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GS 2 : Polity, Governance, International Relations

1. The Court's order on Pegasus still falls short

The Supreme Court of India appointed an independent committee to inquire into charges that the Union government had used the mobile phone spyware Pegasus to invade, access, and snoop into devices used by India's citizens.

Background

- The petitioners before the Supreme Court relied on an investigation conducted by a consortium of global media.
- These reports revealed that hundreds of phone numbers from India had appeared on a global list of more than 50,000 numbers that were selected for surveillance by clients of the Israeli firm, the NSO Group.
- The NSO has since confirmed that its spyware is sold only to governments, chiefly for the purposes of fighting terrorism.

Government's defence

- In response to the allegations made against it, the Government invoked national security.
- What is more, according to it, the very adoption of this argument virtually forbade the Court from probing further.
- In matters purportedly involving national security, the Court has shown an extraordinary level of deference to the executive.
- The cases also posed another hurdle: a contest over facts.
- The petitioners were asserting the occurrence of illegal surveillance.
- The Government was offering no explicit response to their claims.
- Now, to some degree, in its order appointing a committee, the Court has bucked **the trend of absolute deference**.
- The Court has held that there is no magic formula to the Government's incantation of national security, **that its power of judicial review** is not denuded merely because the state asserts that the country's safety is at stake.

Accountability on part of the government

- The order recognises, correctly, that spying on an individual, whether by the state or by an outside agency, amounts to an infraction of privacy.

- This is not to suggest that all surveillance is illegal.
- In holding thus, the Court has effectively recognised that an act of surveillance must be tested on four grounds:
- First, the action must be **supported by legislation**.
- Second, the state must show the Court that the restriction made is **aimed at a legitimate governmental end**.
- Third, the state must demonstrate that there are **no less intrusive means available** to it to achieve the same objective;
- Finally, the state must establish that there is **a rational nexus** between the limitation imposed and the aims underlying the measure.
- The test provides a clear path to **holding the Government accountable**.

Way forward

- The absence of a categorical denial from the Government, the order holds, ought to lead to a prima facie belief, if nothing else, that there is truth in the petitioners' claims.
- Having held thus, one might have expected the Court to frame a set of specific questions demanding answers from the state.
- If answers to these questions were still not forthcoming, elementary principles of evidence law allow the Court to draw what is known as an **"adverse inference"**.
- A party that fails to answer questions put to it will only risk the Court drawing a conclusion of fact against it.
- If, on this basis, the petitioners' case is taken as true, there can be little doubt that there has been an **illegitimate violation of a fundamental right**.
- It is, therefore, unclear why we need a committee at all.
- Ultimately, in the future, the Court must think more carefully about questions of proof and rules of evidence.

Conclusion

Ad hoc committees – sterling as their members might be – cannot be the solution. Far too many cases are consigned to the back burner on the appointment of external panels, and, in the process, civil liberties are compromised.

2. MGNREGS faces negative net balance

The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) faces a negative net balance of Rs. 8,686 crores, including payments due.

MGNREGA

- It stands for Mahatma Gandhi National Rural Employment Guarantee Act of 2005.
- This is labour law and social security measure that aims to guarantee the '**Right to Work**'.
- The act was first proposed in **1991** by **P.V. Narasimha Rao**.

objectives of the MGNREGA:

- To enhance the livelihood security of the rural poor by generating wage employment opportunities.
- To create a rural asset base that would enhance productive ways of employment, augment and sustain a rural household income.

Features of MGNREGA

- MGNREGA is unique in not only ensuring at least 100 days of employment to the willing unskilled workers, but also in ensuring an enforceable commitment on the implementing machinery i.e., the State Governments, and providing a bargaining power to the labourers.
- The failure of provision for employment within 15 days of the receipt of job application from a prospective household will result in the payment of **unemployment allowance** to the job seekers.
- Employment is to be provided within **5 km of an applicant's residence**, and minimum wages are to be paid.
- Thus, employment under MGNREGA is **a legal entitlement**.

News: MGNREGS runs out of fund

- The MGNREGS has run out of funds halfway through the financial year.
- Supplementary budgetary allocations will not come until the next Parliamentary session begins.

Implications on laborers

- **Delayed payment:** Due to this, payments for MGNREGA workers as well as material costs will be delayed, unless States dip into their own funds.
- **Livelihood loss:** MGNREGA data shows that 13% of households who demanded work under the scheme were not provided work.
- **Halt of work:** Many workers are simply turned away by officials when they demand work, without their demand being registered at all.

- **Fall in demands:** This has led to stop the generation of work. There is an artificial squeezing of demand.

Why has MGNREGS acquired so much importance?

- The MGNREGA, a demand-driven scheme, has provided many returnees relief during the covid imposed a lockdown for a year.
- During last year's COVID-19 lockdown it has provided a **critical lifeline for a record 11 crore workers.**

3. G20 Summit

2021 G20 Summit was held in **Rome, Italy.**

Objectives of the summit:

The **Group of 20 countries, which represent more than three-quarters of the world's greenhouse gas emissions,** had been looking for common ground and solid commitments on how to reduce emissions while helping poor countries deal with the impact of rising temperatures.

Outcomes of the meet:

1. Leaders committed to the key **Paris Agreement goal of limiting global warming to 1.5 degrees Celsius above pre-industrial levels.**
2. They also pledged **to reach a target of net zero carbon emissions "by or around mid-century"**, instead of setting a clear 2050 date, as campaigners and summit host Italy were hoping for.
3. They agreed to stop funding **new dirty coal plants** abroad by the end of 2021.
4. They reaffirmed the so far unmet **commitment to mobilise \$100 billion for developing countries for climate adaptation costs.**
5. They approved on **an agreement that will subject multinationals to a minimum 15 percent tax,** as part of an effort to build "a more stable and fairer international tax system".
6. They decided to pursue the recognition of more vaccines by the World Health Organization under a **"One Health approach"** for the world, and providing finances and technology for vaccine production at **"mRNA Hubs"** in South Africa, Brazil and Argentina.

G20

The G20 is an annual meeting of leaders from the countries with the largest and fastest-growing economies.

- Its members account for 85% of the world's GDP, and two-thirds of its population.
- The G20 Summit is formally known as the **“Summit on Financial Markets and the World Economy”**.

Establishment:

After the Asian Financial Crisis in 1997-1998, it was acknowledged that the participation of major emerging market countries is needed on discussions on the international financial system, and G7 finance ministers agreed to establish the G20 Finance Ministers and Central Bank Governors meeting in 1999.

Presidency:

- The group has no permanent staff of its own, so every year in December, a G20 country from a rotating region takes on the presidency.
- That country is then responsible for organising the next summit, as well as smaller meetings for the coming year.
- They can also choose to invite non-member countries along as guests.
- The first G20 meeting took place in Berlin in 1999, after a financial crisis in East Asia affected many countries around the world.

Full membership of the G20:

Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom, the United States and the European Union.

Its relevance in changing times:

- As globalization progresses and various issues become more intricately intertwined, the recent G20 summits have focused not only on macroeconomy and trade, but also on a wide range of global issues which have an immense impact on the global economy, such as development, climate change and energy, health, counter-terrorism, as well as migration and refugees.
- The G20 has sought to realize an inclusive and sustainable world through its contributions towards resolving these global issues.

GS 3 : Economy, Science and Technology, Environment

4. Katol L6 Chondrite Meteorite

Last month, researchers from the Geological Survey of India collected some meteorite fragments near the town of Katol in Nagpur in 2012. Studying this, IIT Kgp researchers have unravelled the composition expected to be present in the Earth's lower mantle which is at about 660 km deep.

Katol L6

- Initial studies revealed that the host rock was mainly composed of olivine, an olive-green mineral.
- Olivine is the most abundant phase in our Earth's upper mantle.
- Our Earth is composed of different layers including the outer crust, followed by the mantle and then the inner core.

Key findings: Presence of Bridgmanite

- The study reported for the first time, presence of veins of the mineral bridgmanite, which is the most abundant mineral in the interior of the Earth, within the Katol L6 Chondrite meteorite.
- Bridgmanite consists of magnesium, iron, calcium aluminium oxide and has a perovskite structure. It is the most volumetrically abundant mineral of the Earth's interior.
- It is present in the lower mantle (from 660 to 2700 km), and it is important to understand its formation mechanism to better comprehend the origin and evolution of planetary interiors.

What is the hypothesis of moon-formation?

The discovery of Bridgmanite in Katol L6 adds evidence to the Moon-forming giant impact hypothesis.

- The Moon-forming giant impact hypothesis occurred nearly 4.5 billion years ago.
- The Earth collided with a planet the size of Mars named Thela.
- The force of this impact was so huge as to melt the Earth down from the surface to a depth of 750 km to 1,100 km.
- The hypothesis goes that this caused the Earth to be bathed in a magma ocean, and the ejecta from the collision led to the formation of the Moon.

Future prospect of the study

- This finding could help investigations of high-pressure phase transformation mechanisms in the deep Earth.

5. US research highlights Indian farming practices

A paper has recently published in the US has found that Integrated farming with intercropping increases food production while reducing environmental footprint.

What is the finding?

This work found that:

1. **Relay planting** enhances yield
2. **Within-field rotation or strip rotation** allowing strips for planting other plants (such as grass, fruits) besides the major crop was more fruitful
3. **Soil munching** that is, available means such as crop straw, in addition to the major crop such as wheat or rice, and
4. **No-till or reduced tillage**, which increases the annual crop yield up by 15.6% to 49.9%, and decreasing the environmental footprint by 17.3%, compared with traditional monoculture cropping

Various terms mentioned

[A] Relay planting

- Relay planting means the **planting of different crops in the same plot, one right after another**, in the same season.
- Examples of such relay cropping would be planting rice (or wheat), cauliflower, onion, and summer gourd (or potato onion, lady's fingers and maize), in the same season.
- **Benefits:** It is less risk since you do not have to depend on one crop alone. It also means better distribution of labour, insects spread less, and any legumes actually add nitrogen to the soil.

[B] Strip cropping

- Strip cropping has been used in the U.S. (where the **fields are larger** than those in India), where they grow wheat, along with corn and soybean, in the same farm in an **alternative manner**.
- However, this needs large lands. The land is divided into strips, and strips of grass are left to grow between the crops.
- **Benefits:** Planting of trees to create shelters has helped in stabilising the desert in Western India.

[C] Soil mulching and no-till

- Soil mulching requires keeping all **bare soil covered with straw, leaves**, and the like, even when the land is in use.
- **Benefits:** Erosion is curtailed, moisture retained, and beneficial organisms, such as earthworms, kept in place. The same set of benefits are also offered by not tilling the soil.

Significance of the findings

- This research has led to the conclusion that **small farm holders can grow more food and have reduced environmental footprint**.
- Current statistics reveal that **our country has a significant population of small farmers**, many owning less than 2 hectares of land.
- About 70% of its rural households still depend primarily on agriculture for their livelihood, with 82% of farmers being small and marginal.

6. NASA's Perseverance rover

NASA's **Perseverance Mars rover** has emerged from its first "solar conjunction" blackout and gotten back to work on the Red Planet.

Background:

The car-sized Perseverance and other Mars spacecraft had to stand down for about two weeks recently when the Red Planet slipped behind the sun from Earth's perspective.

- In this alignment, known as **solar conjunction**, our star can corrupt commands sent from Earth to Mars, so NASA and other space agencies don't take the chance.

Perseverance Rover:

NASA's **Perseverance rover** is exploring **the Jezero Crater on Mars** and attempting to collect its first rock samples.

- It was launched in 2020 aboard a United Launch Alliance Atlas V.

Why is this mission significant?

1. It carried a unique instrument, **MOXIE or Mars Oxygen ISRU Experiment:** which for the first time manufactured molecular oxygen on Mars using carbon dioxide from the carbon-dioxide-rich atmosphere (ISRU means In Situ Resource Utilization: or the use of local resources to meet human needs or requirements of the spacecraft).
2. It carried **Ingenuity**, the first ever helicopter to fly on Mars.
3. It is **the planned first step to bring back rock samples from Mars** for analysis in sophisticated laboratories on Earth: with the goal of looking for biosignatures: or signatures of present or past life.

These are some of the key mission objectives:

1. Look for signs of ancient microbial life.
2. Collect Martian rock and dust samples for later return to Earth.
3. Deliver an experimental helicopter.
4. Study the climate and geology of Mars.
5. Demonstrate technology for future Mars missions.

What is the reason for the near-term interest in Mars?

1. Mars is located in the very near backyard (about 200 million km away).
2. It is a planet that humans can aspire to visit or to stay for a longer duration.
3. Mars had flowing water and an atmosphere in the distant past: and perhaps conditions to support life.
4. It also has implications for commercial travel.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. There's a mismatch between India's graduate aspirations and job availability

There is a huge pool of unemployed university graduates with unfulfilled aspirations. This group of dissatisfied, disgruntled youth can lead to disastrous consequences for our society.

Enhanced enrollment

- **Reservation:** The extension of reservations to OBCs and EWS increased the enrollment of students from these socio-economic backgrounds.
- **Increased education institutions:** In addition, the **massive increase in the number of higher education institutions** has led to an enlargement of the number of available seats – there are more than 45,000 universities and colleges in the country.
- The Gross Enrollment Ratio for higher education, which is the percentage of the population between the ages of 18-23 who are enrolled, is now **27 per cent**.

Issues of employment opportunities

- Unfortunately, the spectacular increase in enrollment in recent years has not been matched by a **concomitant increase in jobs**.
- Employment opportunities in the government have not increased proportionately and may, in fact, have decreased with increased contractualisation.
- Even in the private sector, though the jobs have increased with economic growth, most of the jobs are contractual.
- Worse, the highest increase in jobs is at the lowest end, especially in the services sector – delivery boys for e-commerce or fast food for instance.
- Thus what we see is a huge pool of unemployed university graduates with unfulfilled aspirations.

- This group of dissatisfied, disgruntled youth can lead to disastrous consequences for our society, some of which we are already witnessing.

Way forward

- A reduction in the rate of increase of universities and colleges might not be politically feasible given the huge demand for higher education.
- **Increase vocation institutions:** A concurrent increase in the number of high-quality vocational institutions is something that can be done.
- There are upwards of 15,000 Industrial Training Institutes (ITIs) in the country currently.
- Upgrading the existing ITIs, opening many more new ones with high-quality infrastructure and updated curriculum is something which should be done urgently.
- There is a scheme to upgrade some ITIs to model ITIs.
- However, what is required is not a selective approach but a more broad-based one that uplifts the standards of all of them besides adding many more new ones.
- Industry might be more than willing to pitch in with funding (via the CSR route) as well as equipment, training for the faculty and internships for students.

Conclusion

These steps could help mitigate the mismatch between employment opportunities and the increasing number of educated youth in the country.

2. Shri Guru Nanak Jayanti to be declared World Pedestrian Day

The Punjab Police has proposed that the birth anniversary (Gurpurab) of Sikhism founder Guru Nanak Dev be declared as 'World Pedestrian Day'.

Why is Guru Nanak Dev considered the world's most notable and revered pedestrian?

- The founder of Sikhism, Shri Guru Nanak Dev had traveled far and wide during the 15th and 16th centuries.
- It is believed that Nanak Dev, along with his companion Bhai Mardana, undertook most part of his journeys on foot.

- He aimed to spread the message of oneness and to break barriers across faiths by engaging in spiritual dialogues.

Places visited by him

- From Mecca to Haridwar, from Sylhet to Mount Kailash, Guru Nanak visited hundreds of interfaith sites related to Hinduism, Islam, Buddhism, and Jainism.
- His journeys are referred are also called **udaasis**. At some sites, gurdwaras were constructed to commemorate his visit.
- Later his travels were documented in texts called 'janamsakhis'.
- These sites are now spread across nine nations as per current geographical divisions – **India, Pakistan, Iran, Iraq, China (Tibet), Bangladesh, Saudi Arabia, Sri Lanka, and Afghanistan.**

Motive behind Punjab Police's proposal

- The idea is to spread awareness on road safety for pedestrians by introducing Guru Nanak Dev's own life as an inspiration.
- The best results are achieved only when the community is mobilized for a cause.
- Walking is a universal form of travel. It is the best way which convey equality amongst all.

3. Italy-India Strategic Partnership in Energy Transition

- Acknowledged significant progress in bilateral relations since the adoption of the Action Plan for an enhanced Partnership between India and Italy (2020 - 2024)
- Expressed their resolve to strengthen cooperation in the strategic sectors addressed by the Action Plan, including the cross-cutting issue of accelerating the clean energy transition to fight climate change, central to both the G20 Leaders Summit in Rome and the COP26 in Glasgow
- Both sides agreed on the utmost importance of cost effective integration of a growing amount of renewable energy into their respective power systems, as a key asset for an effective clean transition that generates jobs, GDP growth, reinforces universal energy access while eradicating energy poverty.

In order to promote their partnership in energy transition, Italy and India will:

- Task the “Joint Working Group” established by the Memorandum of Understanding on Cooperation in the field of Energy, to explore cooperation in areas such as: Smart Cities; mobility; smart-grids, electricity distribution and storage solutions; gas transportation and promoting natural gas as a bridge fuel; integrated waste management (“waste-to-wealth”); and green energies (green hydrogen; CNG & LNG; bio-methane; bio-refinery; second-generation bio-ethanol; castor oil; bio-oil –waste to fuel).
- Initiate a dialogue to support the development and deployment of green hydrogen and related technologies in India.
- Consider working together to support a large size green corridor project in India to capitalize on India’s target to produce and integrate 450 GW of renewable energy by 2030.
- Encourage Italian and Indian companies to develop joint projects in natural gas sector, technological innovation for decarbonisation, Smart Cities and other specific domains (i.e.: electrification of urban public transport).
- Encourage joint investments of Indian and Italian companies in energy transition-related fields.
- Share useful information and experiences especially in the field of policy and regulatory framework, including possible means to facilitate the transition to cleaner and commercially viable fuels/technologies, long-term grid planning, incentivizing schemes for renewables and efficiency measures, as well as with regard to financial instruments for accelerating clean energy transition.

4. Mullaperiyar Dam Controversy

Recently, Supreme Court considered a public interest litigation petition filed by a Kerala physician, Joe Joseph and two former local body representatives on the operation of the Mullaperiyar dam over which Kerala and Tamil Nadu have been contesting for long.

Why is Mullaperiyar dam a sore point?

- The Maharaja of Travancore signed a 999-year Periyar Lake lease agreement with the British government on October 29, 1886, for the construction of the Mullaperiyar dam across the Periyar in the present Idukki district of Kerala. The dam became a reality nine years later.
- Water was supplied from it through a tunnel to the water-scarce southern region of Tamil Nadu, especially the Vaigai basin. On an average, 22 thousand million cubic feet (tmc ft) of water is diverted, irrigating about 2.20 lakh acres and meeting the drinking water requirements of people in the region.

- Concerns over the safety of the gravity dam built using lime-surkhi (burnt brick powder) mortar came to the fore in 1979.
- In November 1979, a tripartite meeting chaired by the then chairman of the Central Water Commission (CWC), decided that the level had to be brought down from the full reservoir level of 152 feet to 136 feet to enable **Tamil Nadu, which owns and maintains it**, to carry out dam strengthening works.
- By the mid-1990s, Tamil Nadu started demanding restoration of the level.

What happened in the legal battles?

- The Central Government set up an expert committee in 2000 to look into the dam's safety. The committee recommended raising the level to 142 feet, which was endorsed by the Supreme Court in February 2006.
- Kerala sought to restrict the level to 136 feet by way of an amendment to the Kerala Irrigation and Water Conservation Act, prompting the Tamil Nadu Government to move the Supreme Court.
- In February 2010, the court constituted an empowered committee to study the whole gamut of issues concerning the dam.
- Based on the committee's finding that the dam was "structurally and hydrologically safe", the court, in May 2014, struck down Kerala's Act and **allowed Tamil Nadu to maintain the level at 142 feet.**
- Supreme Court also asked the Central Government to set up a **three-member Supervisory Committee** to monitor dam safety.

Why is it a social issue?

- Commissioned by the Kerala Government in the latter part of the 2000s, a study by IIT-Roorkee raised questions about the survival of the dam, **located in seismic zone-3**, in the event of an earthquake of a fairly high magnitude.
- A series of tremors felt in the area in 2011 caused alarm.
- Subsequently, the floods of 2018 and the erratic nature of annual monsoons ever since brought the focus back on the 126-year-old dam.

Why is the case in the Supreme Court again?

- A petition was filed in the Supreme Court in 2020 contending that the Supervisory Committee had abdicated its responsibilities to a sub-committee constituted at the direction of the court for water management in the dam.
- They also urged the court to ask the CWC to fix the 'rule curve', 'instrumentation scheme' and 'gate operation schedule' of the dam.
- Massive landslides had devastated the hilly regions in central Kerala and weather prediction was worrying when the court's attention was drawn to a report prepared by the **United Nations University-Institute for Water,**

Environment and Health, which cited “significant structural flaws” in the dam and said it “may be at risk of failure”.

- “Leaks and leaching are also concerning, as the methods and materials used during construction are considered outdated, compared to the current building standards,” UN University has said in its report.
- The Kerala Government, a respondent, argued for lowering the full reservoir level to 139 feet as the ageing dam was in a ‘deteriorating condition’.
- In the event of a dam failure, it would result in human tragedy and **submitted a case for decommissioning the dam**, in whose place a new dam could be built to cater to Tamil Nadu’s water needs.
- However, Tamil Nadu, relying on the Supreme Court’s two judgments, has been opposing any suggestion for lowering the level from 142 feet, apart from rejecting the idea of a new dam.
- Tamil Nadu says it is taking steps to complete the remaining works to strengthen the dam, including those meant for the ‘baby dam,’ situated alongside the main dam, for which clearances from the Kerala and Central Governments are required.

What’s on the cards?

- Design of a new dam by Kerala’s Irrigation Design and Research Board is in the final stages. However, without Tamil Nadu on board, this is not going to be a reality.
- Meanwhile, in the backdrop of bad weather forecast, Kerala Chief Minister Pinarayi Vijayan wrote to Tamil Nadu CM M.K. Stalin, urging him to draw maximum quantum of water from the dam through the tunnel so that a large volume release would be avoided altogether.
- Assuring Kerala CM of all support, Tamil Nadu CM informed him that the level in the dam was being closely monitored and the current storage was well within the level permitted by the Supreme Court.
- A meeting between the Chief Ministers to discuss the issue is being planned in December.

GS 3 : Economy, Science and Technology, Environment

5. Project-15B stealth guided missile destroyers

The first ship of the four Project-15B state-of-the-art stealth guided missile destroyers, Visakhapatnam, being built at the Mazgaon Docks Limited (MDL), was delivered to the Navy recently.

- The four ships are named after major cities from all four corners of the country – Visakhapatnam, Mormugao, Imphal and Surat.

Key takeaways

- The 163-metre-long warship has a full load displacement of 7,400 tonnes and a maximum speed of 30 knots.
- It has approximately 75% indigenous content .
- These ships are equipped with BrahMos supersonic cruise missiles and long-range Surface-to-Air missiles (SAM).
- The induction would enhance the maritime prowess in the Indian Ocean Region.
- Certain enhanced stealth features of the ships make them difficult to detect
- These ships are propelled by four gas turbines in Combined Gas and Gas (COGAG) configuration

About BrahMos supersonic cruise missiles

- **Carried out by:** Defence Research and Development Organisation (DRDO) from Balasore in Odisha.
- BrahMos surface-to-surface supersonic cruise missile features indigenous Booster and Airframe Section along with many other 'Made in India' sub-systems.
- The BrahMos Land-Attack Cruise Missile was cruising at a top speed of Mach 2.8.

6. Climate Equity Monitor

India has officially endorsed a website, Climate Equity Monitor, made by Indian climate experts.

- The website lists the historical carbon dioxide emissions of developed countries.
- The website was conceptualised and developed by the Climate Change Group at the M.S. Swaminathan Research Foundation, Chennai, and the Natural Sciences and Engineering Department at the National Institute of Advanced Studies, Bengaluru, with other independent researchers.

Key takeaways

- It is aimed at monitoring the performance of Annex-I Parties under the UNFCCC (developed countries) based on the “foundational principles” of the Climate Convention.
- It aims to highlight the disparity between the emissions of developed and developing countries.
- Countries such as the USA, Canada and Australia and those in Western Europe are shown as having a net carbon debt while developing countries such as India and China have net credit.
- It highlights that it is only fair that developed countries must commit to steeper targets towards curbing emissions than developing countries.
- **Implications:**
 - Its focus on equity & climate action from a data and evidence-based perspective will encourage vigorous discussion on the crucial issue and engage experts from all nations.
 - The website shall debunk the narrative provided by many developed countries, and global NGOs that focus attention continually on what developing countries must do, constantly demanding greater commitment and action from them.

Status of India as Carbon emitter

- India is the third largest emitter of carbon emissions annually but the sixth largest when historical emissions are considered.
- When accounting for the size of its population it is among the lowest per capita emitters.
 - This underlines India’s demands for **climate justice** being at the heart of negotiations at COP26 and its reluctance to agree to a fixed time frame.

7. UNESCO World Heritage Forests

As per UNESCO’s assessment on World Heritage forests, India’s Sundarbans National Park is among five sites that have the highest blue carbon stocks globally.

Key findings of the new study

- It is the first ever scientific assessment of the amounts of greenhouse gases emitted from and absorbed by forests in UNESCO World Heritage sites during 2001 and 2020.
- The assessment involved the researchers from UNESCO, World Resources Institute (WRI) and the International Union for Conservation of Nature (IUCN).

- As a whole, UNESCO World Heritage forests in 257 separate sites, absorbed the equivalent of approximately 190 million tons of CO₂ from the atmosphere each year.
 - However, ten forests released more carbon than they sequestered due to pressure from human activity and climate change, which is alarming.
- They also store substantial amounts of carbon.
- The study described blue carbon as organic carbon that is mainly obtained from decaying plant leaves, wood, roots and animals and is captured and stored by coastal and marine ecosystems.

Factors responsible for this emission

- According to UNESCO's findings, at some sites the clearance of land for agriculture caused emissions to be greater than sequestration.
- The increasing scale and severity of wildfires, often linked to severe periods of drought, was also a predominant factor in several cases.
- Other extreme weather phenomena, such as hurricanes contributed at certain sites.

World Heritage forests

- As of today, more than 200 World Heritage sites harbor unique forest ecosystems.
- World Heritage forests, whose combined area of 69 million hectares is roughly twice the size of Germany, are biodiversity-rich ecosystems.

Prelims Practice Questions

1. Which of the following is/are correctly matched?

1. Mutualism- Both species benefit
2. Amensalism- One species benefits, the other is unaffected
3. Commensalism- One species is harmed, the other is unaffected

Options:

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

Answer: a

Explanation:

- Amensalism- One species is harmed, the other is unaffected
- Commensalism- One species benefits, the other is unaffected

2. Which of the following statements is/are incorrect?

1. Arabica is mild coffee and has higher market value compared to Robusta beans.
2. Robusta is susceptible to pests & diseases such as White Stem Borer and requires more shade than Arabica

Options:

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

Answer: b

Explanation:

- The two main varieties of coffee viz., Arabica and Robusta are grown in India.
 - Arabica is mild coffee, but the beans being more aromatic, it has higher market value compared to Robusta beans. On the other hand Robusta has more strength and is, therefore, used in making various blends.
 - Arabica is grown at higher altitudes than Robusta. The cool and equable temperature, ranging between 15 degree Celsius to 25 degree Celsius, is suitable for Arabica while for Robusta, hot and humid climate with temperature ranging from 20 degree Celsius to 30 degree Celsius is suitable. Arabica requires more care & nurture and is more suitable for large holdings whereas Robusta is suitable irrespective of size of the farm.
 - The harvest of Arabica takes place between November to January, while for Robusta it is December to February.
 - Arabica is susceptible to pests & diseases such as White Stem Borer, leaf rust etc., and requires more shade than Robusta.

3. Consider the following statements:

1. China is the largest overseas investor in the Maldives, Pakistan, and Sri Lanka.
2. Bhutan does not have diplomatic relations with China.

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 : C

Explanation

- China has held its third multilateral dialogue virtually with countries from South Asia to take forward closer cooperation on fighting Covid-19 and coordinating their economic agendas, reflecting a new approach in Beijing's outreach to the region.
- According to the American Enterprise Institute's China Global Investment Tracker, China has committed around 100 billion USD in the economies of Afghanistan, Bangladesh, the Maldives, Pakistan, Nepal and Sri Lanka.
- China is now the largest overseas investor in the Maldives, Pakistan, and Sri Lanka. **Hence, statement 1 is correct.**
- However, Bhutan does not have diplomatic relations with China. **Hence, statement 2 is correct.**

4. Which of the following reports are published by International Monetary Fund (IMF)?

1. Global Financial Stability Report (GFSR)
2. Travel & Tourism Competitiveness Report
3. World Economic Outlook

Options:

- a. 1 and 2 only
- b. 2 and 3 only

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

Answer: c

Explanation:

- Important publications of International Monetary Fund (IMF):
 - World Economic Outlook
 - Global Financial Stability Report
 - Fiscal Monitor
 - Global Policy Agenda
- Travel & Tourism Competitiveness Report is brought out by the World Economic Forum

5. With respect to Bridgmanite, which of the following statements is/are correct?

1. It is the most volumetrically abundant mineral of the Earth's interior.
2. It is present in the lower mantle

Options:

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

Answer: c

Explanation:

- Bridgmanite is the most volumetrically abundant mineral in the interior of the Earth. It is present in the lower mantle (from 660 to 2700 km).
- Bridgmanite consists of magnesium, iron, calcium and aluminum oxide and has a perovskite structure.
 - A perovskite is any material with a crystal structure similar to the mineral called perovskite, which consists of calcium titanium oxide (CaTiO₃)

6. What was Damin-i-Koh?

- A large area of land in the Rajmahal hills
- An educational Institution
- Village headman
- Protection money paid by travellers

Answer: a

Explanation:

- Damin-i-koh (or sometimes referred to simply as Damin) was the name given to the forested hilly areas of Rajmahal hills broadly in the area of present Sahebganj, Pakur and Godda districts in the Indian state of Jharkhand.

Mains Practice Questions

1Q. Ordinances though were meant to be temporary, but repromulgation sidesteps this limitation and makes them permanent. Discuss.

Approach

- Start the answer by mentioning the context of the frequent use of ordinance routes
- Mention the associated issues with the repromulgation of ordinance.
- Conclude Suitably.

2Q. One Health concept is ever more relevant as the world is facing a second wave of Covid-19 pandemic. Comment.

Approach

- Start the answer by defining the One health approach
- Mention the need and steps to implement the One Health approach.

- Conclude Suitably.

