.

Approach:

- Start with a brief note on agricultural marketing.
- Explain the various shortcomings of agricultural marketing in India.
- Highlight the measures taken by the government to improve the agricultural marketing system in India.
- Conclude briefly by mentioning the further measures needed.

