Contents

GS 1 – HISTORY

What are Private Papers of public figures like PM Nehru, and what rules govern their declassification?

The **Prime Ministers' Museum & Library (PMML)** has decided that it will not permit future donors of Private Papers of eminent personalities to impose indefinite conditions on the declassification of such material.

In 2008, Congress leader Sonia Gandhi reclaimed boxes of papers from Jawaharlal Nehru's Private Collection that the family had donated to the museum earlier, and also barred access to several sets of these papers.

First, what are Nehru's papers at the PMML, and how did they get there?

The **Jawaharlal Nehru Papers were the first set of Private Papers obtained by PMML, which was set up originally as the Nehru Memorial Museum & Library (NMML) in the memory of India's first Prime Minister.**

The **Private Papers of Nehru, spanning both the pre-Independence and post-Independence periods, were transferred to PMML in several batches starting in 1971. The transfer was facilitated by the Jawaharlal Nehru Memorial Fund (JNMF) on behalf of Nehru's legal heir, Indira Gandhi, who apparently remained the owner of these documents until her assassination in October 1984.**

Subsequently, a **substantial collection of Nehru's Papers from the post-1946 period were handed over to PMML by Sonia Gandhi.**

Does the PMML have Private Papers of other leaders as well?

The PMML has the largest collection of Private Papers in the country, which originally belonged to some 1,000 personalities of modern India, encompassing the entire spectrum of its leadership. **In this collection are the papers of Mahatma Gandhi, B R Ambedkar, Rajkumari Amrit Kaur, Maulana Abul Kalam Azad, Bhikaji Cama, Chaudhary Charan Singh, and many others.**

Among its recent acquisitions are papers of former Himachal Pradesh Chief Minister Shanta Kumar, which include letters written by him to Prime Minister Narendra Modi on One Nation, One Election, the abrogation of Article 370, and Indo-Pak relations, according to the PMML.

There are also the papers of the **legendary environmental activist Sundarlal Bahuguna, which were donated to PMML by his wife, Vimla Bahuguna, and papers pertaining to Hindi writer and author Yashpal, comprising correspondence pertaining to his revolutionary activities during the freedom struggle.**

Are Private Papers the same as personal papers?

The **individual collections have come from families, institutions, universities, and other private donors. The papers are invaluable for an accurate appraisal of the lives and times of these personalities, and essential for an understanding of India's modern history and its landmark moments.** This is what lies at the heart of repeated efforts to make them available to scholars and researchers.

The **custodians of the archives say there are essential differences between papers and correspondence that can be deemed personal, as opposed to Private Collections, even if they pertain to the same person. For instance, the correspondence of a President or a Prime Minister with other eminent personalities of the time, or with institutions, can be part of that person's Private Collection by virtue of these papers**

being owned by the person's family or other private individuals.

However, **correspondence and documents held in personal capacity are excluded from this set.**

Official Records constitute another set of papers — these are held by various government departments and ministries, and could comprise letters, records, or file notings, etc. pertaining to the working of various central and state governments.

What kinds of conditions do donors of Private Papers impose?

When donors hand over Private Collections in their ownership to archives and museums, they sometimes reach an understanding with the recipient institution, imposing conditions for their declassification and public access.

Many of those who donated Private Collections to PMML set unspecified embargo conditions on public access to these papers — consequently, the institution holds these papers and conserves them, but it cannot make them public, and researchers cannot access them.

It is in this context that the **museum — which functions under the Ministry of Culture — has decided that it will, under normal circumstances, permit only a five-year embargo from the date of receipt of any new papers. In rare cases, this window can remain shut for up to 10 years at most.**

PMML has also decided to go ahead and open up on its own several sets of private papers that have been lying in its custody for decades, pertaining to the first Speaker of Lok Sabha G D Mavalankar, Nehru's niece Nayantara Sahgal, and as many as 2.80 lakh pages pertaining to Nehru that were not claimed by Sonia Gandhi in 2008.

Which organisation other than the PMML acquires Private Papers?

The **other organisation that acquires Private Collections in the country, the National Archives of India — which too, operates under the Culture Ministry — says it acquires only those papers which the donors agree to declassify.**

It is the norm to put all records in the public domain, unless in very rare cases, where the concerns may be pressing and pertain to security or sensitivity.

The National Archives' Private Archives Section has in its custody a rich collection of private papers of eminent persons who have contributed in various fields of public life. These papers have been acquired mainly through donations and gifts from individuals and institutions around the world.

The **National Archives has papers pertaining to Mahatma Gandhi, Dr Rajendra Prasad, Dadabhai Naoroji, Purushottam Das Tandon, Maulana Azad, Minoo Masani, Sardar Patel and Keshav Dev Malviya among others.**

How does declassification work in other countries?

In the United States, the Library of Congress Manuscript Division holds Personal Papers and organizational records that are significant in American history. The National Archives and Records Administration is the official depository for US government records, like the National Archives of India here.

The **Public Records Rules, 1997, covers declassification of all kinds of records and correspondence in India. For official records, the Rules say that the responsibility for declassification rests with the respective organisations, and that records should ordinarily be declassified in 25 years.**

The **definition of Public Records encompasses any records in relation to the central government, and any ministry, department or office of the government — including the PMO and the President's Office.** However, **the 1997 Rules don't lay down sweeping powers for papers owned by private individuals and families, access to which is voluntary in nature — either by**

GS 1 – ART & CULTURE

What is the significance of 'abhaya mudra', invoked by Rahul Gandhi in Parliament

#AbhayMudra   #MudrainBuddhism #Buddhism #ArtandCulture #GS1

In his first speech as Leader of Opposition in Lok Sabha, Rahul Gandhi on Monday invoked the **abhaya mudra, the gesture of the raised open palm that is commonly understood as conveying reassurance and a freedom from fear.**

He portrayed the government as a regime based on fear, and stressed that the culture of fear is alien to the Hindu religion and Indian civilisation.

The abhaya mudra, he said, was a common thread in the depictions of Lord Shiva, Guru Nanak, and Jesus Christ, and also figured in Islam, Buddhism, and Jainism.

Mudras in Buddhism

In Sanskrit, the term mudra could mean a seal, mark, sign, or currency, but in the Buddhist context, it refers to *"hand and arm gestures made during the course of ritual practice or depicted in images of buddhas, bodhisattvas, tantric deities, and other Buddhist images".*

Mudras are most commonly associated with visual depictions of the Buddha (or Buddharupa), with different gestures conveying different moods and meanings, signifying the subtle manifestations of the Buddha's states of realisation.

For about 500 years after the Buddha, who lived in the 6th or 5th Century BCE, the person of the great teacher was not depicted in the form of an image or sculpture. At Sanchi, for instance, the Buddha is symbolised by a vacant throne or a footprint.

The **earliest depictions of the Buddha in physical form date to roughly around the turn of the first millennium. Depictions started appearing in the Gandhara art from** the northwestern edge of the Indian subcontinent (present day Pakistan and Afghanistan), which drew on Hellenistic influences, and later in the art of the Gupta period, in the Gangetic plains.

In the earliest depictions of Buddharupa, four mudras can be found: the *abhaya mudra, or "gesture of fearlessness"; the bhumisparsha mudra, or "Earth-touching gesture"; the dharmachakra mudra, or "gesture of the wheel of dharma"; and the dhyana mudra, or "gesture of meditation".*

With the evolution of Mahayana (Greater Vehicle) and Vajrayana (Thunderbolt Vehicle) Buddhism, and the proliferation of Buddhist artwork outside India, hundreds of mudras entered Buddhist iconography. **In tantric Buddhist traditions, the mudras came to be associated with dynamic ritual hand movements, where they "symbolised material offerings, enacted forms of worship, or signified relationships with visualised deities"**

Gesture of fearlessness

The **abhaya mudra is described as one "typically formed with the palm of the right hand facing outward at shoulder height and the fingers pointing up… Occasionally, the index, second, or third finger touches the thumb, with the remaining fingers extended upward". In some cases, both hands may simultaneously be raised in this posture in a "double abhayamudra".**

In Buddhist tradition, the abhaya mudra is associated with the Buddha immediately after he obtained Enlightenment, "portraying a sense of the security, serenity, and compassion that derive from enlightenment".

The **"gesture of fearlessness [also] identifies the moment when Shakyamuni (the Buddha) tamed the mad elephant…illustrating the Buddha's ability to grant fearlessness to his followers".**

According to Buddhist legend, Devadatta, a cousin and a disciple of the Buddha, upon not being granted the special treatment he expected, plotted to harm the Enlightened One. He fed a wild elephant intoxicants and drove her on the Buddha's path. As the disciples scattered before the charging animal, the Buddha raised his hand in the abhaya mudra of love and kindness. The elephant is said to have calmed down immediately, gone down on her knees, and bowed her head to the Buddha.

This is why the **abhaya mudra is also seen as a "gesture of protection" or "gesture of granting refuge".**

Abhaya mudra in Hindu religion

Over time, the **abhaya mudra appeared in depictions of Hindu deities, and the Buddha himself was absorbed into the Hindu pantheon as the ninth avatar of the Puranic god Vishnu.**

As multiple traditions, practices, and cultural influences mingled in the great melting pot of the Hindu religion, manifestations were seen in art and visual depiction of gods. The **abhaya mudra was seen in the depictions, most commonly of Lord Shiva, Lord Vishnu, and Lord Ganesha.**

<u>VARIOUS MUDRAS RELATED TO BUDDHA</u>

1. Bhumisparsha Mudra

- **One of the most common Mudras** found in statues of Buddha.

- It depicts the **Buddha sitting in meditation with his left hand, palm upright, in his lap, and his right hand touching the earth.**

- This mudra is **commonly associated with blue Buddha known as Akshobya.**

- **Significance:** 'Calling the Earth to Witness the Truth' and it **represents the moment of Buddha attaining enlightenment.**

2. Dhyana Mudra

- **Indicates Meditation and is also called 'Samadhi' or 'Yoga' Mudra.**

- It depicts Buddha with **both hands in the lap, back of the right hand resting on the palm of the left hand with fingers extended. In many statues, the thumbs of both hands are shown touching at the tips, thus forming a mystic triangle.**

- It **signifies attainment of spiritual perfection.**

- This Mudra was used by Buddha **during the final meditation** under the bodhi tree.
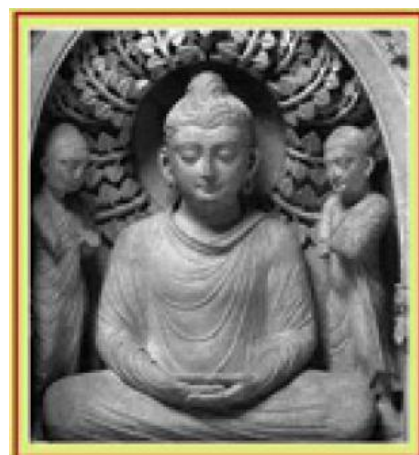
3. Vitarka Mudra

- It **indicates teaching and discussion or intellectual debate**.

- The **tips of the thumb and index finger touch each other, forming a circle. The**

right hand is positioned at shoulder level and the left hand at the hip level, in the lap, with palm facing upwards.

- It signifies the **teaching phase of preaching** in Buddhism. The **circle formed by the thumb and index finger maintains the constant flow of energy, as there is no beginning or end, only perfection.**

4. Abhaya Mudra

- It **indicates fearlessness and symbolises strength and inner security**.

- The **right hand is raised to shoulder height with arm bent. The palm of the right hand faces outwards and the fingers are upright and joined. The left hand hangs downwards by the side of the body.**

- This gesture was **shown by Buddha immediately after attaining enlightenment**.

5. Dharmachakra Mudra

- It **means 'Turning the Wheel of the Dharma or Law'**, i.e. setting into motion the wheel of Dharma.

- This Mudra **involves both hands**.

- The **right hand is held at chest level with the palm facing outwards. A mystic circle is formed by joining the tips of the index finger and the thumb. The left hand is turned inward and the index finger and thumb of this hand join to touch the right hand's circle.**

- This gesture was exhibited by Lord Buddha while he **preached the first sermon to a companion after his enlightenment in the Deer Park of Sarnath**.
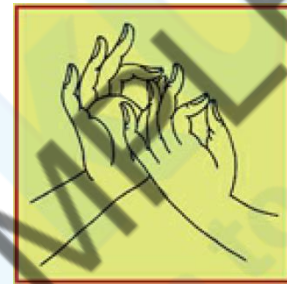
6. Anjali Mudra

- This mudra **signifies greetings, devotion, and adoration**.

- **Both hands close to the chest, palms and fingers join against each other vertically**.

- It is **common gesture used in India to greet people (Namaste).** It signifies adoration of the superior and is considered a sign of regards with deep respect.

- It is believed that **true Buddhas (those who are enlightened) do not make this hand gesture and this gesture should not be shown in Buddha statues. This is for Bodhisattvas (who aim and prepare to attain perfect knowledge).**
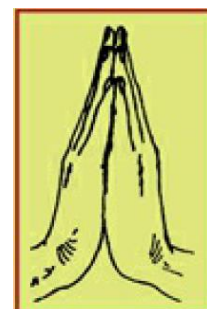
7. Uttarabodhi Mudra

GS 1 – GEOGRAPHY

What is an aphelion?
#Aphelion #Perihelion #OrbitalEccentricity
#Geography #GS1

Earth reaches aphelion every July. This year it did so on Friday. (05 July)

That **Earth has an aphelion is a result of its orbit being elliptical**, rather than circular. **All planets in the solar system travel in elongated circles around the Sun, rather than perfect ones.** This is most likely true for worlds around other stars, too.

Behind elliptical orbits lies gravity. All the planets tend to jostle each other around, pulling their orbits from perfect circles. It's literally this chaotic tug of war between small amounts of gravitational influence that the planets have on each other.

Jupiter exerts the most influence because it is the most massive planet in our solar system.

How much an orbit deviates from a perfect circle is measured by its eccentricity. The **higher the eccentricity, the more elliptical the orbit.** For some bodies in the solar system, eccentricity is quite pronounced: Mars has an eccentricity of 0.094. Pluto is even more eccentric at 0.244. On the other hand, Earth's eccentricity is 0.017.

Planets in increasing orders of their orbital eccentricity are

Planets	eccentricity
Venus	0.007
Neptune	0.010
Earth	0.017
Uranus	0.047
Jupiter	0.049
Saturn	0.052
Mars	0.094
Mercury	0.206
Pluto*	0.244

*Pluto is no more considered a planet of our solar system

How far is the Earth from the Sun at aphelion?

At aphelion, Earth's distance from the Sun is about 152.1 million km.

Six months later, in early January, Earth reaches perihelion — the point at which it is closest to the Sun. At perihelion, the distance between Earth and the Sun is roughly 147.1 million km.
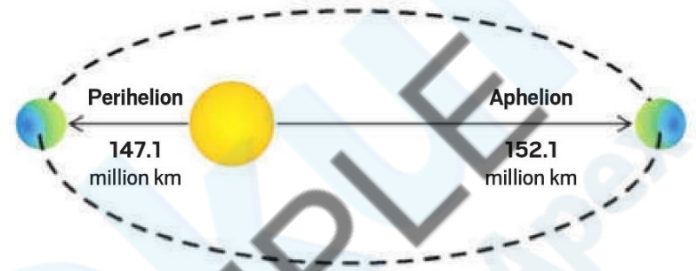
Does aphelion affect temperatures on Earth?

A common misconception is that Earth's varying distance from the Sun is what gives rise to the seasons.

We get 7% less sunlight at aphelion compared to what we are exposed to at perihelion, leading to slightly milder summers and winters in the Northern Hemisphere. But this effect is offset by Earth's tilt on its axis — at different points along its orbit the hemispheres slant either toward or away from the Sun.

What would happen if there were no aphelion?

If our planetary orbit were a perfect circle, the seasons' lengths would be exactly the same — right now, spring and summer are a few days longer than fall and winter in the Northern Hemisphere.

But **if something made Earth's orbit grow more eccentric, the consequences could be catastrophic. Seasons in the Southern Hemisphere would become too extreme — summers would be unbearably hot, and winters would be intolerably cold. This could lead to crop failures and freezes.**

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How climate change fuelled Hurricane Beryl's record early intensification

#Beryl #HurricaneBeryl #Hurricane #Climatology #Geography #GS1

Hurricane Beryl became the earliest storm on record during the Atlantic hurricane season to have reached the highest Category 5 classification.

The storm, which tore through the Caribbean islands earlier this month, killed at least 11 people after triggering intense floods and dangerous winds in Jamaica, Grenada, Saint Vincent and the Grenadines, and northern Venezuela. On Monday, it made landfall in Texas, United States, as a Category 1 storm, flooding streets and knocking out power for more than two million people in the state.

How are hurricanes formed?

Hurricanes, or tropical storms, form over warm ocean waters near the equator. When the warm, moist air from the ocean surface rises upward, a lower air pressure area is formed below. Air from surrounding areas with higher air pressure rushes into this low pressure area, eventually rising, after it also becomes warm and moist.

As warm, moist air rises, it cools down, and the water in the air forms clouds and thunderstorms. This whole system of clouds and winds gains strength and momentum using the ocean's heat, and the water that evaporates from its surface. *Storm systems with wind speeds of 119 kmph and above are classified as hurricanes.*

Hurricanes are classified using the *Saffir-Simpson Hurricane Wind Scale* **into five categories** (Category 1 to Category 5) **based on their sustained wind speeds.** While **Category 1 hurricanes bring winds of 119 to 153 kmph, Category 5 hurricanes, which are the strongest, have winds of 252 kmph or higher.** *Storms that reach Category 3 and higher are considered major hurricanes* due to their potential to inflict significant damage.

How did Beryl become a Category 5 storm?

Within 24 hours of emerging as a tropical depression with winds of 56.3 kmph on June 28, Beryl transformed into a hurricane. Over the next 24 hours, it rapidly intensified to become a Category 4 hurricane. At that point, **Beryl was the first Category 4 hurricane to form in June**, according to National Oceanic and Atmospheric Administration (NOAA). **The earliest emergence of a Category 4 hurricane was previously seen in the case of Hurricane Dennis on July 8, 2005.**

On July 1, Beryl made landfall on Grenada's Carriacou Island as a Category 4 hurricane with sustained winds of over 241 kmph. As it travelled through the Caribbean Sea, it continued to gain strength, and **became a Category 5 hurricane on July 2. This made it the earliest Category 5 hurricane seen during the Atlantic hurricane season on record.** In fact, the **Atlantic has only seen one Category 5 hurricane on record in July — Hurricane Emily, on July 16, 2005.**

Beryl was also the strongest July Atlantic hurricane on record, with winds of 265.5 kmph, according to NOAA.

Why did Beryl become a Category 5 hurricane so early?

The **hurricane season in the Atlantic begins in June and lasts until November.** Generally, the **first major hurricanes do not form until September.** This is **because till that time, the ocean is not warm enough either at the surface, or deeper down to fuel such strong hurricanes**, according to NOAA.

This is what makes Beryl so unprecedented. Although it is difficult to attribute a specific hurricane to global warming, scientists see unusually warmer oceans as the primary reason behind Beryl turning into a powerful storm this early in the season.

Since last year, **ocean temperatures in the Atlantic — and across the world — have mostly been in record-breaking territory. Not only are sea surface temperatures rising,**

ocean heat content (OHC) — a measure of the amount of heat present in ocean water — is also soaring, which is a bigger worry. The graph shows that **this year's OHC (in red), for the area of the Atlantic Ocean where most major hurricanes like Beryl form, has been far above the 2013-2023 average (in blue).**
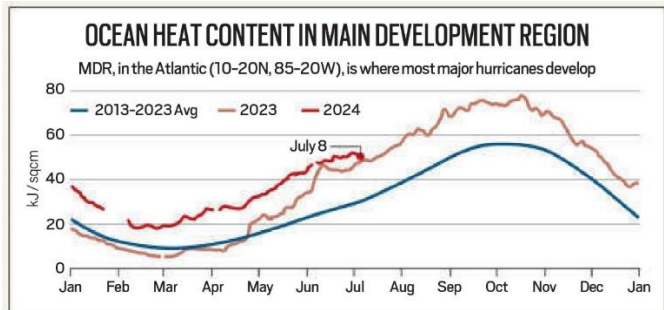
For storms like Beryl, if it were moving over a part of the ocean where the warm water was skin deep, it would easily churn up cooler water to the surface, [which can reduce its intensity]... But in this case... the warm water is so deep, it's just going to churn up more warm water. The hot water goes down to probably about 100 to 125 meters deep.

What happens next?

Scientists are still debating over how exactly climate change impacts hurricanes. There is agreement, however, that **at the very least, climate change makes hurricanes more prone to rapid intensification — where maximum wind speeds increase very quickly.**

The **frequency and magnitude of these rapid intensification events in the Atlantic seems to have spiked between 1971 and 2020**, according to a 2023 study published in the journal Nature.

Therefore, **as the world and its oceans continue to become warmer, scientists are concerned that even more powerful hurricanes could form in the near future.**

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Heat Dome
#HeatDome   #JetStreams
#WeatherPhenomenon   #Climatology
#Geography #GS1

The entire western United States has come under the grip of a sweltering heatwave, which began last week.

The worst affected is California, where at least a dozen cities broke all-time high-temperature records. For instance, between Friday (July 5) and Saturday (July 6), mercury soared never-seen-before 48.33 degree Celsius and 47.22 degree Celsius in Redding, a city in Northern California, and Ukiah, north of San Francisco, respectively. Palm Springs, in Southern California, touched a record-breaking high of 51.11 degree Celsius.

The **scorching temperatures and dry conditions are a result of a heat dome centred over California.**

What is a heat dome?

A **heat dome is a weather phenomenon where a high-pressure system in the atmosphere traps warm air like a lid on a pot, for an extended period of time. As the warm air is not able to rise upward, the sky remains clear — clouds are formed under the opposite circumstances as the rising warm air cools down, and the water in it condenses out.**

The **high-pressure system allows more sunlight to reach the earth, which results in more warming and drying of soil. This leads to less evaporation and reduces the likelihood of the formation of rain clouds. The longer the heat dome stays in one place, the warmer conditions can get with every passing day. While heat domes cause heatwaves, they can occur without heat domes as well.**

HOW A HEAT DOME WORKS

1 In still summer conditions, a mass of warm air rises from Earth's surface

2 The high pressure conditions in the atmosphere push this warm air down, not letting it rise

Source: US National Oceanic and Atmospheric Administration (NOAA)

3 The air gets stuck near Earth's surface, gets further compressed and thus, hotter
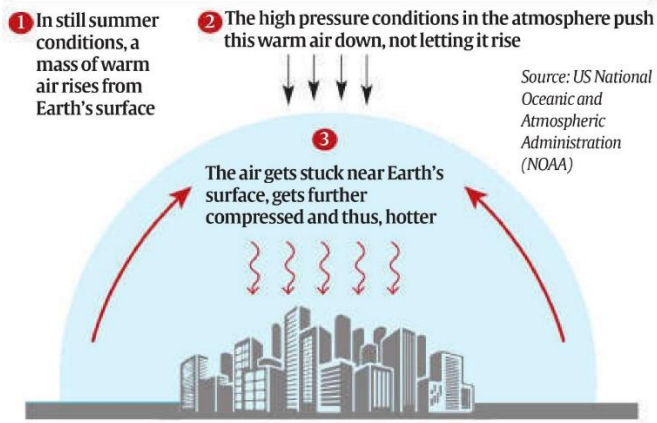
What is the role of the jet stream?

A **heat dome's formation is tied to the behaviour of the jet stream — an area of fast-moving air high in the atmosphere that usually helps move weather systems along the Earth's surface.**

Typically, the **jet stream has a wave-like pattern that keeps moving from north to south and then north again. When these waves get bigger and elongated, they move slowly and sometimes can become stationary. This is when a high-pressure system gets stuck in place, and leads to the occurrence of a heat dome.**

Polar Jet Stream

Subtropical Jet Stream

Equator
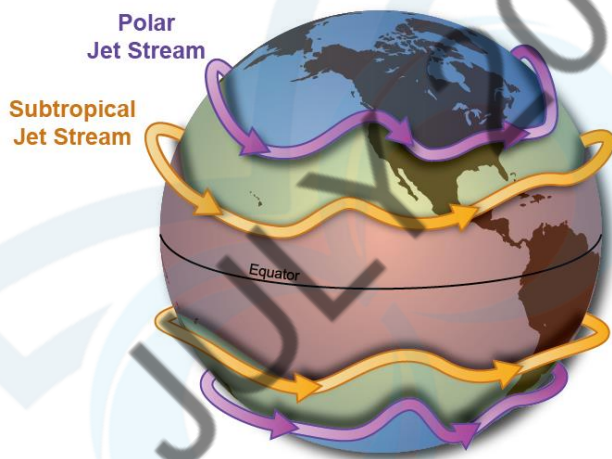
How is climate change impacting heat domes?

Scientists are still debating over how climate change is impacting the blocking weather events that cause heat domes. However, they have ascertained that **rising global temperatures have made heat domes larger and more intense.**

Behind heavy rain in large parts of India: monsoon trough shift, westerlies

#Monsoon #MonsoonTrough #Westerlies #Climatology #Geography #GS1

Last week, at least 80% of India received rainfall, with heavy to very heavy spells lashing Assam, West Bengal, Uttar Pradesh, Uttarakhand, Gujarat, the coastal areas of Maharashtra and Karnataka, Kerala, and Lakshadweep.

Much of this rainfall has been brought by the monsoon, which covered the entire country by July 2. **Since the start of July, there have been multiple favourable weather systems that have led to an increase in rainfall activity – by keeping the monsoon either active or vigorous – over several regions. These include southern peninsular, east, northeast, and central India.**

What factors are causing more rainfall?

There have been **two main contributors to the enhanced rainfall. One is the continuous incoming of moisture-laden strong westerly winds from the Arabian Sea.**

The **other is the position of the monsoon trough – a semi-permanent, low-pressure area extending between Pakistan and Bay of Bengal during the monsoon season – which oscillates north-south within the season. Whenever it moves towards the south of its normal position, as it has done in the present case, more rainfall can take place in central, eastern, and peninsular India. When it shifts towards the north, the Himalayan foothills are likely to receive more rainfall while the rest of India sees a drop in the rainfall.**

Apart from these two factors, **other weather systems have also contributed** to the enhanced rainfall. These are:

The **persistence of an off-shore trough – a shallow trough of low pressure, which develops along India's coast during the**

GS 2 – POLITY

New crimes under the Bharatiya Nyay Sanhita, and some grey areas

*#NewCriminalLaws #BhartiyaNyayaSanhita
#BhartiyaNagrikSurakshaSanhita
#BhartiyaSakshyaAdhiniyam #Polity #GS2*

Three new criminal laws will come into effect on Monday (July 1).

The **Bharatiya Nyaya Sanhita (BNS), the Bharatiya Nagrik Suraksha Sanhita (BNSS), and the Bharatiya Sakshya Adhiniyam (BSA)**, passed in Parliament last December, **will replace the Indian Penal Code (IPC), 1860, the Criminal Procedure Code (CrPC), 1973, and the Indian Evidence Act, 1872 respectively.**

Since Independence, the colonial-era IPC (which provides the substance of criminal law), CrPC (which provides the procedure for law's enforcement), and Evidence Act have seen several revisions. But as Union Home Minister Amit Shah said during the new laws' passage in Parliament, the sanhitas represented laws that had been framed by Indians, for Indians.

Even leaving aside the government's 'decolonisation' narrative, **there has been an overwhelming consensus that India's criminal laws needed updating.** At the same time, the **consultation process during the pandemic for drafting the laws, and their hasty passage through Parliament, has caused much disquiet. Some legal experts opine that although the new laws make significant changes, they do not 'overhaul' the existing laws.**

New crimes in BNS

The **BNS introduces a handful of new crimes.** Notable among them is **Clause 69, which penalises sexual intercourse through the employment of "deceitful means".**

The provision reads: *"Whoever, by deceitful means or by making promise to marry to a woman without any intention of fulfilling the same, has sexual intercourse with her… shall be punished with imprisonment"* of upto 10 years, and also be liable for a fine. "Deceitful means" includes the false promise of employment or promotion, inducement, or marrying after suppressing identity. Critics say that this might, in some cases, end up criminalising consensual relationships and provide a fillip to the "love jihad" narrative.

The **BNS, under Clause 103**, for the **first time also recognises murder on the ground of race, caste, or community as a separate offence.** The **SC had, in 2018, directed the**

19

Centre to consider a separate law for lynching. The new provision could now ensure such crimes, which have been on the rise in recent years, get legal recognition.

Another big-ticket addition to the BNS is the inclusion of offences such as organised crime and terror, previously in the ambit of specific stringent laws like Unlawful Activities Prevention Act for terrorism, and state-specific laws such as the Maharashtra Control of Organised Crime Act for organised crime. On terrorism, the BNS borrows heavily from the UAPA. Organised crime, in Clause 111(1), encompasses *"any continuing unlawful activity including kidnapping, robbery, vehicle theft, extortion, land grabbing, contract killing, economic offences, cyber-crimes having severe consequences, trafficking in people, drugs, illicit goods or services and weapons, human trafficking racket for prostitution or ransom…"* But **vague descriptions such as "cyber-crimes having severe consequences" will have to be addressed.**

Snatching, defined in Clause 304(1), is also a 'new' crime, distinct from theft. The definition reads: *"in order to commit theft, the offender suddenly or quickly or forcibly seizes or secures or grabs or takes away from any person or from his possession any moveable property".* **Both theft and snatching prescribe a punishment of upto three-years in jail.**

The rearrangement of provisions in the BNS signals legislative intent. Like the IPC, it starts with chapters dealing with general exceptions, punishments, abetment, and the Right of Private Defense. Offences against the state comes before offences against women and offences against body. But in the BNS crimes against women, comes before in Chapter V before offences against the state (like sedition).

New timelines, processes

A **big change in the BNSS is the expansion of detention in police custody from the 15-day limit in the CrPC to up to 90 days.**

According to **Section 167(2) of the CrPC,** an accused had to be sent to judicial custody (prison) after a maximum of 15 days in police custody. This was intended to incentivise the police to complete investigations in a time-bound manner, and curtail the likelihood of custodial torture and forced confessions. Clause 187(3) of the BNSS has deleted the words "otherwise than in police custody," essentially, allowing the police to keep custody of an accused for upto 90 days for all offences listed in the BNS.

Shah had said in Parliament that the **BNSS takes a "victim-centric" approach by bringing in tighter timelines for the completion of trials.** The **BNSS also states that in cases where the punishment is seven years or more, the victim shall be given an opportunity of being heard before withdrawal of the case by the government.**

Trials in absentia — where a person accused of a crime can be tried and convicted in his absence, as if he was present in court and has waived his right to a fair trial for all offences — are another new introduction in the BNSS. While **such a provision already exists under the UAPA, the burden of proof is reversed in the terror law, i.e. the onus is on the accused to prove himself not guilty, rather than the state to prove his guilt.** *Critics argue that the introduction of trials in absentia under normal criminal law allows the state to forgo its duty to properly locate the accused before the trial begins.*

The **BNSS also removes the provision for statutory bail if an accused has more than one offence against his name. Under the CrPC, an accused could be granted statutory bail if he has served at least half of the maximum sentence prescribed for the offence.** This was to ensure that trials do not take forever, and when they do, the accused does not suffer continued incarceration for no fault of his. This is how the Delhi High Court granted bail to JNU student Sharjeel Imam last month.

The upside

Among key positive changes in the new laws is the **introduction of community service as an alternate form of punishment for some offences.** These include small theft,

defamation, and attempt to die by suicide with an intention to keep a public official from discharging her duty.

While it is unclear how offences deserving no jail time were chosen, with three-fourths of India's prison population being undertrials, community service as punishment keeps first-time convicts and those convicted for minor offences out of prison. The **BNS, however, does not define what constitutes community service, leaving it to the discretion of judges.**

Also, **sexual intercourse with a minor wife has been brought under the ambit of rape. The IPC had carved out only one exception for marital rape — intercourse with wife who is less than the age of 15 years.** In 2017, the SC had held that this 15 year limit was at odds with child rape laws under the POCSO Act. The **new law addresses the grey area that 15-18 year old married girls fell in, under the IPC.**

The **inclusion of offences for mob-lynching is crucial, and signals a legislative acknowledgement of such hate crimes.** The **emphasis on video-conferencing of trials, and prescription of timelines for speedy trials should improve justice delivery but their success will depend on implementation on the ground.**

Remaining grey areas

Among the big announcements made by the government on the three laws was **"doing away with sedition."** This was crucial since it came over a year after the SC in May 2022 virtually stalled the operation of sedition law deeming it "prima facie unconstitutional."

Despite the government's claims, the **BNS has in fact introduced the offence with a wider definition, while incorporating the SC guidelines in the *1962 Kedarnath Singh case*, which upheld the constitutional validity for the crime of sedition.** In Hindi, the **law carries out a simple name change — from *rajdroh* (rebellion against the king) to *deshdroh* (rebellion against the nation).**

The **other big concern**, as the criminal laws are rolled out, **is the issue of penalising rape in cases where the victims are male.** The **BNS**, with a seemingly progressive outlook, **entirely leaves out the contentious Section 377 of the IPC which criminalises "carnal intercourse against the order of nature". In 2018, this provision had been read down by the apex court in its landmark *Navtej Singh Johar v Union of India* ruling to the extent that it criminalised consensual sex among adults, including those of the same sex.**

But **Section 377 is still invoked to penalise non-consensual sex, and is often the only recourse in cases of rape of men** (specific rape laws are applied in cases of women victims). **With the exclusion of this provision in the BNS, and with rape laws still not made gender-neutral, there is little criminal recourse for male victims of sexual assault.**

HOW IPC SECTION NUMBERS HAVE CHANGED IN BHARATIYA NYAYA SANHITA

Provision	IPC	BNS
Punishment for murder	302	103
Cruelty against a married woman	498A	85
Rape	375	63
Sedition	124 A	152
Defamation	499	356
Cheating	420	318

Provision	IPC	BNS
Dowry death	304B	80
Criminal Conspiracy	120 A	61
Attempt to murder	307	109
Promoting enmity between different groups	153A	196
Imputations, assertions prejudicial to national integration	153B	197
Statements conducing to public mischief	505	353

Provision	IPC	BNS
Defamation	499	356
Sexual harassment	354A	75
Outraging the modesty of a woman	354	74
Criminal intimidation	503	351
Public nuisance	268	270
Gang rape	376D	70(1)

How government is preparing for new criminal law regime

OPERATIONAL TRAINING

Bar Council of India has mandated that the new laws be incorporated into curricula of universities and Centres of Legal Education from the 2024-25 academic year. The Department of School Education will have special modules for Classes 6 upward between October and March.

Lal Bahadur Shastri National Academy Of Administration (LBSNAA), Mussoorie has conducted a five-day training programme for IAS/ IPS /judicial officers, and those from crime records bureaus, forensic labs, etc.

Ministries of WCD, Rural Development, Panchayati Raj held a Hindi webinar on June 21 on the new laws for almost 40 lakh grassroots functionaries; a **second webinar in English on June 25** was attended by almost 50 lakh.

PUBLICITY, AWARENESS

The **Bureau of Police Research and Development is coordinating efforts of the Inter-Ministerial Group for a coordinated publicity campaign.** Thematic posters and flyers have been shared with all departments. **Extensive visibility for the new laws is planned through advisories, press releases, infographics etc. on social media platforms.**

The **Press Information Bureau has conducted vartalap (conversations) and workshops for regional media persons** in 20 state capitals on the new criminal laws. The vartalaps have received significant traction, with widespread participation of the regional media, according to a government official. "More vartalaps will be held in other capital cities as well," the official said.

TECH UPGRADATION

National Crime Records Bureau has made 23 functional modifications in the Crime and Criminal Tracking Network and Systems (CCTNS) application to facilitate tech compatibility, including on registration of FIRs. Technical assistance is being provided to states/ UTs, and support teams and a call centre are being set up for review and handholding. **A mobile web application, NCRB Sankalan of Criminal Laws**, was launched on March 14.

National Informatics Centre has developed applications such as eSakshya, NyayShruti, and eSummon to facilitate videography/ photography of crime scenes, judicial hearings, and delivery of court summons electronically. The apps have been shared with states/UTs, an official said.

CAPACITY OF POLICE

The **Bureau of Police Research and Development has developed 13 training modules to build capacity of the police, prisons, prosecutors, judicial officers, forensic experts, and central police**

organisations. A group of master trainers is being built to disseminate training and knowledge down the line.

BPR&D has already conducted 250 training courses/ webinars/ seminars, and trained more than 40,000 officers/ personnel. States/ UTs have undertaken capacity building of a large number of officials from the police, prisons, forensics, and prosecution etc, an official said. A **control room has been set up with law and police officers to address queries from field functionaries.**

LEGAL AFFAIRS DEPT

The **Department of Legal Affairs has organised four conferences with delegates from a diverse range of fields, in which the Chief Justice of India, judges of the Supreme Court and High Courts, senior police personnel and domain experts have participated**, an official said. A fifth conference is scheduled to be held in Mumbai on June 30.

Comprehensive guidance will be provided to individual civil service officials on the iGOT Karmayogi online platform. Three training courses on the new criminal laws have been offered as a curated program on iGOT from February 21 onward, and almost 2,18,000 officials have enrolled, an official said.

PLANNED EVENTS

All higher education institutions under UGC, AICTE and CFIs, and in the states/UTs will organise a day-long activities on Monday. Group discussions, workshops, seminars, etc on various provisions of new criminal laws have been planned. Police stations across India will also conduct events.

-----N---E---X---T-----

Awadhesh in panel of nine to assist Speaker
#PanelofChairpersons   #LokSabha #Parliament #Polity #GS2

Amidst speculation that he may be the Opposition's candidate for the post of Deputy Speaker, Samajwadi Party MP for Faizabad Awadhesh Prasad was named as one of the panel of chairpersons to help Lok Sabha Speaker Om Birla.

Addressing the House, Birla said he had selected Jagdambika Pal (BJP), P.C. Mohan (BJP), Sandhya Ray (BJP), Dilip Saikia (BJP), Kumar Selja (Congress), A Raja (DMK), Kakoli Ghosh Dastidar (TMC), Krishna Prasad Tenneti (TDP) and Awadhesh Prasad (SP) as members of the panel of chairpersons.

As per Rule 9 of the Rules of Procedure and Conduct of Business in Lok Sabha, *"At the commencement of the House or from time to time... the Speaker shall nominate from amongst the members a panel of not more than 10 chairpersons, anyone of whom may preside over the House in the absence of the Speaker and the Deputy Speaker when so requested by the Speaker or, in the absence of the Speaker, by the Deputy Speaker".*

A **nominated chairperson shall hold office until a new panel of Chairpersons is nominated.**

Related Constitutional provision:

Article 95(2): During the absence of the Speaker from any sitting of the House of the People the Deputy Speaker or, if he is also absent, such person as may be determined by the rules of procedure of the House, or, if no such person is present, such other person as may be determined by the House, shall act as Speaker.

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Rahul Gandhi, Om Birla Face-off: Who controls Lok Sabha mics?
#LokSabhaMics   #ParliamentaryPrivileges #Article105 #Parliament #Polity #GS2

In his first address as the Leader of Opposition in Lok Sabha, Rahul Gandhi claimed that his microphone had been repeatedly switched off in the House.

In response, Lok Sabha Speaker Om Biral objected to members "casting aspersions on the Chair".

Birla said, "The Chair only gives ruling/directives. The member whose name is

called gets to speak in the House. The mic is controlled as per the directives of the Chair. The person sitting in the Chair does not have a remote control or a switch for the microphones".

Rahul had raised the issue last week as well. He had claimed his microphone was switched off when he tried raising the issue of irregularities in the NEET examination.

Who administers mics in Lok Sabha?

According to a 2014 manual from a Lok Sabha Secretariat, each MP is provided with a microphone and a switch set at their desk in the House. The system is linked to the division/seat number allotted to the members. All the desks are numbered in this way.

Each switchboard contains switches in different colours. A grey switch can be pressed for a request to speak. When a member wants to speak, they raise their hand to indicate the same to the Speaker, while pressing the Grey button. The mic is "activated from the control room only when the member has been permitted by the Speaker to speak", the manual says.

This is indicated in two ways: with the **LED ring around the button lighting up in red and the LED on top of the microphone also going red.**

Does turning off the mic constitute breach of privilege?

In July 2023, the Leader of the Opposition in the Rajya Sabha and Congress national president Mallikarjun Kharge said his mic was turned off while he was speaking in the House. He described it as a "breach of my privilege", referring to the concept of parliamentary privilege.

The powers, privileges and immunities of either House of Parliament and of its Members and committees are laid down in Article 105 of the Indian Constitution. Article 194 deals with the powers, privileges and immunities of the State Legislatures, their Members and their committees.

While the Constitution has accorded special privileges and powers to parliamentarians and legislators "to maintain the dignity and authority of the Houses", they are not codified. Thus, there are no clear, notified rules to decide what constitutes a breach of privilege, and the punishment it attracts.

It is a breach of privilege and contempt of the House to make speeches or to print or publish libel reflecting on the character or proceedings of the House, its committees, or on any member of the House for or relating to his character or conduct as a legislator.

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LS Speaker amends rules, bars slogans during oath
#LokSabhaSpeakerDirections #LokSabhaRules #Oath #Affirmation #LokSabha #Parliament #GS2

With some Lok Sabha members resorting to sloganeering during oath taking, Speaker Om Birla has amended the rule which now bars MPs-elect from adding any remark to the oath as members of the House.

Birla added a fresh clause to 'Direction 1' to the 'Directions by the Speaker' for regulating certain matters related to the functioning of the House that are not specifically provided in the rules.

According to the amendment to 'Direction 1', the new clause 3 now states that a member shall make and subscribe oath or affirmation, and "shall not use any word or expression or make any remark as a prefix or suffix to the form of oath or affirmation".

The amendment came after several members raised slogans like "Jai Samvidhan" and "Jai Hindu Rashtra" while taking oath. One member had also raised the slogan 'jai Palestine', which too was objected to by several members. The speaker had urged the members to stick to the prescribed format but in vain.

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Why has ANI slapped a defamation case against Wikipedia?

News agency Asian News International (ANI) has moved Delhi High Court against Wikipedia for allowing allegedly defamatory content on ANI's wiki page.

A Bench of Justice Navin Chawla has sought a response from Wikipedia, and listed the matter for further hearing on August 20.

Complaint against Wikipedia

The petitioner has sought damages to the tune of Rs 2 crore, alleging that the said content is "palpably false" and defamatory, and that its reputation was being tarnished and goodwill discredited.

The petition contends that the "false and misleading content" on Wikipedia raised doubts about ANI's credibility as a news agency. It says that the editing history of the page shows that in April, a series of edits were made reflecting the true and factual position, but these were "deliberately reversed" in May to cause harm to the petitioner's reputation.

Content posted on Wikipedia

Wikipedia, which started in 2001, itself does not produce the content for its online encyclopedia. It is a collaborative, open source, nonprofit platform whose users contribute to the content of the website.

The **suit against Wikipedia, rather than the individuals who could have made the edits to the page, is intended to ensure enforcement by holding the intermediary liable.**

Laws invoked in the case

ANI has argued that **Wikipedia is a significant social media intermediary under the meaning of Section 2(1)(w) of the Information Technology Act, 2000:** *"any person who on behalf of another person receives, stores or transmits that record or provides any service with respect to that record and includes telecom service providers, network service providers, Internet service providers, web-hosting service providers, search engines, online payment sites, online-auction sites, online-market places and cyber cafes".*

The **petitioner has also relied on Sections 79(2) and (3) of the Act, which lay down the requirements for the "safe harbour clause" to come into effect.**

The safe harbour clause

Section 79 of the IT Act (Exemption from liability of intermediary in certain cases) states that an intermediary shall not be held legally or otherwise liable for any third-party information, data, or communication link made available or hosted on its platform.

This protection shall be applicable if the intermediary does not in any way initiate the transmission of the message in question, select the receiver of the transmitted message, or modify any information contained in the transmission, according to Section 79(2)(b).
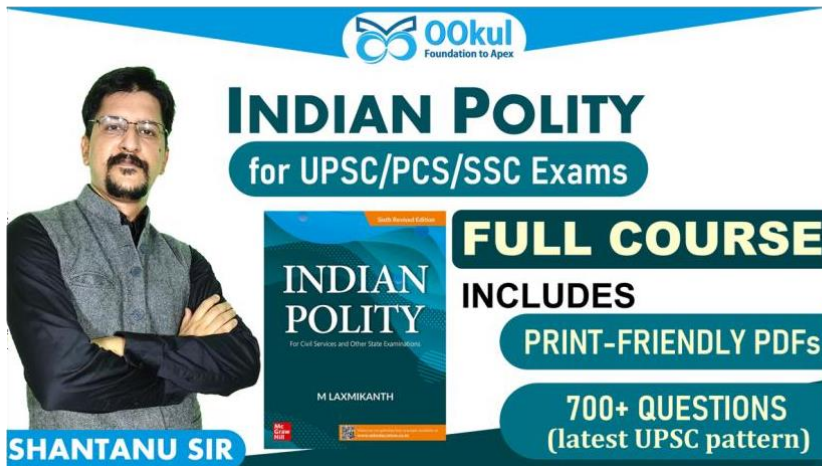
Another requirement for safe harbour protection is that the intermediary must adhere to the Intermediary Guidelines and Digital Media Ethics Code, which came into force in 2021. The guidelines mandated setting up a grievance-redressal mechanism, along with a resident grievance officer, a chief compliance officer, and a nodal contact person.

Section 79(3) states that the protection will not apply if the intermediary, despite being informed by the government or its agencies, does not immediately remove or disable access to the material in question.

Additionally, the **intermediary cannot tamper with any evidence of these messages or content on its platform, failing which it would lose its protection under the Act.**

Rule 7 of the IT Rules, 2021 states that if "an intermediary fails to observe these rules, the provisions sub-section (1) of section 79 of

GS 2 – GOVERNANCE

Puja Khedkar controversy: What are the rules governing civil servants

#PujaKhedkar #CivilServants #AllIndiaServicesConductRules #IASProbabtionRules #IntegrityinCivilServices #Governance #GS2

The Centre last Thursday constituted a **single-member committee under the Department of Personnel and Training (DoPT) to examine all documents submitted by probationary IAS officer Puja Khedkar** to secure her candidature in the civil services.

Khedkar secured a rank of 821 in the 2022 UPSC Civil Services Examination, and was allotted the Indian Administrative Service (IAS) under the Other Backward Classes (OBC) and Physically Handicapped (PH) quotas. Questions have been raised about her appointment under these categories.

Khedkar also faces multiple allegations of misconduct, from seeking special privileges she is not entitled to as a probationer and "occupying" the ante chamber of the District Collector's office, to using an unauthorised red-blue beacon on her private car, a luxury Audi sedan which she claims to have received as a "gift".

In light of this controversy, the Maharashtra government on July 8 decided to transfer Khedkar from Pune to Washim.

Khedkar's actions as a civil servant are governed primarily by two rules: the **All India Services (Conduct) Rules, 1968**, and the **Indian Administrative Service (Probation) Rules, 1954.**

Rules on 'integrity' of services

All IAS, Indian Police Service (IPS) and Indian Forest Service officers are governed by the AIS (Conduct) Rules from the time they are allotted their service, and begin training.

AIS (Conduct) Rule 3(1) states: *"Every member of the Service shall at all times **maintain absolute integrity and devotion to duty** and shall **do nothing which is unbecoming of a member** of the Service."*

Rule 4(1) is more specific about what is "unbecoming". It states that **officers must not use their "position or influence" to "secure employment for any member of his family with any private undertaking or NGO".**

In 2014, the government added a few sub-rules. This included that **officers should maintain "high ethical standards, integrity and honesty; political neutrality; accountability and transparency; responsiveness to the public, particularly to the weaker sections;**

courtesy and good behaviour with the public".

Also added were specific directions as to **how officers must make decisions**. They must do so *"solely in public interest… declare any private interests relating to his public duties… not place himself under any financial or other obligations to any individual or organisation which may influence him… not misuse his position as civil servant and not take decisions in order to derive financial or material benefits for himself, his family or his friends…".*

According to Rule 11(1), officers may accept gifts from "near relatives" or "personal friends" with whom they have "no official dealings", on occasions such as "weddings, anniversaries, funerals and religious functions". However, they must report (to the government) any gift whose value exceeds Rs 25,000. This threshold was last updated in 2015.

Rules for probationers

There is an additional set of rules that govern the conduct of officers during their probation period, which lasts for at least two years after selection to the services. This includes the period of the officers' training at the Lal Bahadur Shastri National Academy of Administration (LBSNAA) in Mussoorie. At the end of two years, officers sit for an examination, after clearing which they are confirmed in their respective services.

During the probation period, officers draw a fixed salary and travel allowance. But they are not entitled to, as a right, a number of benefits that confirmed IAS officers receive. These include, among other things, an official car with a VIP number plate, official accommodation, an official chamber with adequate staff, a constable, etc.

Rule 12 gives the circumstances in which probationers can be discharged. These include, among other things, the central government finding the probationer "ineligible for recruitment" or "unsuitable to be a member of" the service; the probationar

"wilfully" neglecting her probationary studies or duties; and the probationer lacking in "qualities of mind and character" needed for the service.

The Centre holds a summary enquiry before passing an order under these rules — like the one that has been initiated against Khedkar by the DoPT. The committee will submit its report within two weeks.

Furnishing false information

Since the batch of 1995, 27% seats in the services have been reserved for the OBC category. The PH reservation was introduced with the batch of 2006 — 3% seats in every category (General, OBC, SC, and ST) are reserved for the differently abled.

Despite her low rank, Khedkar was allotted IAS, India's premier civil service, due to these quotas. However, if her OBC and PH certificates are proven to have been falsified, Khedkar stands to be discharged from service. Probationers are "discharged", while confirmed officers are "dismissed".

A DoPT circular from 1993 states: "Wherever it is found that a Government servant…had furnished false information or produced a false certificate in order to secure appointment, he should not be retained in service…". This is applicable even if the person in question is not a probationer, and has already been confirmed.

However, such a dismissal would likely be challenged in court, before the Central Administrative Tribunal (CAT), and the National OBC Commission — challenges which may drag on for years. In the interim, the officer may still continue to be in service.

Khedkar was previously embroiled in a legal battle at the CAT regarding her PH status. As per a CAT order dated February 23, 2023, UPSC had asked Khedkar to undergo a medical examination at the AIIMS, New Delhi in April 2022 but she sought a postponement citing a Covid-19 infection.

She did not arrive at the rescheduled examination as well, although she is learnt to

have later submitted an MRI report from a private facility to support her claims. "Despite making multiple attempts by the duty officer in AIIMS to contact the applicant, no response was received from her. Therefore the percentage of visual disability could not be assessed," the CAT order read.

Critics have pointed to Khedkar's ostensibly well-to-do background to question her OBC (non-creamy layer) status. The **OBC category is subdivided into the creamy and non-creamy layers, with only the latter benefiting from reservations in government services and institutions. The idea is to specifically benefit those OBC members who come from economically, socially, and educationally less privileged backgrounds. This determination is made based on the parents' income, and occupational background.**

For those whose parents work in the private sector, the current threshold to qualify for the non-creamy layer status is an income of under Rs 8 lakh annually. For those with parents who work in the public sector, income is not taken into account. Rather, as per DoPT rules, what qualifies people to be in the creamy layer is either parent becoming a Group-A official before the age of 40, or both being Group-B officials with similar ranks.

Puja Khedkar's father, Dilip, is a retired Maharashtra Pollution Control Board officer, who is now in politics.

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Centre reconstitutes NITI Aayog, brings in allies as special invitees
#NITIAayog #NITIAayogReconstitution #NITIAayogSpecialInvitees #Governance #GS2

The **Government reconstituted the NITI Aayog, increasing the number of special invitees from five to 11, including five ministers from the BJP's allies** – H D Kumaraswamy (JD-S), Jitan Ram Manjhi (HAM), Rajiv Ranjan Singh (JD-U), K R Naidu (TDP) and Chirag Paswan (LJP-Ram Vilas).

Prime Minister Narendra Modi remains the Chairperson and economist **Suman K Bery will continue to be the Vice Chairperson** of NITI Aayog.

Scientist **V K Saraswat**, agricultural economist **Ramesh Chand**, pediatrician **V K Paul** and macro-economist **Arvind Virmani** will also continue to be **full-time members**. **BVR Subrahmanyam will also remain the CEO.**

Union Agriculture Minister **Shivraj Singh Chauhan has replaced his predecessor Narendra Singh Tomar as an ex-officio member.** The **other ex-officio members include Finance Minister Nirmala Sitharaman, Home Minister Amit Shah and Defence Minister Rajnath Singh.**

Among the other special invitees are Union Ministers Nitin Gadkari (Road Transport and Highways), J P Nadda (Health), Virendra Kumar (Social Justice and Empowerment), Jual Oram (Tribal Affairs), Annapurna Devi (Women and Child Development) and Rao Inderjit Singh (Statistics and Programme Implementation).

Union Ministers Piyush Goyal and Ashwini Vaishnaw, who were special invitees earlier, are not in the list this time.

Among allies who have been included, Kumaraswamy has Heavy Industries and Steel, Manjhi has Micro, Small and Medium Enterprises, Rajiv Ranjan Singh has Fisheries, Animal Husbandry & Dairying, Naidu has Civil Aviation and Chirag Paswan has Food Processing Industries.
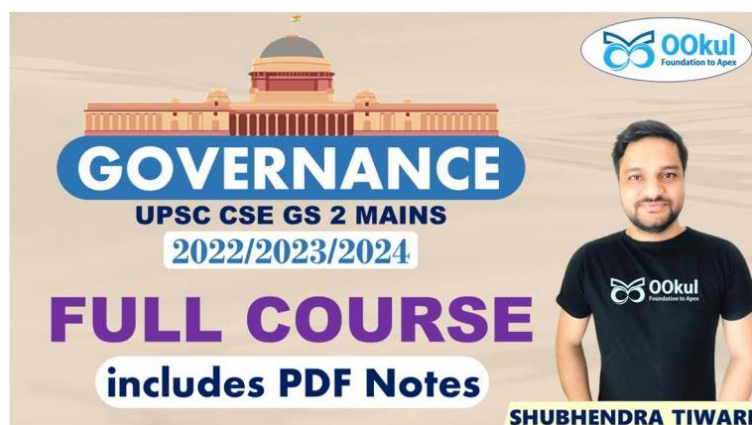
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U-Win, All Win: A game changer
#U-Win #UniversalImmunisationProgramme #DigitalVaccinationRegistry #Healthcare #Governance #GS2

Despite the challenges, **India's Universal Immunisation Programme (UIP) is one of the major public health success stories, globally**. With the **government planning the launch of a digital vaccination registry, U-Win, on August 15**, the UIP is poised to be placed on a much surer footing. The **portal will steer the**

GS 2 – INTERNATIONAL RELATIONS

Nepal and India's special relationship – and how it is getting better

#IndiaNepalRelations
#IndiaNepalTradeRelations
#IndiaanditsNeighbours
#InternationalRelations #GS2

Nepal and India have a unique relationship. The **open border, shared culture, economic interdependence and deep-rooted people-to-people relationship** make bilateral ties special.

India is Nepal's largest trading partner, the top-source country for tourists, the only supplier of petroleum products and the largest source of total foreign investment. India also provides transit for almost all of Nepal's third-country trade and accounts for a significant share of inward remittances from pensioners, professionals and labourers working in India. It has always been the first responder during disasters and emergencies in Nepal. The country, in addition to the immediate rescue and relief package, provided a financial package of $75 million for the development of the recently earthquake-hit areas of Nepal.

On the other hand, **Nepal's trade deficit with India is close to 18 per cent of the GDP. Inadequate infrastructure and high transaction costs (paperwork and approval processes, processing and settling fees) have** made Nepal a high-cost economy. Nepal and India, unlike before, are now focusing on reducing the trade deficit, initiating and strengthening cross-border digital financial connectivity to ease trade, tourism, and remittance flows. This is in addition to other physical connectivities to reduce the cost of doing business and facilitate people-to-people ties.

The newly-focused partnership has enabled relations to move from strength to strength in the last two years. Eight high-level visits, including four prime ministerial ones, have re-energised relations. Many agreements are being implemented.

Immediately after signing a Joint Vision Statement on Power Sector Cooperation, which covers bilateral cooperation in the production, transmission and cross-border trading of hydropower in 2022, there has been dramatic progress in electricity cooperation. The export of electricity from Nepal to India reached around 650 MW in 2023. The country earned more than Rs 10 billion and the earnings have begun to support reducing the trade deficit and augmenting foreign exchange earnings. The volume of exports is expected to increase significantly.

In 2023, another long-term power trade agreement was signed between India and Nepal to export 10,000 megawatts of electricity from Nepal to India in 10 years.

This was **essential for Nepal to boost investors' confidence in the hydro sector and ensure returns on their investment.**

These agreements have helped to initiate several new projects by investors from India and Nepal. **Both countries have also initiated significant partnerships in building cross-border transmission lines. Investment in hydroelectricity production and distribution has overall increased. They have also helped Nepal initiate the export of hydroelectricity to Bangladesh under a tripartite agreement between Nepal, India, and Bangladesh.** Nepal plans to export 40 MW in 2025, which may increase considerably.

Avenues for a regional grid in the BIMSTEC and SAARC regions to promote, develop and trade renewable energy, which is the priority of member countries, have also opened up. These activities will also boost India's economy. By importing clean energy, India will reduce its reliance on coal and gas, help reduce pollution, and achieve renewable energy goals.

Last year, **Nepal and India decided to establish and enhance digital financial connectivity. As a result, Indians travelling to Nepal can make payments through their mobile phones.** Nepali people will be allowed to do so shortly after the Nepal government finalises the regulations in this regard. **This facility will help hassle-free payments to traders, tourists, pilgrims, students, and people who travel to India for medical treatment.** The soon-to-be operationalised mobile transfer mechanism will help workers in Nepal and India transfer earnings through formal channels in their respective home countries.

To augment this process, the **requirements for opening a bank account by Nepalis in India are also being simplified. The process for Nepali residents to obtain an Aadhaar card is straightforward.**

Several measures have also been taken in partnership with India to reduce the cost of doing business in Nepal. The **countries are working on constructing two new petroleum pipelines between Siliguri, India and Jhapa, Nepal and Amlekhgunj and Chitwan. These projects were envisioned after the success of the Motihari-Amlekhgunj petroleum pipeline inaugurated in 2019, the first-ever cross-border pipeline in South Asia.** It has saved transportation costs for Nepal by a minimum of Rs 1 billion per annum. In addition, **the savings coming from pilferage, leakage, theft, and delays by using pipelines instead of trucks are significant.**

It has also been agreed that **two additional integrated check posts (ICPs) in Bhairahaba and Dodhara-Chandani in Nepal, which help facilitate the smooth movement of cargo and passenger vehicles, will be built with the grant assistance of India.** Three ICPs have already been completed.

To reduce the transportation and transaction costs of doing business, border roads have been upgraded. Cross-border freight rail between India and Nepal has been operational and several other cross-border roads and bridges are being built. The feasibility study of the Raxaul-Kathmandu railway has been completed and a direct rail service from Ayodhya to Janakpur is being considered.

The relationship between the two countries is deep, broad and wide. There are many concerns of the people that need to be addressed. However, the momentum of partnership and progress of the recent past must be continued.

Established bilateral mechanisms between the two countries to address areas of cooperation and concerns including boundary issues should be activated. This will keep the relationship robust.

-----N---E---X---T-----

From Moscow next week, Modi to visit Vienna, a first by PM since Indira in 1983

#ModivisittoAustria   #ModivisittoMoscow #IndiaAustriaRelations #IndiaRussiaRelations #InternationalRelations #GS2

Prime Minister Narendra Modi is set to visit Russia on July 8-9, followed by Austria on July 9-10.

Modi's visit to Moscow and Vienna will be the first set of bilateral visits in the third term of his government. Usually, the first foreign visit by the Indian PM is to the neighbouring countries.

It will be the first visit by an Indian PM to Austria in 41 years, after Indira Gandhi in 1983.

Though **diplomatic relations between India and Austria were established on November 10, 1949, Indira visited Austria in 1983**, and the then Austrian Chancellor, Fred Sinowatz, reciprocated with a visit to India in 1984.

In November 1999, then President KR Narayanan made India's first state visit to Austria. The then Austrian President, Heinz Fischer, reciprocated with a state visit in February 2005. **Then President Pratibha Patil also made a state visit to Austria in October 4-7, 2011.**

In his first term, Modi held a bilateral meeting with then Austrian Chancellor Christian Kern in St Petersburg on June 2, 2017, on the sidelines of St Petersburg International Economic Forum. In his second term, Modi met then Austrian Chancellor, Alexander Schallenberg, on October 30, 2021, on sidelines on COP-26 in Glasgow.

To foster innovation and entrepreneurship between the countries, the 'India-Austria Startup Bridge' was launched in February this year.

Meanwhile, **this will be Modi's first visit to Moscow since the Russia-Ukraine war started in February 2022. He last visited Russia in 2019, when he had gone to Vladivostok.** This will be a standalone visit, on the lines of the annual bilateral summit between Indian and Russian leaders that have been going on since 2000.

The **last in-person bilateral meeting Modi and Russian President Vladimir Putin took place in Samarkand, Uzbekistan, on the SCO Summit in September 2022.** That was when Modi told Putin that "this is not the era of war" - a line used in the formulation at the G20 summit in Bali in Indonesia in November 2022 later, and by other western leaders and interlocutors to press on Russia to end the war.

-----N---E---X---T-----

Shanghai Cooperation Organisation
#ShanghaiCooperationOrganisation #SCO #SCOmembers #InternationalOrganisation #InternationalRelations #GS2

On Thursday (July 4), the final day of the Shanghai Cooperation Organisation (SCO) Summit in Kazakhstan's capital Astana, Indian External Affairs Minister S Jaishankar held talks with Chinese Foreign Minister Wang Yi.

Earlier, Jaishankar also held bilateral meetings with his counterparts from SCO members Tajikistan and Russia, and the **newest member Belarus**, on the sidelines of the two-day summit that began on Wednesday.

What is the Shanghai Cooperation Organisation?

Its **origins lie in the "Shanghai Five", formed in 1996 and consisting of China, Russia, Kazakhstan, Kyrgyzstan and Tajikistan.**

With the dissolution of the USSR in 1991 into 15 independent countries, there were concerns in the region about extremist religious groups and ethnic tensions coming to the fore. To manage these issues, a grouping was created for cooperation on security matters.

Building on this, **SCO was established on June 15, 2001, in Shanghai as an international organisation, and also included Uzbekistan as a sixth member. Before the inclusion of Belarus, it had nine members: India, Iran, Kazakhstan, China, Kyrgyzstan, Pakistan, Russia, Tajikistan, and Uzbekistan.**

Afghanistan and Mongolia hold Observer Status.

Why is the SCO significant?

(the obligation to eradicate apartheid and practices of racial segregation) of ICERD.

On self – determination

Israel's occupation has violated Palestinians' right to self-determination. "…The Palestinian people have been deprived of their right to self-determination over a long period, and further prolongation of these policies and practices undermines the exercise of this right in the future", in contravention to the fundamental principles of international law, the court said.

On Future course of Action
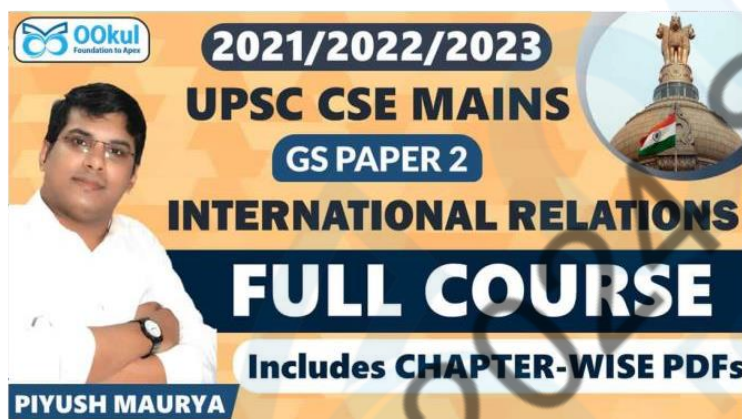
Israel is under obligation to immediately end its illegal occupation, cease new settlement activities and evacuate settlers from the occupied territories, and make reparation to all affected people for the damaged caused.

The court observed that **international organizations and other states should not recognize the occupied territories as part of Israel, and refrain from providing aid or assistance Israel in maintaining this occupation.**

The **ICJ's opinion is not binding or enforceable.**

------E----N----D------

GS 3 – ECONOMY

New report card for Classes 9 -12 to cover post-school plans, entrance exams prep and college applications

#HolisticProgressCard #NCERTReportCard #NationalCurriculumFrameworkforSchoolEducation #NCERT #SchoolEducation #Education #Economy #GS3

From preparations for entrance exams to acquiring life skills such as time management and understanding the value of money — the report cards of students of classes 9 to 12 could be vastly different, reflecting a lot more than just marks scored in school-level and Board examinations.

These elements are part of a **new 'Holistic Progress Card (HPC)', a report card that PARAKH — a standard-setting body under the NCERT (National Council of Educational Research and Training) — recently released for secondary school students (Classes 9 to 12).**

While the **report card will not be used in the ongoing 2024-25 academic session, teachers and other officials will be trained on its implementation. States can take a call on whether to implement the HPC as released by the NCERT or adapt it to suit their needs.**

The **HPCs are a part of the government's effort to realign school report cards with the National Curriculum Framework for School**

Education (NCFSE), which seeks to transform evaluations by focusing on diverse skills and competencies, instead of just the performance in periodic pen-and-paper tests and exams.

The HPC will be different from the internal marks that are part of Board exam evaluation. **In the HPC, what the child has done during the academic years is reflected, and this is designed to augment the Board results. It will be amalgamated with the Board results.**

The report card for the secondary level, which has been developed after deliberations with the SCERTs (the curriculum bodies at the state-level) and school boards, is **also meant to contribute towards bringing equivalence across different boards.**

HPCs have been **designed for various educational stages**: the **foundational stage (Classes 1 and 2)**, the **preparatory stage (Classes 3 to 5)**, and the **middle stage (Classes 6 to 8)**. The **HPC for the senior classes, covering classes 9 to 12**, was released last week.

The **progress card for classes 9 to 12 contains several sections, including one where students evaluate themselves on parameters such as 'time management', 'plans after school', and other life skills. The 'plans after school' section requires students to talk about their 'next big step of my life' — whether they plan to attend college, take up a vocation, or prepare for admission to a professional institute.**

Additionally, **students are asked to discuss with their parents, teachers and peers and complete a section detailing their strengths or abilities that could help them realise their post-school plans. They must also identify potential challenges and the improvements needed to achieve these plans.**

The **HPC also has an 'accomplishments inventory' to track the student's "steps and skill" – whether they have gathered information on entrance exams, college applications, and job opportunities.** This inventory includes academic skills like "engaging in independent work/research"

and "thinking critically and creatively", and life skills like "understanding the value of money and budgeting" and "managing stress for self and others."

The **teacher's assessment of the student in group project work, the student's own reflections on it, and peer feedback on the student's understanding of and contributions to the project** are part of the HPC.

While the **HPC focuses on empowering learners to attain knowledge and skill independently, teachers will play a key role in guiding the students achieve their goals.** The teachers have to understand the required competencies vital for learners at the secondary level. This is to be **done through activities like projects, individual research, and innovative classroom interactions. The activities need to be designed in a manner that they are meaningful to the students.**

-----N---E---X--T-----

How urban expansion makes Delhi susceptible to flooding
#UrbanFlooding   #UrbanExpansion #UrbanInfrastructure #Economy #GS3

Unchecked and ill-thought-out urban expansion is the principal reason behind chronic urban flooding in Delhi, and the larger National Capital Region (NCR).

Last week, a spell of heavy rain brought parts of Delhi to a standstill. Streets across the city and in the larger NCR were inundated, leading to hours-long traffic snarls in some places. Water-logging also led to lengthy power cuts, property damage, and loss of life, with at least 11 people dying due to structural collapses and electrocution.

While the rainfall last week was unprecedented, **flooding and water-logging have now become a part and parcel of Delhi's monsoons. Factors such as inadequate desilting of drains by civic authorities also play a part, but at the heart of it, Delhi is ailed by a more fundamental problem.**

A rapidly growing city

Delhi is undergoing one of the world's fastest urban expansions. According to data from NASA's Earth Observatory, the geographic size of Delhi almost doubled from 1991 to 2011.

Most of this expansion has occurred on the peripheries of New Delhi, with erstwhile rural areas becoming engulfed in the capital's urban sprawl. Cities outside Delhi, but a part of the NCR — Bahadurgarh, Ghaziabad, Faridabad, Noida, and Gurugram — have also witnessed rapid urbanisation.

According to the United Nations' The World's Cities in 2018 data booklet, Delhi will overtake Tokyo as the world's most populous city by 2030, with an estimated population of nearly 39 million, roughly two and a half times its population in 2000.

Topography and drainage

This urban expansion, however, has paid little heed to Delhi's natural topography. Topography determines drainage patterns. If one looks at Delhi's historic cities — from Tughlakabad, Mehrauli, and Shahjahanabad to Civil Lines, New Delhi, and the Cantonment area — all were carefully selected, and built on higher ground. In Delhi's villages too, the centre of the village would always be five to six metres higher than the village periphery.

This allowed rainwater to drain out. But as the city has expanded, not enough thought has gone behind building with regards to the land's drainage capacities.

Thus, with high-intensity rain there is significant run-off (unconfined flow of water, which occurs when there is more water on the land's surface than it can absorb), and existing drainage systems have been inadequate.

Concrete everywhere

The lay of the land slopes from the Ridge to the river... it is about a 100-metre drop. But due to urbanisation, water cannot simply flow down this gradient. Today, much of the water gets channelised into concretised nallahs (drains), which have been turned into sewage dumps.

Construction in low-lying areas only makes things worse. For instance, many nallahs from across South Delhi, as far as Chanakyapuri and R K Puram, converge at Sarai Kale Khan, a low-lying area in South East Delhi, next to the Yamuna. This is why the bustling urban village sees intense flooding every year.

Construction in Delhi's flood plains began as early as the 1900s, when the British decided to build a railway line along the river bed. Much later, the Ring Road came up, again on the Yamuna flood plain. Over the years, the floodplain has been used for all sorts of reasons, from building bridges to buildings.

Around 65 hectares of land on the flood plains near Kashmere Gate was reclaimed by the Delhi Metro for its maintenance shed. During the Commonwealth Games in 2010, a bus maintenance facility was built over roughly 25, again on the floodplains. The ITO-Pragati Maidan area, which has been seeing flooding for years, was once a low-lying wetland.

This concretisation leaves little room for rainwater to percolate into the soil, leading to flooding.

No 'water masterplan'

Urban planners need to come up with a "water masterplan".

Today, land is seen as real estate. There has been a consistent neglect of water as a planning resource... In fact, water should be the primary driving factor behind any masterplanning. No comprehensive planning taking into account the city's clean and waste water flows has been carried out in the last 70 years.

This is why, for example, the new Pragati Maidan Tunnel, inaugurated by the Prime Minister in 2022, has been flooded each monsoon.

Water bodies which can help manage flooding have also been systematically destroyed. According to official records,

Delhi has some 1,000 water bodies. But on the ground there are not more than 400. These 600 'missing' water bodies which could have managed flooding in the city have been filled up, and converted into valuable real estate.

Unless we stop building in low-lying areas, de-concretise our lawns and pavements, and stop blocking the drains with solid waste, the floods won't stop. Understanding gradients and working with the lay of the land is crucial.

Experts suggest **setting up proper filtration pits to carry the water to aquifers in low-lying areas. We can't afford to pump out all of the water every time. We have to rely on gravitational flow, but ensure the dirty water doesn't go into the aquifers.**

-----N---E---X---T-----

What is Project Nexus that RBI has signed up for?

#ProjectNexus   #RBI   #UPI #FastPaymentsSystems #CrossBorderPayments #Economy #GS3

The **Reserve Bank of India (RBI) has joined Project Nexus, a multilateral international initiative to enable instant cross-border retail payments by interlinking domestic Fast Payments Systems (FPSs). India's Unified Payments Interface (UPI) and FPSs of Malaysia, the Philippines, Singapore and Thailand will be interlinked through Nexus.** Going ahead, the platform can be extended to more countries.

What is Project Nexus?

Project Nexus is conceptualised by the Innovation Hub of the Bank for International Settlements (BIS). It seeks to enhance cross-border payments by connecting multiple domestic instant payment systems (IPS) globally. It is the first BIS Innovation Hub project in the payments area to move towards live implementation.

The Reserve Bank of India has been collaborating bilaterally with various countries to link India's Fast Payments System (FPS) – UPI, with their respective FPSs for cross-border Person to Person (P2P) and Person to Merchant (P2M) payments. While India and its partner countries can continue to benefit through such bilateral connectivity of FPS, a multilateral approach will provide further impetus to the RBI's efforts in expanding the international reach of Indian payment systems.

In over 70 countries today domestic payments reach their destination in seconds at near-zero cost to the sender or recipient. This is thanks to the growing availability of instant payment systems. **Connecting these IPS to each other can enable cross-border payments from sender to recipient within 60 seconds (in most cases), according to the BIS.**

What are the benefits of the platform?

Project Nexus is designed to standardise the way IPS connect to each other. Rather than a payment system operator building custom connections for every new country that it connects to, the operator can make one connection to the Nexus platform. This single connection allows a fast payments system to reach all other countries on the network. Nexus could significantly accelerate the growth of instant cross-border payments.

Which countries have joined the platform?

Project Nexus aims to connect the FPSs of four Association of Southeast Asian Nations (ASEAN) — Malaysia, Philippines, Singapore, and Thailand; and India, who would be the founding members and first mover countries of this platform.

An agreement on this was signed by the BIS and the central banks of the founding countries i.e., Bank Negara Malaysia (BNM), Bank of Thailand (BOT), Bangko Sentral ng Pilipinas (BSP), Monetary Authority of Singapore (MAS), and Reserve Bank of India on June 30, 2024, in Basel, Switzerland. **Indonesia will also join the platform in future.**

-----N---E---X---T-----

How surplus milk powder is dairy industry's new problem

#SkimmedMilkPowder #SurplusMilkPowder #DairySector #Agriculture #Economy #GS3

With many states enacting stringent anti-slaughter laws, Indian dairy farmers have been facing challenges in disposing of unproductive cattle — the ones that do not give enough milk or happen to be male.

Now, they have been **hit by a new "surplus" problem — of skimmed milk powder (SMP).** Cooperative and private dairies are holding an estimated 3-3.25 lakh tonnes (lt) of SMP stocks at the start of the production year that runs from July to June.

But first, what is SMP?

Cow milk contains 3.5% fat and 8.5% solids-not-fat (SNF) on an average, with the same at 6.5% and 9% for buffalo milk. Being perishable, milk cannot be stocked. Only its solids (i.e. fat and SNF) are storable after separation of the cream and drying of the skimmed milk.

During the "flush" season, when cattle and buffaloes produce more, dairies convert the surplus milk they receive into butter, ghee and SMP — the first two from cream/fat, and the last from SNF. These solids are recombined along with water into liquid milk during the "lean" season, when production by animals falls and may not suffice to meet demand.

The flush season in the South and Maharashtra (states with predominantly cow populations) generally extends from July, post the southwest monsoon rains, till December. In the North and Gujarat, it extends from September to March (coinciding with the calvings of buffaloes, which outnumber cows in this belt).

From every 100 litres (or 103 kg) of cow milk, a dairy can make about 8.75 kg of SMP (at 8.5% SNF), and 3.6 kg of ghee (at 3.5% fat).

So, what's this problem of surplus in SMP?

The **problem arises when dairies procure excess milk — beyond the normal surplus during flush — and the SMP and butter/ghee produced do not have many takers.**

Dairies in India produce 5.5-6 lt of SMP annually. A big chunk of that, roughly 4 lt, is used for recombining during the lean season. The balance 1.5-2 lt gets consumed by makers of ice cream, biscuits, chocolate, sweetmeats, baby formula, and other food and industrial products.

2023-24 was a year of abundant and continuous milk supplies with hardly any lean period. It was in marked contrast to 2022-23 that saw unprecedented shortages. Dairies in Maharashtra realised record prices of Rs 430-435 per kg for yellow (cow) butter, and Rs 315-320 for SMP during February-March 2023. They also paid farmers Rs 37-38 a litre for cow milk with 3.5% fat and 8.5% SNF, encouraging them to ramp up production, through better feeding and induction of new animals.

The resultant augmented milk availability, including in the peak lean summer months of April-June, meant that hardly 2.5 lt of SMP was consumed for reconstitution purposes. Instead of the normal July-opening stocks of 1.5-1.75 lt, dairies are now saddled with 3-3.25 lt of SMP. With the new flush season taking off — and expected to peak after September, when more milk would flow from the udders of buffaloes too — the problem of surplus may worsen.

What's been the impact of the surplus so far?

Cow SMP realisations for dairies have crashed to Rs 200-210 per kg, and to Rs 335-340 for yellow butter. The latter corresponds to a ghee price of Rs 408-415 per kg (ghee has close to 100% fat, as against 82% for butter).

**The surplus problem is, however, less in milk fat, as its annual production by dairies is only 3-3.5 lt. Fat, unlike SMP, also has a good market in India, both among households and industrial consumers. This is more so during the grand festival months from August to

November, when consumption of mithais goes up. The base ingredients — ghee, khoa, chenna and paneer — in most indigenous sweets come from high-fat milk. There's a higher chance, then, of fat prices recovering than that of SMP.

At current per-kg realisations, the gross revenue for a dairy producing 8.75 kg of SMP and 3.6 kg of fat/ghee from 100 litres of cow milk would be Rs 3,224-3,333. Deducting Rs 350 post-procurement expenses (on chilling, aggregator/collection agent commission and transport to the plant), and Rs 350 processing and packing costs, the dairy can, at most, pay farmers Rs 2,524-2,633, or Rs 25.24-26.33 per litre. And that's more or less what they are paying.

Politically, this could be a disaster — particularly ahead of the Maharashtra state assembly elections due in October. The **National Democratic Alliance government there, on June 28, announced a Rs 5/litre subsidy payable to farmers on the milk they supply to dairies.** The scheme's fine print though — eligibility criteria and coverage of farmers as well as dairies — is still awaited. Even if implemented well in time for the polls, it wouldn't address the underlying problem of SMP stock pile-up.

Is there a better solution?

Ganesan Palaniappan, a dairy ingredients trader in Chennai, believes that the **only way to get rid of the excess SMP stocks is exporting it out, whether commercially or as commodity assistance to neighbouring countries.**

But the drop in global prices — SMP rates at the New Zealand-based Global Dairy Trade fortnightly online auction platform are ruling at $2,586 per tonne, down from the recent high of $4,599 in April 2022 — makes commercial exports unviable. India's SMP shipments have, moreover, been on the decline, from 1.3 lt in 2013-14 to 4,800 tonnes in 2023-24.

DECLINING SMP EXPORTS, INTERNATIONAL PRICES

Skimmed Milk Powder Exports

	Quantity (tonnes)	Value (₹ cr)
2012-13	71597.22	1118.29
2013-14	129867.61	2717.56
2014-15	34489.70	681.69
2015-16	15939.35	293.15
2016-17	16100.44	304.31
2017-18	11475.91	219.73
2018-19	45081.90	563.65
2019-20	992.16	21.86
2020-21	14169.78	273.65
2021-22	47701.51	1022.53
2022-23	16696.75	501.62
2023-24	4812.16	114.30

Source: Department of Commerce

International Skimmed Milk Powder prices ($ per tonne)
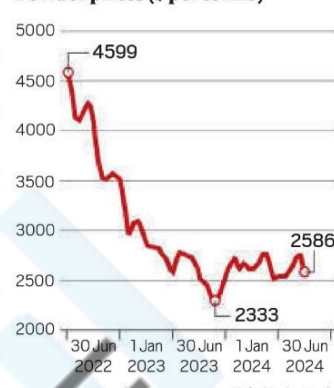
From the average rate at Global Dairy Trade fortnightly auctions

"The **Centre should give a subsidy on SMP exports, which will boost domestic prices and enable our dairies to pay more to farmers,"** said Palaniappan.

R S Sodhi, president of the Indian Dairy Association, suggested that the **Centre create a 50,000-100,000 tonne buffer stock of SMP: "If farmers don't get remunerative prices, they will not feed their animals properly, and you would have milk inflation next year. A buffer stock (the government buying powder from dairies and also paying for its storage) will support prices for producers now and protect consumers from future inflation".**

Over the medium term, the dairy industry would have to develop a market for SMP or its constituents — proteins (casein and whey), carbohydrate (lactose), and minerals (mainly calcium, potassium and phosphorous).

The reasons are two-fold. First, **there is growing demand for milk fat in India. But for every 1 kg of fat, dairies also end up making over 2.4 kg SMP.** Secondly, **farmers prefer rearing cows, as they — notwithstanding issues relating to disposal of unproductive cattle — yield more milk and start calving earlier than buffaloes.** At the same time, 1 kg of fat from buffalo milk results in production of less than 1.4 kg of SMP.

As an increasing share of India's milk comes from cows, the challenge of finding a market for surplus SMP may also grow.

How to read India's Balance of Payments

#BalanceOfPayments   #CurrentAccount
#CapitalAccount   #BalanceOfTrade
#TradeSurplus   #TradeDeficit
#InternationalTrade #Economy #GS3

Last week, **data from the Reserve Bank of India (RBI) showed that India's current account registered a surplus during the fourth quarter (Jan-Mar) of the 2023-24 financial year. This was the first time in 11 quarters that India had witnessed a surplus.**

Movements in the current account are closely monitored as they not only impact the exchange rate of the rupee and India's sovereign ratings, but also because they point to the overall health of the economy.

However, the **country's current account cannot be understood in isolation. The larger picture is provided by the so-called 'Balance of Payments'** table alongside.

What is Balance of Payments?

The **Balance of Payments (BoP) is essentially a ledger of a country's transactions with the** rest of the world. As Indians trade and transact with the rest of the world, money flows in and out of the country. The BoP shows how much money (shown here in billions of US dollars) went out of the country and how much money came in. All the money coming into the country is marked positive and all the money going out is marked negative. As such, in the BoP table, a minus sign points to a deficit.

The **BoP matters because it captures the relative demand of the rupee vis-à-vis the demand for foreign currencies (represented in dollar terms).** Hypothetically, **if there were only two countries in the world, India and the US, every time an Indian wanted to buy an American good or service, or to invest in the US, they would have to hand over a certain number of rupees to first buy the dollars needed to complete that transaction. In the end, the exchange rate would be determined by the relative demand of the two currencies — if Indians demanded more dollars than Americans demanded rupees, the 'price' (or the exchange rate) of the dollar relative to the rupee would go up.**

Understanding India's Balance of Payments

(In $ billion)			Q4 FY24	FY24	FY23	FY21	FY25#
Current account*			6	-23.3 (0.7% of GDP)	-67 (2% of GDP)	24 (0.9% of GDP)	-39 (1% of GDP)
	Trade of Goods		-51	-242	-265	-102	-268
	Trade of Services (Invisibles)		57	218	198	126	229
		Services	43	163	143	89	171
		Transfers	29	106	101	74	106
Capital account*			25	86	59	63	77
	Foreign investment		21	54	23	80	52
		FDI	10	10	28	44	20
		FII	11	44	-5	36	32
	Loans		2	2	8	6	10
	Banking Capital		7	41	21	-21	15
	Other Capital		3	-10	7	-2	0
Balance of Payments*			31	64	-9	87	38
Change in Forex**			-31	-64	9	-87	

*A minus sign is deficit; ** A minus sign shows increase in India's foreign exchange reserves; # Forecast by ICICI Securities
Source: RBI, ICICI Securities, Indian Express Research

Govt approves Rs 56 crore for next phase of conservation plan for Great Indian Bustard

#GreatIndianBustard #LesserFlorican #ConservationPlan #WildlifeConservation #Environment #GS3

The **Ministry of Environment, Forest and Climate Change (MoEFCC) has approved Rs 56 crore for the next phase of the conservation of Great Indian Bustard (GIB) and Lesser Florican.**

The **plan includes habitat development, in-situ conservation, completion of the conservation breeding centre and releasing captive-bred birds** among other things.

The **conservation programme has been running since 2016 for long-term recovery of critically endangered GIB and Lesser Florican. As of now, around 140 GIBs and fewer than 1,000 Lesser Floricans are surviving in the wild.**

The **first component** comprises targets such as **completion of the conservation breeding centre (CBC) in Jaisalmer's Ramdevra, development of the Sorsan Lesser Florican facility, preparatory work for releasing captive-bred birds, release of GIBs in Rajasthan and other range states, post-release monitoring and artificial insemination.**

The **second component** comprises **in-situ conservation of GIBs in other range states such as Gujarat, Maharashtra, Karnataka, Andhra Pradesh and Madhya Pradesh.** This component will be **implemented by WII along with state governments**. The budget for this component has been pegged at Rs 43.68 crore and its approval will be sought later.

Between 2024-2026, WII will also undertake GIB population estimation in Jaisalmer, its range states and rangewide population estimation of the lesser florican.

To release the captive-bred Bustards, release sites will be identified. According to the WII plan, these Bustards will be trained for release and soft release enclosures will also be developed.

The **2024-2029 phase will also target developing and implementation of artificial insemination techniques as a back-up to the captive-breeding conservation. The WII has been collaborating with the Abu Dhabi-based International Fund for Houbara Conservation for the same.**

The **two species have faced severe decline over the years due to hunting, habitat loss and depredation of eggs by other predators.** Additionally, the **overhead power lines have also emerged as a key threat to GIB with a 2017-18 study estimating deaths of 88,000 birds of different species annually.**

Plans to recover the species first started in **2013 under the National Bustard Recovery Plan, which later gave way to the Bustard Recovery Project in 2016**. Later, **in July 2018, a tripartite agreement was signed between MoEFCC, Rajasthan forest department and WII.**

-----N---E---X--T-----

Air pollution behind 7% of deaths in 10 cities: Lancet study

#AirPollution #AirPollutionDeaths #PM2.5 #LancetStudy #AirPollution #EnvironmentalPollution #Environment #GS3

About 11.5 per cent of deaths in Delhi every year, roughly 12,000 deaths, can be attributed to air pollution, the highest for any city in the country, a first-of-its-kind multi-city study in India, published in the Lancet, has revealed.

Across 10 cities — Ahmedabad, Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, Mumbai, Pune, Shimla and Varanasi — more than 33,000 deaths could be attributed to air pollution every year on an average, the study said. Shimla has the lowest mortality burden among these cities, with only 59 deaths every

year, about 3.7 per cent of its total, that could be attributed to pollution. Together, about 7.2 per cent of all deaths in these cities, amounting to about 33,000 deaths every year, could be said to be caused by air pollution every year, the study said.

The study, carried out by researchers from India and abroad, found that PM2.5 concentrations in these 10 cities, exceeded the safe limits defined by the World Health Organisation (15 micrograms per cubic metre) on 99.8 per cent of the days.

The researchers obtained daily death data from the civil registries in these ten cities between 2008 and 2019. For every city, only three to seven years of daily death data during this period was made available. Together, more than 3.6 million deaths in these cities were examined. Given the sparse nature of air pollution data across many cities, researchers leveraged a previously-developed machine-learning based exposure model that combined data from the regulatory monitors, satellites, meteorology and other sources to generate PM2.5 exposure data with a high level of detail in terms of time and location.

The study found 1.42 per cent rise in mortality for every increase of 10 micrograms/cu metre in the PM2.5 levels when all the ten cities were taken together. There was large variation among the cities, with Delhi showing a rise of 0.31 per cent in mortality while Bengaluru having an increase of 3.06 per cent. This suggested that people living in less polluted cities carried a higher risk of mortality due to increase in pollution than those living in polluted cities.

-----N---E---X---T-----

Why rising Arctic wildfires are bad news for the world

#ArcticWildfires #Wildfires #GlobalWarming #JetStream #PermafrostThawing #Environment #GS3

Smoke from raging wildfires has once again darkened the skies over the Arctic. It is the third time in the past five years that high intensity fires have erupted in the region. A majority of fires are in Sakha, Russia, where more than 160 wildfires charred nearly 460,000 hectares of land up until June 24.

The **June monthly total carbon emissions from the wildfires are the third highest of the past two decades, at 6.8 megatonnes of carbon, behind June 2020 and 2019, which recorded 16.3 and 13.8 megatonnes of carbon respectively.**

Wildfires have been a natural part of the Arctic's boreal forest or snow forest and tundra (treeless regions) ecosystems. However, in recent years, their frequency and scale in the regions have increased, primarily due to global warming. More worryingly, these blazing wildfires are fueling the climate crisis.

Why have Arctic wildfires become worse?

The **Arctic has been warming roughly four times as fast as the world.** While the global average temperature has increased by at least 1.1 degree Celsius above the pre-industrial levels, the **Arctic has become on average around 3 degree warmer than it was in 1980.**

This **fast paced warming has led to more frequent lightning in the Arctic, which has further increased the likelihood of wildfires** — lightning-sparked fires have more than doubled in Alaska and the Northwest Territories since 1975, according to a 2017 study.

Thunderstorms occur when there is differential surface heating, so an updraft-downdraft convection can occur... You need a warm moist updraft to get a thunderstorm started, and that is more likely to occur over ice free land than land covered with ice.

Soaring temperatures have also slowed down the polar jet stream — responsible for circulating air between the mid- and northern latitudes — due to less of a temperature difference between the Arctic and lower latitudes. As a result, the polar jet stream often gets "stuck" in one place, bringing unseasonably warm weather to the region. It also blocks out low-pressure

systems, which bring clouds and rainfall, possibly leading to intense heatwaves, which can cause more wildfires.

All three factors — rising temperatures, more frequent lightning and heatwaves — will most likely worsen in the coming years, thereby causing more wildfires in the Arctic. By 2050, it is estimated that wildfires in the Arctic and around the world could increase by one-third, according to a report by the World Wild Fund.

How Arctic wildfires can exacerbate global warming?

When wildfires ignite, they burn vegetation and organic matter, releasing the heat trapping greenhouse gases (GHGs) such as carbon dioxide (CO_2) into the atmosphere. That is why the rising frequency of wildfires around the globe is a matter of concern as they contribute to climate change.

However, in the case of Arctic wildfires, such GHG emissions are not the biggest worry. It is rather the carbon stored underneath the region's permafrost — any ground that stays frozen for at least two years straight. Scientists estimate that Arctic permafrost holds around 1,700 billion metric tons of carbon, including methane and CO_2. That's roughly 51 times the amount of carbon the world released as fossil fuel emissions in 2019.

Wildfires make permafrost more vulnerable to thawing as they destroy upper insulating layers of vegetation and soil. This can cause ancient organic materials such as dead animals and plants to decompose and release carbon into the atmosphere. In case a large-scale thawing of Arctic permafrost is triggered, it would be impossible to stop the release of carbon.

This would mean that the world will not be able to limit global warming within the 1.5 degree Celsius threshold. Breaching the limit will result in catastrophic and irreversible consequences for the planet.

To make matters worse, as of now, no one is keeping a tab on post-fire permafrost emissions, and they are not even fed into climate models. Therefore, there is no way to estimate their contribution to climate change.

-----N---E---X---T-----

India to sign, ratify High Seas Treaty
#HighSeasTreaty #HighSeas #OpenOcean #UNCLOS #ExclusiveEconomicZone #EEZ #MarineBiodiversity #MarinePollution #Environment #GS3

India has decided to sign and ratify the High Seas Treaty, a global agreement for conservation and protection of biodiversity in the oceans, that is often compared to the 2015 Paris Agreement in its reach and impact.

The High Seas Treaty, also known as the agreement on Biodiversity Beyond National Jurisdictions (BBNJ), was negotiated in March last year.

The High Seas, the oceans outside the national boundaries of countries, are international commons, open for use by all. The resources found in these areas, which constitute about 64% of the ocean surface, are open for extraction by anyone. The exact activities, and the manner in which they can be carried out, are governed by international and regional laws. Most notable and wide-ranging of the laws is the UN Convention on the Law of the Seas, or UNCLOS, which defines the rights and duties of the country, and lays down the general principles of acceptable conduct in the oceans.

The High Seas Treaty, once it is ratified by the requisite number of countries and becomes international law, would operate under the UNCLOS framework, and become one of its implementing instruments. There are already two similar agreements under UNCLOS, one that regulates the extraction of mineral resources from ocean beds, and the other about conservation of migratory fish stocks.

Among other things, the **High Seas Treaty would define and demarcate marine protected areas in biodiversity-rich zones of the oceans that are under stress.** Similar to what happens in national parks or protected wildlife areas, **certain kinds of human activities in these marine protected areas, like deep sea mining, would be prohibited or regulated.**

The **treaty also seeks to ensure that any benefits accruing from ocean life forms, like drug development, is considered a global common, is free of intellectual property rights and equitably shared with everyone.** Besides, **commercial activities in the open oceans that are likely to result in causing large-scale pollution would now require an environmental impact assessment.**

The **treaty would become international law 120 days after at least 60 countries submit their formal ratification documents. As of now, 91 countries have signed the treaty, but only eight of them have ratified and made the submission.**

Countries which have already ratified the treaty are:

S. No.	Country	Date of Ratification
1	Belize	8 April 2024
2	Chile	20 February 2024
3	Cuba	28 Jan 2024
4	Mauritius	30 May 2024
5	Federated States of Micronesia	3 June 2024
6	Monaco	9 May 2024
7	*Palau (1st country to ratify)*	22 January 2024
8	Seychelles	13 April 2024

-----N---E---X---T-----

The High Seas Treaty

#HighSeasTreaty #HighSeas #OpenOcean #UNCLOS #ExclusiveEconomicZone #EEZ #MarineBiodiversity #MarinePollution #Environment #GS3

The **Indian government said it would soon sign and ratify the High Seas Treaty**, a new international legal architecture for maintaining the ecological health of the oceans. **The treaty, negotiated last year, is meant for reducing pollution, and for conservation and sustainable use of biodiversity and other marine resources in ocean waters.**

High seas are areas outside the national jurisdiction of any country because of which the **treaty is also known as the agreement on Biodiversity Beyond National Jurisdictions (BBNJ). It is formally called the Agreement on Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction.**

So far, **91 countries have signed the treaty, while eight of them have also ratified it.**

Protection and Access

The **High Seas Treaty seeks to achieve three substantive objectives: conservation and protection of marine ecology; fair and equitable sharing of benefits from marine genetic resources; and establishment of the practice of mandatory environmental impact assessments for any activity that is potentially polluting or damaging to the marine ecosystem.**

There is a **fourth objective as well**, that of **capacity building and transfer of marine technologies to developing countries.** This will help them make full use of the benefits of the oceans while also contributing towards their conservation.

The **treaty deals only with oceans that are outside the national jurisdiction of any country.** Typically, **national jurisdictions extend up to 200 nautical miles (370 km) from the coastline, an area that is called exclusive economic zones or EEZs. Areas outside of EEZs of every country are known as high seas or international waters. They constitute about 64%, roughly two-thirds, of the total ocean area and are considered global commons. They belong to no one and everyone enjoys equal rights for navigation, overflight, economic activities, scientific research, or laying of infrastructure like undersea cables.**

Oceans are governed by several international laws, the most important and comprehensive of which is the **UN Convention on the Law of the Sea (UNCLOS). This 1982 agreement applies to the entire ocean area – territorial as well as international waters – and lays down the broad legal framework for governance on seas. Among other things, it defines the boundaries of territorial waters, defines the rights and duties of nations regarding activities in the seas, and addresses issues such as sovereignty, passage rights, and the rights of economic usage of resources like fish, oil, minerals, or gas. EEZs, for example, are a creation of UNCLOS.**

UNCLOS also sets the general principles of protection and conservation of biodiversity and marine ecology. However, it does not specify how these objectives are to be achieved, especially in international waters which, being common property, is no one's responsibility. It is here that the High Seas Treaty comes into the picture. Once it comes into force, the treaty would serve as one of the implementing agreements under UNCLOS.

Marine Protected Areas

The **High Seas Treaty's key objective of the protection and conservation of marine ecosystems is sought to be achieved mainly through the demarcation of marine Protected Areas (MPAs).** These would be the ocean equivalents of national parks and wildlife reserves where activities would be regulated, and conservation efforts taken up.

Protected areas in the oceans already exist but most of them are in territorial waters, where countries are free to enact and implement their laws.

Currently, **there are 18,200 MPAs**, according to the latest update of the World Database of Protected Areas, the most comprehensive catalogue of protected areas on land as well as sea. **These together cover about 8% of the total ocean area. Almost 90% of this area is in territorial waters.**

The **new treaty is expected to facilitate the creation of MPAs in the high seas, where pollution, over-exploitation of resources, biodiversity loss, etc, are taking place.**

Under the Kunming Montreal Global Biodiversity Framework, a separate international arrangement, countries have agreed to put at least 30% of degraded coastal and marine ecosystems under restoration by 2030. MPAs can help achieve that goal.

IN DEEP WATER

A microwave at the bottom of the sea off the island of Sifnos, Greece. *Reuters*

ONLY 1.44% of the high seas is demarcated as protected area. Almost all of this is near Antarctica.

FEWER THAN 100 of the approximately 18,200 Marine Protected Areas (MPAs) are in the high seas.

MPAS ARE important to achieve 30x30 target under Kunming Montreal Global Biodiversity Framework — 30% of degraded coastal and marine ecosystems to be put under restoration by 2030.

75-199 MILLION TONNES is estimated volume of plastics in the ocean

BY 2050, there will be more plastics by weight in oceans than fish, according to a widely quoted study (2016).

Equitable sharing of benefits

Oceans are home to a very large number of diverse life forms, many of which may be of immense value to human beings. These ocean organisms can offer insights into evolution, and some of them might even be useful in drug discovery, making them commercially lucrative.

The **High Seas Treaty seeks to ensure that the benefits from these ocean living resources, either through scientific research or commercial exploitation, is equally shared amongst all. The treaty does recognise that there might be costs involved in accessing these resources or their benefits but makes it clear that there cannot be proprietary rights of any country over these.**

The **treaty also makes it mandatory to carry out a prior environmental impact assessment (EIA) for any activity that is**

GS 3 – SCIENCE & TECHNOLOGY

How the world's first brain implant to control epileptic seizures works

#Epilepsy   #BrainImplant
#DeepBrainStimulation   #HealthIssue
#ScienceandTechnology #GS3

A **UK-based teenager, Oran Knowlson, has become the first person in the world to be fitted with a brain implant to help bring his epileptic seizures under control.** The deep brain stimulation (DBS) device, which sends electrical signals deep into the brain, has reduced Knowlson's daytime seizures by 80%.

What is epilepsy?

Epilepsy, a condition that leads to recurring seizures, sees a person experience jerking of arms and legs, temporary confusion, staring spells, or stiff muscles. It is caused by abnormal electrical activity in the brain.

The disease has no identifiable cause in nearly 50% of the cases. However, **head trauma, tumours in the brain, some infections like meningitis, or even genetics can lead to epilepsy. It can increase the risk of accidents, drownings, and falling.**

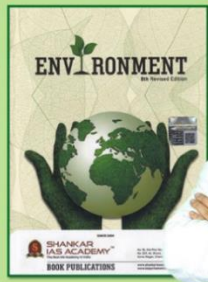**In India, between 3 and 11.9 per 1,000 people suffer from epilepsy, according to a comment in a 2022 Lancet study. Although several anti-seizure medicines are available in the market, 30% of the patients remain resistant to treatment.**

How does the device work?

The **neurostimulator delivers constant electrical impulses to the brain to disrupt or block abnormal seizure-causing signals.**

A 3.5 cm square, 0.6 cm in thickness, the device was surgically implanted in Knowlson's skull and anchored using screws. The doctor then inserted two electrodes deep into his brain until they reached the thalamus — a relay station for all the motor and sensory information. The ends of the electrodes were connected to the neurostimulator.

The device was switched on after Knowlson recovered from his surgery. **It can be recharged by a wireless headphone.**

DBS BRAIN IMPLANT

DBS device | Fennula & skull anchors | Electrode lead
Lead anchor | | Electrode contacts
Guide tube
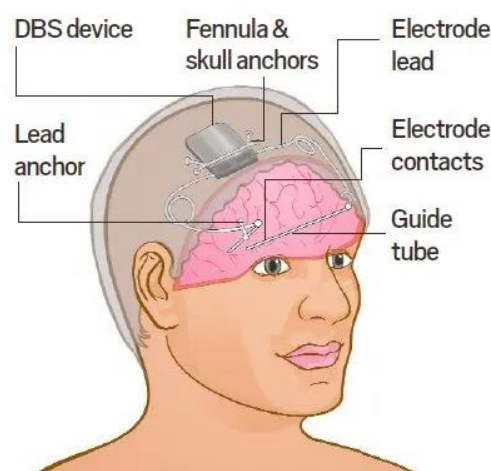
What is DBS?

The **device uses DBS, which is also utilised for movement disorders associated with**

Parkinson's, and other neurological conditions. Although DBS has been tried before for childhood epilepsy, until now neurostimulators were placed in the chest **(instead of the brain)**, with wires running up to the brain where the leads were placed on the affected region.

It is not the first line of treatment for epilepsy. **Doctors first use anti-seizure medicines and a ketogenic diet, which is high in fats and low in carbohydrates.** Although the reasons are not well understood, **a ketogenic diet is known to reduce seizures, even in children with treatment-resistant epilepsy. If that does not work, doctors can carry out brain surgery to remove a portion of the brain where the seizures originate.**

Another surgery called corpus callosotomy may be suggested in some children. **In this, doctors remove a part that connects both halves of the brain, which does not allow abnormal electrical signals to travel from one half of the brain to another.**

Surgery is still preferable to implanting a DBS device. Currently, the DBS devices available in the market reduce seizures by around 40%. In comparison, seizures drop by nearly 90% if the patient undergoes surgery.

How expensive is DBS?

Neurostimulators cost about Rs 12 lakh. There are additional surgical costs that one has to pay in private hospitals, increasing the cost to about Rs 17 lakh. In comparison, a brain surgery costs between Rs 20,000 and Rs 30,000. Keeping this in mind, **such devices should be suggested only for those who have epilepsy which originates from different parts of the brain (instead of one focal point), making operations less viable. DBS can also be an option when drugs and diet have failed to control seizures.**

Among the thousands of epilepsy patients that AIIMS is currently treating, only seven have undergone DBS therapy — around one per year.

-----N---E---X---T-----

Hormones control mosquitoes' attraction to blood
#MosquitoHormones #MosquitoBite #NPF #RYamide #ScienceandTechnology #GS3

A new study has suggested that a **pair of mosquito hormones work in tandem to activate or suppress the insects' cravings for blood.**

Female mosquitoes consume animal blood in order to develop their eggs. But after the meal, they lose their appetite till such time they lay their eggs.

Researchers found that the **levels of mosquito gut hormone called F (NPF) spiked when the creatures were looking for a host, and dropped once they were done feasting.**

Another gut hormone, RYamide, was found to work in the opposite way. As NPF levels fell down after a blood meal, RYamide levels went up, and vice versa.

Mosquitoes are the deadliest animal on the planet. They **act as vectors for diseases such as malaria, dengue, West Nile virus, yellow fever, Zika, chikungunya, and lymphatic filariasis**, which together kill around 700,000 people in the world. The **mosquito menace is getting worse with climate change, as mosquitoes can now survive in places that were hitherto too cold for them**.

-----N---E---X---T-----

2 Gaganyaan astronauts to go to ISS aboard the Axiom-4 mission
#Axiom4Mission #Gaganyaan #InternationalSpaceStation #SpaceX #DragonSpacecraft #ScienceandTechnology #GS3

The **Indian Space Research Organisation has selected two of its four trained Gaganyaan astronauts to go to the International Space Station (ISS) in collaboration with National Aeronautics and Space Administration (NASA)** later this year.

The **mission will take place "no earlier than October 2024,"** according to the information available on NASA website. The astronauts will

have to go to the United States ahead of the mission to train on the specifics of the ISS.

The **Axiom-4 mission, which will take the Indian astronauts to the ISS, is the fourth private astronaut mission of NASA and a private US company Axiom Space.** The mission is expected to dock with the ISS for fourteen days.

Axiom Space has contracted SpaceX as launch provider for transportation to and from the space station, and to familiarize the private astronauts with systems, procedures, and emergency preparedness for the Dragon spacecraft.

India's own human space flight is unlikely to take place before 2025, with the first unmanned flight still to take off. The first flight carrying humans will be launched only after two successful unmanned flights.

-----N---E---X---T-----

Denisovans hunted yaks, hyena, marmots: What new study says
#Denisovans   #Neanderthals
#BaishiyaKarstCave   #GanjiaBasin
#ScienceandTechnology #GS3

Thousands of bone fragments discovered in a cave on the Tibetan Plateau in China are offering rare insight into the lives of Denisovans, the mysterious extinct cousins of Neanderthals and our own species, showing **they hunted a wide range of animals from sheep to woolly rhinoceros in this high-altitude abode.**

Researchers studied more than 2,500 bones found inside **Baishiya Karst Cave, which is situated 3,280 metres above sea level.** They used **ancient protein analysis** on these remains to reveal that the Denisovans exploited various animals for their meat and skins.

Most of the bones were identified as belonging to blue sheep, also called bharal, a goat species still seen in the Himalayas. Other bone remains came from woolly rhinoceros, yaks, small mammals like marmots, birds, and even from the spotted

hyena, a large carnivore that prawled the region called Ganjia Basin.

It was a grass landscape with small forested areas, teeming with life despite harsh conditions. The animals were butchered for meat, based on cut marks found on various bones, and there was evidence of bone marrow extraction and skinning activities.

-----N---E---X---T-----

What is a cognitive test, which many want US President Joe Biden to take?
#CognitiveTest   #CognitiveImpairment
#Dementia #PseudoDementia #HealthIssue
#ScienceandTechnology #GS3

Amid concern over 81-year-old Joe Biden's fitness to stay in the race for the White House, there have been calls for the President to take a cognitive test to determine the level of his mental acuity.

Biden, who many feel is too old for the physical and mental demands of the world's toughest job, has remained adamant in the face of an increasingly urgent campaign to have him step aside.

In the June 27 debate and in recent speeches and interviews, Biden has been faltering and incoherent, spoken haltingly in a raspy voice, and demonstrated an absence of facial animation, resulting at times in a flat, open-mouthed expression.

What is a cognitive test, which many of both Biden's supporters and critics want him to take?

A **cognitive test checks for problems with cognition, which includes brain functions such as thinking, learning, remembering, and using judgment and language. Problems with cognition are described as cognitive impairment.**

Cognitive testing is a structured and validated process that seeks to identify deficits, the reasons for their occurrence, and the spheres of the subject's brain they affect. **On the basis of**

the test results, a diagnosis is reached on whether the subject has cognitive impairment, dementia, or pseudo dementia, and interventions — including behaviour therapies and cognitive therapies — are decided.

For whom is this test recommended?

People who have memory deficits, or who think they are losing memory or becoming forgetful, have difficulty in focusing or in judgment, or whose mind is not working as they think it should be working, should take the test.

Is this a test specifically for older people?

Age is a significant factor in cognitive decline: the risk of dementia increases in every decade after 60, and becomes very significant after age 75. President Biden is of an age at which the risk of cognitive impairment is particularly high.

Biden has, however, refused to undergo any kind of neurological examination, including a cognitive test, and releasing the results to the public. Being President and running for re-election are their own cognitive tests, he has said.

Some younger people also show signs because of stress, overwork and multitasking. Those people also take these tests to differentiate between early onset of dementia and cognitive impairment, and pseudo dementia.

And how is this test done?

The **test is basically like an exam in which a psychologist checks functions such as memory, retention, language functioning, calculating ability, and special organising ability, in order to evaluate the functioning of individual parts of the brain that are responsible for each of these mental functions.**

-----N---E---X--T-----

Florida carpenter ants perform life-saving amputations
#FloridaCarpenterAnts   #Amputations
#ScienceandTechnology #GS3

Florida carpenter ants bite off the injured limbs of their nest mates to prevent infection.

Although **other ant species are known to tend to the wounds of their injured, typically by licking them clean, this is the first time that an ant species has been known to use amputation to treat an injury.**

The ants in the study performed amputations on only certain leg injuries, suggesting that they are methodical in their surgical practices. **Aside from humans, no other animal is known to conduct such amputations.** The prevalence of the behaviour among Florida carpenter ants raises questions and their intelligence and their ability to feel pain.

The researchers also said that the **amputations appeared to be consensual.**

The ant presents its injured leg and calmly sits there while another ant gnaws it off.

After observing dozens of amputations, the researchers noticed that the **ants would perform the procedure only on nest mates with thigh injuries, and not when the wound was further away from the body.**

To understand this, researchers performed micro CT scan on the amputees.

Ants have several muscles throughout their bodies that keep hemolymph, their version of blood, flowing. Florida carpenter ants have many such muscles in the thighs. When they sustain a thigh injury, the flow of hemolymph is reduced, making it more difficult for bacteria to move from the wound into the body. In such cases, if the entire leg is amputated quickly, the chance of infection is very low.

But **when a Florida carpenter ant injures its lower legs, bacteria can penetrate its body very quickly. As a result, the time window for**

usually needs to be replaced every 12 months.

Side effects include insomnia, weight gain, muscle aches, fatigue, mood shifts, changes in breast tissue, and irregular periods or spotting in women. They may also cause depression or self-harm tendencies.

-----N---E---X--T-----

Dementia has 2 new risk factors – untreated vision loss, high cholesterol: Lancet study

#Dementia   #DementiaRiskFactors
#LancetStudy   #HealthIssue
#ScienceandTechnology #GS3

Untreated vision loss and high cholesterol contribute to 9% of all dementia case, emerging as new risk factors, according to a new report from the 2024 Lancet Commission.

The report shows that about 7% of dementia cases can be linked to high levels of low-density lipoprotein (LDL), commonly known as bad cholesterol, during midlife starting around age 40, while 2% of cases are linked to untreated vision loss in later life.

Dementia, ranked by WHO as the seventh leading cause of death globally, is not a single disease, but a group of symptoms that disrupt memory, thinking, and social skills, and its most prevalent form is Alzheimer's disease, accounting for 60-70% of cases. In 2020, the Lancet Commission had identified 12 risk factors for dementia: *lower levels of education, hearing impairment, high blood pressure, smoking, obesity, depression, physical inactivity, diabetes, excessive alcohol consumption, traumatic brain injury, air pollution and social isolation.*

------E----N----D------

GS 3 – DEFENCE

Who was Abdul Hamid, hero of Asal Uttar battle?

#MerePapaParamvir   #AbdulHamid
#SRamachandran   #BattleofAsalUttar
#Defence #GS3

RSS supremo Mohan Bhagwat released 'Mere Papa Paramvir', a book which tells the tale of Abdul Hamid, one of the India's greatest war heroes. Bhagwat travelled to Uttar Pradesh's Dhampur, Hamid's ancestral village, to release the book authored by journalist-filmmaker S Ramachandran.

Born on July 1, 1933, Company Quarter Master Havildar (CQMH) Abdul Hamid laid down his life fighting the Pakistan Army's Patton tanks in the Battle of Asal Uttar during the 1965 Indo-Pak War. He was posthumously awarded the Param Vir Chakra, India's highest gallantry award.

Asal Uttar, in Punjab's Tarn Taran district, is situated close to the India-Pakistan border. It is

around seven kilometers away from the Khem Karan.

-----N---E---X--T-----

How compensation for Agniveers differs from that for regular soldiers

#AgniveerCompensation   #AgnipathScheme
#Agniveer #RegularSoldiers #Defence #GS3

Earlier this week, Leader of Opposition in Lok Sabha Rahul Gandhi alleged that the family of Agniveer Ajay Kumar, who was killed in a landmine blast in January, did not receive financial assistance from the government.

After Defence Minister Rajnath Singh told Parliament that an Agniveer who is killed in the line of duty receives a compensation of Rs 1 crore, Rahul posted on social media accusing him of lying to the House.

Late on July 3, the **Army issued a statement saying the family of the Agniveer would receive a compensation of Rs 1.65 crore, and that "emoluments due to a fallen hero are paid expeditiously"** to their next of kin, including of Agniveers.

Government sources said the **Rs 1.65 crore include Rs 48 lakh and Rs 50 lakh as insurance from the central government and from financial institutions under an MoU respectively; an additional sum of Rs 39,000; Rs 44 lakh as ex gratia; Rs 8 lakh from the Army welfare fund; Rs 13 lakh as balance of pay until completion of tenure; and Rs 2.3 lakh as Seva Nidhi**, the contributory scheme that Agniveers are entitled to.

The **Army said Rs 98.39 lakh had already been paid to the fallen Agniveer's family.**

Insurance and ex gratia

Deaths of regular soldiers are classified into five categories — A to E — while those of Agniveers are put in three categories — X, Y, and Z.

Category A (for regular soldiers) and category X (for Agniveers) deaths are neither attributable to, nor aggravated by military service.

Deaths placed in categories B and C are attributable to and aggravated by military service, and include accidents on duty. For Agniveers, these deaths are placed in category Y.

Category Z — D and E for regular soldiers — includes deaths in acts of violence, natural calamities, enemy action, border skirmishes, and war-like situations.

INSURANCE: All regular soldiers **contribute Rs 5,000 per month towards the Army Group Insurance Fund which insures them for Rs 50 lakh. Agniveers are insured for Rs 48 lakh, but they make no contribution from their salary** towards the premium for this insurance.

The **sum insured is paid to all soldiers and Agniveers irrespective of the cause of death.**

The **services have signed Memorandums of Understanding (MoUs) with the banks where the salaries of all defence personnel, including Agniveers, are credited under the defence salary package. These personnel are insured by the banks for various amounts as per the banks' policies.**

EX GRATIA: A **sum of Rs 44 lakh has been earmarked as ex gratia for Agniveers whose deaths are attributable and aggravated by military service, or occur during operations.**

The **ex gratia for a regular soldier can be Rs 25 lakh, Rs 35 lakh or Rs 45 lakh, depending on the nature of the casualty.**

Deaths, either of Agniveers or of regular soldiers, which are neither attributable to nor aggravated by military service are not eligible for any ex gratia.

The **ex gratia from state governments varies from zero to Rs 1 crore,** depending on the state. This is **applicable to both Agniveers and regular soldiers who either die or suffer disabilities on duty.**

IN ADDITION: **Agniveers and regular soldiers are given Rs 8 lakh in case of death in operations and Rs 2.5 lakh in case of death due to any other reason.**

Seva Nidhi for Agniveers

Seva Nidhi is a contributory scheme applicable only to Agniveers. For those whose deaths are neither attributable to nor aggravated by military service, get the amount accumulated till the date of death, along with the government's contribution and interest.

Agniveers who die while on duty or in operations get the full pay for the unserved period up to four years, including the Seva Nidhi component.

Only for regular soldiers

Some benefits are exclusive to regular soldiers. Gratuity and monthly family pension, which is a substantial amount, are available only to regular soldiers.

INTERNATIONAL AFFAIRS

China deploys aircraft carrier off Philippines amid clash in South China Sea

#SouthChinaSea   *#SouthChinaSeaDispute*
#InternationalAffairs

China has deployed its second aircraft carrier 'Shandong' which was spotted patrolling waters off the Philippine coast as Manila stepped up efforts to assert its claims over a shoal in the disputed South China Sea firmly opposing Beijing's counterclaims.

-----N---E---X---T-----

Grandparents to get paid parental leave in Sweden

#ParentalLeave   *#Sweden*
#InternationalAffairs

Sweden launched a groundbreaking new law allowing grandparents to step in and get paid parental leave while taking care of their grandchildren for up to three months of a child's first year.

The development comes after the **Swedish parliament Riksdag**, approved last December the government's proposal on transfer of parental allowance. Under the law, **parents can transfer some of their generous parental**

leave allowance to the child's grandparents. **A parent couple can transfer a maximum of 45 days to others while a single parent can transfer 90 days**. This comes 50 years after the country became the first in the world to introduce paid parental leave for fathers and not just mothers.

-----N---E---X---T-----

Why China plans to run trains from Kunming all the way to Singapore

#PanAsiaRailLink
#MalaysiaEastCoastRailLink
#BeltandRoadInitiative
#DeptTrapDiplomacy   *#SouthChinaSea*
#InternationalAffairs

During his visit to Malaysia last week, Chinese Premier Li Qiang said **China was willing to study a plan to connect its railway projects in the Southeast Asian countries of Malaysia, Laos, and Thailand for "enhancing regional connectivity"**.

The **nearly $10 billion ECRL project is sometimes linked to a China-led "pan-Asian" railway network that would connect the southern Chinese city and transportation hub of Kunming with Singapore at the tip of the Malaysian peninsula by lines running across multiple Southeast Asian countries**.

China has made significant investments in the region as part of its **Belt and Road Initiative (BRI)** to enhance infrastructure development in Asia, Africa and South America.

What is the ECRL?

The **665-km-long ECRL will connect Kota Bharu on the Kelantan river, close to Malaysia's northeastern coast with Port Klang on the strategically important Strait of Malacca on the country's west coast**.

EAST COAST RAIL LINK (ECRL)
Projek Laluan Rel Pantai Timur
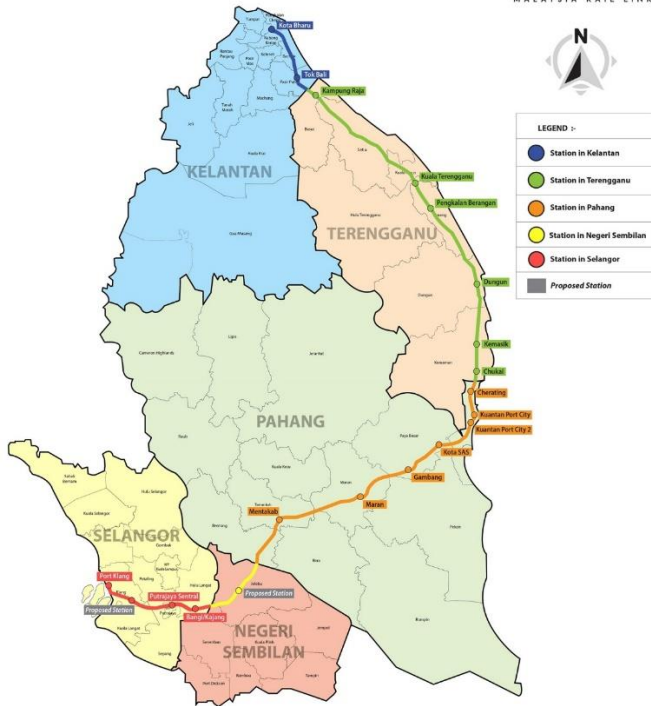
The **massive investment in the project is expected to bring enormous economic benefits through improved connectivity, including the movement of freight, and tourism.**

Work on the ECRL began in 2017, but suffered due to funding constraints, and remained stalled for several years. It is now expected to be completed by 2027.

What is the planned pan-Asian rail network?

Infrastructure projects to link Southeast Asian countries have been proposed in the past, including during European colonial rule in the region.

More recently, the **pan-Asian rail network was conceptualised in the form of three links — a western line from Kunming via Myanmar and Thailand; a central line via Laos and Thailand; and an eastern line via Vietnam, Cambodia, and Thailand.**

Another line would connect Thailand's capital Bangkok with Malaysia and Singapore. The latter is one of the most developed countries in the region, with **around 30% of global trade passing through Strait of Malacca** at which the city state sits.

What is the current status of the railway project?

While the idea "remains powerful" for bolstering economic growth and regional cooperation, it has faced roadblocks for multiple reasons. **Only the Laos-China section has been operational since 2021, connecting the north and south of Laos with Kunming.**

Like Malaysia, **Thailand has also faced problems of high costs and the government's wariness about taking assistance from China.** In January this year, Chinese Foreign Minister Wang Yi asked Thailand to increase the pace of its work, which is expected to be completed in 2028 but may be delayed.

Doubts have been expressed over the projections of the economic gains from the project. The width of the railway tracks across these countries vary, making

Now, **as logging companies encroach into their territories, experts say they have nowhere left to go.** That is why the number of sightings has risen in recent years, with the Mashco Piro coming out of their forested havens not only to find food and supplies, but also to "flee" the outsiders.

-----N---E---X--T-----

Palestine site gets UNESCO tag, put on heritage in danger list
#SaintHilarionMonastery   #TellUmmAmer #GazaStrip   #Palestine   #Israel #UNESCOWorldHeritageList #ListofWorldHeritageinDanger #InternationalAffairs

Amid the conflict with Gaza, the World Heritage Committee decided to include the **Palestine site** of the 'The Monastery of Saint Hilarion/Tell Umm Amer' simultaneously in the in the prestigious UNESCO World Heritage List and List of World Heritage in Danger during the 46th session of the World Heritage Committee.

Israel is a signatory to UNESCO convention on World Heritage and as per its terms, the 195 State Parties are committed to avoid taking any deliberate measures likely to cause direct or indirect damage to site, and to assist in its protection.

The **ruins of Saint Hilarion Monastery/Tell Umm Amer, represent one of the earliest monastic sites in the Middle East, dating back to the 4th century.**

------E----N----D------

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Practice Questions

1. With reference to Shanghai Cooperation Organisation (SCO), consider the following statements:

1. It was formed as the "Shanghai Five" in 1996.

2. Afghanistan and Mongolia hold permanent member status.

3. It is the only international organisation which deals with security issues of Asian countries.

4. India was given full-time membership in 2020.

How many of the statement(s) given above is/are correct?

- A. Only one
- B. Only two
- C. Only three
- D. All four

2. Boreal forests and tundra ecosystems are naturally found in:

- A. Tropical monsoon region
- B. Temperate region
- C. Arctic region
- D. Equatorial climate region

3. With reference to the Project Nexus, consider the following statements:

1. It seeks to enhance cross-border payments by connecting multiple domestic instant payment systems (IPS) globally.

2. It is conceptualised by the Reserve Bank of India (RBI).

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

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

4. With reference to the epilepsy, consider the following statements:

1. It is a condition that leads to recurring seizures caused by abnormal electrical activity in the brain.

2. The disease has fixed identifiable causes in approximately all of the cases.

3. Currently, no anti-seizure medicines are available in the market.

How many of the statement(s) given above is/are correct?

A. Only one
B. Only two
C. All three
D. None

5. Consider the following statements with reference to planetary orbits:

1. The lower the eccentricity, the more elliptical the orbit of planets.

2. If our planet's orbit were a perfect circle, the seasons would have the same lengths.

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

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

6. With reference to the heat dome, consider the following statements:

1. It is a weather phenomenon where a low-pressure system in the atmosphere traps warm air for a short period of time.

2. It leads to less evaporation and reduces the likelihood of the formation of rain clouds.

3. Jet stream plays a role in the formation of heat domes.

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

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

7. With reference to the Order of Saint Andrew the Apostle, consider the following statements:

1. It is Russia's highest civilian honour.

2. Recently, S. Jaishankar was awarded this award during his visit to the country.

3. It cannot be awarded to heads of foreign states for outstanding services.

How many of the statement(s) given above is/are correct?

A. Only one
B. Only two
C. All three
D. None

8. The term "Apophis" was recently in the news. It refers to:

A. Comet
B. Asteroid
C. Jupiter's Moon
D. Quasar

9. The Saffir-Simpson Scale is used to measure intensity of:

A. Earthquakes
B. Tsunami
C. Floods
D. Hurricanes

10. With reference to the Digital Bharat Nidhi (DBN), consider the following statements:

1. It would replace the erstwhile Universal Service Obligation Fund (USOF).

2. As per the Telecom Act, contributions made by telecom companies towards the DBN will first be credited to the Consolidated Fund of India (CFI).

3. The States will be responsible for depositing the collected funds to the DBN from time to time.

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

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

11. With reference to the Vizhinjam sea port, consider the following statements: