



# DHEERAN IAS ACADEMY®

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## GENERAL STUDIES – I

### TOPIC: ART AND CULTURE

#### TELANGANA SCORES DOUBLE WIN AT UNESCO HERITAGE AWARDS

##### In News:

Telangana scored a double win at the **UNESCO Asia-Pacific Awards** for Cultural Heritage Conservation with a Distinction of Merit for the restoration of the 17th century stepwells inside the Qutb Shahi Tombs Complex in Hyderabad and an Award of Merit for the conservation work on the Domakonda Fort, built in the 18th century in Kamareddy district.

##### Analysis of Background:

##### Qutb Shahi Tombs:

- It is lying two kilometers from the Golconda Fort, the Qutb Shahi Tombs are built in Persian, Hindu and Pathani styles of architecture.
- The tombs were planned and built by numerous monarchs who ruled the state during the 18<sup>th</sup> century.
- The grandeur of the tombs is ensconced amidst the beautiful and picturesque landscape and gardens of Ibrahim Bagh, and the tombs themselves are dedicated to the seven Qutub Shahi kings who ruled Golconda for nearly 170 years.
- One of the most impressive tombs belongs to the founder of Hyderabad, Mohammed Quli Qutub Shah which rises to a height of 42 meters.
- The complex was put by UNESCO on its “tentative list” to become a World Heritage Site in 2014, with others in the region, under the name Monuments and Forts of the Deccan Sultanate

##### Domakonda Fort:

- Built in the 18th century in Kamareddy district, Telangana.
- It has an elevated compound of granite rocks that forms the fort wall, followed by a wooden door on an entrance door to the beautiful two-storied fort structure, which consists of great stuccowork.
- This fort is also called “Gadi Domakonda” or “Killa Domakonda” as it houses a palatial mahal inside and popularly called “Addhala Meda” .

### **UNESCO Asia-Pacific Awards Awards for Cultural Heritage Conservation:**

- Since 2000, the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme has recognised the efforts of private individuals and organisations in restoring, conserving and transforming structures and buildings of heritage value in the region.
- It encourages other property owners to undertake conservation projects within their communities, either independently or by public-private partnerships.
- The awards give people a sense of pride and sense of ownership of their own heritage.

### **India's Performance:**

- **Award of Excellence:** Chhatrapati Shivaji Maharaj Vastu Sangrahalaya, Mumbai
- **Award of Distinction:** Stepwells of Golconda, Hyderabad
- **Award of Merit:** Domakonda Fort, Telangana, and Byculla Station, Mumbai

## TOPIC: HISTORY

### BIRSA MUNDA

#### In News

- The President of India visited Ulihatu village in Jharkhand – the birthplace of Birsa Munda to pay her respects to Birsa Munda. The President will address a Janjatiya Samagam at Shahdol, Madhya Pradesh, being organised by the State Government of Madhya Pradesh, on the occasion of Janjatiya Gaurav Divas (15th November).

#### Analysis of Background:

##### Birsa Munda:

- He was an Indian tribal freedom fighter, reformer and religious leader. He was nicknamed 'Dharti Abba' or Father of the Earth, by his followers.

##### His contributions:

##### Religion:

- He renounced Christianity and protested against the conversion of Tribals by Christian missionaries.
- He created a new religion called "Birsait", which worshipped only one god. Birsait soon became the popular religion among the Mundas and Oraons.
- He preached a strong anti-British sentiment through his religion.

##### Reformer

- He stressed the need for the tribals to study their religion and not forget their cultural roots.
- He convinced people to give up superstition, alcohol, theft, lying, murder and begging under his new religion.

##### Munda Rebellion

- Munda tribals practised the Khuntkatti system (joint holding by tribal lineages). However, the British colonial system intensified the transformation of the tribal agrarian system into a feudal state by introducing the Zamindari-tenancy system.
- Outsiders (Dikus) were invited by the British to settle on and cultivate the tribal land.
  - Thus, the various tribes, who were the original owners of the land, were left bereft of land and any means of livelihood.

## 'Ulgulan' or the 'Great Tumult' (1899-1900)

- Birsa Munda infused in tribals the values to love, respect, support and safeguard their land from outsiders.
- He used traditional symbols and language to rouse people, urging them to destroy “Ravana” (dikus and the Europeans) and establish a kingdom under his leadership.
- He mobilised thousands of tribal folk to form guerrilla armies to attack the British Raj.
- He declared that the reign of Queen Victoria was over and the Munda Raj had begun.
- He gave orders to the raiyats (tenant farmers) to pay no rent.
- The people attacked police stations and churches and raided the property of moneylenders and zamindars. They raised the white flag as a symbol of Birsa Raj.
- The attacks were launched not only on the moneylender-landlord-Mahajan-contractor combine but directly against the British.
- The massacre at Dumbri Hill made it a “hill of the dead” when hundreds of tribals lost their lives for the cause of freedom against the modern ammunition of the British.
- The Great Tumult against Britishers sought to establish Munda Raj and independence.
- The slogan of the movement was “Abua Raj ete Jana, Maharani Raj Tundu Jana” which means “Let the kingdom of queen be ended and our kingdom established”.

## Outcome

- The Britishers were forced to abolish the feudal system that plagued the Adivasi lands in Jharkhand and Bihar.
- Birsa compelled the Britishers to introduce new legislation - the Chota Nagpur Tenancy Act, 1908. This Act prohibited the transfer of tribal land to non-tribal parties.
- The government recognized Khuntkatti's rights and banned Beth Begari (forced labour).

## ACHARYA KRIPLANI

### In News:

The Prime Minister Narendra Modi has paid tributes to Acharya Kripalani on his Jayanti.

### Analysis of Background:

- He earned the moniker ‘Acharya’ around 1922 when he was teaching at the Gujarat Vidyapith, founded by the Mahatma a couple of years before.
- He was involved in the organization of Non-Cooperation Movement and the Civil Disobedience movements and Quit India Movement.
- He was the President of Indian National Congress (INC) at the time of independence.
- He served in the Interim government of India (1946–1947) and the Constituent Assembly of India.

### **Political Career in post-independent India**

- Post-independence, he left the Congress and became one of the founders of the Kisan Mazdoor Praja Party (KMPP).
- This party subsequently merged with the Socialist Party of India to form the Praja Socialist Party (PSP).
- He remained in opposition for the rest of his life and was elected to the Lok Sabha in 1952, 1957, 1963 and 1967 as a member of Praja Socialist Party.
- Kripalani moved the first-ever No confidence motion in Lok Sabha in 1963, immediately after the India-China War.
- He remained a critic of Nehru's policies and Indira Gandhi's authoritarian rule. He was arrested during Emergency.

### **Environmentalist**

- He along with Vinoba Bhave, was involved in preservation and conservation activities throughout the 1970s.
- His autobiography 'My Times' was released 22 years after his death in 2004.

## **MAULANA AZAD**

### **In News:**

Every year, 11th November is celebrated as National education day, which commemorates the birth anniversary of independent India's first education minister, Maulana Abul Kalam Azad.

### **Analysis of Background:**

- Maulana Abul Kalam Azad, originally named Muhiyuddin Ahmad, was born on 11th November 1888 in Mecca, Saudi-Arabia.
- He donned many hats of being a journalist, freedom fighter, politician, and educationist.
- He was a proponent of Hindu Muslim unity, opposed to Partition.
- In 1912, he started a weekly journal in Urdu called Al-Hilal which played an important role in forging Hindu-Muslim unity after the bad blood created between the two communities in the aftermath of Morley-Minto reforms (1909).
- The government regarded Al- Hilal as a propagator of secessionist views and banned it in 1914.
- Maulana Abul Kalam Azad then started another weekly called Al-Balagh with the same mission of propagating Indian nationalism and revolutionary ideas based on Hindu-



Muslim unity. In 1916, the government banned this paper too and expelled Maulana Abul Kalam Azad from Calcutta and exiled him to Bihar from where he was released after the First World War 1920.

- Azad supported the Non-Cooperation Movement (1920-22) started by Gandhiji and entered the Indian National Congress in 1920.
- In 1923, he was elected as the president of Indian National Congress. At an age of 35, he became the youngest person to serve as the President of the Indian National Congress.
- Maulana Azad was arrested in 1930 for violation of the salt laws as part of Gandhiji's Salt Satyagraha. He was put in Meerut jail for a year and a half. He again became the president of Congress in 1940 and remained in the post till 1946.
- He was one of the founding members of the Jamia Milia Islamia University, originally established at Aligarh in the United Provinces in 1920.
- His Works: Basic Concept of Quran, Ghubar-e-Khatir, Dars-e-Wafa, India Wins Freedom, etc.
- Maulana Abul Kalam Azad was posthumously awarded India's highest civilian honour, Bharat Ratna in 1992.

## **KASHI TAMIL SANGAMAM**

### **In News:**

The month-long Kashi Tamil Sangamam, which begins in Varanasi, will celebrate the many aspects of the historical and civilisational connection between India's North and South. Some 2,400 people from Tamil Nadu will be taken to Varanasi in groups for visits that will last eight days and will include, besides an immersive local experience, trips to Ayodhya and Prayagraj.

### **Analysis of Background:**

- The broader objective is to bring the two knowledge and cultural traditions (of the North and South) closer, create an understanding of our shared heritage and deepen the people-to-people bond between the regions.
- This is in sync with the National Education Policy, 2020 which emphasises "on nurturing a generation that is modern and in sync with the 21st-century mindset, while being rooted in the Indian culture and ethos
- BHU and IIT-Madras are knowledge partners for the event, and the Ministries of Culture, Tourism, Railways, Textiles and Food Processing have been roped in as stakeholders, besides the government of Uttar Pradesh and the Varanasi administration.

- The connection between the two centres of knowledge (Kashi and Kanchi) is evident in the similar themes in literature, and the presence of the name Kashi in every village in Tamil Nadu.
- Besides the Kasi Viswanathar temple in Tenkasi, there are hundreds of Shiva temples in Tamil Nadu that bear the name of Kashi.
- People from Rameswaram would take a dip in the Koti teertha (in the temple) before visiting Kashi for darshan; and they would bring back (Ganga) water from Kashi for abhiseka at the temple in Rameswaram. Only this would complete their pilgrimage at a time when it took six months to travel between Kashi and Rameswaram
- There was also the connection between the traders dealing in silk saris and textiles from Banaras and Kanchipuram, and architectural, culinary, and other kinds of connections.

## BATTLE OF REZANG LA

### In News:

November 18, 2022, is the 60th anniversary of the Battle of Rezang La, one of the few bright spots in the War of 1962 with China. On that day, 13 Kumaon's C Company made their heroic last stand against the Chinese army in the high Himalayas of Ladakh, warding off a very significant threat and, in the process, writing a glorious chapter in India's military history.

### Analysis of Background:

- The brightest of the bright spots in the pervasive darkness of 1962 was the Battle of Rezang La in the high Himalayas in Ladakh.

### Rezang La:

- The place is a massive 16,000-foot-high feature in the narrow gap between the even higher mountains surrounding the strategic village of Chushul and the Spanggur Lake that stretches across both Indian and Chinese territories.
- Rezang La is, therefore, vital for the defence of the crucially important Chushul. Any invader reaching there would have had a free run to Leh.
- Rezang La is a mountain pass on the Line of Actual Control between Indian-administered Ladakh and the Chinese-administered Spanggur Lake basin that is also claimed by India.
- The pass is located on the eastern watershed ridge of the Chushul Valley that China claims as its boundary.
- It is at the head of the Rezang Lungpa valley, which houses a stream draining into the Spanggur Lake.

### **Battle of Rezang La:**

- The Battle of Rezang La is often remembered as a show of great Indian strength during the war in 1962.
- Not the kind of strength to be understood in terms of military preparedness or tactical prowess — Indian troops were severely outnumbered, weren't as well acclimatised to winter conditions as their Chinese counterparts, had inferior weaponry and more importantly, the heights of mountain tops interfered with the flight of artillery shells.
- That said, the soldiers of the Charlie Company of 13 Kumaon demonstrated the kind of strength it takes to fight till 'the last man, last round' on that chilly night of 18 November, 1962.
- Of the 120 men and officers of this company, 114 died. Yet they managed to inflict over 1,000 fatalities on the enemy side.
- This appears all the more impressive when we take into account that all the soldiers in the company, save for their commander who was a Rajput, were Ahirs who hailed from Gurgaon and Mewat region of Haryana, and came from communities of cattlemen and farmers.
- For them, serving in minus 30 degree temperature was a first and most had seen no active operations except in Jammu and Kashmir. Perhaps this is what makes the Charlie Company of the 13 Kumaon battalion the most decorated company in the history of the Indian Army.
- Despite the fact that almost the entire company was wiped out in battle, they had put up enough of a fight to ensure that Chushul wouldn't fall into Chinese hands.
- The 13 Kumaon regrouped and the 114 Brigade held on to Chushul, and on 21 November, the Chinese announced a unilateral ceasefire.

### **Major Shaitan Singh:**

- It would be erroneous to talk of the Battle of Rezang La without mentioning Major Shaitan Singh, the commander of the Charlie company who received the Param Vir Chakra.
- When the Chinese soldiers attacked his platoons, he moved from one post to another to sustain the morale of his troops. This came at great personal risk as he was first hit by enemy fire on his arm, and later struck in the abdomen after which two of his troops pulled him behind a boulder to take shelter.
- Months later, his frozen body was found near that boulder along with scores of bodies of his troops.

## TOPIC: GEOGRAPHY

### EL-Nino, La-Nina:

#### In News:

The current La Nina episode has already surpassed that in length. Having started in September 2020, it has prevailed for the last 24 months, looks set to continue for another six months, and has thus been classified as a 'triple dip' La Niña.

#### Analysis of Background:

##### La-Nina – India:

- The ongoing (year 2022) La Nina phase is one of the longest-ever La Niña episodes in recorded history.
- It is also only the third episode since 1950 to stretch into the third year.
- This is called "Triple-Dip" La-Nina event because it has surpassed 24 months and predicted to be continue for another 6 months. Thus, expected to be continue for 3rd year in a row (Thats why the termTriple-Dip).
- The triple dip banned two times in the past i.e.1973-1976 and 1998-2001.
- This La-Nina episode differs from the previous two, because the earlier two were preceded by a strong El-Nino events which is not the case with this La-Nina event.
- In the Indian context, La Niña is associated with good rainfall during the monsoon season.
- This event is causing drought conditions to the USA and Horn of Africa, while causing excess rainfall to South Asia (India, Pakistan, Indonesia etc.) and Australia. La Niña's cooling influence is temporarily slowing the rise in global temperatures but it will not halt or reverse the long-term warming trend.

#### Why the current prolonged La Nina event is different from the previous events?

- Both the earlier events — one between 1973 and 1976, and the other between 1998 and 2001 — were preceded by a strong El Niño.
- Prolonged La Niña events in those instances could be explained by the fact that the amount of accumulated heat in the oceans was higher, and therefore took a longer time to dissipate.
- In the absence of a strong El Niño preceding it, the reason for the current La Niña episode is not very clear at the moment.

### About EL- Nino, La-Nina:

#### EL- Nino:

El Nino refers to the large-scale ocean-atmosphere climate interaction linked to periodic warming in sea surface temperatures across the central and east-central Equatorial Pacific. It is associated with high pressure in the western Pacific. El Nino adversely impacts the Indian monsoons and hence, agriculture in India.

### **El Nino impacts on India:**

- In a normal monsoon year (without El Nino), the pressure distribution is as follows:
- The coast of Peru in South America has a higher pressure than the region near northern Australia and South East Asia.
- The Indian Ocean is warmer than the adjoining oceans and so, has relatively lower pressure. Hence, moisture-laden winds move from near the western Pacific to the Indian Ocean.
- The pressure on the landmass of India is lower than on the Indian Ocean, and so, the moisture-laden winds move further from the ocean to the lands.
- If this normal pressure distribution is affected for some reason, the monsoons are affected.
- El Nino means lesser than average rains for India. Indian agriculture is heavily dependent on the monsoons and because of this, lesser rainfall during the monsoons generally translates to below-average crop yields.

### **What happens because of El Nino?**

- The cool surface water off the Peruvian coast goes warm because of El Nino. When the water is warm, the normal trade winds get lost or reverse their direction.
- Hence, the flow of moisture-laden winds is directed towards the coast of Peru from the western Pacific (the region near northern Australia and South East Asia).
- This causes heavy rains in Peru during the El Nino years robbing the Indian subcontinent of its normal monsoon rains. The larger the temperature and pressure difference, the larger the rainfall shortage in India.

### **La-Nino:**

- It means the large-scale cooling of ocean surface temperatures in the central and eastern equatorial Pacific Ocean, together with changes in the tropical atmospheric circulation, namely winds, pressure and rainfall.
- It has the opposite impacts on weather and climate as El Niño, which is the warm phase of the El Niño Southern Oscillation (ENSO).

### **La-Nina Impacts:**

- The Horn of Africa and central Asia will see below average rainfall due to La Niña.
- East Africa is forecast to see drier-than-usual conditions, which together with the existing impacts of the desert locust invasion, may add to regional food insecurity.
- It could also lead to increased rainfall in southern Africa.
- It could also affect the South West Indian Ocean Tropical Cyclone season, reducing the intensity.

- Southeast Asia, some Pacific Islands and the northern region of South America are expected to receive above-average rainfall.
- In India, La Niña means the country will receive more rainfall than normal, leading to floods.

## INDIA'S RARE EARTHS MISSION

### In News:

To counter India's reliance on China for imports of critical rare earth minerals, industry has urged the government to encourage private sector mining in the sector and diversify sources of supply for these strategic raw materials.

### Analysis of Background:

#### India Rare Earths Mission:

- CII has suggested to set up an 'India Rare Earths Mission', manned by professionals, like the India Semiconductor Mission and make their exploration a critical component of the Deep Ocean Mission plan of the government.
- Though India has 6% of the world's rare earth reserves, it only produces 1% of global output, and meets most of its requirements of such minerals from China.

#### 'More on Details – Supply of Rare Earth Minerals:

- In 2018-19, for instance, 92% of rare earth metal imports by value and 97% by quantity were sourced from China.
- CII has recommended the public sector firm Indian Rare Earths Limited (IREL), administered by the Department of Atomic Energy, should be split into two entities.
- While IREL primarily focuses on Thorium mining, the second entity could pursue other minerals.

### Rare earth metals production and reserves



### **Rare earth elements:**

- The 17 rare earth elements (REE) include the 15 Lanthanides (atomic numbers 57 — which is Lanthanum — to 71 in the periodic table) plus Scandium (atomic number 21) and Yttrium (39). REEs are classified as light RE elements (LREE) and heavy RE elements (HREE).
- Some REEs are available in India — such as Lanthanum, Cerium, Neodymium, Praseodymium and Samarium, etc.
- Others such as Dysprosium, Terbium, and Europium, which are classified as HREEs, are not available in Indian deposits in extractable quantities.
- Hence, there is a dependence on countries such as China for HREEs, which is one of the leading producers of REEs, with an estimated 70 per cent share of the global production.

### **Why are these minerals important?**

- Minerals like Cobalt, Nickel, and Lithium are required for batteries used in electric vehicles.
- REEs are an essential — although often tiny — component of more than 200 consumer products, including mobile phones, computer hard drives, electric and hybrid vehicles, semiconductors, flatscreen TVs and monitors, and high-end electronics.
- India is seen as a late mover in attempts to enter the lithium value chain, coming at a time when EVs are predicted to be a sector ripe for disruption.
- According to the plan, 80 percent of the country's two- and three-wheeler fleet, 40 percent of buses, and 30 to 70 per cent of cars will be EVs by 2030.

## **DARJEELING TEA INDUSTRY IN CRISIS**

### **In News:**

One of the key brands of the Tea Board, 'Darjeeling Tea', is under acute stress. During the annual general meeting of the Indian Tea Association (ITA) in Kolkata, the Tea Board of India had sought a special financial package of ₹1,000 crore from the Centre for the tea Industry over five years.

### **Analysis of Background:**

#### **Why is it important to save Darjeeling Tea?**

- Darjeeling Tea, called the 'Champagne of Teas', was the first Indian product to get the GI (Geographical Identification) tag in 2004 for its distinctive aroma and flavour.
- 7 million kg of darjeeling tea is produced from 87 gardens and most of them were exported.

- During the past few months the owners of these gardens have been changed several times due to financial problems and seeking government support.

### **What is the threat from Nepal's gardens?**

- Nepal, which shares similar climatic conditions and terrain, produces tea at a lower price because of less input costs, particularly labour, and fewer quality checks.
- The inferior quality of tea from Nepal was being imported and then sold and re-exported as premium Darjeeling tea.
- Under the Revised Treaty of Trade between the Governments of India and Nepal in October 2009, both parties had agreed to exempt from basic customs duty, as well as from quantitative restrictions, the import of mutually agreed primary products.
- Data from the Tea Association of India show that the total tea imported from Nepal in 2020-21 was 10.74 million kg; during the same period, the total tea import of India was pegged at 27.75 million kg.
- This influx of cheap tea from Nepal is started from 2017.
- In 2017, the production of Darjeeling Tea hit a low of 3.21 million kg.

### **Is climate change impacting production?**

- The reduction in production and rise of input costs is another worry.
- Tea production in Darjeeling which used to be around 10-12 million kg a decade back now stands at 6.87 mkg (2021).
- Decline in production is due to multiple factors-
  - climate change,
  - declining yields
  - high absenteeism among workers.
  - The tea bushes are older than other parts of the country.
  - Uprooting and planting them is both time and cost intensive.
  - stagnant prices of auction of Darjeeling Tea
  - The decline in demand from European markets
  - The per capita tea consumption in the country remains at 850 grams and is less than neighbouring countries.



## SAFFRON

### About Saffron:

Saffron is one of the world's most costly spices by weight. Around 75,000 saffron blossoms produce a single pound of saffron spice and the cost varies between ₹2 and ₹3 lakh per kilogram. It grown in areas having karewas.

### About Karewas:

- In the Kashmiri dialect, the term Karewa means “elevated table land”.
- Karewas are deposits in lake in the Valley of Kashmir and in Bhadarwah Valley of the Jammu Division.
- Karewas are the thick deposits of glacial clay and other materials embedded with moraines.
- Firstly, this term was used by Godwin Austin in 1859 and later on by Lydekker in 1878 for unconsolidated to semi-consolidated sand clay conglomerate sequence.
- “Vudr” is the local name for Karewas in Kashmiri language.
- Karewas were formed during the Pleistocene Period (1 million years ago), when the entire Valley of Kashmir was under water.
- Due to the rise of Pirpanjal, the drainage was impounded and a lake of about 5000 sq. km area was developed and thus a basin was formed.
- Subsequently, the lake was drained through Bramulla gorge. The deposits left in the process are known as karewas.
- This is ideal for cultivation of saffron, almonds, apples and several other cash crops.

### Significance of Karewas:

- Karewa deposits have different soil and sediments such as sand, clay, silt, shale, mud, lignite and losses. Hence, these are very useful for agricultural and horticulture activities.
- Kashmir saffron, which received a Geographical Indication (GI) tag in 2020 for its longer and thicker stigmas, deep-red colour, high aroma and bitter flavour, is grown on these karewas.
- Karewa formations are useful for the cultivation of Zafran is a local variety of Saffron in Kashmir valley.

### Threats to Karewas:

- Despite its agricultural and archaeological importance, Karewas are now being excavated to be used in construction.

- Between 1995 and 2005, massive portions of karewas in Pulwama, Budgam and Baramulla districts were razed to the ground for clay for the 125-km-long Qazigund-Baramulla rail line.
- The Srinagar airport is built on the Damodarkarewa in Budgam.

## **MAUNA LOA, HAWAII'S BIGGEST VOLCANO:**

### **In News:**

The ground is shaking and swelling at Mauna Loa, the largest active volcano in the world, indicating that it would erupt.

### **Analysis of Background:**

#### **About Mauna Loa:**

- It is an active shield volcano with relatively gentle slopes, with a volume estimated at 18,000 cubic miles (75,000 km<sup>3</sup>),<sup>[5]</sup> although its peak is about 125 feet (38 m) lower than that of its neighbor, Mauna Kea.
- Lava eruptions from Mauna Loa are silica-poor and very fluid, and they tend to be non-explosive.

#### **What are shield volcano?**

- A shield volcano is a type of volcano named for its low profile, resembling a warrior's shield lying on the ground.
- It is formed by the eruption of highly fluid (low viscosity) lava, which travels farther and forms thinner flows than the more viscous lava erupted from a stratovolcano.
- Repeated eruptions result in the steady accumulation of broad sheets of lava, building up the shield volcano's distinctive form.
- Shield volcanoes are found wherever fluid low-silica lava reaches the surface of a rocky planet.
- However, they are most characteristic of ocean island volcanism associated with hot spots or with continental rift volcanism.
- They include the largest volcanoes on earth, such as Tamu Massif and Mauna Loa.

#### **What are the other types of volcanoes?**

- Cinder cones
- Composite volcanoes
- Shield volcanoes
- Lava volcanoes

### **Cinder Cones:**

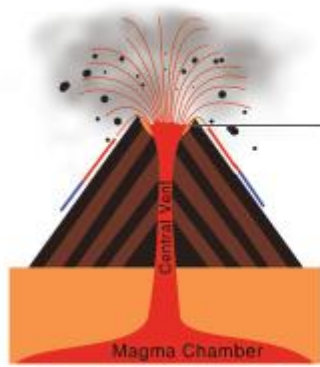
- Cinder cones are circular or oval cones made up of small fragments of lava from a single vent that have been blown up.
- Cinder cones result from eruptions of mostly small pieces of scoria and pyroclastics that build up around the vent.
- Most cinder cones erupt only once. Cinder cones may form as flank vents on larger volcanoes, or occur on their own.
- Mauna Kea, a volcano on the American island of Hawaii, and Mount Etna, a volcano on the Italian island of Sicily, are both covered with hundreds of cinder cones.

### **Composite Volcano:**

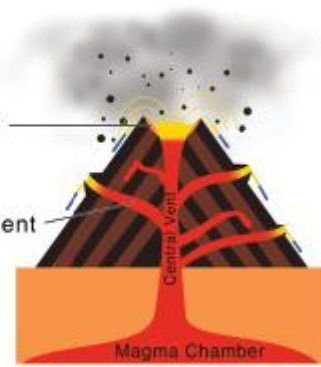
- Composite volcanoes, also known as stratovolcano, are steep-sided volcanoes composed of many layers of volcanic rocks, usually made from high-viscosity lava, ash and rock debris.
- These types of volcanoes are tall conical mountains composed of lava flows and other ejecta in alternate layers, the strata that give rise to the name.
- Composite volcanoes are made of cinders, ash, and lava.
- Cinders and ash pile on top of each other, lava flows on top of the ash, where it cools and hardens, and then the process repeats.
- Mount Rainier in Washington is one of several active composite volcanoes in this range that also includes Mount St. Helens.

### **Lava Domes:**

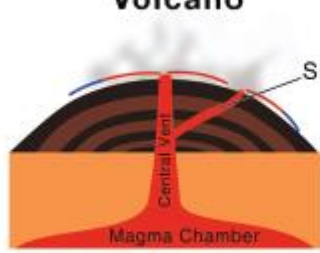
- Lava domes are formed when erupting lava is too thick to flow and makes a steep-sided mound as the lava piles up near the volcanic vent.
- They are built by slow eruptions of highly viscous lava.
- They are sometimes formed within the crater of a previous volcanic eruption.
- Like a composite volcano, they can produce violent, explosive eruptions, but their lava generally does not flow far from the originating vent.
- A classic example of a lava dome is Obsidian Dome near Mono Lake in southern California.



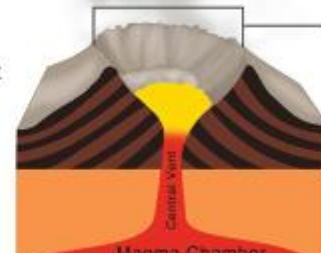
**1. Cinder Cone Volcano**



**2. Composite Volcano**



**3. Shield Volcano**



**4. Lava Dome**

DHEERAN IAS

## GENERAL STUDIES - 2

### TOPIC: POLITY

#### UK SUPREME COURT SAYS NO TO SCOTLAND'S PLAN TO HOLD INDEPENDENCE VOTE

##### In News:

Britain's Supreme Court has ruled that Scotland's government cannot unilaterally hold a second referendum on whether to secede from the United Kingdom.

##### Analysis of Background:

##### When was the issue?

- The government did allow a referendum in 2014, in which a majority of Scots voted to remain in the United Kingdom, by 55 percent to 45 percent.
- The independence question was complicated two years later in the June 2016 vote over Brexit in which the Scots strongly backed remaining in the European Union, by 62 percent to 38 percent.

##### When did Scotland and England unite?

- The Act of Union between Scotland and England was signed on Jan. 16, 1707.
- It came into effect on May 1 of that year, creating the United Kingdom of Britain.
- The Scottish Parliament was dissolved, and a single Parliament was created at Westminster in London.

##### What was the Supreme Court ruling?

- The Scottish Parliament does not have the power to stage a referendum on independence without consent from the British government,
- The Scottish Parliament can't legislate on the matter, as on union the power is held by the British Parliament sitting in the Palace of Westminster in London.

##### Types of Direct Democracy

- Direct democracy has 4 devices – Referendum, Initiative, Recall and Plebiscite
- **Referendum** – procedure in which a proposed legislation is referred to the electorate for acceptance through direct voting.
- **Initiative** – method by means of which the people can propose a bill to the legislature for enactment.
- **Recall** – way for voters to remove a representative or an officer before the expiry of his/her term, when he fails to discharge his duties properly.
- **Plebiscite** – method of obtaining the opinion of people on any issue of public importance. It is generally used to solve territorial disputes.

## 9th SCHEDULE

### In News:

The state Assembly of Jharkhand Assembly cleared two Bills;

- Increasing reservation in vacant government posts and services in the state to 77%.
- Use land records with 1932 as the cut-off year to determine domicile status and the definition of 'residents'.

The Chief Minister of Jharkhand said that the provisions of the bill would into force only after the Centre carried out amendments to include these in the 9th Schedule of the Indian Constitution.

### Analysis of Background:

- The 'Jharkhand Reservation of Vacancies in Posts and Services (Amendment) Bill, 2022', raised the reservation limit to 77%.
  - The Scheduled Castes will get a quota of 12%, up from 10%.
  - 27% for OBCs, up from 14%.
  - 28% for Scheduled Tribes, from 26%.
  - 10% for Economically Weaker Sections.
- 'Jharkhand Definition of Local Persons and for Extending the Consequential, Social, Cultural and Other Benefits to Such Local Persons Bill, 2022', aimed at granting residents "certain rights, benefits, and preferential treatment" over their land.

### Why State asked the Union to include the bill in the 9th Schedule?

- The 77% reservation breaches the 50% ceiling set by the Supreme Court in the 1992 Indra Sawhney v Union of India verdict. However, including legislation in the 9th Schedule protect it from judicial scrutiny.
- Not the 1st time,
  - The Tamil Nadu Backward Classes, Scheduled Castes and Scheduled Tribes (Reservation of Seats in Educational Institutions and Appointments or Posts in the Services under the State) Act, 1993, reserves 69% of the seats in colleges and jobs in the state government.
  - When it ran into legal obstacles in the 1990s after the Supreme Court verdict, the then Chief Minister led a delegation to meet the then Prime Minister. The reservation provision was then included in the 9th Schedule.

## What is the Ninth Schedule?

- After independence, zamindari abolition and land reform laws were passed, but the Government faced several problems, the land legislation was challenged in the various courts.
- The first case challenging the land law was Kameshwar Singh V/s State of Bihar, in this case, the Bihar Land Reforms Act 1950 was challenged on the ground that the classification of zamindars made to give compensation was discriminatory and denied equal protection of laws guaranteed to the citizen under Article 14 of the Constitution.
- The Patna High Court held this piece of legislation as violative of Article 14 as it classified the zamindars for payments of compensation in a discriminatory manner.
- As a result of these judicial pronouncements, the Government amended the Constitution in the year 1951 which inserted the 9th Schedule.
- The 9th Schedule contains a list of Union and state laws which cannot be challenged in court. Currently, 284 such laws are shielded from judicial review.
- Most of the laws protected under the Schedule concern agriculture/land issues.
- While the Ninth Schedule provides the law with a “safe harbour” from judicial review, the protection is not blanket.
- In IR Coelho v State of Tamil Nadu case, the Supreme Court ruled in a unanimous nine-judge verdict that while laws placed under Ninth Schedule cannot be challenged on the grounds of violation of fundamental rights, they can be challenged on the ground of violating the basic structure of the Constitution.

## EWS Quota

### In News

- A five-judge Bench of the Supreme Court by a majority of 3:2 has upheld the validity of the 103rd Constitutional Amendment Act.

### Analysis of Background:

- In 2019, The Indian parliament has passed the 103rd Amendment act that inserted Articles 15(6) and 16(6) in the Constitution of India to provide up to 10% reservation to the economically weaker sections (EWS) among non-OBC and non-SC/ST sections of the population.
- The amendment introduced a quota for the poor among the so-called ‘forward castes’ or ‘general category’.
- The 10% EWS quota is available in admissions to higher educational institutions, and initial recruitment in central government jobs.

- The amendment also empowered state governments to provide reservations based on economic backwardness.

### **Economically Weaker Section (EWS)**

- Economically Weaker Section (EWS) in India is a subcategory of people belonging to the Economy Based Un-Reserved Category having an annual family income of less than ₹8 lakh and who do not belong to any category such as SC/ST/OBC across India.
- Candidates who do not fall under SC/ST/OBC and fulfil the EWS economic criteria are to be part of the EWS category.
- In January 2019, the Union Council of Ministers approved a 10% reservation in government jobs and educational institutions for the Economically Weaker Section (EWS) in the General category.
- The cabinet decided that this would be over and above the existing 50% reservation for SC/ST/OBC categories.
- The 103rd Amendment of the Constitution of India amended articles 15(6) and 16(6) of the Constitution of India to permit 10% reservations to the EWS category students among the unreserved category or General category students.
- Several state cabinets approved the law and announced their intention to implement the 10% EWS reservations.

### **Eligibility Criteria under EWS Reservation**

- The eligibility to get the EWS certificate is not only purely based on annual family income but also based on the held property.
- The central government has set the income limit for admission to central government-owned colleges and jobs offered by the central government.
- State governments are given the authority to change the eligibility criteria and also to extend the income limit further for candidates seeking reservation under the EWS category, which will be valid only in state-owned colleges and state government jobs as deemed fit for the respective states.
- Criteria for identifying EWS quota;
  - The candidate's annual family income must be less than Rs. 8 lakhs per annum.
  - Their family must not own more than 5 acres of agricultural land.
  - The residential flat area should be below 1000 sq ft.
  - The residential plot's area should be below 100 square yards if in a notified municipality sector.



- The residential plot's area should be below 200 square yards if in a non-notified municipality sector.

### **Significance of EWS Reservation**

- People belonging to the Economically Weaker Section now get 10% reservation in education and government jobs in India (vertical reservations) similar to OBC, SC, and ST.
- This reservation weakened the pace of many reservation agitations such as the Jat reservation movement, the Patidar reservation movement, and the Kapu reservation movement.
- Concern
- Aspirants from the EWS category are not fully satisfied with this reservation because it does not include many benefits like age relaxation, fee relaxation, etc.
- In Indra Sawhney's Judgement, a nine-judge bench had struck down a provision that provided 10% reservation for the economically backward on the ground that economic Criteria Cannot be the Sole basis to determine backwardness.
- In Nagaraj's judgment, a Constitution Bench ruled that equality is part of the basic structure of the Constitution. It is said the 50% ceiling, among other things, was a constitutional requirement without which the Structure of equality of opportunity would Collapse.
- Another issue is whether reservations can go to a Section that is already adequately represented in Public Employment.
- One of the Criteria has an income limit of less than 8 lakh Per Annum, National Sample Survey Shows that the annual per Capita expenditure for 99% of households fall under this limit, even if we apply all the other Criteria for exclusion the bill would Still Cover over 95% of households.

### **Arguments by the judges in favour of EWS reservation;**

- Reservation based only on economic criteria does not damage the basic structure of the Constitution.
- Treating EWS as a separate class would be a reasonable classification, and treating unequals equally would violate the principle of equality under the Constitution.

### **Arguments by the judges in against EWS reservation;**

- While reservation on economic criteria is not violative of the basic structure of the Constitution, excluding SC/ST/OBC from the purview of EWS is a clear violation of the basic structure.

## DEEMED UNIVERSITY STATUS

### In News:

The University Grants Commission (UGC) released its draft UGC (Institutions Deemed to be Universities) Regulations, 2022, that will replace the 2019 regulations.

### Analysis of Background:

- The draft regulations create a new category of institutions, known as “distinct institutions”.
- It will be exempted from the eligibility criteria that are laid down for other higher education institutions to receive the status of “Deemed to be University”.
- They will not be required to comply with the requirement of a teacher-student ratio of 1:20.
- These institutions;
  - Focus on teaching and research in the special discipline.
  - Addressing the strategic needs of the country.
  - Engaged in the preservation of Indian cultural heritage.
  - Preservation of the environment.
  - Dedicated to skill development.
  - Dedicated to sports or languages or any other disciplines.
- Institutions with at least a 3.01 CGPA for 3 consecutive cycles or ranking among the top 50 or top 100 given by the National Institute Ranking Framework.
- A cluster of government or private institutions can also apply for the status.
- Now, the UGC, and not the Union Ministry of Education, will be the authority for granting permission to a “Deemed to be University” to set up an off-campus centre.

### NCERT:

- The National Council of Educational Research and Training (NCERT) competing for the tag ‘Deemed to be university’.
- NCERT is an autonomous academic body set up in 1961 to assist and advise the Union and State Governments on policies and programmes related to school education.
- NCERT recently applied to the University Grants Commission (UGC) for the “deemed university” status. The proposal will be discussed at a meeting of the Executive Committee (EC).
- The EC is the highest decision-making body of NCERT and is chaired by the Union Education Minister.
- According to the official sources, the ‘Deemed to be University’ status would allow NCERT to offer its graduate, post-graduate and doctoral degrees and have autonomy in

terms of the introduction of programmes, course structure, conducting examinations and management, among others.

### **University Grants Commission (UGC)**

- University Grants Commission is a statutory body under the University Grants Commission Act, of 1956.
- UGC is charged with the task of coordinating and maintaining standards of higher education in India.
- It provides recognition to universities and also allocates funds to universities and colleges.
- UGC headquarters are in New Delhi, and it also has 6 regional centres.
- All grants to universities and higher learning institutions are handled by the UGC.
- In 2015-16, the Union government initiated a National Institutional Ranking Framework under UGC to rank all educational institutes.
- UGC also conducts the National Eligibility Test (NET) for the appointments of teachers in colleges and universities.
- M Jagadesh Kumar is the current chairman of the UGC.
- Recently, the UGC has released the guidelines for transforming colleges and universities into multidisciplinary institutions and also suggested “clustering” of facilities located in closeness to each other.
- The UGC has also suggested academic collaboration between institutions to promote research in online and offline modes.
- Promoting multidisciplinary institutions was one of the key recommendations of the National Education Policy, 2020.
- These guidelines aim to aid State governments and universities to frame relevant rules and policies.
- The cluster system will help institutions in improving their grades in National Assessment and Accreditation Council (NAAC) accreditation.
- Institutions need to design their timetable in cooperation with partner institutions so that students could register easily.
- The partner colleges would share their resources and guide student in research projects.
- The University Grants Commission (UGC) suggested a capacity-building programme for faculty through initiatives like Annual Refresher Programme, learning assessment tools, etc, so that they can teach, train and research in multidisciplinary academic programmes.

- The UGC suggested setting up Education Departments in universities and colleges that will assist in curriculum creation and establishing communication among teachers and students of partner colleges.

## **PLACES OF WORSHIP ACT 1991**

### **In News**

The Supreme Court of India allowed the Union government more time to file an affidavit on the petition against the Places of Worship Act of 1991. The Act prohibits the “conversion of any place of worship” and states places like churches, temples, mosques, etc. cannot be changed from as they stood on August 15, 1947.

### **Analysis of Background:**

#### **The Places of Worship Act, 1991 Provisions:**

- The Places of Worship Act 1991 was passed by parliament during the Ram Janmabhoomi movement.
- The Act was introduced to promote peace, harmony and brotherhood.
- The main objective of the Act is to maintain the religious character of any such place as it existed on the 15th day of August 1947 (at the time of Independence).
- The act prohibits conversion of any place of worship or changing the religious character of any place from its status at the time of Independence.
- The main purpose behind the Act was to check and control communal hatred and promote peace and harmony in the country.
- The 1991 Act covered all disputed sites to which religious groups had raised a claim.
- The Ram Janmabhoomi-Babri case was excluded from the provision of the Act.
- Section 4(2) of the Act says that any legal proceeding concerning the conversion of the religious character of any place of worship existing on August 15, 1947, pending before any court, shall be dropped and no fresh suit or legal proceeding shall be initiated.

## **PM AWAS YOJANA**

### **In News**

The Union Ministry of Finance has approved an advance of Rs 13,000 crore from the Contingency Fund of India for the Pradhan Mantri Awas Yojna-Gramin (PMAY-G). Rs 13,000 crore is over and above the outlay of Rs 20,000 crore provided for PMAY-G in the Union Budget 2022-23.

## **Analysis of Background:**

### **Pradhan Mantri Awas Yojana:**

- The Ministry of Housing and Urban Poverty Alleviation launched Pradhan Mantri Awas Yojana in 2015.
- The Programme was initiated with the objective of 'Housing for All by 2022'.
- Providing housing Facilities to rural poor and urban poor including slum dwellers
- Financial assistance is provided to eligible beneficiaries for the construction of pucca houses.
- The Centre and States share the Cost of the houses made under the scheme.
- The mission has 2 Components: Pradhan Mantri Awas Yojana (Urban) and Pradhan Mantri Awas Yojana (Rural).
- Pradhan Mantri Awas Yojana Gramin (PMAY-G) was formerly called the Indira Awas Yojana and was renamed in March 2016.
  - It is targeted at promoting accessibility and affordability of housing for all of rural India with the exceptions of Delhi and Chandigarh.
  - Under the PMAY-G, financial assistance of Rs 1.20 lakh in plain areas and Rs 1.30 lakh in hilly states is provided to a beneficiary.
  - The cost is shared by the Centre and state in a ratio of 60:40 in plain areas and 90:10 for hilly states (special category states which include 8 North Eastern States, Himachal Pradesh, Uttarakhand and J&K).
  - In the UTs, including Ladakh, the Centre bears 100% of the expenditure on the implementation of the rural housing scheme.

### **Pradhan Mantri Awas Yojana (Urban) Programme**

- In Situ Slum Redevelopment: A slum rehabilitation grant of Rs. 1 lakh per house, on average, would be admissible for all houses built for eligible slum dwellers in all such projects. Slums so redeveloped should compulsorily be denotified.
- Affordable Housing through Credit Linked Subsidy: Under Credit Linked Subsidy, beneficiaries of the Economically Weaker Section (EWS) and Low Income Group (LIG) can seek housing loans from Banks, Housing Finance Companies and other such institutions for new construction and enhancement of existing dwellings as incremental housing.
- Affordable Rental Housing Complexes: It will be a mix of single/double bedroom Dwelling Units and a Dormitory of 4/6 beds including all common facilities which will be exclusively used for rental housing for a minimum period of 25 years.
- Aadhar Card is mandatory to take benefit of the scheme.

- Economically weaker sections and Middle-Income Groups are also eligible for financial assistance under the Missions.
- Priority is given to SCs, STs, OBSs, differently-abled persons, senior citizens, minorities, single women, transgender and other Socio-economic weaker sections of society.
- Identifying beneficiaries eligible for assistance and their prioritisation to be done using information from the Socio-Economic and Caste Census (SECC) ensures total transparency and objectivity.
- The ownership of houses is provided in the name of female members or joint names.
- Houses made under the scheme would ensure basic facilities like salutation, tap water connection, etc.
- Under the scheme, the Government promoted Training to Rural Masons under Rural Mason Training (RMT) programme to make a pool of trained rural masons available for faster construction of quality houses.

### **Objectives of Pradhan Mantri Awas Yojana**

- To promote the empowerment of citizens, the Ownership of a house is one of the key indicators of socio-economic development.
- They are ensuring Women's empowerment through the Scheme, as the ownership of the house is provided in the name of a female member or joint ownership.
- To Promote Cooperative Federalism, Autonomy is given to States/UTs to decide the list of beneficiaries and adopt innovative methods to implement housing projects.

### **PMKKKY**

#### **In News**

The Ministry of Mines stated that out of the 2, 52,995 projects sanctioned under Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY), only 1, 33,144 projects completed so far.

#### **Analysis of Background:**

- The lopsided equation of poverty and social benefits has failed some of India's richest mining districts for decades.
- Mining has benefited mining companies, individual miners and governments, not the communities living there.
- After years of deliberations and negotiations in 2015, the country's central mining law, the Mines and Minerals (Development and Regulation) Act (MMDR) of 1957 was amended and District Mineral Foundation (DMF) was instituted.

### **Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY)**

- In 2015, The Ministry of Mines launched the Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) for the welfare of areas and people affected by mining-related operations, by using the funds generated by District Mineral Foundations (DMFs).
- The concept of DMF was introduced through amendment in Mines & Minerals (Development & Regulation) MMDR Act, 1957.
- DMF is a non-profit body, established in all districts affected by mining-related operations to work for the interest and benefit of people and areas affected by mining.
- DMF has been established in 622 Districts spread across 23 States of India.

### **Objective of the PMKKKY scheme is;**

- To implement various developmental and welfare projects/programs in mining-affected areas, and these projects/ programs will complement the existing ongoing schemes/projects of the State and Central Government.
- To minimize/mitigate the adverse impacts, during and after mining, on the environment, health and socio-economics of people in mining districts.
- To ensure long-term sustainable livelihoods for the affected people in mining areas.

### **Composition and functions of District Mineral Foundations (DMFs)**

- The composition and Functions of the DMF are prescribed by the State Governments taking guidelines from Article 244 of the Indian Constitution, fifth and sixth schedules,
- Funds every mining leaseholder will pay a fraction of royalty, not exceeding one-third of the royalty, to the DMF as per rates prescribed by the Central Government.
- This fund will be used for the welfare of the people affected by the mining of selected areas.
- The Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) will be implemented by the DMFs of the respective districts using the funds accruing to the DMF.

### **Concerns**

- The Centre also observed that states have been found transferring DMF funds to their treasury and consolidated funds, and even to the Chief Minister's Relief Fund and other schemes.
- Ever since its establishment in 2015, the DMF has been portrayed as the savior of communities' tribals mostly that have benefitted little from mineral exploration and development in the regions they inhabit.
- Six years down the line, there are instances galore where DMF funds have gone to areas that have little or no bearing on the lives of the vulnerable population.



## EKLAVYA SCHOOLS

### In News

The Union Tribal Affairs Ministry decided to go ahead with its plan to build new Eklavya Model Residential Schools (EMRS) on 15 acres of land in all sub-districts which have Scheduled Tribe (ST) communities of more than 20,000 people, who make up at least 50% of their total population.

### Analysis of Background:

#### Eklavya Schools

- Eklavya schools established by the Union Ministry of Tribal Affairs to promote education among Tribal students are facing a shortage of teachers.
- Eklavya Schools were started in the year 1997-98 to provide quality education to Schedule Tribes (STs) children in remote areas.
- The aim was to enable Tribal students to utilize opportunities in high and professional education courses and get employment in diverse sectors.
- According to the data released by the Ministry, nearly 4,000 teachers have been appointed across the 378 schools, of which nearly 70% are either on contract or deputation from State government schools.
- These schools focus on academic education and also ensure the all-around development of the students.
- Objectives of the Eklavya Schools;
  - Complete physical, mental and social development of all students.
  - Students will be empowered to become change agents, beginning in their school, in their homes, in their village and finally in a larger context.
  - Focus differentially on the educational support to be made available to Students.
  - Construction of infrastructure that provides education, physical, environmental and cultural needs to student life.

#### Structure of the Eklavya Schools;

- Admission to these schools is through selection/competition with suitable provisions for preference to children belonging to Primitive Tribal Groups, first-generation students, etc.
- The land provided by the State Government for the school, playgrounds, hostels, residential quarters, etc., is free of cost.
- The number of seats for boys and girls will be equal.
- Education will be entirely free in these schools.



- Every class can have a maximum strength of 60 students preferably in 2 sections of 30 students each.
- Each school has the strength of 480 students from Class VI to XII.
- The Union Government provides grants to the State Governments under Article 275 (1) of the Indian Constitution for the construction of schools and other expenses.
- The Union government has announced that by 2022, every block with more than 50% Schedule Tribes (STs) population and at least 20,000 tribal individuals, will have Eklavya Schools.
- According to the census of 2011, there are 564 such sub-districts out of which 102 sub-districts already have Eklavya School. Therefore, 462 new schools have to be opened by the year 2022.
- The Ministry has highlighted that Eklavya schools will have special facilities like Navodaya Vidyalaya for maintaining local art and culture and also provide training in sports and skill development.
- Eklavya Model Day Boarding Schools (EMDBS): Wherever the density of the ST population (90% or more), the government has proposed to set up Eklavya Model Day Boarding School (EMDBS) for providing additional coverage for ST Students.

### **National Education Society for Tribal Students**

- The National Education Society for Tribal Students (NESTS) was established in 2018 to manage Eklavya schools. NESTS issued guidelines to State governments in 2020 to ensure a total of 52 staffers, of which 30 were meant to be teachers. This would mean that 378 schools would have a total of 11,340 teachers.
- After the NESTS was set up, the State Education Societies for Tribal Students (SESTS) were also set up.
- 2018 guidelines released by the National Education Society for Tribal Students (NESTS) mentioned that NESTS would be responsible for recommending the syllabi, the school and hostel standards, and the teacher recruitment guidelines, and the state Education Societies for Tribal Students (SESTS) would be in charge of implementing these guidelines with room for local modifications.

### **Concern**

- According to several officials, the structure of the NESTS had made it difficult for it to monitor and enforce its recommendations to the schools as far as teacher recruitment was concerned.

- The guidelines never demanded that the SESTS must follow NESTS recommendations, which were made to ensure the minimum requirements to maintain a standard education quality and uniformity across schools.
- The Ministry had found that the responsibilities of teacher recruitment in the States were leading to a non-uniformity in the quality of teachers, not enough recruitment happening in reserved positions, and a large number of schools recruiting teachers contractually in a bid to save on the salary expenses, which was resulting in large gaps in the salaries of teachers working at the same level.

## **NEW GUIDELINES FOR TV CHANNELS**

### **In News**

The Union Government has introduced some new guidelines under the title “airwaves/frequencies are public property and need to be used in the best interest of the society”. The Union Cabinet has approved the uplinking and downlinking of television channels in India, under which all the stations have to broadcast content on issues of national importance and social relevance for at least 30 minutes every day, except for the foreign channels and where it may not be feasible.

### **Analysis of Background:**

#### **Key points of the Guidelines**

- The new guidelines replaced earlier guidelines of 2011.
- New guidelines would simplify the issue of permission to the companies and limited liability partnership firms (which have been allowed for the first time) registered in India for uplinking-downlinking of TV channels and associated activities.
- The provision introduced under “airwaves/frequencies are public property and need to be used in the best interest of the society” has 8 listed themes;
  - Education and spread of literacy.
  - Agriculture and rural development.
  - Health and family welfare.
  - Science and technology.
  - The welfare of women.
  - The welfare of the weaker sections of society.
  - Protection of the environment and cultural heritage.
  - National integration.
- The guidelines exempt the channels including those related to sports, where it would not be feasible to broadcast such content.

- Whenever required, the union government would issue general advisories to the channels in this regard.
- According to the new guidelines, asking permission for the live telecast of events had been removed, now only prior registration of events would be necessary for live telecast.
- Prior permission would not be required to change the language or convert the mode of transmission, from Standard Definition to High Definition or vice versa.
- The penalty clauses have been rationalized and graded penalties proposed for different types of contraventions.

### **Significance of the step**

- The guidelines allowed companies to uplink foreign channels from Indian teleports which would create employment opportunities.
- It will make India a teleport hub for other countries.
- Promote ease of doing business, now news agencies could get permission for five years as against one year at present.

### **Significance of Media**

- Media refers to all means of Communication, everything ranging from a Phone Call to the news on TV.
- TV, radio and newspapers are a form of media. Since they reach millions of people across the world they are Called Mass Media.
- A balanced report is essential in media which has to report independently.
- Media plays a very important role in providing news and discussing events taking place in the Country and the world.
- News Stories in the media inform people about important events in the Country.
- Media by focusing on particular issues influences and Shapes our thoughts. It is said the media sets the agenda for People.
- Opinions, attitudes, and Conduct of persons are dependent upon the information available to them.
- Most of our knowledge of Contemporary events comes to us from newspapers, Radio, Television and movies.
- Our emotions and attitudes are also formed or influenced to a large extent by the media.
- The media tell us about the working of the Government and create awareness about the welfare programmes.

**Concern:**

- The media is far from being independent. This is because of the Control of the Government over the media Called Censoring and because big business houses Control the media.
- Corporate Funding - A lot of money is spent on maintaining People and getting the latest technology. To meet this Cost, it needs money.
- Media, therefore, uses advertising as a tool to raise revenue.
- Manipulating News for TRPs is not only a financial scam but also morally and ethically wrong.
- Some Channels are spreading a hate narrative which is a violation of the fundamental right of the citizen to know the truth through the media.
- The media has become a source of disinformation, and this is also an ethical issue.
- Both legal and ethical dimensions are equally serious

**UGC Regulations on PhD****In News:**

The University Grants Commission (UGC) has notified new guidelines on PhD (Doctor of Philosophy) degrees, including a set of changes in eligibility criteria, admission procedure and evaluation methods governing doctoral programmes in colleges and universities.

**Analysis of Background:**

- UGC has removed the mandatory requirement of publishing research papers in refereed journals or presenting at conferences
- Part-time PhDs have been launched for working professionals, and there will be a relaxation of 5% marks in eligibility for admissions even for the new EWS category.

**Key points of the UGC (Minimum Standards and Procedures for Award of PhD Degree) Regulations, 2022**

- The eligibility criteria for admissions have been changed. Anyone with a Bachelor's programme degree with a minimum of 75% marks in aggregate or its equivalent grade will be eligible for doing a PhD.
- Graduates with conventional three-year Under Graduate (UG) degrees need to have completed two-year Master's degrees.
- The new Rules discontinue the M.Phil programme. The MPhil programme has been scrapped under the new National Education Policy, 2020

- There are no major changes in the procedure for admissions.
- Where the selection is done by entrance tests conducted by individual universities, a weightage of 70% will be given to performance in the written test and 30% to the interview.

### **University Grants Commission (UGC)**

- University Grants Commission is a statutory body under the University Grants Commission Act, of 1956.
- UGC is charged with the task of coordinating and maintaining standards of higher education in India.
- It provides recognition to universities and also allocates funds to universities and colleges.
- UGC headquarters are in New Delhi, and it also has 6 regional centres.
- All grants to universities and higher learning institutions are handled by the UGC.
- In 2015-16, the Union government initiated a National Institutional Ranking Framework under UGC to rank all educational institutes.
- UGC also conducts the National Eligibility Test (NET) for the appointments of teachers in colleges and universities.
- M Jagadesh Kumar is the current chairman of the UGC.

### **REVIEW PETITION**

#### **In News:**

- The Government of India moved to the Supreme Court seeking a review of the court's order for freeing all 6 convicts in the Rajiv Gandhi assassination case.
- The Centre has argued that the order suffers from "errors apparent on the face of record", and that it falls "foul of principles of natural justice".

#### **Analysis of Background:**

##### **Review petition**

- According to the Indian Constitution, any mandate by the Supreme Court of India is final and binding. However, Under Article 137 provided the Supreme Court with the power to review its judgments. This provision forms the legal basis for a "review petition".
- It is not necessary that only parties related to a case can seek a review of the judgment. Any person aggrieved by a ruling can seek a review.
- A review petition must be filed within 30 days of the court verdict.

- Review petitions are usually not heard in open court. They are heard through “circulation” by judges in their chambers.
- In a Review Petition case, Lawyers usually make their case through written submissions, and not oral arguments.
- The same judges who passed the original verdict generally also hear the review petition.
- There are specific grounds on which a review petition can be accepted in court, but not accepted in case of “minor mistakes”.
- In 1975, the Supreme court mentioned that a review petition can be accepted “only where a glaring omission or patent mistake or like grave error has crept in earlier by judicial fallibility”.
- In 2013, the Supreme Court laid down 3 conditions for accepting a review petition:
  - The discovery of new and important matter or evidence which was not within the knowledge of the petitioner or could not be produced by him earlier.
  - A mistake or error is apparent on the face of the record.
  - Any other sufficient reason.
- It is rare for the Supreme Court to both admit reviews and overturn an original decision in a review.
- It did agree to review its original verdict in the Sabarimala case but refused to review its ruling on the Rafale deal.

## NARCO TEST

### In News

A district court in New Delhi has allowed the Police to conduct a narco test on an accused of killing his live-in partner.

### Analysis of Background:

#### Narco Test:

- In a ‘narco’ or narcoanalysis test, a drug called sodium pentothal is injected into the body of the accused, which transports them to a hypnotic or sedated state, in which their imagination is neutralized.
- Sodium pentothal or sodium thiopental is a fast-acting, short-duration anaesthetic, which is used in larger doses to sedate patients during surgery. It acts on the central nervous system.
- In this hypnotic state, the accused is understood as incapable of lying and is expected to reveal information that is true.
- It is sometimes referred to as a “truth serum”.

- Investigating agencies use the tests in the investigation, which are seen as being a “softer alternative” to torture or “third degree” to extract the truth from suspects. However, the method has not been proven scientifically to have a 100% success rate.
- If any information or material is subsequently discovered with the help of the test; the statement of the accused will not be treated as evidence, but the physical evidence will be treated as such.

## NATIONAL INVESTMENT AND INFRASTRUCTURE FUND

### In News:

Finance Minister Nirmala Sitharaman has urged the National Investment and Infrastructure Fund (NIIF) to expand its operations and explore ways to crowd in private capital for projects under the National Infrastructure Pipeline, PM Gati Shakti and National Infrastructure Corridor.

### Analysis of Background:

#### NIIF:

- National Investment and Infrastructure Fund (NIIF) is India’s first infrastructure-specific investment fund or a sovereign wealth fund that was set up by the Government of India in 2015.
- The objective behind creating this fund was to maximize economic impact mainly through infrastructure investment in commercially viable projects, both greenfield and brownfield.

Brownfield project	Greenfield project
A brownfield project is one, where the development work is carried out in a place where prior work has been done. It refers to a project, where an existing one is rebuilt, modified or upgraded.	A greenfield project is one, where the land on which the project is developed, has never been used and there is no need to rebuild or demolish an existing structure.

- The Governing Council of the National Investment and Infrastructure Fund (NIIF) is chaired by the Hon’ble Finance Minister of India and has members from corporate bodies, investments, and policy sectors. The Governing Council meets once a year and provides suggestions for the overall strategic decisions of the NIIF.

## **Funds**

- NIIF manages three funds: Master Fund, Fund of Funds, and Strategic Fund. The funds were set up to make investments in India by raising capital from domestic and international institutional investors.

### **Master Fund**

- The Master Fund is an infrastructure fund with the objective of primarily investing in operating assets in the core infrastructure sectors such as roads, ports, airports, power etc.

### **Fund of Funds**

- It is managed by fund managers who have good track records in infrastructure and associated sectors in India. Some of the sectors of focus include Green Infrastructure, Mid-Income & Affordable Housing, Infrastructure services, and allied sectors.

### **Strategic Opportunities Fund**

- Strategic Opportunities Fund is registered as an Alternative Investment Fund II under SEBI in India. The objective of National Investment and Infrastructure Fund II (“Strategic Opportunities Fund”) is to invest largely in equity and equity-linked instruments.
- The Strategic Opportunities Fund has been established with the objective to provide long-term capital to strategic growth-oriented sectors in the country with the aim to build domestic leaders.

### **National Infrastructure Corridor**

- Government of India is developing various Industrial Corridor Projects as part of the National Industrial Corridor Programme which is aimed at the development of greenfield industrial cities in India in order to compete with the best manufacturing and investment destinations in the world.
- National Industrial Corridor Development & Implementation Trust (NICDIT) has been constituted for the unified development of Industrial Corridors in the country.



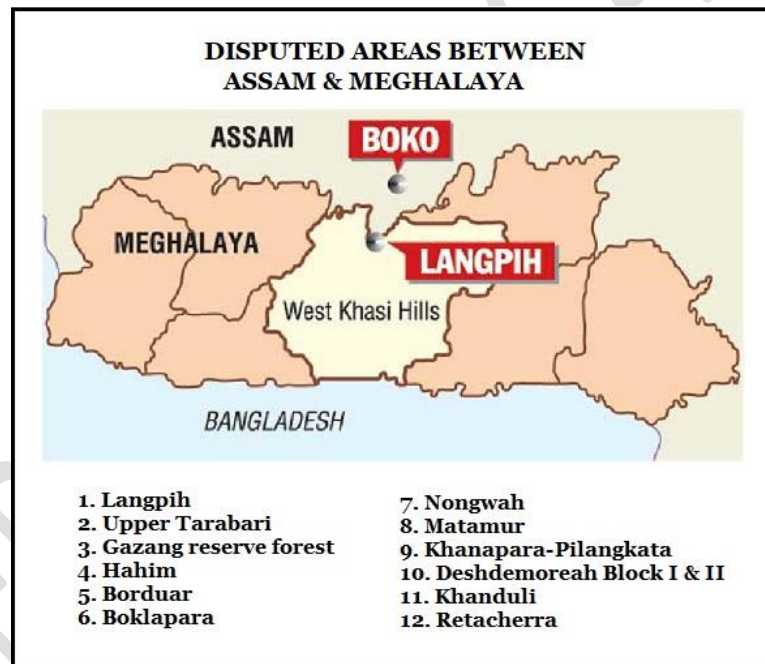
## ASSAM-MEGHALAYA BORDER DISPUTE

### In News:

Assam and Meghalaya have a longstanding dispute in 12 stretches of their 884-km shared border. The two states had signed a pact in March resolving the dispute in six out of 12 areas. In August, they decided to form regional committees. The second round of discussions for the remaining six phases was to commence by the end of this month.

### Analysis of Background:

- Assam and Meghalaya have a longstanding dispute in 12 stretches of their 884-km shared border.
- The Assam-Meghalaya border dispute areas are the areas of Upper Tarabari, Gazang reserve forest, Hahim, Langpih, Borduar, Boklapara, Nongwah, Matamur, Khanapara-Pilangkata, Deshdemoreah Block I and Block II, Khanduli and Retacherra.



### History:

- During British rule, undivided Assam included present-day Nagaland, Arunachal Pradesh, Meghalaya and Mizoram.
- Meghalaya was carved out in 1972, its boundaries demarcated as per the Assam Reorganisation (Meghalaya) Act of 1969, but has held a different interpretation of the border since.

- In 2011, the Meghalaya government had identified 12 areas of difference with Assam, spread over approximately 2,700 sq km.

#### **Major Point of Concern:**

- A major point of contention between Assam and Meghalaya is the district of Langpih in West Garo Hills bordering the Kamrup district of Assam.
- Langpih was part of the Kamrup district during the British colonial period but post-Independence, it became part of the Garo Hills and Meghalaya.
- Assam considers it to be part of the Mikir Hills in Assam.
- Meghalaya has questioned Blocks I and II of the Mikir Hills -now Karbi Anglong region - being part of Assam.
- Meghalaya says these were parts of erstwhile United Khasi and Jaintia Hills districts.

#### **Attempts to Resolve Dispute:**

- In 1985, under the Assam chief minister and Meghalaya chief minister, an official committee was constituted under the former Chief Justice of India Y V Chandrachud.
- However, a solution was not found.
- Both state governments identified six out of 12 disputed areas for resolution in the first phase:
- Three areas contested between West Khasi Hills district in Meghalaya and Kamrup in Assam, two between RiBhoi in Meghalaya and Kamrup-Metro, and one between East Jaintia Hills in Meghalaya and Cachar in Assam.
- After a series of meetings and visits by teams to the disputed areas, both sides submitted reports based on five mutually agreed principles:
- Historical perspective, ethnicity of local population, contiguity with boundary, peoples' will and administrative convenience.

#### **A final set of recommendations were made jointly:**

- Out of 36.79 sq km of disputed area taken up for settlement in the first phase, Assam would get full control of 18.46 sq km and Meghalaya of 18.33 sq km.
- In March 2022, a Memorandum of Understanding was signed based on these recommendations.
- The second round of discussions for the remaining six phases is to commence by the end November 2022.

## VICE-CHANCELLOR APPOINTMENTS vs FEDERALISM:

### In News:

Two recent judgments of the Supreme Court on the appointment of vice chancellors (VC) are being criticised for eroding the federalism, as education is a subject under Concurrent list.

### Analysis of Background:

#### Process of the Appointment of a Vice Chancellor under the UGC Regulations, 2018:

- The VC of a university is appointed by the Visitor/Chancellor, from a panel of three to five names recommended by the duly constituted Search cum Selection Committee.
- The President of India is the ex-officio Visitor of all the Central Universities and the Governor of the respective states is the Chancellor of all the state universities.
- A visitor is empowered to call for a set of fresh names in case of dissatisfaction with the given panel.
- This system of appointment is not always uniform across all universities, and the procedures followed by different states differ, as the regulation is a directive and education is a subject matter of **concurrent list (List III)**.

#### Currently, what is the issue about V-C appointment?

- A writ petition was filed before the Kerala High Court (October 21<sup>st</sup>, 2022) to declare the appointment of Vice Chancellor of the APJ Abdul Kalam Technological University, Thiruvananthapuram as void on the following grounds,
  - The appointment of the Vice Chancellor was against the UGC Regulations.
  - For example, the Search Committee was required to recommend a panel of not less than three suitable persons to the Chancellor, however, in the present case, only one name was recommended
- **Respondent defense:** Unless the UGC Regulations are adopted by the State Government, the University Act enacted by the State shall prevail.
- The UGC Regulations, 2018 are directory for higher educational institutions under the provisions of the State legislature as the matter has been left to the State Government to adopt and implement the scheme.

### Judiciary View's:

#### The Kerala HC:

- It dismissed the writ petition relying upon its 2015 judgement by observing that unless the UGC Regulations are specifically adopted by the State Government, the State legislation shall prevail.

### **Review petition in Supreme Court:**

- The challenge succeeded and the Court quashed the appointment of the VC on the ground that the provision relating to the search committee in the State University Act is in conflict with the UGC Regulations and was therefore void.
- **SC observation in other case (Gambhirdan K. Gadhvi vs The State of Gujarat, March 2022)**
- The apex court quashed the appointment of the incumbent Vice Chancellor of Sardar Patel University, Gujarat on the ground that the search committee did not form a panel for the appointment of VC, therefore, was not in accordance with the UGC Regulations of 2018.
- The appointment of Vice Chancellor must be as per the UGC Regulations, even if they have not been specifically adopted by the State.
- In case of any conflict between the State legislation and the Central legislation, the Central legislation shall prevail by applying the **principle of repugnancy under Article 254** of the Constitution as the subject "education" is contained in the Concurrent List of Schedule VII of the Constitution.

### **About Doctrine of repugnancy under Article 254:**

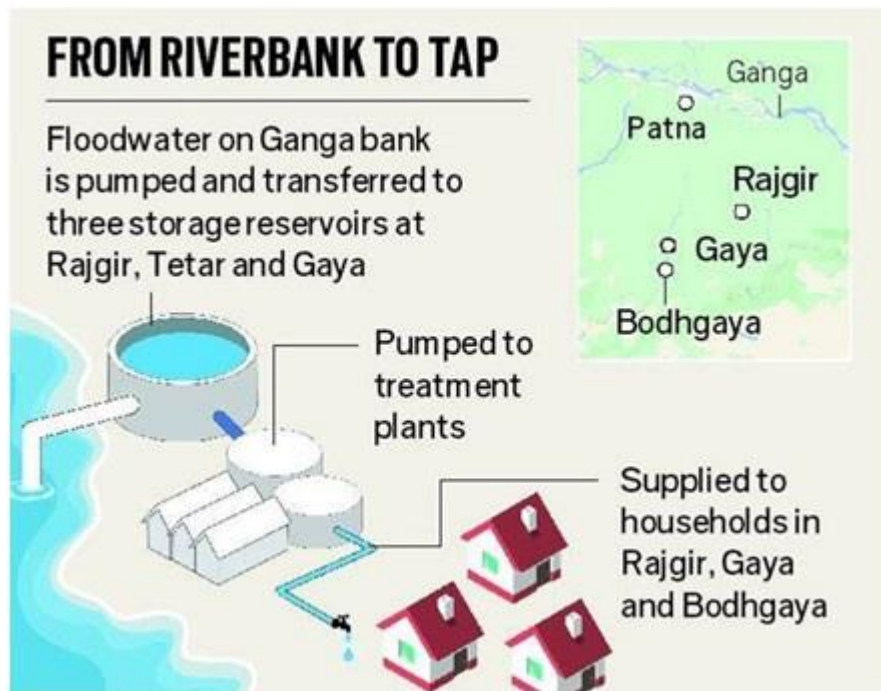
- If any part of State law contradicts any part of a Central law or any part of a law of the subject matter of List III, the Central law shall prevail and the law made by the State legislature shall become void.

### **HAR GHARGANGAJAL SCHEME:**

#### **About The Scheme:**

- It is part of the Bihar government's Jal, Jeevan, Hariyali scheme.
- The project has been described as a "lift-store-tame-treat-supply" system.
- Hyderabad-based Megha Engineering & Infrastructures Limited (MEIL) has been working on the project since 2019, employing about 2,200 people and high-end technology.
- In the Rs 4,000-crore first phase of the project — which has been completed and will be launched by the Chief Minister — giant pumps will lift Ganga water from Hathidah near Mokama and supply it to about 7.5 lakh homes in the state's main tourism destinations of Rajgir, Bodhgaya, and Gaya.
- The water will be stored in reservoirs in Rajgir and Gaya before being channelled to three treatment-and-purification plants, from where it will be supplied to the public.
- According to estimates made by the government, the scheme will provide every individual beneficiary with 135 litres of Ganga water every day for drinking and domestic use.

- The scheme is currently limited to the urban areas of Rajgir, Gaya, and Bodhgaya.
- During the second phase of the project, which is expected to be launched sometime next year, Ganga water will be taken to Nawada.
- The water would be lifted only during the four months of the monsoon when the Ganga has excess water.
- So, that the diversion will not lead to depletion of the river, disturbance in its natural flow, or potential changes in its course.



**Projected benefits:**

- It will also help alleviate distress from the annual flooding of the Ganga.
- Heavy silting in the Ganga riverbed, the release of water from dams upstream in Nepal have affected the Mokama, Hathidah, Barh, and Lakhisarai regions even when monsoon rainfall is not heavy in these regions.
- The government plans to build 13 more reservoirs in Gaya and Rajgir to store diverted floodwaters in the coming years.

## TWO FINGER TESTS ARE BANNED

### **In News:**

Recently, the Supreme Court has declared that any person conducting the invasive 'two-finger' or vaginal test on rape or sexual assault survivors will be found guilty of misconduct.

### **Analysis of Background:**

#### **What is two finger test?**

- The 'two-finger test' is a regressive procedure that involves the insertion of two fingers into a person's vagina to gauge the laxity of vaginal muscles, thereby determining her 'virginity'.
- It includes an inspection of the hymen. The hymen is inspected as it can be torn only if the woman has had any sexual intercourse.

#### **What are the norms for medical examinations of Rape Victims?**

- In terms of Section 53A in the Indian Evidence Act, the evidence of a victim's character or her previous sexual experience with any person shall not be relevant to the issue of consent or the quality of consent in the prosecution of sexual offenses.

#### **Is the two-finger test scientifically accepted?**

- According to medical experts, science has proved that the hymen is not a reliable source of proving vaginal penetration.
- The hymen, which is a thin membrane in the vagina, can rupture not just during sexual activity but also during day-to-day work or any physical activity, including playing sports.

#### **What is Supreme Court's take on the issue?**

- In May 2013, the Supreme Court banned the two-finger test on rape victims on the grounds that it violated their right to privacy.
- The court had asked the government to provide better medical procedures in order to confirm sexual assault.
- The test is medically unnecessary, oftentimes painful, humiliating and a traumatic practice that must end.

#### **What did the Verma Committee say on the two-finger test?**

- The committee had recommended tougher laws for such cases and ban of the two-finger test as this test has no bearing on a case of sexual assault.
- Moreover, on the basis of this test observations such as 'habituated to sexual intercourse' should not be made and this is forbidden by law.

## DISQUALIFICATION OF MLA

### Constitutional Provisions for Disqualification of MLAs

Under the Constitution, a person shall be disqualified for being chosen as and for being a member of the legislative assembly or legislative council of a state:

- If he holds any office of profit under the Union or state government (except that of a minister or any other office exempted by state legislature),
- If he is of unsound mind and stands so declared by a court,
- If he is an undischarged insolvent,
- If he is not a citizen of India or has voluntarily acquired the citizenship of a foreign state or is under any acknowledgement of allegiance to a foreign state, and
- If he is so disqualified under any law made by Parliament.

### Parliamentary Provisions for Disqualification of MLAs:

The Parliament has prescribed a number of additional disqualifications in the Representation of People Act (1951) and the same is followed by Legislative Assembly and Council:

- He must not have been found guilty of certain election offences or corrupt practices in the elections.
- He must not have been convicted for any offence resulting in imprisonment for two or more years.
- But, the detention of a person under a preventive detention law is not a disqualification.
- He must not have failed to lodge an account of his election expenses within the time.
- He must not have any interest in government contracts, works or services.
- He must not be a director or managing agent nor hold an office of profit in a corporation in which the government has at least 25 per cent share.
- He must not have been dismissed from government service for corruption or disloyalty to the state.
- He must not have been convicted for promoting enmity between different groups or for the offence of bribery.
- He must not have been punished for preaching and practicing social crimes such as untouchability, dowry and sati.
- The governor's decision is final on the question whether a member has become subject to any of the above disqualifications.
- The governor should obtain the opinion of the Election Commission and act accordingly.



## Disqualification on Ground of Defection

- The Constitution lays down that a person shall be disqualified for being a member of either House of state legislature if he is so disqualified on the ground of defection under the provisions of the Tenth Schedule.
- The question of disqualification under the Tenth Schedule is decided by the Chairman, in the case of legislative council and, Speaker, in the case of legislative assembly.
- In 1992, the Supreme Court ruled that the decision of Chairman/Speaker in this regard is subject to judicial review.

## TOPIC: IR/IO

### KUKI-CHINS:

#### In News:

Members of kuki-chin community from Bangladesh who entered Mizoram are referred as “officially displaced persons” in state government records

#### Analysis of Background:

##### Who are kuki-chins?

- The Kuki people are an ethnic group native to the Mizo Hills.
- The Kuki constitute one of several hill tribes within India, Bangladesh, and Myanmar.
- In Northeast India, they are present in all states except Arunachal Pradesh.
- The Chin people of Myanmar and the Mizo people of Mizoram are related tribes of the Kukis.
- Collectively, they are termed the Zo people.

##### India's policy on refugees :

- India does not have an official law on refugees.
- India is neither a party to UN refugee convention 1952 nor its 1967 protocol.

##### India stance on non- refoulment policy :

- It is a debate whether India should abide by the principle of non refoulement or not since we are not party to the 1951 convention on refugees.
- The Supreme Court of India on 8 April 2021 in **Mohammad Salimullah and Anr Union of India** case clarifies that India is not a signatory to the United Nations 1951 Refugee Convention and Protocol, indicating that this is sufficient for the non-compliance of the non-refoulement policy.
- But the principle of non-refoulement is a matter of International Customary Law;



which means that it applies to every nation regardless of whether they are party to a particular agreement or not.

- This view was iterated by the Supreme Court of India in *People's Union for Civil Liberties v. Union of India*, where the court highlighted the importance of customary laws and held that their application should be encouraged in domestic legislation.

## **BIMSTEC**

### **In News:**

India hosted the Second Agriculture Ministerial-level meeting of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) here today under the chairmanship of the Union Minister for Agriculture and Farmers Welfare, Shri Narendra Singh Tomar. Agriculture ministers of Bhutan, Bangladesh, Nepal, Myanmar, Sri Lanka and Thailand participated in the meeting.

### **Analysis of Background:**

- The 2<sup>nd</sup> BIMSTEC Agriculture Ministerial Meeting adopted the Action Plan for Strengthening BIMSTEC Agricultural Cooperation (2023-2027).
- An MoU between the BIMSTEC Secretariat and the International Food Policy Research Institute (IFPRI) has been signed and approval has been given to bring Fisheries and Livestock sub-sectors under the Agricultural Working Group.
- BIMSTEC member countries appreciated India's efforts to strengthen cooperation in agricultural research and development and for awarding six scholarships each for postgraduate and PhD programmes in agriculture.

### **About BIMSTEC:**

- The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is an international organisation of seven South Asian and Southeast Asian nations.
- The BIMSTEC provides a unique link between South and South-East Asia with 5 countries - Bangladesh, Bhutan, India, Nepal and Sri Lanka from South Asia and two countries - Myanmar and Thailand from South-East Asia coming together on one platform for cooperation in 14 key economic and social sectors of the economy.
- The BIMSTEC was founded in 1997 with an ambition to pursue mutual trade, connectivity and cultural, technical and economic development in the region.
- It will celebrate its 25th anniversary this year.

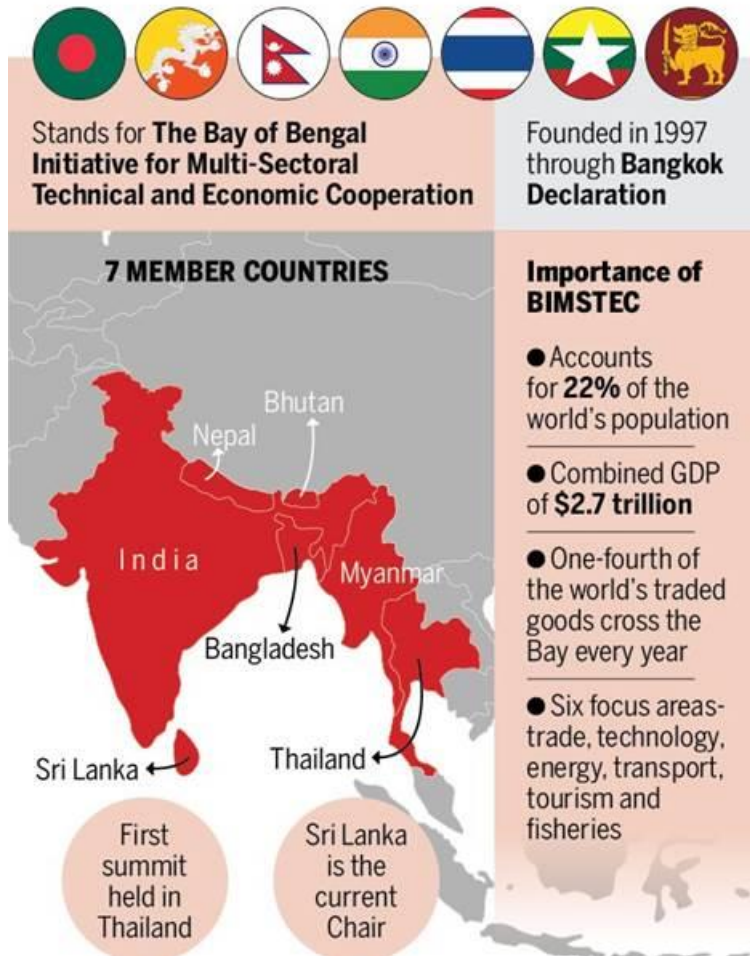
- Initially, six sectors- trade, technology, energy, transport, tourism and fisheries were included for sectoral cooperation which was later expanded to 14 areas of cooperation.
- Agriculture is one of the 14 sectors.
- 22 per cent of the global population live in BIMSTEC countries, agriculture & allied activities are central to the economic and social development of the region.
- A BIMSTEC free trade agreement is under negotiation, also referred to as the mini SAARC.
- The BIMSTEC Free Trade Area Framework Agreement (BFTAFA) has been signed by all member nations to stimulate trade and investment in the parties, and attract outsiders to trade with and invest in the BIMSTEC countries at a higher level.

### **What need to be done to strengthen BIMSTEC?**

- Trade pillar needs support: The pillar of trade, economic and investment cooperation needs greater strengthening and at a faster pace.
- Bridging the bay in quest of a stronger BIMSTEC: Despite signing a framework agreement for a comprehensive Free Trade Agreement (FTA) in 2004, BIMSTEC stands far away from this goal. Of the seven constituent agreements needed for the FTA, only two are in place as of now.
- Need to finalise legal instruments for coastal shipping, road transport and intra-regional energy grid connection.
- India was the only country to offer additional funding to the Secretariat and also to support the Secretary General's proposal to establish an Eminent Persons Group (EPG) for producing a vision document. Other countries need to emulate this sincere matching of words with action.
- BIMSTEC should focus more in the future on new areas such as the blue economy, the digital economy, and promotion of exchanges and links among start-ups and Micro, Small and Medium Enterprises (MSMEs).
- The personal touch: personal engagement of the political leadership should be stepped up. The decision taken in Colombo to host a summit every two years is welcome if implemented. But in the medium term, an annual summit should be the goal.
- BIMSTEC needs greater visibility. India's turn to host the G20 leaders' summit in 2023 presents a golden opportunity.
- Simplify the grouping's name: The present name running into 12 words should be changed to four words only — the Bay of Bengal Community (BOBC). It will help the institution immensely.

# BIMSTEC

## WHAT YOU SHOULD KNOW



## G20

### In News:

Prime Minister unveiled the logo, theme and website of India's G20 presidency at an event in Delhi. "India will chair the G20 from December 1. This is a historic moment for India. On this occasion, I extend my heartiest congratulations to all the countrymen," PM Modi said.

### Analysis of Background:

- Vasudhaiv Kutumbakam' is the signature of India's compassion for the world.
- Lotus portrays the cultural heritage and faith of India in bringing the world together.
- India is set to assume the presidency of the G20 from the current chair Indonesia.

- Italy and Indonesia, along with India, are part of the G20 troika: past, present and incoming presidencies.
- During the G20 Presidency, India will hold about 200 meetings in 32 different sectors in multiple locations across India.
- The G20 Summit to be held next year would be one of the most high-profile international gatherings to be hosted by India.

#### **More on Details:**

- The G-20 Leaders' Summit will be held in New Delhi on September 9 and 10 in 2023, and Bangladesh, Egypt, Mauritius, the Netherlands, Nigeria, Oman, Singapore, Spain and the UAE will be the "guest countries" at the event.
- This would be the first time when the troika would consist of three developing countries and emerging economies, providing them a greater voice
- Discussion among all the member countries will include issues related to "women's empowerment, digital public infrastructure, health, agriculture, education, culture, tourism, climate financing, circular economy, global food security, energy security, green hydrogen, disaster risk reduction and resilience, fight against economic crime and multilateral reforms".
- A major challenge of the G-20 session in India will involve the ongoing crisis in Ukraine which has vitiated relation between Russia and the industrialised nations of the West most of which are members of the G-20 which represents 85% of global GDP and 75% of international trade.
- G-20 includes Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the U.K., the U.S. and the European Union (EU).

#### **India's G20 Presidency:**

- India will steer the international body as its President from December 1, 2022 to November 30, 2023.

#### **About G-20:**

- It is the premier forum for international economic cooperation, which reflects a recognition that global prosperity is interdependent and our economic opportunities and challenges are interlinked.
- G20 countries have come together to better prepare for the future.
- As a founding member of the G20, India has used the platform to raise issues of vital importance and those that impact on the most vulnerable around the world.

- Apart from the G7 countries, the G20 comprises Argentina, Australia, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, South Korea, and Turkey.
- Together, the G20 countries make up around 80% of the world's economy and two-thirds of the world's population.

## CRISIS IN KOREAN PENINSULA

### In News:

Tensions escalated in the Korean peninsula after North Korea fired at least 20 missiles east and west of its southern neighbour, with one landing near South Korean territorial waters for the first time since the two countries were divided in 1953.

### Analysis of Background:

- One of Pyongyang's missiles fell 57 km off the South Korean city of Sokcho, while another landed less than 30 km south of the North Limit Line (NLL), a disputed maritime border between the two Koreas, in what South Korean President Yoon Suk-yeol called an "effective act of territorial encroachment"

### Why did North Korea launch the missiles?

- The escalation comes after North Korea warned against the recent joint military drills between the United States and South Korea, which it views as provocative and a rehearsal for an invasion.
- The US and South Korea began their largest-ever joint drills, called Operation Vigilant Storm, during a period of national mourning in South Korea.
- North Korea Foreign Ministry warned that the two would pay "the most horrible price in history," likely hinting at a nuclear threat.
- North Korea has conducted an unprecedented number of weapons tests this year and the country's Supreme Leader Kim Jong Un last month guided exercises that involved ballistic missiles armed with mock nuclear warheads, claiming it was meant to act as war deterrence.

### Heightened tensions

- The recent tit-for-tat missile strikes come at a time of heightened tensions between the two Koreas.
- Both fired warning shots and artillery shells at each other last month and blamed each other for breaching their maritime border.

- South Korea has also been conducting a number of joint military drills with the US over the past few months, which has been strongly opposed by North Korea.
- President Yoon, who assumed office in May this year, has a markedly different approach to North Korea, and has vowed to “normalise” these joint exercises.
- North Korea has responded to these tests by conducting a series of missile tests and military exercises.

### **Historical Background:**

- On 25th June 1950, North Korea, backed by the USSR, launched an attack on South Korea and occupied most of the country.
- In response, the United Nations force led by the US retaliated.
- In 1951 the US forces led by Douglas MacArthur crossed the 38th parallel and triggered the entry of China in support of North Korea.
- To prevent further escalation peace talks began later in 1951.
- On 27th July 1953, the Korean Armistice Agreement was signed between the United Nations Command, the Korean People's Army and the Chinese People's Volunteer Army.
- It led to an official ceasefire without a Peace treaty. Thus, the war officially never ended.
- The root of the conflict lies in the Japanese occupation of Korea between 1910- 1945.
- When Japan was defeated in the Second World War, the Allied forces agreed to establish a “four-power trusteeship over Korea” at the Yalta Conference (1945).
- However, the USSR invaded Korea and took control of the north while the south remained under the rest of the allies, mainly the USA. The division of the two regions was along the 38th parallel north, which still continues to be the official border dividing the two Koreas.
- In 1948 the Republic of Korea (South Korea) and the Democratic People’s Republic of Korea (North Korea) was established.

### **NATO’S ARTICLE 4**

#### **In News;**

NATO, the Western defensive military alliance led by the United States, is in the eye of the storm after one of its member nations said that a Russian missile killed two of its citizens. Poland initially claimed that the missile was Russian-made, but later back-tracked, saying that the incident appears to be an “unfortunate accident” and not an “intentional attack.”

### **Analysis of Background:**

- In the initial reactions, Polish Prime Minister Mateusz Morawiecki had said that the country was considering whether it should launch NATO's Article 4 procedure. Any attack on Poland, a NATO member, could drag the 30-nation strong alliance into the Russia-Ukraine conflict, risking a full-fledged nuclear war.

### **What is NATO?**

- The North Atlantic Treaty Organisation came into being after World War II as a counter to the Soviet Union's possible expansion attempts in Europe.
- Then-US President Harry S Truman signed the 12-member treaty on April 4, 1949. After the collapse of USSR in 1991, several eastern European nations previously members of the Soviet Union joined NATO.
- As of now, NATO comprise 30 members — Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, the United States, Greece, Turkey, Germany, Spain, Czechia, Hungary, Poland, Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, Slovenia, Albania, Croatia, Montenegro, and North Macedonia.
- Following the Russian invasion of Ukraine, Finland and Sweden applied for NATO membership and were invited to join the collective by 28 of the 30 members, with Turkey and Hungary being notable exceptions.
- Bosnia and Herzegovina and Georgia have expressed interest in joining the collective as well.

### **NATO's core duties:**

- The NATO works on a collective defense principle and routinely undertakes exercises to strengthen their territorial, naval, and air forces.
- NATO members also arm themselves to face evolving methods of attacks like cybercrimes, and have participated in military operations in Bosnia and Herzegovina, Kosova, Afghanistan, Iraq, Libya and Syria, among others.
- Article 4 of the treaty mandates that the member nations consult each other when faced with threat. "The Parties will consult together whenever, in the opinion of any of them, the territorial integrity, political independence or security of any of the Parties is threatened," it reads.
- Meanwhile, Article 5 spells out the 'one-for-all, all-for-one' nature of the treaty.



### **Rivalry that goes way back:**

- NATO and Russia have always been at odds with each other, since the treaty was signed to keep Russian expansionism at bay.
- When NATO came into existence, Soviet Union had sought to counter this Western alliance with a defence collective of its own and signed the Warsaw Pact with Poland, Czechoslovakia, Albania, Bulgaria, East Germany, Hungary, and Romania during the Cold War.
- However, this pact was gradually dissolved after the war ended and its existing member nations eventually joined the NATO.
- The expansion of NATO from 12 to 30 members has been a source of tension between Russia and the West for years.
- In Europe, Russia shares a border with Sweden, Finland, Estonia, Latvia, Lithuania, Poland, Belarus, Ukraine, and Georgia. Of this, apart from Belarus and Ukraine, the others have either joined NATO or are in queue for a membership.
- Russia sees the presence of Western military and nuclear bases in its neighbourhood as a threat.
- Ukraine plays an important role in Russia's economic plans as well. Its warm water ports like the Port of Sevastopol and the Port of Novorossiysk, which remain navigable year-round, unlike the Port of Vladivostok in eastern Russia, are crucial for Russian commerce. If Ukraine were to join the NATO, that would cut off Russia's access to the Black Sea and the trading opportunities it offers.

## **RUSSIA'S WITHDRAWAL FROM KHERSON**

### **In News:**

Ukraine's defence and intelligence unit has reported on the withdrawal of Russian troops from Kherson but predicts it to be a delusion for a retreat. U.S. President Joe Biden and the EU leaders have termed the withdrawal as a "difficult position" for Russian President Vladimir Putin and condemned the brutality of deporting Ukrainians.

### **Analysis of Background:**

#### **Where is Kherson and why is it important?**

- Geographically, Kherson is a strategic location for Russia and Ukraine. Situated in the northwest of the Dnipro River, the province shares borders with Donetsk, Crimea and the Black Sea.
- With Moscow capturing Crimea in 2014, the occupation of Kherson in March 2022 has benefited Russia in transferring its military from Crimea to counter Ukraine. It provides



access to Odesa and Black Sea ports in the west and serves as the main route to secure southern Ukraine.

- For Ukraine, regaining Kherson is significant to protect its population in Kalanchak and Chaplynka districts and also to recapture Crimea. Kherson is also an important region for its agricultural produce, with irrigation channels.

### **Why has Moscow announced its withdrawal from Kherson?**

- First is the mobilisation failure. When Russia was advancing rapidly in capturing the southern and northern cities of Ukraine, its military personnel and weapon systems started to run thin. Russia then pursued a partial mobilisation as the next strategy to circumvent its on-ground limitations. The failure of new recruits added an additional challenge to Russia to keep its hold against the Ukraine counter-offensive in Kherson.
- Secondly, the inability of Russia to govern Kherson. Despite imposing martial law, Russia could not effectively rule Kherson; the three-level security in the occupied areas could not enforce Russia's control on the ground.
- Third, Ukraine's expanding counter-offensive. Until August, Ukraine was supplied only with short-range and low-grade weapons by the West. Later, Ukrainian soldiers received military training; as Moscow continued its onslaught, the West upgraded its support with medium to high-range weapons systems such as the Howitzers, HIMARS, air defence systems, battle tanks and drone technologies. It came from the U.S., the U.K. and Germany, whereas Russia's procurement was slow and limited to Shahed drones. This helped Ukraine recapture Russian-occupied areas including Izyum, northeast, southeast of Kharkiv, Izyum-Sloviansk, Kupiansk in Eastern Ukraine, and northwest Kherson in the south. On the other hand, Russia has been facing challenges in augmenting its military hardware on the battleground.
- Is the withdrawal final, or a tactical move by Russia?
- Russia's new mobilisation has failed to stop the advancing of Ukraine forces. The challenges to remobilise its defence systems and the shortage of weapons must have played a role in Russia's withdrawal.
- With Ukraine strengthening its military capacity through support from the West, upgrading from land-based to air-based to heavy battle tanks, Russia is facing a challenge to hold its occupied territories in Ukraine.
- However, this is not the first time Moscow is making a withdrawal, after an initial onslaught.
- The attack on Ukraine's capital Kyiv was an initial strategy of Russia. Later, Moscow shifted its strategy from capturing Kyiv to concentrating on eastern Ukraine. Similarly,

Russia also withdrew from its strategy to capture Kharkiv. Controlling Donetsk and Luhansk have become a significant objective.

- Withdrawal from Kherson exposes a serious gap in Russia’s strategy to hold southern Ukraine. However, it also underlines its strategy — to withdraw under serious attack or resistance by the Ukrainian forces — as it happened in Kyiv and Kharkiv.



## OPERATION BARKHANE

### In News:

French President Emmanuel Macron announced the end of the decade-long Operation Barkhane in Africa. Mr. Macron said that, “Our military support for African countries will continue, but according to new principles that we have defined with them.”

### Analysis of Background:

#### Operation Barkhane:

- France began its military operations in Sahel in January 2013.
- Titled Operation Serval, it was limited to targeting Islamic extremists linked to al-Qaeda who took control of northern Mali.

- However, in 2014, the mission was scaled up, renamed Operation Barkhane and was aimed at counter-terrorism.
- The objective was to assist local armed forces to prevent the resurgence of non-state armed groups across the Sahel region.
- Around 4,500 French personnel were deployed with the local joint counter-terrorism force.

#### **Objectives:**

- French operations had two objectives in the Sahel.
- First, to liberate Mali from the insurgency in the north and second, to see through counter-terrorism operations in West Africa, including the neutralisation of key terrorists.
- However, Operation Barkhane saw a series of failures.
- First the region, despite the operation, witnessed the growth of new groups affiliated to terrorist organisations, including the Islamic State.
- Second, the failure of the operation led to a humanitarian crisis. According to the Armed Conflict Location & Event Data Project (ACLED), the violence had claimed 5,450 lives across Mali, Burkina Faso, and Niger in just the first half of 2022, recording a significant increase from the previous years. Further, the Africa Center for Strategic Studies recorded 2,005 incidents of Islamist violence in the Sahel in 2021, compared to the 1,180 incidents in the previous year.
- Third, Operation Barkhane's unfulfilled objective to resolve the region's insurgencies sparked an increase in civilian support to the military and has contributed to the subsequent political uncertainties in the Sahel.

#### **Reasons for pull out:**

- First, France's relations with the military rulers grew hostile after a series of coups in Mali, Burkina Faso and Guinea.
- Relations between France and Mali soured after the latter expelled the French ambassador when he disagreed with the junta's decision to remain in power until 2025.
- In addition, France was contemptuous about Malian authorities negotiating a peace deal with insurgent groups.
- Secondly, since Operation Barkhane was widely perceived as a failure, anti-French sentiments and questions over France's intentions flared up, with a further demand for France's withdrawal from the region.
- Finally, France, and other Western countries claim that the Wagner Group, a private military company close to the Kremlin, is playing a major role in fuelling the insurgency

and discrediting French withdrawal. For Africa, the Wagner Group is an alternative that engages with military governments, without abiding to human rights and democratic standards.

## **BALI DECLARATION**

### **In News:**

20 leaders have issued a very long declaration in Bali, Indonesia, where they highlighted the state of the world's peace, health and economy and agreed to take steps to tackle them.

### **Analysis of Background:**

- Unparalleled multidimensional crises: devastation brought by the Covid-19 pandemic, climate change, which has caused economic downturn, increased poverty, slowed global recovery, war in Ukraine etc
- Ukraine War: i
- Most members strongly condemned the war in Ukraine and stressed it is causing immense human suffering and exacerbating existing fragilities in the global economy – constraining growth, increasing inflation, disrupting supply chains, heightening energy and food insecurity, and elevating financial stability risks.
- It is essential to uphold international law and the multilateral system that safeguards peace and stability.

### **Global economy:**

- At today's critical moment for the global economy, it is essential that the G20 undertakes tangible, precise, swift and necessary actions, using all available policy tools, to address common challenges, including through international macro policy cooperation and concrete collaborations.
- Stay agile and flexible in our macro-economic policy responses and cooperation.
- Protect macroeconomic and financial stability and remain committed to using all available tools to mitigate downside risk.
- Unlock further investments for low- and middle-income and other developing countries, through a greater variety of innovative financing sources and instruments.
- Recommit to accelerate achievement of the SDGs, achieving prosperity for all through sustainable development.

### **Food security:**

- We are deeply concerned by the challenges to global food security exacerbated by current conflicts and tensions.

- We therefore commit to taking urgent actions to save lives, prevent hunger and malnutrition, particularly to address the vulnerabilities of developing countries, and call for an accelerated transformation towards sustainable and resilient agriculture and food systems and supply chains.
- We are committed to addressing food insecurity by ensuring accessibility, affordability, and sustainability of food and food products for those in needs, particularly in developing countries and least developed countries.
- We welcome the Türkiye and UN-brokered two Istanbul Agreements and consisting of the Initiative on the Safe Transportation of Grain and Foodstuffs from Ukrainian Ports (Black Sea Grain Initiative)
- We are committed to supporting the adoption of innovative practices and technologies, including digital innovation in agriculture and food systems to enhance productivity and sustainability in harmony with nature and promote farmers and fishers' livelihoods and increase income, in particular smallholders by increasing efficiency, and equal access to food supply chains.

#### **Energy security:**

- We meet at a time of climate and energy crises, compounded by geopolitical challenges. We are experiencing volatility in energy prices and markets and shortage/disruptions to energy supply.
- We underline the urgency to rapidly transform and diversify energy systems, advance energy security and resilience and markets stability, by accelerating and ensuring clean, sustainable, just, affordable, and inclusive energy transitions and flow of sustainable investments.
- We stress the importance of ensuring that global energy demand is matched by affordable energy supplies
- We reiterate our commitment to achieve global net zero greenhouse gas emissions/carbon neutrality by or around mid-century, while taking into account the latest scientific developments and different national circumstances.
- We call for continued support for developing countries, especially in the most vulnerable countries, in terms of providing access to affordable, reliable, sustainable, and modern energy, capacity building, affordable latest technology within the public domain, mutually beneficial technology cooperation and financing mitigation actions in the energy sector.
- We reaffirm our commitment to achieve SDG 7 targets and strive to close the gaps in energy access and to eradicate energy poverty.

- Recognising our leadership role, and guided by the Bali Compact and the Bali Energy Transition Roadmap, we are committed to finding solutions to achieve energy markets stability, transparency, and affordability.

#### **Climate change:**

- Mindful of our leadership role, we reaffirm our steadfast commitments, in pursuit of the objective of UNFCCC, to tackle climate change by strengthening the full and effective implementation of the Paris Agreement and its temperature goal, reflecting equity and the principle of common but differentiated responsibilities and respective capabilities in light of different national circumstances.
- We will play our part fully in implementing the Glasgow Climate Pact and the relevant outcomes of previous COPs and CMAs, in particular COP 26, including the call to revisit and strengthen the 2030 targets in our NDCs, as necessary to align with the Paris Agreement.
- We welcome the progress to date towards achieving a Post 2020 Global Biodiversity Framework (GBF). We urge all parties and countries to finalize and adopt the GBF with the view of realizing of 2050 Vision of “Living in harmony with Nature”
- We will step up efforts to halt and reverse biodiversity loss, including through Nature-based Solutions and Ecosystem-based Approaches, support climate mitigation and adaptation, enhance environmental conservation and protection, sustainable use and restoration.
- We acknowledge the urgent need to strengthen policies and mobilize financing, from all sources in a predictable, adequate and timely manner
- We reiterate that our policy mix toward carbon neutrality and net zero should include a full range of fiscal, market and regulatory mechanisms

#### **Health:**

- We remain committed to promoting a healthy and sustainable recovery which builds towards achieving and sustaining Universal Health Coverage under the SDGs.
- The G20 High Level Independent Panel, as well as the WHO and World Bank have estimated there is an annual pandemic PPR financing gap of approximately USD 10 billion. We welcome the provision of additional financial resources, to assist in financing critical gaps in implementing IHR (2005) and increase PPR capacities.
- We recognize that the extensive COVID-19 immunization is a global public good and we will advance our effort to ensure timely, equitable and universal access to safe, affordable, quality and effective vaccines, therapeutics and diagnostics (VTDs).

**Digital Economy:**

- We acknowledge that affordable and high-quality digital connectivity is essential for digital inclusion and digital transformation, while a resilient, safe and secure online environment is necessary to enhance confidence and trust in the digital economy.
- We encourage international collaboration to further develop digital skills and digital literacy
- We endorse the G20 Financial Inclusion Framework on Harnessing Digitalization to Increase Productivity and Foster a Sustainable and Inclusive Economy

**Workers:**

- The rise of automation and digital technologies are reshaping the world of work, presenting both opportunities and challenges. Adding to the situation, the COVID-19 pandemic has exacerbated pre-existing inequalities in many countries and continues to disproportionately affect women, youth, older workers, persons with disabilities and migrant workers.
- We underline that it remains our utmost priority to mitigate the adverse impact of the current trends on the labour market.
- We reaffirm our commitment to support the full inclusion of migrants, including migrant workers, refugees, in our recovery efforts.
- We remain committed to a human-centred, inclusive, fair, sustainable approach that leads to greater social justice, decent work, and social protection for all.

**SDG:**

- We are deeply concerned that multidimensional crises are posing significant challenges towards realizing the 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda in a timely manner.
- In this regard, we will strengthen inclusive and sustainable recovery and build resilience in all developing countries, including SIDS in the Pacific and Caribbean and LDCs, through ambitious and concrete actions.
- Access to education is a human right and a pivotal tool for inclusive and sustainable economic recovery. We welcome the outcome of the Transforming Education Summit. We will act in solidarity in particular with developing countries to rebuild more resilient, tech-enabled, accessible, and effective education systems.

- We welcome research and innovation collaboration for the conservation of biodiversity and its use to support the sustainable development including green and blue economy.
- We reaffirm our commitment to put gender equality and women's empowerment at the core of our efforts for an inclusive recovery and sustainable development.

**Tourism:**

- We reaffirm the important role of tourism for global recovery, and the community-based approach for rebuilding a more human-centred, inclusive, sustainable, and resilient tourism sector.

**Culture:**

- We reaffirm the role of culture as an enabler and driver for sustainable development with intrinsic value beyond its social and economic benefits.

**Corruption:**

- We will continue to lead by example through strengthening and implementing our obligations and commitments to anti-corruption efforts including through legally binding instruments, while renewing our commitment to zero tolerance for corruption.

**Terrorism:**

- We recognize the need for the international community to step up their efforts to effectively combat money laundering, terrorism financing, and proliferation financing.



## GENERAL STUDIES - 3

### TOPIC: ECONOMY

#### FOREX RESERVES

##### In News:

India's foreign exchange reserves rose to \$531.08 billion in the week through Oct. 28, marking their biggest weekly gain since September 2021.

##### Analysis of Background:

##### About Foreign Exchange Reserves:

- Foreign-exchange reserves (also called forex reserves or FX reserves) are money or other assets held by a central bank or other monetary authority.
- The assets are held so that it can pay its liabilities (if needed), such as the currency issued by the central bank, and various bank reserves deposited with the central bank by the government and other financial institutions.
- Reserves are held in one or more reserve currencies, mostly the United States dollar and to a lesser extent the EU's euro, the British pound sterling, and the Japanese yen.
- Foreign exchange reserves should ideally include foreign banknotes, foreign bank deposits, foreign treasury bills, and short and long-term foreign government securities.
- However, they also include gold reserves, special drawing rights (SDRs), and International Monetary Fund (IMF) reserve positions.
- This broader figure, along with SDRs, gold reserves, and IMF reserve positions is more readily used.

##### Thus, in a nutshell, Foreign Exchange Reserves include-

1. Reserves held in US Dollars, The Euro, The British Pound, or the Japanese Yen
  2. Foreign bank notes, foreign bank deposits, foreign treasury bills, and short-term and long-term foreign government securities
  3. Gold reserves
  4. Special Drawing Rights and International Monetary Fund reserve positions
- Foreign-exchange reserves are called reserve assets in the balance of payments and are located in the capital account. Hence, form an important part of the international investment position of a country.

### **Importance of Forex reserves**

- Forex reserves give comfort to the government and the RBI in managing India's external and internal financial issues at a time of major contraction in economic growth.
- It serves as a cushion in the event of a crisis on the economic front and is enough to cover the import bill of the country for a year.
- Forex Reserves help the rupee to strengthen against the dollar. The foreign exchange reserves to GDP ratio is around 15 percent.
- Reserves provide a level of confidence to markets that a country can meet its external obligations, demonstrate the backing of domestic currency by external assets, assist the government in meeting its foreign exchange needs and external debt obligations and maintain a reserve for national disasters or emergencies.

### **What does the RBI do with the forex reserves at its disposal?**

- The Reserve Bank functions as the custodian and manager of forex reserves and operates within the overall policy framework agreed upon with the government.
- The RBI allocates the dollars for specific purposes. For example, under the Liberalised Remittances Scheme, individuals are allowed to remit up to \$250,000 every year.
- The RBI uses its forex kitty for the orderly movement of the rupee.
- It sells the dollar when the rupee weakens and buys the dollar when the rupee strengthens.
- When the RBI mops up dollars, it releases an equal amount in rupees. This excess liquidity is sterilized through the issue of bonds and securities and LAF operations.

## TRIPS

### In News:

- At the 12th WTO Ministerial Conference a temporary IP waiver for Covid-19 vaccines extended under specific conditions.
- However, a decision on diagnostics and therapeutics was postponed by six months, till December 17

### Analysis of Background:

#### Present Waiver position:

#### It waives only Article 31(f) of the TRIPS Agreement:

- Art 31(f) of the TRIPS Agreement states the bulk of production should not be exported. This provision limits the supply of vaccines under compulsory licence to countries which can't produce them.
- Thus, the waiver allows only the export of vaccines under a compulsory licence.
- A compulsory licence is granted to allow a third party to produce patent-protected products including medicines.
- **Under Section 92 of the 1970 Indian Patents Act**, the central government has the power to allow compulsory licenses to be issued at any time in case of a national emergency or circumstances of extreme urgency.

#### Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement:

- The TRIPS agreement was negotiated in 1995 at the WTO, it requires all its signatory countries to enact domestic law.
- The TRIPS Agreement is also described as a "Berne and Paris-plus" Agreement.
- The TRIPS Council is responsible for administering and monitoring the operation of the TRIPS Agreement.
- It guarantees minimum standards of IP protection.
- TRIPS establishes minimum standards for the availability, scope, and use of seven forms of intellectual property namely, trademarks, copyrights, geographical indications, patents, industrial designs, layout designs for integrated circuits, and undisclosed information or trade secrets.
- It applies basic international trade principles regarding intellectual property to member states
- TRIPS Agreement lays down the permissible exceptions and limitations for balancing the interests of intellectual property with the interests of public health and economic development.

- In 2001, the WTO signed the Doha Declaration, which clarified that in a public health emergency, governments could compel companies to license their patents to manufacturers, even if they did not think the offered price was acceptable.
- This provision, commonly referred to as “compulsory licensing”, was already built into the TRIPS Agreement and the Doha declaration only clarified its usage.

## CRYPTOCURRENCY EXCHANGE

### In News:

Crypto exchange FTX admitted that "unauthorised transactions" have drained hundreds of millions of dollars from its wallets, saying the company has moved many digital assets to a new "cold wallet custodian".

### Analysis of Background:

#### What are FTX and Binance?

- FTX and Binance are cryptocurrency exchanges, meaning they enable customers to trade digital currencies for other digital currencies or traditional money, and vice versa. The two exchanges process the majority of all crypto trades in the world.
- FTX, one of the world’s largest exchanges, was run by Sam Bankman-Fried and is headquartered in the Bahamas. Binance, the largest exchange, is run by billionaire Changpeng Zhao.
- Both companies built their businesses on risky trading options that are not legal in the United States.

#### Cryptocurrencies Exchange

- A cryptocurrency exchange, or a digital currency exchange (DCE), is a business that allows customers to trade cryptocurrencies or digital currencies for other assets, such as conventional fiat money or other digital currencies.
- Exchanges may accept credit card payments, wire transfers or other forms of payment in exchange for digital currencies or cryptocurrencies. A cryptocurrency exchange can be a market maker that typically takes the bid–ask spreads as a transaction commission for its service or, as a matching platform, simply charges fees.

## FARMER PRODUCER ORGANIZATION

### In News:

- Studies show that we need more than one lakh FPOs for a large country like India, while we currently have less than 10,000.

### Analysis of Background:

#### FPO

- FPO stands for Farmer Producer Organization. FPO is an organization, where the members are farmers themselves.
- Farmers Producers Organization provides end-to-end support and services to small farmers and covers technical services, marketing, processing, and other aspects of agriculture inputs.
- Farmer Producer Organization (FPO) is a legal entity incorporated under the Companies Act or Co-operative Societies Act of the concerned States.
- It is formed to leverage collectives through economies of scale in the production and marketing of agricultural and allied sectors.

### The idea behind the Farmer Producer Organizations (FPO) was that:

“Farmers, who are the producers of their agriculture products, can form the groups and can register themselves under the Indian Companies Act”.

### Implementing Agencies to Form and Promote FPOs

The following three implementing Agencies will form and promote Farmer Producer Organizations

- Small Farmers Agri-business Consortium (SFAC)
- National Cooperative Development Corporation (NCDC)
- National Bank for Agriculture and Rural Development (NABARD)

### Activities to be undertaken by FPO

FPOs may provide and undertake the following relevant major services and activities for the development:

- The FPO can supply quality production inputs like seed, fertilizer, pesticides at reasonably lower wholesale rates.
- FPO can make available need-based production and post-production machinery and equipment on a custom hiring basis for members to reduce the unit production cost

- FPO can engage in the process of value addition like cleaning, grading, packing, and also farm-level processing facilities at a user-charge basis on a reasonably cheaper rate.



- The FPO can make the facility for storage and transportation for its members
- The FPO must undertake higher income-generating activities like seed production, beekeeping, mushroom cultivation, etc
- FPO needs to undertake aggregation of smaller lots of farmer-members produce; add value to make them more marketable.
- Facilitate logistics services such as storage, transportation, loading/unloading, etc. on a shared cost basis.
- FPO can market the aggregated produce with better negotiation strength to the buyers and in the marketing with better and remunerative prices.

### **How is the government assisting the FPOs?**

To motivate more and more farmers to set up FPOs, the government is providing a lot of assistance:

- Equity Grant Scheme
- Credit Guarantee Fund Scheme through SFAC.
- FPOs can also get help from the government of India for various schemes like marketing assistance, Venture Capital assistance.
- The mission for Integrated Development of Horticulture (MIDH) Scheme. This scheme works towards promoting agricultural business activities.
- The help to farmers is further strengthened by SFAC and NABARD that promote the training of the Board of Directors and their officers of FPOs so that they can function effectively.

- Besides, the Indian Council of Agricultural Research also provided technical support to FPOs via Krishi Vigyan Kendras established in the respective locations. The objective of all these initiatives is to help the farmers and motivate them towards FPOs.

### **Issues pertaining to FPOs**

- Lack of technical skills,
- Inadequate professional management,
- Weak financials,
- Inadequate access to credit,
- Lack of risk mitigation mechanism and
- Inadequate access to market and infrastructure.

## **MULTI-MODAL LOGISTICS PARK (MMLP)**

### **In News:**

The Ministry of Road Transport & Highways said it has awarded the contract for setting up India's first multi-modal logistics park (MMLP) near Chennai to Reliance Industries (RIL).

### **Analysis of Background:**

A systematic logistics network is crucial to economic growth. To develop this sector, the Cabinet Committee on Economic Affairs, in October 2017, under the 'Bharatmala Pariyojana', mandated the Ministry of Roads Transport and Highways (MoRTH) to develop Multi Model Logistics Parks (MMLP) across the country.

### **Description of MMLP**

- MMLP typically acts as an inter-modal freight-handling facility with mechanised material handling provisions, which contains warehouses, specialized cold chain facilities, freight/container terminals and bulk/ break-bulk cargo terminals.
- MMLPs include inter-modal connectivity, such as dedicated railway line, access from the prominent highway(s)/ expressway(s) to allow movement of commercial vehicles, and connectivity to an airport or a seaport (or inland waterway terminal).

### **Proposed MMLPS**

- For the purposes of reduction in congestion on proposed corridors under the 'Bharatmala Pariyojana', and to enhance logistics efficiency and reduce costs related to

freight movements, MoRTH has identified 35 locations across India, for the development of MMLPs under the public-private partnership model (PPP).

- Thus, under the PM Gati Shakti National Master Plan (NMP), launched in October 2021, the Road Ministry is developing 35 MMLPs, of which 15 MMLPs are being prioritized in the next three years.
- These MMLPs are proposed to be implemented by the National Highways Authority of India (NHAI) and the National Highways and Infrastructure Development Corporation Limited ((NHIDCL) in North-East India).
- Since 2017, work has progressed significantly in the implementation of MMLP projects in India.

### **India's first MMLP at Mappedu**

- The MMLP is strategically located at around 52 km from the Chennai Port, 80 km from Ennore Port and 87 km from Kattupalli Airport and will be a focal point of logistics in the southern region. It is estimated to cater to around 7.17 million tonnes (mt) cargo over 45 years.
- Chennai is an important centre for supply chain and logistics in south India. Also, it has international and domestic connectivity, which makes the MMLP a game-changer for the region.
- The park will offer facilities such as warehouses, cold storages, cargo terminals, custom facilities, truck terminals, accommodation and boarding facilities for truckers. It will allow shippers to choose between different modes of transportation based on their requirements.
- The project being close to Chennai Peripheral Ring Road will connect the Chennai airport, and also the ports of Chennai, Kamarajar and Kattupalli. The project will also serve as secondary market clusters of Ranipet, Ambur, Tirupur and Bengaluru which is home to industries like leather, heavy machinery parts, automobiles, cement, sugar and chemicals, according to a pre-feasibility report.

### **Significance of MMPLs**

- MMPLs will play a crucial role in reducing logistics costs. India's logistics cost as a percentage of GDP is very high at 16 per cent, while in developed countries such as the US and Europe, it is around 8 per cent. China's logistics costs are 10 per cent. The government wants to bring down the logistics cost to 10 percent of GDP.



## VOSTRO ACCOUNT

### In News:

Recently, the government announced that nine special Vostro accounts have been opened with two Indian banks after permission from the RBI to facilitate trade in the rupee in the wake of sanctions on Russia by the US and European countries.

### Analysis of Background:

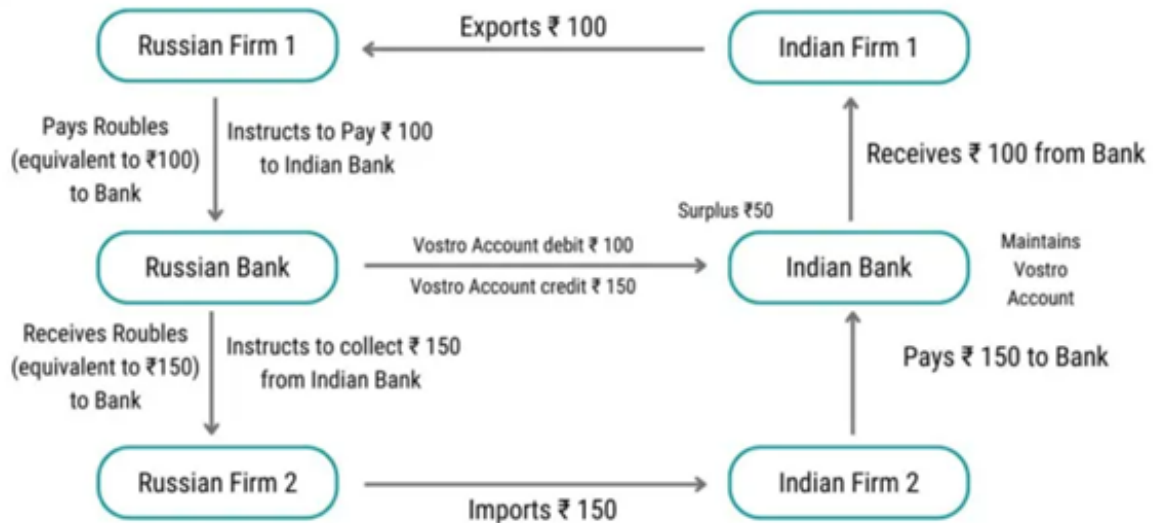
#### What is International Trade Settlement in rupees?

- When countries import and export goods and services, they have to settle payments in a foreign currency. Since the US Dollar is the world's reserve currency, most of the trade occurs in US dollars.
- For example, if an Indian buyer enters into a transaction with a seller from Germany, the Indian buyer has to first convert his rupees into US dollars. The seller will receive those dollars, which is then converted into euro.
- Here, both the parties involved have to incur the conversion expenses and bear the risk of foreign exchange rate fluctuations. With the help of a Vostro account now, instead of paying and receiving US dollars, the invoice will be made in Indian rupees if the counterparty has a Rupee

### Vostro account

- Rupee Vostro Accounts keep a foreign entity's holdings in the Indian bank, in Indian rupees. When an Indian importer wants to make a payment to a foreign trader in rupees, the amount will be credited to this Vostro account, and when an Indian exporter needs to be paid for supplying goods or services, this Vostro account will be deducted, and the amount will be credited to the exporter's account.
- The bank of a partner country; e.g. German banks may approach an AD bank in India for the opening of Special Rupee Vostro account. The AD bank then will seek approval from the RBI with details of the arrangement and subsequent to the approval granted by the RBI, the Special Rupee Vostro account in the Indian AD bank by a German bank shall be opened.
- The trade settlement shall then start between the parties in INR. The exchange rate between the currencies of two trading partner countries may be market determined.
- The RBI allowed nine such accounts, including IndusInd Bank and UCO Bank.

## Working of Vostro Account



### Role of Bank:

- The banks are acting in a fiduciary relationship and they share a principal-agent relationship. The correspondent foreign bank is a financial intermediary in the transactions that they are involved in.
- The foreign bank acts as an agent that provides services such as executing wire transfers, performing foreign exchange, enabling deposits, enabling withdrawals and, expediting international trade on behalf of the domestic bank.
- It is most used in settlement of foreign exchanges or foreign trade. No interest will be paid on the Vostro account maintained, as per the directives that have been issued by the RBI in India. An overdraft facility can only be availed if it is specifically sanctioned.

### Why is it required?

- In order to promote the growth of global trade with emphasis on exports from India and to support the increasing interest of Global trading community in INR, it has been decided to put in place an additional arrangement for invoicing, payment, and settlement of exports / imports in INR. As such all exports and imports under this arrangement may be denominated and invoiced in Rupee (INR).
- Exchange rate between the currencies of the two trading partner countries may be market determined.

### Benefits for India

- The RBI's move could marginally narrow India's widening trade deficit by reducing the price of commodity imports.

- But India would move cautiously on internationalizing the local currency given associated risks for the economy, such as high exposure to global shocks, asset bubbles and exchange rate volatility.

### **What is a Nostro account?**

- A Nostro account is an account held by a bank in another bank. It allows the customers to deposit money in the bank's account in another bank. It is often used if a bank has no branches in a foreign country.
- Let's presume bank "A" does not have any branches in the US, but bank "B" does. Now, to receive the deposits in the US, "A" will open a Nostro account with "B".
- Now, if any customers in the US want to send money to "A", they can deposit it into A's account in "B". "B" will transfer the money to "A".
- The main difference between a deposit account and a Nostro account is that the former is held by individual depositors while foreign institutions hold the latter.
- In the above example, the account will be called a Vostro account for bank "B". The Vostro account accepts payments on behalf of the account holder's bank
- If a person deposits money in the Vostro account, it will be transferred to the account holder's bank.
- Nostro and Vostro accounts are held in a foreign denomination.
- Both Vostro and Nostro are technically the same type of account, with the difference being who opens the account and where.

## **E-WAY BILL SYSTEM**

### **Details About E-Way Bill System:**

- E-Way bill system is for GST registered person / enrolled transporter for generating the way bill (a document to be carried by the person in charge of conveyance) electronically on commencement of movement of goods exceeding the value of Rs. 50,000 in relation to supply or for reasons other than supply or due to inward supply from an unregistered person.
- E-Way Bill is a compliance mechanism wherein by way of a digital interface the person causing the movement of goods uploads the relevant information prior to the commencement of movement of goods and generates an e-way bill on the GST portal.
- An electronic way bill or 'e-way bill' system offers the technological framework to track intra-state as well as inter-state movements of goods of value exceeding Rs 50,000, for

sales beyond 10 km in the Goods and Services Tax (GST) regime. When an e-way bill is generated, a unique E-way Bill Number (EBN) is allocated and is available to the supplier, recipient, and the transporter.

- It was launched to:
  - Facilitate faster movement of goods.
  - Improve the turnaround time of vehicles.
  - Help the logistics industry by increasing the average distances travelled and reducing the travel time as well as costs.

### **E-Way Bill Rules:**

According to notified e-way bill rules, every supplier requires prior online registration on the e-way bill portal for the movement of goods. Tax officials have the power to scrutinise the e-way bill at any point during transit to check tax evasion.

### **Validity:**

- The rules also specify that the permits for conventional cargo (other than over-dimensional cargo) are valid for one day for the movement of goods for 100 km, and in the same proportion for the following days.
- In general, validity of the e-way bill cannot be extended but a commissioner may extend the validity period only through issuing notification for certain categories of goods.

### **Penalty for goods moved without generating a valid e-way bill:**

- A fine of Rs 10,000 or amount of tax sought to be evaded, whichever is higher, may be imposed by tax authorities.
- In such a situation, goods, and the vehicle transporting them, can be detained or seized.
- An e-way bill can be regenerated by the transporter before expiry, but, if the e-way bill has expired, the system won't allow regeneration linked to the same invoice.

### **Specific goods that are exempt from e-way bill rules are:**

- Liquefied petroleum gas for supply to household and non-domestic exempted category customers
- Kerosene oil sold under Public Distribution System (PDS)
- Postal baggage transported by Department of Posts
- Natural or cultured pearls and precious or semi-precious stones; precious metals and metals clad with precious metal
- Jewellery, goldsmiths' and silversmiths' wares and other articles

- Currency
- Used personal and household effects
- Unworked and worked coral
- Goods transported are alcoholic liquor for human consumption, petroleum crude, high-speed diesel, petrol, natural gas or aviation turbine fuel.
- Goods transported are empty cargo containers
- Goods other than de-oiled cake being transported as specified:
  - Curd, lassi, buttermilk
  - Fresh milk and pasteurised milk not containing added sugar or other sweetening matter
  - Vegetables
  - Fruits
  - Unprocessed tea leaves and unroasted coffee beans
  - Live animals, plants and trees
  - Meat
  - Cereals
  - Unbranded rice and wheat flour
  - Salt

## INSIDER TRADING

### About Insider Trading:

- **Insider trading is the buying or selling of a publicly-traded company's shares/debt papers by someone who has confidential information about that shares/debt papers.**
- Insider trading is defined as a malpractice wherein trade of a company's securities is undertaken by people who by virtue of their work have access to the otherwise non-public information/confidential information which can be crucial for making investment decisions.
- When insiders, e.g. key employees or executives who have access to the strategic information about the company, use the same for trading in the company's stocks or securities, it is called insider trading.
- An insider is a person who possesses either access to valuable non-public information about a corporation or ownership of stock equaling more than 10% of a firm's equity. This makes a company's directors and high-level executives insiders.

**Mechanism to prevent insider trading:**

- According to SEBI Promoters will be held responsible for violation of insider trading norms, if they possess unpublished price-sensitive information (UPSI) regarding the company without any “legitimate purpose”.
- Legitimate purpose – Sharing of the UPSI by an insider with partners, collaborators, lenders, customers, suppliers, merchant bankers, legal advisors, auditors, insolvency professionals or other advisors or consultants, provided that such sharing has not been carried out to evade or circumvent the prohibitions of these regulations.

## TOPIC: ENVIRONMENT

### BLACK CORALS

#### In News:

Researchers at Smithsonian Institution, Washington, discovered five new species of black corals living as deep as 2,500 feet (760 metres) below the surface in the Great Barrier Reef and Coral Sea off the coast of Australia.

#### Analysis of Background:

##### About Black corals:

- Antipatharians, also known as black corals or thorn corals, are an order of soft deep-water corals.
- These corals can be recognized by their jet-black or dark brown chitin skeletons, surrounded by the polyps.
- Antipatharians are a cosmopolitan order, existing at nearly every location and depth, with the sole exception of brackish waters.
- However, they are most frequently found on continental slopes under 50 m deep.
- Though they have historically been used by Pacific Islanders for medical treatment and in rituals, their only modern use is making jewellery.

##### Difference between corals and black coral-

- Black corals differ from stony corals, another order of hexacoral, by having a flexible skeletons made of protein and chitin, a fibrous substance that makes up a majority of exoskeletons of arthropods and fungi cell walls.
- This compound allows them to move in the current, unlike stony skeletons with their rigid frames.
- The compound of black coral skeleton serves another function, as a record keeper.
- Their skeletons grow, similar to tree rings, cataloguing changes in their environments and allowing us to see how oceans of the past may have been composed.

##### Characteristics of black corals:

- Black corals can be found growing both in shallow waters and down to depths of over 26,000 feet (8,000 metres), and some individual corals can live for over 4,000 years.
- Many of these corals are branched and look like feathers, fans or bushes, while others are straight like a whip.
- Black corals are filter feeders and eat tiny zooplankton that are abundant in deep waters.

- A black coral reproduces both sexually and asexually throughout its lifetime.
- Black corals act as important habitats where fish and invertebrates feed and hide from predators in what is otherwise a mostly barren sea floor.
- Among the many interesting specimens were five new species – including one that was found growing on the shell of a nautilus more than 2,500 feet (760 metres) below the ocean's surface.

#### Threats:

- They are not listed in the **IUCN Red List**.
- Black corals have been declining in numbers and are expected to continue declining due to the effects of poaching, ocean acidification and climate change.

## GANGETIC DOLPHIN

#### In News:

According to Uttar Pradesh Government, Dolphins have started coming back to the Ganga river with improvement in the quality of its water through the Namami Gange programme.

#### Analysis of Background:

- **The Gangetic Dolphin is a fresh-water species**, and one of the few river dolphins found in the world.
- A long thin snout, rounded belly, stocky body and large flippers are characteristics of the Ganges River dolphin.
- It feeds majorly on fishes and is usually found in counter current systems of the main river channel.
- Its eyes lack lens, and as a result, this species is also referred to as the "**blind dolphin**".
- They have a highly developed bio sonar system that facilitates them to hunt for fish even in murky waters.
- Being a mammal, the Ganges River dolphin cannot breathe in the water and must surface every 30-120 seconds. Because of the sound it produces when breathing, the animal is popularly referred to as the 'Susu'.
- It inhabits the **Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems** of Nepal, India, and Bangladesh.
- Common Names: Blind dolphin, Ganges dolphin, **Ganges susu**, hihu, side-swimming dolphin, South Asian River Dolphin
- **Scientific name: Platanista gangetica**



- The Gangetic Dolphin has been recognized **as India's National Aquatic Animal and is the official animal of the Indian city of Guwahati.**

#### **Conservation status:**

- The population of the Ganges dolphin is estimated to be a few hundred.
- **IUCN Status: Endangered**
- **It is placed in Schedule-I of the Wildlife (Protection) Act**
- It is listed **on CITES Appendix I**, which lists species that are the most endangered among CITES-listed animals and plants

## **GLYPHOSATE**

#### **In News:**

Recently, the Union Ministry of Agriculture and Farmers Welfare issued a notice restricting the use of glyphosate.

#### **Analysis of Background:**

##### **Glyphosate**

- Glyphosate is a widely used herbicide that controls broadleaf weeds and grasses. Glyphosate works by blocking an enzyme essential for plant growth. The product is used primarily in agriculture, but also in forestry and lawn and garden care.

#### **Concern:**

- Glyphosate health hazards for humans and animals. Some 35 countries have banned or restricted the use of glyphosate. These include Sri Lanka, Netherlands, France, Colombia, Canada, Israel and Argentina.
- Health impacts of glyphosate range from cancer, reproductive and developmental toxicity to neurotoxicity and immunotoxicity. Symptoms include irritation, swelling, burning of the skin, oral and nasal discomfort, unpleasant taste and blurred vision.
- Approval in India
- In India, glyphosate has been approved for use only in tea plantations and non-plantation areas accompanying the tea crop. Use of the substance anywhere else is illegal.

#### **Illegal Usage**

- A 2020 study by PAN India on the state of glyphosate use in the country had worrying findings. Field studies were conducted in Andhra Pradesh, Himachal Pradesh, Jharkhand, Karnataka, Tamilnadu, Telangana and West Bengal.

- Glyphosate was being used in more than 20 crop fields. Majority of those using the weedicide were not trained for doing so and did not have the appropriate safety precautions.

### **Consequence**

- The rampant use of glyphosate in non-designated areas has severe consequences. Use of all weedicides including glyphosate is destroying uncultivated food resources and thereby destroying indigenous nutrition habits as well, making rural people and agricultural communities deprived of adequate nutrition, in addition to polluting ecosystems.

### **Government's Recent Notification**

- The Government has issued a notice restricting the use of glyphosate.
- The new notification mandates that existing registration certification be put through a further process. Failure to do so will result in appropriate action being taken under the Insecticides Act of 1968.

## **GM MUSTARD (DMH – 11)**

### **In News:**

Recently, the Genetic Engineering Appraisal Committee has recommended for approval of genetically engineered (GE) mustard ("DMH-11 hybrid") in India.

### **Analysis of Background:**

- DMH-11 is a hybrid variant of mustard developed by researchers at The Centre for Genetic Manipulation of Crop Plants, at the University of Delhi.
- DMH-11 is a result of a cross between two varieties: Varuna and Early Heera-2. Such a cross wouldn't have happened naturally and was done after introducing genes from two soil bacterium called barnase and barstar.
- DMH-11 is claimed to have shown an average 28% yield increase over Varuna in contained field trials carried out by the Indian Council of Agricultural Research (ICAR).

### **Advantages:**

- Genetically modified seeds increase the yield of the plant by 28%.
- Reducing India's import bill.
- Helps in containing the food inflation

**Disadvantages:**

- Only a few companies are in charge of creating and selling modified seeds. With a near monopoly, this means that there are few choices available to those buying seeds.
- Seeds can't be replanted i.e. every plantation required buying of new seeds.
- They can decrease species diversity.
- GM mustard threatening or undermining the population of honey bees.

**About Mustard crop:**

- One of the most significant and well-known winter oilseed crop in India is mustard.
- It is primarily grown in India's northern plains, while there are some cultivated areas in the country's eastern region as well.
- It is a member of the crucifer family, which includes several cultivated related species.
- The little brown or yellow seeds have an oil content of up to 45%.
- The cake that has been de-oiled is fed to animals.

**Climatic conditions required for mustard:**

- Subtropical climates are ideal for growing mustard.
- Since mustard thrives in a dry, chilly climate, it is typically grown during the Rabi season.
- Temperature range- 10 °C to 25 °C.
- Annual rainfall ranging from 625 to 1000 mm.
- This crop needs a clear sky and no frost because it cannot survive frost.
- The oil content of seeds can be increased by a number of conditions, including cold temperatures, sunlight, and adequate moisture.
- Soil- Alluvial Loamy soil is optimal for mustard.

**Genetic Engineering Appraisal Committee:**

- The Genetic Engineering Appraisal Committee (GEAC) functions under the Ministry of Environment, Forest and Climate Change (MoEF&CC).
- It is responsible for the appraisal of activities involving large-scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.
- The committee is also responsible for the appraisal of proposals relating to the release of genetically engineered (GE) organisms and products into the environment including experimental field trials.
- GEAC is chaired by the Special Secretary/Additional Secretary of MoEF&CC and co-chaired by a representative from the Department of Biotechnology (DBT).

## AMUR FALCONS

### In News:

Amur falcons, the world's longest travelling raptors, began to arrive in Manipur's Tamenglong district as part of its annual routine migration.

### Analysis of Background:

- Locally known as Akhuipuina, the bird arrives mainly in Manipur and Nagaland on its southbound migration from breeding grounds in North China, Eastern Mongolia and far-east Russia en-route to its wintering grounds in South Africa.
- The one-way journey via India is about 20,000 km long and the birds do this twice a year.
- Amur falcon is protected under the Wildlife Protection Act 1972 and included under its Schedule IV.
- Hunting of the birds or possessing its meat is punishable with imprisonment up to three years or a fine up to Rs 5,000.
- In 2018, the forest department started a conservation programme by radio-tagging the birds to study their migratory route.
- IUCN status is Least Concern.

## AIR QUALITY INDEX

### In News:

Based on the levels, the governments in areas like Delhi announce measures. As the AQI in NCR dipped to the 'severe' category, stage 4 of the Graded Response Action Plan was set in motion.

### Analysis of Background:

- AQI is a number, which is a measure of air quality. The higher the AQI, the worse the air.
- The colour-coded AQI index was launched in India in 2014, and it helps the public and the government understand the condition of the air and what subsequent measures are to be taken to combat the situation, based on its severity.
- There are six categories of AQI, namely 'Good' (0-50), 'Satisfactory' (50-100), 'Moderately polluted' (100-200), 'Poor' (200-300), 'Very Poor' (300-400), and 'Severe' (400-500).

### What is the AQI and how does it calculate pollution?

- The air quality index (AQI) is an index for reporting air quality on a daily basis.

- It is a measure of how air pollution affects one's health within a short time period.
- The purpose of the AQI is to help people know how the local air quality impacts their health.
- The Environmental Protection Agency (EPA) calculates the AQI for five major air pollutants, for which national air quality standards have been established to safeguard public health.
  1. Ground-level ozone
  2. Particle pollution/particulate matter (PM<sub>2.5</sub>/pm 10)
  3. Carbon Monoxide
  4. Sulfur dioxide
  5. Nitrogen dioxide
- The higher the AQI value, the greater the level of air pollution and the greater the health concerns. The concept of AQI has been widely used in many developed countries for over the last three decades. AQI quickly disseminates air quality information in real-time.
- In India, The National Air Quality Quality (AQI) India was launched on 17 September 2014 in New Delhi under the Swachh Bharat Abhiyan by the then Environment Minister Shri Prakash Javadekar.

#### **What is the impact of these pollutants?**

- Among the more harmful pollutants are those of a smaller size, such as particulate matter (PM) 2.5, which is an atmospheric particulate matter of diameter smaller than 2.5 micrometres (or around 3 per cent of the diameter of a human hair).
- It causes respiratory problems and reduces visibility.
- The particles can only be detected with the help of an electron microscope because they are so small.
- Due to their size, the PM 2.5 particles can easily bypass the nose and throat and can easily enter the circulatory system.
- The particles can also lead to cause chronic diseases such as asthma, heart attack, bronchitis and other respiratory problems.

#### **How does the AQI influence government policy?**

- Based on the levels, the governments in areas like Delhi announce measures.
- The GRAP has specifically been instituted for emergency measures that kick in to prevent further deterioration of air quality in Delhi-NCR.

- A central panel directed authorities to prohibit the use of diesel four-wheelers that are not BS-VI compliant, as well as the entry of trucks in Delhi. Petrol cars can continue to ply as usual.

## RHINO

### In News:

According to a study, published in the latest edition of *People and Nature* by the British Ecological Society, the horns of rhinoceroses may have become smaller over time from the impact of hunting.

### Analysis of Background:

- Rhinos have long been hunted for their horns. The five surviving rhino species are threatened by habitat loss and hunting.
- The study found that the rate of decline in horn length was highest in the critically endangered Sumatran rhino and lowest in the white rhino of Africa, the most commonly found species in the wild and in captivity.
- This observation follows patterns seen in other animals, such as tusk size in elephants and horn length in wild sheep, which have been driven down by directional selection due to trophy hunting.
- **Five species:**
  - **The Greater One-horned Rhinoceros:** The greater one-horned rhino (or “Indian rhino”) is the largest of the
  - **White rhino:** It is native to northern and southern Africa
  - **Black rhino:** It is native to eastern and southern Africa
  - **Javan rhino:** It is also known as Sunda rhino or lesser one-horned rhino
  - **Sumatran rhino:** Critically Endangered species of rhino

### Great Indian rhinoceros

- The Indian rhinoceros also called greater one-horned rhinoceros or great Indian rhinoceros is a rhinoceros species native to the Indian subcontinent.
- It is the only large mammal species in Asia to be down-listed from endangered to vulnerable in the International Union for Conservation of Nature, IUCN Red list in 2008.
- The extent and quality of the rhino's most important habitat are considered to be in decline due to hunting, agricultural development in tarai region and livestock encroachment.

- Indian rhinos once ranged throughout the entire stretch of the Indo-Gangetic Plain has reduced drastically to 11 sites in northern India and southern Nepal.

### National Rhino Conservation Strategy for India:

- It called for active engagement between India and Nepal to conserve the greater one-horned rhinoceros.
- The single population of rhinos in Sukla-Phanta (Nepal), Valmiki tiger reserve (India) and Chitwan National Park (Nepal) and Dudhwa (India) is separated by the political boundary between the two countries.
- Instead of managing the two populations differ in the two countries, plan focus on the managing rhino population with the same protocol.
- The plan calls for expanding distribution range as occurrence of 90 per cent of the rhino in one protected area is a cause of concern.
- It also calls for strengthening protection, having dedicated research and monitoring and strict enforcement.
- The objectives include
  - strengthening protection,
  - expanding the distribution range,
  - research and monitoring, and
  - adequate and sustained funding.

# STATE OF THE RHINO 2020

WHITE RHINO <i>Ceratotherium simum</i>	GREATER ONE-HORNED RHINO <i>Rhinoceros unicornis</i>	BLACK RHINO <i>Diceros bicornis</i>	JAVAN RHINO <i>Rhinoceros sondaicus</i>	SUMATRAN RHINO <i>Dicerorhinus sumatrensis</i>
Estimated Population: <b>~18,000</b>	Estimated Population: <b>&gt;3,600</b>	Estimated Population: <b>~5,630</b>	Estimated Population: <b>74</b>	Estimated Population: <b>&lt;80</b>
<b>DECREASING</b>	<b>INCREASING</b>	<b>INCREASING</b>	<b>STABLE</b>	<b>DECREASING</b>
IUCN Status: <b>NEAR THREATENED</b>	IUCN Status: <b>VULNERABLE</b>	IUCN Status: <b>CRITICALLY ENDANGERED</b>	IUCN Status: <b>CRITICALLY ENDANGERED</b>	IUCN Status: <b>CRITICALLY ENDANGERED</b>

www.rhinos.org



## WORLD HERITAGE SITES

### In News:

According to a study conducted by the UN body, a third of the glaciers on the UNESCO World Heritage list are under threat, regardless of efforts to limit temperature increases.

### Analysis of Background:

- The study said it was still possible to save the other two-thirds if the rise in global temperature did not exceed 1.5°C compared to the pre-industrial era.
- In addition to drastically reduced carbon emissions, the UNESCO is advocating for the creation of a new international fund for glacier monitoring and preservation.
- Such a fund would support comprehensive research, promote exchange networks between all stakeholders and implement early warning and disaster risk reduction measures, the study said.
- Half of humanity depends directly or indirectly on glaciers as their water source for domestic use, agriculture, and power.
- Glaciers are also pillars of biodiversity, feeding many ecosystems.
- This study highlights the urgent need to cut greenhouse gas emissions and invest in nature-based solutions, which can help mitigate climate change.
- As many as 50 UNESCO World Heritage sites are home to glaciers, representing almost 10% of the Earth's total glacierised area.
- The UNESCO study, in partnership with the International Union for Conservation of Nature (IUCN), showed that these glaciers have been retreating at an accelerated rate since 2000 due to CO<sub>2</sub> emissions, which are warming temperatures.
- They are currently losing 58 billion tonne of ice every year — equivalent to the combined annual water use of France and Spain — and are responsible for nearly 5% of observed global sea level rise.

### What are World Heritage Sites?

- It is a landmark or area with legal protection by an international convention administered by the United Nations Educational, Scientific and Cultural Organisation (UNESCO).
- World Heritage Sites are designated by UNESCO for having cultural, historical, scientific or other forms of significance.
- As per the 'Convention concerning the Protection of the World Cultural and Natural Heritage' 1972, UNESCO seeks to encourage the identification, protection and



preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.

- As of July 2021, a total of 1,154 World Heritage Sites (897 cultural, 218 natural, and 39 mixed properties) exist across 167 countries. With 58 selected areas, Italy is the country with the most sites on the list.
- Categories: A World Heritage Site can be either cultural or natural areas/objects which are inscribed on UNESCO's World Heritage List for having "outstanding universal value".
- These sites are usually considered to have cultural significance to all the people in the world, including future generations.

### **How are they selected?**

- According to The Operational Guidelines for the Implementation of the World Heritage Convention, a country must first list its significant cultural and natural sites into a document known as the Tentative List.
- The sites selected from that list move onto the Nomination File, which is then evaluated by the International Council on Monuments and Sites and the World Conservation Union.
- Any site that wasn't first included in the Tentative List cannot be nominated.
- The two bodies then make their recommendations to the World Heritage Committee, which consists of diplomatic representatives from 21 countries.
- The committee meets each year to decide whether a nominated property can be inscribed on the World Heritage List.
- The committee makes the final decision if a site meets at least one of the ten selection criteria.

### **Can a site lose its designation?**

- A site may lose its designation when the World Heritage Committee determines if it is not properly maintained or protected.
- It is first placed in the list of World Heritage in Danger as the Committee attempts to find a remedy involving the local authorities. If any remedies fail, the designation is revoked.
- A country can also request the Committee to partially or fully delist a property, generally in such cases when its condition has seriously deteriorated.

## How many World Heritage Sites are in India?

- There are currently 32 cultural, seven natural and one mixed World Heritage Sites in India.
- Oldest sites: Agra Fort, Ajanta Caves, Ellora Caves, and Taj Mahal made it to the list in 1983.
- Latest sites: The latest sites to be added to the list Dholavira in Gujarat, Kakatiya Rudreshwara (Ramappa) Temple in Telangana in 2021.
- There are 46 sites in the Tentative List including a group of monuments at Mandu and the historic ensemble of Orchha in Madhya Pradesh, Satpura tiger reserve, temples of Kanchipuram, temples at Bishnupur in West Bengal, and Sri Harimandir Sahib in Amritsar, Punjab.

## Indian Properties inscribed on the World Heritage List (40)

### Cultural (32)

- Agra Fort (1983)
- Ajanta Caves (1983)
- Archaeological Site of Nalanda Mahavihara at Nalanda, Bihar (2016)
- Buddhist Monuments at Sanchi (1989)
- Champaner-Pavagadh Archaeological Park (2004)
- Chhatrapati Shivaji Terminus (formerly Victoria Terminus) (2004)
- Churches and Convents of Goa (1986)
- Dholavira: a Harappan City (2021)
- Elephanta Caves (1987)
- Ellora Caves (1983)
- Fatehpur Sikri (1986)
- Great Living Chola Temples (1987, 2004)
- Group of Monuments at Hampi (1986)
- Group of Monuments at Mahabalipuram (1984)
- Group of Monuments at Pattadakal (1987)
- Hill Forts of Rajasthan (2013)
- Historic City of Ahmadabad (2017)
- Humayun's Tomb, Delhi (1993)
- Jaipur City, Rajasthan (2019)
- Kakatiya Rudreshwara (Ramappa) Temple, Telangana (2021)
- Khajuraho Group of Monuments (1986)
- Mahabodhi Temple Complex at Bodh Gaya (2002)
- Mountain Railways of India (1999, 2005, 2008)

- Qutb Minar and its Monuments, Delhi (1993)
- Rani-ki-Vav (the Queen's Stepwell) at Patan, Gujarat (2014)
- Red Fort Complex (2007)
- Rock Shelters of Bhimbetka (2003)
- Sun Temple, Konârak (1984)
- Taj Mahal (1983)
- The Architectural Work of Le Corbusier, an Outstanding Contribution to the Modern Movement (2016)
- The Jantar Mantar, Jaipur (2010)
- Victorian Gothic and Art Deco Ensembles of Mumbai (2018)

### **Natural (7)**

- Great Himalayan National Park Conservation Area (2014)
- Kaziranga National Park (1985)
- Keoladeo National Park (1985)
- Manas Wildlife Sanctuary (1985)
- Nanda Devi and Valley of Flowers National Parks (1988,2005)
- Sundarbans National Park (1987)
- Western Ghats (2012)

### **Mixed (1)**

- Khangchendzonga National Park (2016)

## **SNOW LEOPARD**

### **In News:**

The first-ever recording of the snow leopard from the Baltal-Zojila region has renewed the hope for the elusive predator in the higher altitudes of Jammu and Kashmir and Ladakh.

### **Analysis of Background:**

- The Snow Leopard Population Assessment of India (SPAI) has been concluded so far in Himachal Pradesh and Uttarakhand. The estimated population of the great cat is 50 and 100 in these two States respectively.
- The Department of Wildlife Protection has been conducting surveys with partner NGOs to understand presence and abundance of snow leopards under the SPAI project funded by the Ministry of Environment Forests and Climate Change.
- Snow leopard surveys have often focused in neighbouring areas of Ladakh, Himachal Pradesh and Uttarakhand.
- The survey was expanded to the Baltal-Zojila region of Kashmir recently

- This finding brings renewed hope to Kashmir and its high-altitude regions, as the presence of the snow leopard can be used as a conservation flagship to address high-mountain development issues for people and the environment.
- Apart from the camera-trapping of the Asiatic ibex, brown bear, Kashmir musk deer and other rare species, the survey has yielded incredible information on the other biodiversity components of such habitats, interactions and threats

### About Snow Leopard:

- Scientific Name: *Panthera uncia*
- Top Predator: Snow leopards act as an indicator of the health of the mountain ecosystem in which they live, due to their position as the top predator in the food web.
- **Protection Status:**
  - IUCN List of Threatened Species: Vulnerable.
  - CITES: Appendix I.
  - Indian Wildlife (Protection) Act, 1972: Schedule-I.
- **Habitat:**
  - They have a vast but fragmented distribution across the mountainous landscape of central Asia, which covers different parts of the Himalayas such as Ladakh, Himachal Pradesh, Uttarakhand, and Sikkim.
- **Threat:**

Largely threatened because of the loss of natural prey species, retaliatory killing due to conflict with humans and illegal trade of its fur and bones.

### GREENWASHING

#### In News:

- The use of unfair practices in climate action is not new. Corporations, and sometimes even countries, attempt to exaggerate the actions they are taking to help the fight against climate change, and also the impacts of these actions. In the process, they provide misleading information, make unverifiable claims, and sometimes plainly lie about their products or processes.
- In the first official acknowledgment of 'greenwashing', UN Secretary General Antonio Guterres warned private corporations to desist from such practices and mend their

ways within a year. There will be zero tolerance for greenwashing, he said at the ongoing climate meeting in Sharm el-Shaikh.

### **Analysis of Background:**

#### **Greenwashing:**

- There is a growing tendency among firms and governments to mark all kinds of activities as climate-friendly, as something that would lead to emissions reduction, or avoidance of emissions.
- Many of these claims are unverifiable, misleading, or dubious. While they help in boosting the image of the entity, sometimes even helping them garner benefits, they do nothing in the fight against climate change.
- The Volkswagen scandal, in which the German car company was found to have been cheating in emissions testing of its supposedly green diesel vehicles, was a case of greenwashing. Several other multinational corporations, including oil giants like Shell and BP, and Coca Cola have faced accusations of greenwashing
- Greenwashing presents a false picture of the progress being made on the climate change front, thereby pushing the world towards disaster, while at the same time rewarding entities for irresponsible behaviour.

#### **Reasons:**

- The processes and products that can potentially cut emissions are so many that it is practically impossible to monitor and verify all.
- There is lack of regulation and standardisation in most of these spaces.
- The processes, methodologies and institutions to measure, report, create standards, verify claims and grant certifications are still being set up.
- In the meanwhile, large number of organisations have sprung up claiming expertise in these areas and offering their services for a fee.
- Many of these organisations lack integrity and robustness, but their services are still availed by corporations because it makes them look good.

## WMO STATE OF GLOBAL CLIMATE REPORT 2022

### In News:

Fuelled by ever-rising greenhouse gas (GHG) concentrations and accumulated heat, the past eight years (2015-22) are on track to be the eight warmest on record and the year 2022 will possibly be the fifth or sixth warmest year, said the World Meteorological Department with the UN annual climate conference (COP27) being inaugurated here to discuss how to limit the warming and minimise its impact through joint global action.

### Analysis of Background:

- The WMO in its State of the Global Climate report 2022 also showed that the global mean temperature in 2022 is currently estimated to be about 1.15 (1.02 to 1.28) degree Celsius above the pre-industrial level (1850-1900 average) -- it means keeping the warming within 1.5 degree C goal by the end of the century may be extremely difficult.
- The report flagged how the warming made every heatwave more intense and life-threatening, especially for vulnerable populations, and witnessed upsurge in climate change impacts as sea level rise accelerates, European glacier melt shatters records and extreme weather causes devastation.
- It said the tell-tale signs and impacts of climate change are becoming more dramatic, underlining that the rate of sea level rise has doubled since 1993. It has risen by nearly 10 mm since January 2020 to a new record high this year.
- The past two and a half years alone account for 10% of the overall rise in sea level since satellite measurements started nearly 30 years ago.
- The WMO State of the Global Climate report is produced annually. It provides an authoritative voice on the current state of the climate using key climate indicators and reporting on extreme events and their impacts.
- The WMO report also said that 55% of the ocean surface experienced at least one marine heatwave (MHW) during 2022.
- It also flagged how large parts of Europe sweltered in repeated episodes of extreme heat
- South Asia is particularly vulnerable as we have seen the devastating impacts of climate change in terms of rising climate-led extreme events such as floods in Bangladesh, India and Pakistan. The Himalayan glaciers are retreating, and the water regimes in the Himalayan rivers are changing at a fast rate

## World Meteorological Organization (WMO)

- It is an intergovernmental organization with a membership of 193 Member States and Territories.
- It was established by the ratification of the WMO Convention in 1950.
- WMO became the specialised agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences a year later.
- The UN Economic and Social Council is the parent organization of WMO.
- WMO is headquartered at Geneva.
- WMO is dedicated to international cooperation and coordination on
  - the state and behaviour of the Earth's atmosphere, its interaction with the land and oceans,
  - the weather and climate it produces, and
  - the resulting distribution of water resources.
- It facilitates and promotes
  - the establishment of an integrated Earth System observation network to provide weather, climate and water-related data
  - the creation of standards for observation and monitoring
  - the provision of weather, climate and water-related services - to reduce disaster risks and contribute to climate change adaptation etc.
  - the coordination of research and training in meteorology and related fields
- Major reports published by the WMO are - Status of World Climate; Greenhouse Gas Bulletin.

## "In our LiFEtime" Campaign

### In News:

National Museum of Natural History (NMNH), under the Ministry of Environment Forest and Climate Change and United Nations Development Programme (UNDP), jointly launched "In Our LiFEtime" campaign to encourage youth between the ages of 18 to 23 years to become message bearers of sustainable lifestyles.

### Analysis of Background:

- This campaign envisions to recognize youth from around the world taking climate action initiatives that resonate with the concept of LiFE.

- The campaign gives a global call for ideas from youth across the world who are passionate about living environment conscious lives.
- The youth will be encouraged to submit their climate actions that contribute to lifestyles for the environment within their capacity, which are sustainable and scalable, and serve as good practices that can be shared globally.
- The young people are adept at popularizing new habits; embracing technologies and are best placed to contribute to the fight against climate change.
- The youth need to make low- carbon career choices and adopt such lifestyles as a part of their everyday life.
- In Our LiFEtime campaign is a great way to encourage youth to become the ambassadors of sustainable lifestyle practices and grow into leaders that lead the way in biodiversity conservation and natural resource management.
- The campaign will involve more youth in the conversation about climate change, adaptation and mitigation, and provide them a platform to share their concerns, issues and solutions with the leaders of the world.
- It will amplify the voices of the youth who are increasingly climate conscious and provide recognition to young climate champions.

## INFRASTRUCTURE RESILIENCE ACCELERATOR FUND (IRAF)

### In News:

The Coalition for Disaster Resilient Infrastructure (CDRI) recently announced setting up the Infrastructure Resilience Accelerator Fund (IRAF).

### Analysis of Background:

- Allocation of \$50 million to support global action to build robust infrastructure, especially in developing countries and small island developing nations, that can withstand the impacts of climate change.
- It will be a multi-donor trust fund, managed by UN Multi-Partner Trust Fund Office, New York.
- Supported by India, the UK, Australia and the EU
- IRAF's multi-pronged programme will offer customised technical assistance, capacity building, research, knowledge management, and advocacy across the infrastructure life cycle for countries at all stages of development.
- One of the first initiatives to be supported by the IRAF is the Infrastructure for the Resilient Island States (IRIS).



### **Coalition for Disaster Resilient Infrastructure (CDRI):**

- CDRI was launched by the Prime Minister of India, Narendra Modi at the UN Climate Action Summit in New York in 2019.
- It is a partnership of national governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and knowledge institutions.
- It aims to promote the resilience of new and existing infrastructure systems to climate and disaster risks in support of sustainable development.
- CDRI promotes rapid development of resilient infrastructure to respond to the Sustainable Development Goals' imperatives of expanding universal access to basic services, enabling prosperity and decent work.

### **PASHMINA**

#### **In News:**

Traders of Pashmina shawls are complaining that “obsolete testing methods” have resulted in many of their export consignments being flagged by Customs authorities for presence of Shahtoosh guard hair, which is obtained from endangered Tibetan antelopes. The traders claim the use of obsolete techniques such as “light microscopy” by the authorities has resulted in several cases of “false positives”, leading to their wrongful prosecution.

#### **Analysis of Background:**

##### **About Pashmina:**

- It refers to a fine variant of spun cashmere, the animal-hair fibre forming the downy undercoat of the Changthangi goat.
- Generic cashmere ranges from 12 to 21 microns in diameter, whereas pashmina refers only to those fibres that range from 12 to 16 microns.
- Wool fibres discovered from corroded copper artifacts from Harappa dating back to the Indus valley civilization are extremely fine and resemble Pashmina and Shatoosh.
- China accounts for 70% of the world's cashmere production, Mongolia 20%, and the remaining 10% of production is in Afghanistan, Australia, India, Iran, Nepal, Pakistan, the United States.
- Kashmiri Pashmina has got the GI tag.

### **About GI:**

- A geographical indication or GI is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- Geographical Indications are part of the intellectual property rights that comes under the Paris Convention for the Protection of Industrial Property.
- In India, Geographical Indications registration is administered by the Geographical Indications of Goods (Registration and Protection) Act of 1999.
- This tag is valid for a period of 10 years following which it can be renewed.
- GI tags are covered under World Trade Organization.
- Geographical indications are typically used for agricultural products, foodstuffs, wine and spirit drinks, handicrafts, and industrial products.
- It is basically an assurance that the product is coming from that specific area. It's kind of trademark in the international market.
- Karnataka has the highest number of GI tags i.e. 47products followed by Tamil Nadu (39).

### **Benefits of registration of Geographical Indications:**

- It confers legal protection to Geographical Indications in India
- Prevents unauthorised use of a Registered Geographical Indication by others
- It provides legal protection to Indian Geographical Indications which in turn boost exports.
- It promotes economic prosperity of producers of goods produced in a geographical territory.

### **How a geographical indication is different from a trade mark?**

- A trade mark is a sign which is used in the course of trade and it distinguishes goods or services of one enterprise from those of other enterprises.
- Whereas a geographical indication is an indication used to identify goods having special characteristics originating from a definite geographical territory.

## INDIAN SKIMMER

### In News:

Indian skimmer is seen in huge flocks during winter in Coringa wildlife sanctuary (Kakinada).

### Analysis of Background:

- A thick, orange-yellow bill with a slightly longer lower mandible (jaw) is one of the most striking features of the Indian skimmer (*Rynchops albicollis*).
- The Indian skimmer grows to a length of 40-43 cm.
- More widespread in winter, the Indian skimmer is found in the coastal estuaries of western and eastern India.
- It occurs primarily on larger, sandy, lowland rivers, around lakes and adjacent marshes and, in the non-breeding season, in estuaries and coasts.
- About 20% of the total population of fewer than 2,500 birds nest along river Chambal.
- Its population is declining primarily because of the degradation of wetland and riverine habitats.
- IUCN: Endangered
- In 2020, Bombay Natural History Society (BNHS) have initiated a 'Guardians of the Skimmer' programme, which is a community-based conservation initiative.
- BNHS in collaboration with Bird Count India have also initiated 'Indian Skimmer Count'- a citizen science initiative.

## PURPLE REVOLUTION

### In News:

"Purple Revolution" is Jammu & Kashmir's contribution to "Start-ups India" – Government.

### Analysis of Background:

#### Lavender

- Lavender (*Lavandula angustifolia*) is an evergreen plant native to the Mediterranean.
- Its flower and oil have a popular scent and are also used as medicine.
- Lavender contains an oil that seems to have calming effects and might relax certain muscles. It also seems to have antibacterial and antifungal effects.
- People commonly use lavender for anxiety, stress, insomnia, depression, dementia, pain, and many other conditions, but there is no good scientific evidence to support many of these uses.
- In India, the lavender crop is cultivated in low rainfall regions and on the slopes of hills of Himachal Pradesh (HP) and Uttar Pradesh (UP). The lavender crop is also successfully grown in the Kashmir valley region.

### **More on Details:**

- Purple Revolution was launched to empower domestic farmers and support India's aromatic crop-based agro-economy by reducing imports of aromatic oils and increasing homegrown varieties.
- And 'Lavender Cultivation' under Aroma Mission started as a part of Purple Revolution.

### **Aroma Mission**

- Aromatic plants are used as natural medicines because of their medical properties. Aromatic Plants include lavender, damask rose, mushk bala, etc.
- Aromatic plants are mainly used for oil extraction that are used in various industries: Cosmetics, Pesticides, flavoring and fragrance, Insect repellents and herbal beverages.
- The Aroma Mission was started with the objective of promoting the cultivation of aromatic crops.
- Twin aim of the mission- Increase production to meet domestic demand and also to become a global leader in the production and export.
- Technical support from CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow.
- Government to Promote cooperatives for marketing activities, promotion of cultivation and processing of high value aromatic plants, development of agro technologies, setting up of processing facilities, promoting Skill development, infrastructure support, Credit facilities, etc.

### **LeadIT Summit 2022**

#### **In News:**

India and Sweden hosted the LeadIT Summit, today, on the side-lines of COP27.

#### **Analysis of Background:**

- The LeadIT (Leadership for Industry Transition) initiative focuses on low carbon transition of the hard to abate industrial sector.
- During the opening address Minister, Shri. Bhupender Yadav talked about the activities of LeadIT with a special focus on the road mapping exercise that was undertaken for the cement and steel sector in India.
- The low carbon transition of the industrial sector will not only contribute towards the reduction in required greenhouse gas emissions. It has several co-benefits that include increasing resilience to changes in climate, enhanced energy security, innovation, socio-economic development and job creation

- He also highlighted that the current phase of LeadIT is set to conclude in 2023 and the next year is the time to reflect on the performance and achievements so far.
- The event included roundtable discussions that focussed on finance and other cross-sectoral issues.
- The summit concluded with the adoption of the summit statement by the members of LeadIT which re-emphasized the commitment to continue pursuing the low-carbon transition of the industry.
- The members also committed to providing technical assistance to new members and emerging economies.

#### **About LeadIT:**

- The Leadership Group for Industry Transition (LeadIT) gathers countries and companies that are committed to action to achieve the Paris Agreement.
- It was launched by the governments of Sweden and India at the UN Climate Action Summit in September 2019 and is supported by the World Economic Forum.
- LeadIT members subscribe to the notion that energy-intensive industry can and must progress on low-carbon pathways, aiming to achieve net-zero carbon emissions.

### **CARBON BORDER TAX**

#### **In News:**

With the 27<sup>th</sup> edition of the Conference of Parties (COP) in Sharm El-Sheikh nearing its final stages and efforts being ramped up to arrive at a conclusive agreement, a consortium of countries, including India, jointly said that carbon border taxes, which could result in market distortion and aggravate the trust deficit among parties, must be avoided.

#### **Analysis of Background:**

- The European Union has proposed a policy called the Carbon Border Adjustment Mechanism to tax products such as cement and steel, which are extremely carbon intensive, with effect from 2026.
- BASIC, a group comprising Brazil, India, South Africa and China, large economies that are significantly dependent on coal, has for several years voiced common concerns and reiterated their right to use fossil fuels during their transition to clean energy
- Their statement expressed “grave concern” that developed countries were not showing leadership or responding with a matching effort.
- “Unilateral measures and discriminatory practices, such as carbon border taxes, that could result in market distortion and aggravate the trust deficit amongst Parties [signatory countries to the United Nations climate agreements], must be avoided.

- BASIC countries call for a united solidarity response by developing countries to any unfair shifting of responsibilities from developed to developing countries,” the statement said.
- It also said that developed countries had “backtracked on finance and mitigation commitments and pledges” and there was a “significant increase” in the consumption and production of fossil fuels in the past year by developed countries, their statement underlined, even as they continue to press developing countries to move away from the same resources. “Such double standards are incompatible with climate equity and justice.”
- They said that adaptation was still not being accorded the balanced and substantive attention they deserved in the UN climate framework process, despite the opportunities and linkages with “loss and damage.”
- The latter refers to a demand by developing countries to have an institutional system to finance countries that are affected by climate change for the environmental damage that has already occurred.

#### **Carbon border tax:**

- A carbon border tax is a tax on carbon emissions attributed to imported goods that have not been carbon-taxed at source.
- The carbon border tax proposal is part of the European Commission’s European Green Deal that endeavors to make Europe the first climate-neutral continent by 2050.
- A national carbon tax is a fee that a government imposes on any company within the country that burns fossil fuels.
- However, this often results in an increase of electricity costs in households and industry, which may lead to local business closures and other economic hardships for businesses and citizens.
- In contrast, a carbon border tax is able to protect a country’s local manufacturers, motivating them to adhere to green regulations.
- Many EU companies are at a cost disadvantage as they have been paying a carbon border tax and for carbon emissions since 2005 under the EU’s Emissions Trading System.
- The new carbon border tax can therefore lead to a more level playing field against importers, especially those from nations with more lax environmental standards.
- The border tax would not take effect until 2026.

### **How does this impact India?**

- As India's third largest trading partner, the EU accounted for \$74.5 billion worth of trade in goods in 2020, or 11.1% of India's total global trade. India's exports to the EU were worth \$41.36 billion in 2020-21, as per data from the commerce ministry.
- By increasing the prices of Indian-made goods in the EU, this tax would make Indian goods less attractive for buyers and could shrink demand.
- The tax would create serious near-term challenges for companies with a large greenhouse gas footprint--and a new source of disruption to a global trading system already roiled by tariff wars, renegotiated treaties, and rising protectionism.
- A levy of \$30 per metric ton of CO2 emissions could reduce the profit pool for foreign producers by about 20% if the price for crude oil remained at \$30-40 per barrel.

## **LOSS AND DAMAGE FUND FOR CLIMATE REPARATIONS AT COP27**

### **In News:**

All 197 Parties to the UN Framework Convention on Climate Change (UNFCCC) agreed to enable financing for loss and damage to those that need it the most.

### **Analysis of Background:**

#### **Loss and Damage/ Loss and Damage Fund:**

- The term loss and damage is used within the UN Framework Convention on Climate Change (UNFCCC) process to refer to the harms caused by anthropogenic (human-generated) climate change.
- The appropriate response to loss and damage has been disputed since the UNFCCC's adoption. Establishing liability and compensation for loss and damage has been a long-standing goal for vulnerable and developing countries in the Alliance of Small Island States (AOSIS) and the Least Developed Countries Group in negotiations.

### **Why need LDF?**

- Poor countries often feel the effects first being the most vulnerable and incapable of self-mitigation.
- They also include not only economic damage to property but also loss of livelihoods, and the destruction of biodiversity and sites that have cultural importance.
- This broadens the scope for affected nations to claim compensation.
- Hence loss and damage is sometimes called the "third pillar" of climate politicking, after mitigation and adaptation.

### **What has been agreed by all parties under COP 27 with respect to L&D Fund?**

- The COP27 decision includes the development of a Transition Committee dedicated to L&D, with equal representation from rich and poor countries.
- The committee has been tasked with configuring institutional arrangements, identifying and expanding sources of funding, and coordinating with existing funding arrangements — by **COP28 in the UAE next year**.

### **Other climatic Funding Mechanism:**

#### **Green Climate Fund (GCF)**

- The GCF was set up in 2010 under the UNFCCC's financial mechanism to channel funding from developed countries to developing countries to allow them to mitigate climate change and also adapt to disruptions arising from a changing climate.
- The Green Climate Fund will support projects, programmes, policies and other activities in developing country Parties using thematic funding windows.
- It is intended to be the centrepiece of efforts to raise Climate Finance of \$100 billion a year by 2020.
- The Fund is governed and supervised by a Board that will have full responsibility for funding decisions and that receives the guidance of the Conference of Parties (COP)

#### **National Adaptation Fund for Climate Change (NAFCC):**

- Under NAFCC 100% central grant is provided to the State Governments for implementing climate change adaptation projects.
- The Scheme has been designed to fulfill the objectives of National Action Plan on Climate Change (NAPCC) and operationalize the State Action Plans on Climate Change (SAPCCs).
- The objective of the fund is to assist states/UTs that are particularly vulnerable to the adverse effects of climate change in meeting the cost of adaptation.
- The National Bank for Agriculture and Rural Development (NABARD) is the National Implementing Entity (NIE) responsible for implementation of adaptation projects under the NAFCC.
- Under this scheme, Union Government encourages States to come up with innovative and scalable projects to develop resilience against climate change and mainstream it in the planning processes.



## GLOBAL SNOW LEOPARD ECOSYSTEM PROTECTION PROGRAM

### In News:

Indian snow leopard experts Charudutt Mishra and Koustubh Sharma, along with Chyngyz Kochorov of Kyrgyzstan, received the Madrid-based BBVA Foundation's Worldwide Biodiversity Conservation Award last week on behalf of a 12-nation intergovernmental alliance that they helped create and manage.

### Analysis of Background:

#### About Global Snow Leopard Ecosystem Protection Program:

- The GSLEP is a first-of-its-kind intergovernmental alliance for the conservation of the snow leopard and its unique ecosystem.
- It is led by the environment ministers of 12 countries in Asia that form the home range of the snow leopard. These are Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russia, Tajikistan and Uzbekistan. The total range spans two million square kilometres.
- The GSLEP Program's secretariat is based in Bishkek, and is hosted by the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic.
- It is believed that there may be as few as 4,000 and no more than 6,300 snow leopards left in the wild
- Its habitat provides vital services, including clean water, to a third of the world's human population.
- This iconic species faces many threats, including illegal hunting, loss of prey, habitat loss, retribution killings for livestock loss and climate change.
- GSLEP was created in 2013 when officials, politicians and conservationists arrived at a common conservation strategy enshrined in the Bishkek Declaration (2013) to cooperate in the conservation of this species and its habitat.
- The Spain-based BBVA Foundation Awards for Biodiversity Conservation seek to recognise and support the work done by conservationist organisations, institutions and agencies in carrying forward environmental conservation policies and projects.

#### About Snow Leopard:

- Scientific Name: *Panthera uncia*
- Top Predator: Snow leopards act as an indicator of the health of the mountain ecosystem in which they live, due to their position as the top predator in the food web.

- **Protection Status:**

- IUCN List of Threatened Species: Vulnerable.
- CITES: Appendix I.
- Indian Wildlife (Protection) Act, 1972: Schedule-I.

- **Habitat:**

- They have a vast but fragmented distribution across the mountainous landscape of central Asia, which covers different parts of the Himalayas such as Ladakh, Himachal Pradesh, Uttarakhand, and Sikkim.

- **Threat:**

Largely threatened because of the loss of natural prey species, retaliatory killing due to conflict with humans and illegal trade of its fur and bones.

## BIOSPHERE RESERVES

### In News:

November 3 will be the first **'The International Day for Biosphere Reserves'**, to be celebrated beginning 2022.

### Analysis of Background:

#### What are Biosphere Reserves?

- They are sites for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity.
- They are places that provide **local solutions to global challenges**. Biosphere reserves include terrestrial, marine and coastal ecosystems. Each site promotes solutions reconciling the conservation of biodiversity with its sustainable use.
- Biosphere reserves are **nominated by national governments** and remain under the **sovereign jurisdiction** of the states where they are located.
- Biosphere Reserves involve **local communities** and all interested **stakeholders** in planning and management.
- They integrate three main **"functions"**:
  1. **Conservation** of biodiversity and cultural diversity
  2. Economic development that is socio-culturally and environmentally **sustainable**
  3. Logistic support, **underpinning development** through research, monitoring, education and training

- These three functions are **pursued** through the **Biosphere Reserves' three main zones**



### Core Areas:

It comprises a strictly **protected** zone that contributes to the **conservation** of landscapes, ecosystems, species and **genetic variation**

### Buffer Zones:

It surrounds or **adjoins the core area(s)**, and is used for activities compatible with sound ecological practices that can reinforce **scientific research**, monitoring, training and education.

### Transition Area:

The transition area is where communities **foster socio-culturally** and ecologically sustainable economic and human activities..

### How many Biosphere Reserves are in India?

There are 18 biosphere reserves in India:

- |   |  |
|---|--|
| 1. Cold Desert, Himachal Pradesh                      | 11.Kachchh, Gujarat (Largest Area)                   |
| 2. Nanda Devi, Uttarakhand                            | 12.Similipal, Odisha                                 |
| 3. Khangchendzonga, Sikkim                            | 13.Sundarban, West Bengal                            |
| 4. Dehang-Debang, Arunachal Pradesh                   | 14.Seshachalam, Andhra Pradesh                       |
| 5. Manas, Assam                                       | 15.Agasthyamala, Karnataka-Tamil Nadu-Kerala         |
| 6. Dibru-Saikhowa, Assam                              | 16.Nilgiri, Tamil Nadu-Kerala (First to be Included) |
| 7. Nokrek, Meghalaya                                  | 17.Gulf of Mannar, Tamil Nadu                        |
| 8. Panna, Madhya Pradesh                              | 18.Great Nicobar, Andaman & Nicobar Island           |
| 9. Pachmarhi, Madhya Pradesh                          |  |
| 10.Achanakmar-Amarkantak, Madhya Pradesh-Chhattisgarh |  |

### **INTERNATIONAL STATUS OF BIOSPHERE RESERVE (INDIA):**

There are total 12 biosphere reserves of India which have been recognized internationally under Man and Biosphere Reserve program:

1. Nilgiri (First to be included)
2. Gulf of Mannar
3. Sunderban
4. Nanda Devi
5. Nokrek
6. Pachmarhi
7. Similipal
8. Achanakmar – Amarkantak
9. Great Nicobar
10. Agasthyamala
11. Khangchendzonga
12. Panna, Madhya Pradesh

### **Man and the Biosphere Programme:**

- Launched in 1971, UNESCO's Man and the Biosphere Programme (MAB) is an intergovernmental scientific programme that aims to establish a scientific basis for the improvement of relationships between people and their environments.
- MAB combines natural and social sciences, economics and education to improve human livelihoods and the equitable sharing of benefits, and to safeguard natural and managed ecosystems, thus promoting innovative approaches to economic development that are socially and culturally appropriate, and environmentally sustainable.

## **BLUEBUGGING:**

### **In News:**

Cybersecurity experts note that apps that let users connect smartphones or laptops to wireless earplugs can record conversations, and are vulnerable to hacks through a process called Bluebugging.

### **Analysis of Background:**

#### **About BlueBugging:**

Bluebugging is a hacking technique that allows individuals to access a device with a discoverable Bluetooth connection.

#### **Prerequisite for hacking:**

- A bluebugging hacker must be within a 10-meter range (Bluetooth signal range) of your device for the bluebugging attack to work. However, hackers can use booster antennas to widen the attack range.
- Your device's Bluetooth must be in discoverable mode, which is the default setting for most devices.

#### **How is blue bugging done?**

- A hacker attempts to pair with a victim's device via Bluetooth. Once a connection is established, the hacker installs a backdoor or malware to bypass authentication.
- The malware is usually designed to gain unauthorized access by exploiting vulnerability.
- As soon as the hacker gains access, he/she can essentially do what the device owner can, such as reading messages, making calls, or modifying contact details.
- Bluebugging manipulates a target phone into compromising its security, thus creating a backdoor attack before returning control of the phone to its owner.

#### **What can bluebugging do?**

- The hacker can read and send messages, access the victim's phonebook, and initiate phone calls.
- Once control of a phone has been established, it is used to call back the hacker who is then able to listen in to conversations, hence the name "bugging"
- It pretends to be the headset and thereby "tricking" the phone into obeying call commands. Not only can a hacker receive calls intended for the target phone, he can send messages, read phonebooks, and examine calendars.

- Even the most secure smartphones like iPhones are vulnerable, any app with access to Bluetooth can record users' conversations with Siri and audio from the iOS keyboard dictation feature when using AirPods or headsets, a hacker can gain unauthorized access to these apps and devices and control them.

### **How do safeguarding device from bluebugging?**

Update your devices, make your Bluetooth devices “undiscoverable”, reject strange messages, watch out for suspicious activity(phone is suddenly disconnecting and reconnecting calls), monitor sudden spikes in data usage

### **Difference between bluebugging, bluesnarfing, and bluejacking:**

- **Bluejacking** uses Bluetooth to pair with your device to “prank” you. Usually, bluejacking hackers send you annoying pictures or messages to promote products.
- **Bluesnarfing** uses Bluetooth to hack into your device to download sensitive data, such as images, phone book information, and messages.

## **AGNI-3**

### **In News:**

India recently test fired intermediate-range ballistic missile Agni-3 from APJ Abdul Kalam Island, Odisha.

### **Analysis of Background:**

#### **What is Agni Prime?**

- It is a two-stage canisterised missile.
- It is the latest and sixth variant of the Agni series missiles (under IGMDP - Integrated Guided Missile Development Program).
- With multiple independently targetable re-entry vehicles, the missile is capable of delivering a number of warheads at separate locations at a distance of 1,000 - 2,000 km.
- The 10.5 metre tall missile with a diameter of 1.2 metre can carry warheads up to 1.5 tonne.
- It can perform high maneuvers while homing in on targets.
- These missiles will be inducted in the armed forces after couple of user associated launches
- It has a dual redundant navigation and guidance system.
- The Agni-P missile would further strengthen India's credible deterrence capabilities.

### What is Agni-3?

- Agni-3 is the third entrant in the Agni missile series and was first tested on July 9, 2006.
- But it developed a technical snag and had fell into the sea off Odisha coast without hitting the target.
- The Agni-3 missile was test fired successfully in its second flight in 2007 and then at its third consecutive launch in 2008.
- It has a range of 3,500 km and has the capability of carrying warhead weighing as much as 1.5 tonnes.
- Due to its high range of circular error probable (CEP), Agni-3 missile is known as world's most accurate strategic ballistic missile of its range class.
- The accuracy of the nuclear warhead also provides an opportunity of deploying larger number of nuclear force using less fusion material.
- The low weight of the payload has increased the target range of the missile to 3,500 kilometre.

### Agni series:

- Agni series of missiles constitute the backbone of India's nuclear weapons delivery which also includes the Prithvi short range ballistic missiles and fighter aircraft.
- India has also completed its nuclear triad and operationalised its second strike capability, with nuclear ballistic missile submarine INS Arihant undertaking deterrence patrols.
- Recently, India also successfully test fired the new generation advanced version of Agni missile series, Agni Prime.
- Also known as Agni-P, the nuclear-capable new-gen advanced variant has a maximum range of 2,000 kilometre.

### Agni Class of Missiles:

- **Agni I:** It is a **Medium Range Ballistic Missile** with a Range of 700-800 km.
- **Agni II:** It is also a **Medium Range Ballistic Missile** with a Range more than 2000 km.
- **Agni III:** It is also an **Inter-Medium Range Ballistic Missile** with Range of more than 2,500 Km
- **Agni IV:** It is also an **Inter-Medium Range Ballistic Missile with Range** is more than 3,500 km and can fire from a road mobile launcher.
- **Agni-V:** The longest of the Agni series, an **Inter-Continental Ballistic Missile (ICBM)** with a range of over 5,000 km.
- **Agni- VI:** The longest of the Agni series, an **Inter-Continental Ballistic Missile (ICBM)** with a range of ICBM 11,000–12,000 km (Under development).





## SARAS 3 TELESCOPE

### In News:

Raman Research Institute (RRI) in Bengaluru said that in a first-of-its-kind work, using data from an Indian telescope, scientists have determined properties of radio luminous galaxies formed just 200 million years after the Big Bang, a period known as the Cosmic Dawn.

### Analysis of Background:

#### What is SARAS 3 Telescope?

- SARAS stands for Shaped Antenna measurement of the background Radio Spectrum 3 (SARAS) telescope.
- It is an indigenously designed and built at Raman Research Institute and was deployed over Dandiganahalli Lake and Sharavati backwaters, located in Northern Karnataka, in early 2020.

#### What have the researchers found?

- Scientists study properties of very early galaxies by observing radiation from hydrogen atoms in and around galaxies, emitted at a frequency of approximately 1420 MHz.
- The radiation is stretched by the expansion of the universe, as it travels to us across space and time, and arrives at Earth in lower frequency radio bands 50-200 MHz, also used by FM and TV transmissions.



### Why detection of the signal is a challenging task?

- The cosmic signal is extremely faint, buried in orders of magnitude brighter radiation from our own Galaxy and man-made terrestrial interference.
- So detecting the signal, even using the most powerful existing radio telescopes, has remained a challenge for astronomers.

### Research findings:

- The results from the SARAS-3 telescope are the first time that radio observations of the averaged 21-cm line have been able to provide insight into the properties of the earliest radio-loud galaxies that are usually powered by supermassive black holes.
- This work takes forward the results from SARAS-2, which was the first to inform the properties of the earliest stars and galaxies.
- It has shown that less than 3% of the gaseous matter within early galaxies was converted into stars and that the earliest galaxies that were bright in radio emission were also strong in X-rays, which heated the cosmic gas in and around the early galaxy

### What are Radio Waves and Radio Telescopes?

- The analysis has shown that the 21-cm hydrogen signal can inform about the population of first stars and galaxies.
- Radio waves have the longest wavelengths in the electromagnetic spectrum.
- They range from the length of a football to larger than our planet. Heinrich Hertz proved the existence of radio waves in the late 1880s.
- Radio telescopes collect weak radio light waves, bring it to a focus, amplify it and make it available for analysis.
- They help study naturally occurring radio light from stars, galaxies, black holes, and other astronomical objects.
- These specially-designed telescopes observe the longest wavelengths of light, ranging from 1 millimetre to over 10 metres long.

### MISSION PRARAMBH

#### In News:

Skyroot Aerospace is set to launch India's first privately developed rocket as part of the firm's maiden mission, called **Prarambh**.

#### Analysis of Background:

- The Prarambh mission and the Vikram-S rocket has been developed by the Hyderabad-based startup Skyroot Aerospace with extensive support from ISRO and IN-SPACe

(Indian National Space Promotion and Authorisation Centre). The launch is also set to take place from an ISRO launchpad.

- The Prarambh mission is aimed at carrying three payloads into space.
- The rocket, named Vikram-S, will carry three customer payloads and launch from the Indian Space Research Organisation's (ISRO's) launchpad at Sriharikota.
- If Prarambh is successful, Skyroot Aerospace will become the first private space company in India to launch a rocket into space.

## **Vikram**

- Vikram is a series of modular space launch vehicles especially crafted for the small satellite market. It is expected to enable the launch of more than 20,000 small satellites in the coming decade. The launch vehicles have unique capabilities like multi-orbit insertion and performing interplanetary missions.
- Vikram-S is India's first privately developed rocket. Vikram-S rocket is a single-stage suborbital launch vehicle that would carry three customer payloads and help test and validate the majority of the technologies in the Vikram series of space launch vehicles.

## **CRISPR Technology**

### **In News:**

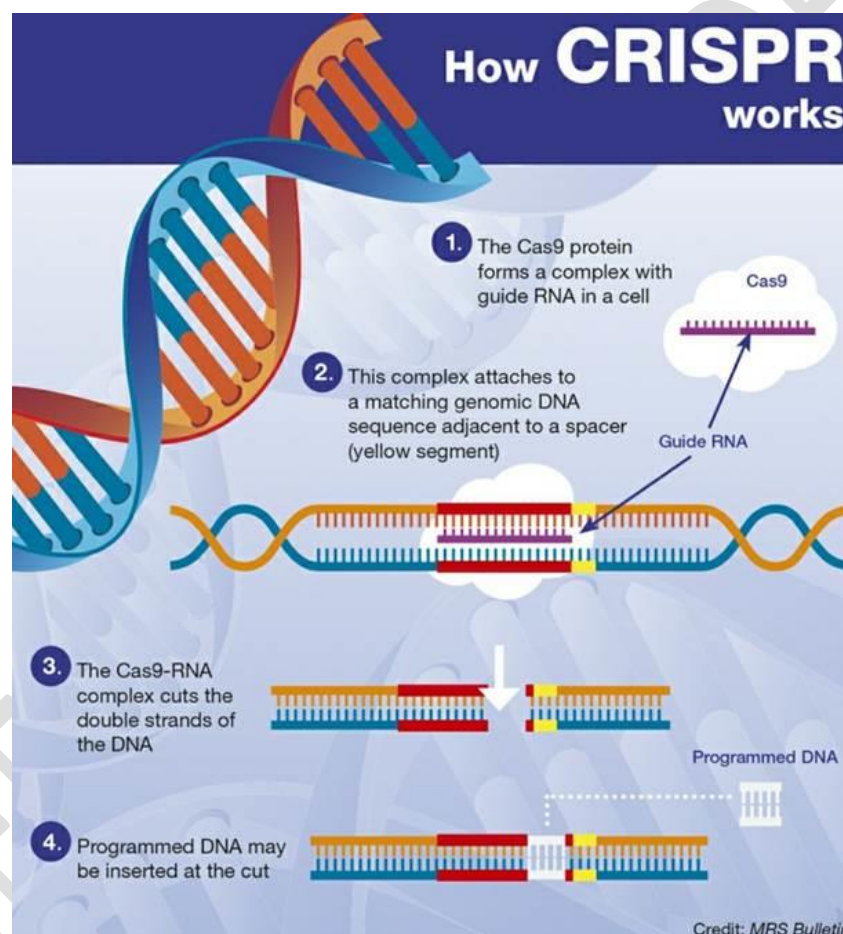
- Scientists have, for the first time, used CRISPR technology to insert genes that allow immune cells to attack cancer cells, potentially leaving normal cells unharmed and increasing the effectiveness of immunotherapy.

### **Analysis of Background:**

#### **CRISPR Technology**

- Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) is a reference to the clustered and repetitive sequences of DNA found in bacteria, whose natural mechanism to fight some viral diseases is replicated in this gene-editing tool.
- It helps in Editing, or modification, of gene sequences to eliminate — or introduce — specific properties in an organism.
- Gene editing technology happening for several decades now, particularly in the field of agriculture, where genetically modified variants, with specific desirable traits, are regularly developed.
- CRISPR technology is different. It is simple, and it does not involve the introduction of any new gene from the outside.

- Its tool is usually compared to the ‘cut-copy-paste’, or ‘find-replace’ functionalities in common computer programmes.
- A bad stretch in the DNA sequence, which is the cause of disease or disorder, is located, cut, and removed — and then replaced with a ‘correct’ sequence.
- And the tools used to achieve this are not mechanical, but biochemical — specific protein and RNA molecules.
- The entire process is programmable, and has remarkable efficiency, though chances of error are not entirely ruled out.
- The technology replicates a natural defense mechanism in some bacteria that use a similar method to protect themselves from virus attacks.



### Wrapping up:

- Several diseases and disorders are genetic— that is, they are caused by unwanted changes or mutations in genes. These include common blood disorders like sickle cell anaemia, eye diseases including colour blindness, several types of cancer, diabetes, HIV, and liver and heart diseases. Many of these are hereditary.
  - CRISPR technology opens up the possibility of finding a permanent cure to many of these diseases.

- It could also correct the deformities arising out of abnormalities in gene sequences, like stunted or slow growth, speech disorders, or inability to stand or walk.
- Japan has already approved the commercial cultivation of a tomato variety that has been improved using CRISPR-based intervention.
  - In India, several research groups are working on CRISPR-based enhancements for various crops including rice and banana.
- There are several concerns related to the potential misuse of the technology, such as creating a 'designer baby', and the possibility of being inherited by successive generations, these concerns need to be addressed by engaging in further ground-level tests and trials and formulating strict guidelines and laws to curb the potential misuse of the technology.

## DIGITAL PERSONAL DATA PROTECTION BILL (DPDPB), 2022

### In News:

- The Digital Personal Data Protection Bill (DPDPB), 2022, has been uploaded for public consultation.

### Analysis of Background:

- The purpose of this Act is to provide for the processing of digital personal data in a manner that recognizes both the right of individuals to protect their personal data and the need to process personal data for lawful purposes.
- The Bill will establish the comprehensive legal framework governing digital personal data protection in India.

### Data Bill based on seven principles

According to an explanatory note for the bill, it is based on seven principles.

- Usage of personal data by organisations must be done in a manner that is lawful, fair to the individuals concerned and transparent to individuals.
- Personal data must only be used for the purposes for which it was collected.
- This third principle talks of data minimisation while the fourth puts an emphasis on data accuracy when it comes to collection.
- Personal data that is collected cannot be “stored perpetually by default,” and storage should be limited to a fixed duration.
- There should be reasonable safeguards to ensure there is “no unauthorised collection or processing of personal data.”
- The person who decides the purpose and means of the processing of personal data should be accountable for such processing.

### **Data Principal and Data Fiduciary**

- The bill uses the term “Data Principal” to denote the individual whose data is being collected.
- The term “Data Fiduciary” the entity (can be an individual, company, firm, state etc), which decides the “purpose and means of the processing of an individual’s personal data.”
- The law also makes a recognition that in the case of children—defined as all users under the age of 18— their parents or lawful guardians will be considered their ‘Data Principals.’
- Under the law, personal data is “any data by which or in relation to which an individual can be identified.” Processing means “the entire cycle of operations that can be carried out in respect of personal data.” So right from collection to storage of data would come under processing of data as per the bill.
- The bill also ensures that individuals should be able to “access basic information” in languages specified in the eighth schedule of the Indian Constitution.
- The bill also makes it clear that individual needs to give consent before their data is processed and that “every individual should know what items of personal data a Data Fiduciary wants to collect and the purpose of such collection and further processing.”
- Further, the notice of data collection needs to be in clear and easy-to-understand language. Individuals also have the right to withdraw consent from a Data Fiduciary.

### **Significant Data Fiduciaries**

- The bill also talks of ‘Significant Data Fiduciaries, who deal with a high volume of personal data. The Central government will define who is designated under this category based on a number of factors ranging from the volume of personal data processed to the risk of harm to the potential impact on the sovereignty and integrity of India. This category needs to fulfil certain additional obligations to enable greater scrutiny of its practices.
- Such entities will have to appoint a ‘Data protection officer’ who will represent them. They will be the point of contact for grievance redressal. They will also have to appoint an independent Data auditor who shall evaluate their compliance with the act.

### **Right to erase data, right to nominate**

- Data principals will have the right to demand the erasure and correction of data collected by the data fiduciary. They will also have the right to nominate an individual who will exercise these rights in the event of death or incapacity of the data principal.

- The bill also gives consumers the right to file a complaint against a 'Data Fiduciary' with the Data Protection Board in case they do not get a satisfactory response from the company.

### **Cross-border data transfer**

- The bill also allows for cross-border storage and transfer of data to "certain notified countries and territories." However, "an assessment of relevant factors by the Central Government would precede such a notification.

### **Rationale**

- Placing restrictions on cross-border data flows is likely to result in higher business failure rates, introduce barriers for start-ups, and lead to more expensive product offerings from existing market players.
- Ultimately, the above mandates will affect digital inclusion and the ability of Indian consumers to access a truly global internet and quality of services.
- Financial penalties
- The draft also proposes to impose significant penalties on businesses that undergo data breaches or fail to notify users when breaches happen. Entities that fail to take "reasonable security safeguards" to prevent personal data breaches will be fined as high as Rs 250 crore.
- The Centre's has revised draft Bill on personal data protection and proposed a hefty increase in penalty amounts up to ₹500 crore.

## **Vikram-S Rocket**

### **In News:**

Indian Space Research Organization (ISRO) will make history on November .18 when it launches first-ever private rocket, said Union Minister of state for Science and Technology Jitendra Singh.

### **Analysis of Background:**

- The Prarambh mission and the Vikram-S rocket has been developed by the Hyderabad-based startup Skyroot Aerospace with extensive support from ISRO and IN-SPACE (Indian National Space Promotion and Authorisation Centre). The launch is also set to take place from an ISRO launchpad.
- The Prarambh mission is aimed at carrying three payloads into space.

- The rocket, named Vikram-S, will carry three customer payloads and launch from the Indian Space Research Organisation's (ISRO's) launchpad at Sriharikota.
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- Vikram-S is India's first privately developed rocket. Vikram-S rocket is a single-stage suborbital launch vehicle that would carry three customer payloads and help test and validate the majority of the technologies in the Vikram series of space launch vehicles.

### **IN-SPACe**

- To facilitate private sector participation, the government has created the Indian National Space Promotion and Authorisation Centre (IN-SPACe). It is a single-window, independent, nodal agency which functions as an autonomous agency in Department of Space (DOS). Established as a single window agency for all space sector activities of private entities, IN-SPACe plays an important role in boosting the private space sector economy in India.
- IN-SPACe, is responsible to promote, enable authorize and supervise various space activities of the NGEs. These include the building of launch vehicles & satellites and providing space-based services; sharing of space infrastructure and premises under the control of DOS/ISRO; and establishment of new space infrastructure and facilities.



## ARTEMIS MISSION

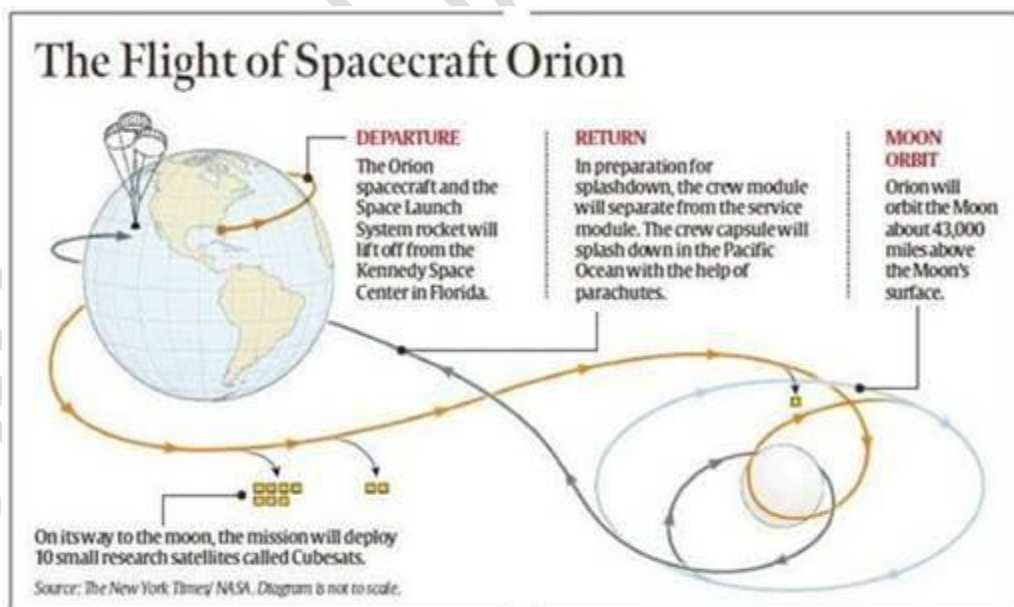
### In News:

After months of delays, the Artemis 1 mission of NASA launched successfully from Florida's Kennedy Space Centre.

### Analysis of Background:

#### Artemis program

- The Artemis program that began in 2017 is a United States-led international human spaceflight program.
- Its primary goal is to take humans to the Moon, specifically the lunar south pole, by 2025.
- For the Artemis program, NASA's new rocket called the Space Launch System (SLS) will send astronauts aboard the Orion spacecraft away from Earth to the lunar orbit.
- Once astronauts dock Orion at the Gateway — which is a small spaceship in orbit around the moon — the astronauts will be able to live and work around the Moon, and from the spaceship, astronauts will take expeditions to the surface of the Moon.
- The astronauts going for the Artemis program will wear newly designed spacesuits, called Exploration Extravehicular Mobility Unit, or xEMU. These spacesuits feature advanced mobility and communications and interchangeable parts that can be configured for spacewalks in microgravity or on a planetary surface.



#### Cubesats

- Artemis 1 is carrying several payloads in the form of small satellites called CubeSats, each of which is equipped with instruments meant for specific investigations and



experiments. The focus of these investigations is clearly to explore long-term stays of human beings in space, and on the Moon.

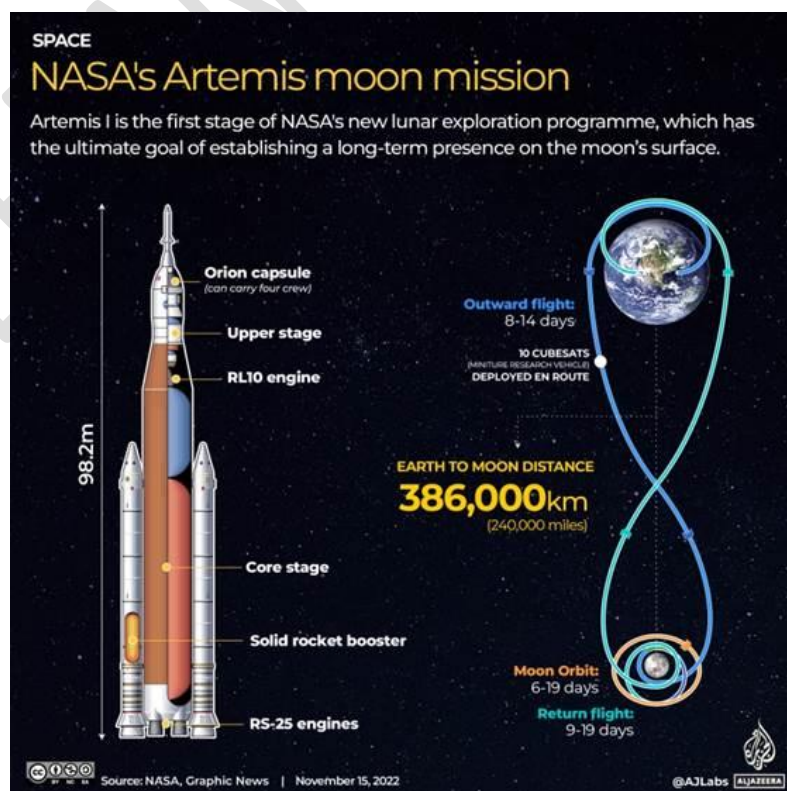
- One CubeSat will search for water in all its forms, another will map the availability of hydrogen that can be utilised as a source of energy. Then there are biology experiments, investigating the behaviour of small organisms like fungi and algae in outer space, and the effect of radiation, especially the reaction on their genes.

### Orion spacecraft

- The Orion spacecraft, which is specifically designed to carry astronauts into deep space on future missions, will have three dummy ‘passengers’ — mannequins made of material that mimic human bones, skin, and soft tissue. These would be equipped with a host of sensors to record the various impacts of deep space atmosphere on the human body.

### Space Launch System, or SLS

- The rocket that is being used for the Artemis missions, called Space Launch System, or SLS, is the most powerful ever built, more powerful than the Saturn V rockets that had taken the Apollo missions to the Moon. The giant, 98-metre-tall rocket, weighing 2,500 tonnes, can help the Orion spacecraft achieve speeds of over 36,000 km per hour, and take it directly to the Moon, which is 1,000 times farther than the International Space Station that sees a regular traffic of astronauts.



## Organizations involved

- The Artemis program is carried out predominantly by NASA and U.S. commercial spaceflight contractors, in partnership with the European Space Agency and the space agencies of several other nations.
- Other countries have been invited to join the program through signing the governing Artemis Accords, which remain open for signature since October 2020.

## Artemis Accords

- This accord ensures that space exploration is conducted in a safe, sustainable and transparent manner and in full compliance with international law.
- As more countries establish a presence in outer space, via research stations, satellites, or even rocket launches, these accords provide a set of principles to create a safe and transparent environment that inspires exploration, science, and commercial activities.
- The other signatories to the accords are the U.S., Australia, Britain, Canada, Italy, Japan, Luxembourg, South Korea, the United Arab Emirates, and Ukraine. Brazil also said it plans to sign.
- If successful, the Artemis program will include the first crewed lunar landing mission since Apollo 17 in 1972, the last lunar flight of the Apollo program.
- The program will lay the foundations for the extraction of lunar resources, and eventually, make crewed missions to Mars and beyond feasible.

## ISRO LAUNCHES PSLV C-54/EOS-06 MISSION

### In News:

The Indian Space Research Organization launched PLV-C54/EOS-06 Mission with Oceans-3 and eight nanosatellites on board from Sriharikota spaceport.

### Analysis of Background:

- The PLV-C54/EOS-06 Mission includes EOS-06 (Oceans-3), plus eight nanosatellites which are BhutanSat, 'Anand' from Pixxel, Thybolt two numbers from Dhurva Space and Astrocast-four numbers from Spaceflight USA.

### BhutanSat:

- ISRO Nano Satellite-2 for Bhutan (INS-2B) spacecraft is configured with INS-2 Bus. INS-2B will have two payloads namely NanoMx and APRS-Digipeater. NanoMx is a multispectral optical imaging payload developed by Space Applications Centre (SAC).

### Anand:

- The Anand Nano satellite is technology demonstrator to demonstrate the capabilities and commercial applications of miniaturized earth-observation camera for earth observation using a microsatellite in Low Earth Orbit.
- This is a three-axis stabilized satellite consisting of a satbus, accommodating all subsystems like telemetry, tele-command, Electrical Power system, Attitude Determination and Control System (ADCS), on-board computers etc.

#### **Astrocast:**

- Astrocast, a 3U spacecraft is a technology demonstrator satellite for the Internet of Things (IoT) as the payload. There are 4 nos. of Astrocast Satellites in this mission. These spacecraft are housed within an ISISpaceQuadPack dispenser.
- The dispenser protects the satellite from contamination.

#### **Thybolt:**

- The Thybolt is a 0.5U spacecraft bus that includes a communication payload to enable rapid technology demonstration and constellation development for multiple users.
- It also demonstrates Store-and-Forward functionality for authorized users in the amateur frequency band. The satellites shall be deployed by using Dhruva Space Orbital Deployer to perform the specific mission operations for a minimum lifetime of 1 year.

#### **About EOS-06 Satellite:**

- The EOS-6 is a **third-generation earth observation satellite in the Oceansat series** of satellites.
- This is to provide **continuity services for Oceansat-2 spacecraft** with enhanced payload specifications as well as application areas.
- The payloads are Ocean Colour Monitor (OCM-3), Sea Surface Temperature Monitor and Ku-Band Scatterometer (SCAT-3), and 'ARGOS' Mission.
- ARGOS is the global satellite-based data collection and location system of its kind dedicated to studying and preserving the environment.

#### **What is EOS?**

- An EOS or **Earth remote sensing satellite** is a satellite used or designed for Earth observation (EO) from orbit.
- It includes spy satellites and similar ones intended for non-military uses such as environmental monitoring, meteorology, cartography, and others.

- The most common type is Earth-imaging satellites that take satellite images, analogous to aerial photographs.

## TOPIC: DEFENSE / SECURITY

### GARUDA-VII AIR EXERCISE

#### In News:

The chiefs of Indian and French Air Forces on Tuesday joined the Air Exercise Garuda-VII in Jodhpur.

#### Analysis of Background:

- Ex Garuda-VII is also the first occasion for the light combat aircraft (LCA) Tejas and the light combat helicopter (LCH) Prachand to participate in any international exercise.
- Garuda VII is the seventh edition of the bilateral air exercise between India and France that is taking place after a gap of two years.
- Air Exercise Garuda provided a unique opportunity for both Air Forces to learn and imbibe each other's best practices during operations while also highlighted the growing interoperability between the two Air Forces.
- The first, third and fifth editions were conducted in India in 2003, 2006 and 2014 at Air Force Stations Gwalior, Kalaikunda and Jodhpur, respectively.

### 17th EAST ASIA SUMMIT 2022

#### In News:

Vice President Jagdeep Dhankhar addressed the East Asia Summit on the last day of his visit to Cambodia, as the three-day Association of South East Asian Nations (ASEAN) summit concluded.

#### Analysis of Background:

- Cambodian leader Hun Sen called for unity, telling a gathering including Russia, China and the United States that current global tensions have been taking a toll on everyone.
- The comments come as regional tensions remain high between the United States and China over Taiwan and Beijing's growing regional aspirations, and while the Russia invasion of Ukraine has disrupted global supply chains, causing rising energy and food prices far beyond Europe.

- Hun Sen said he hoped leaders would embrace a “spirit of togetherness in upholding open and inclusive multilateralism, pragmatism and mutual respect in addressing the existential and strategic challenges we all face.”
- Biden promised that the S. would work with ASEAN, telling leaders of the strategically vital coalition that “we're going to build a better future that we all want to see” in the region where US rival China is also working to expand its influence. He promised to collaborate to build a region that is “free and open, stable and prosperous, resilient and secure.”
- China highlighted that amid a “turbulent” global security situation, “unilateralism and protectionism are surging, economic and financial risks are rising, and global development is confronted with unprecedented challenges.”
- India’s Vice President emphasized the role of the EAS mechanism in promoting free, open and inclusive Indo-Pacific with freedom of navigation and overflight.
- The Vice President also talked about the growing global concerns in the food and energy sector.
- He also urged for the contribution of members of the East Asia Summit to the International Year of Millets.

### **What is the East Asia Summit?**

- Beginning in 2005, 16 participating countries comprised this grouping, with their first meeting in Kuala Lumpur, Malaysia.
- These members were the 10 ASEAN countries, Australia, China, India, Japan, New Zealand, and the Republic of Korea.
- ASEAN’s 10 member countries are Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.
- The United States and the Russian Federation joined at the 6th East Asia Summit in 2011.
- Simply, the EAS is an ASEAN initiative and refers to the annual Meeting of Heads of States/Governments of these countries, where they are able to discuss common concerns and interests
- Its creation was based on the idea of enhancing cooperation among East Asian countries and those in the neighbouring regions.
- Six priority areas of cooperation were identified – environment and energy, education, finance, global health issues and pandemic diseases, natural disaster management, and ASEAN Connectivity.

### What are the EAS's links with India?

- This year marks the 30th anniversary of ASEAN-India relations and is being celebrated as the ASEAN-India Friendship Year.
- In a joint statement, ASEAN-India acknowledged the deep civilisational linkages, maritime connectivity, and cross-cultural exchanges between Southeast Asia and India which have grown stronger over the last 30 years, providing a strong foundation for ASEAN-India relations.
- VP Dhankhar announced an additional contribution of USD 5 million to the ASEAN-India science and technology fund to enhance cooperation in sectors of public health, renewable energy and smart agriculture.
- According to a 2021 statement by the Prime Minister's website, "ASEAN-India Strategic Partnership stands on a strong foundation of shared geographical, historical and civilizational ties. ASEAN is central to our Act East Policy and our wider vision of the Indo-Pacific."
- India and ASEAN countries vowed to establish a comprehensive strategic partnership and enhance cooperation against terrorism after Vice President Dhankhar addressed the 19th ASEAN-India Summit.

### TOPIC: INDEX/REPORT

### RULE OF LAW INDEX

#### In News:

- According to the **World Justice Project (WJP) Rule of Law Index 2022**, for the fifth year in a row, the rule of law has declined globally.
- The Index data in 140 countries shows that the rule of law fell in 61% of countries this year.

#### Analysis of Background:

- Authoritarian trends continue to erode the rule of law, checks on executive power are weakening and respect for human rights is falling.
- Fundamental Rights declined in two-thirds of countries this year.
- Civil Justice fell in 61% of countries, largely due to continued delays, weak enforcement, and discrimination in the justice system.
- Respect for fundamental human rights and freedoms are down in 75% of countries since 2015.

- Restrictions on Government Powers; including oversight by the judiciary, legislature, and media—have fallen in two-thirds of the countries.
- Since 2015, the Index sub-factors that have declined the most widely are freedom of opinion and expression (down in 81% of countries) and freedom of assembly and association (down in 85%).

### **World Justice Project**

- The World Justice Project (WJP) Rule of Law Index is the world’s leading source of original, independent rule of law data.
- The World Justice Project defines the rule of law as a durable system of laws, institutions, norms, and community commitment that delivers: accountability, just laws, open government, and accessible justice.
- It covers 140 countries; this year’s Index relies on surveys of more than 150,000 households and 3,600 legal practitioners and experts to determine how the rule of law is experienced around the world.
- It measures 44 rule of law indicators under 8 factors:
  - Constraints on Government Powers
  - Absence of Corruption
  - Open Government
  - Fundamental Rights
  - Order and Security
  - Regulatory Enforcement
  - Civil Justice
  - Criminal Justice
- These scores are then averaged to assign an overall rule of law score to each country.
- Rule of Law index published annually since 2009, the Index is used by governments, multilateral organizations, donors, the private sector, and civil society organizations around the world to assess and address gaps in the rule of law.
- The top-ranked country in the WJP Rule of Law Index 2022 is Denmark, followed by Norway and Finland.
- India, with a score of 0.50 on the 'rule of law' index, has ranked 77 out of 140 countries.
- The biggest decline in rule of law this year is in Sudan, Myanmar, Haiti, and Afghanistan.



## CLIMATE CHANGE PERFORMANCE INDEX 2023

### In News:

India climbed two spots to bag eighth position out of 63 in the Climate Change Performance Index (CCPI) 2023.

### Analysis of Background:

- The report was published by three environmental non-governmental organisations that track climate performance of the European Union and 59 countries, which together account for over 92 per cent of the greenhouse gas (GHG) emissions in the world.
- **The rankings by Germanwatch, NewClimate Institute and the Climate Action Network** are based on how well the countries are doing to halve their emissions by 2030 -- an essential aspect to keep the 1.5-degree Celsius goal within reach and prevent dangerous climate change.
- The CCPI, which has been published since 2005, aims to enhance transparency in international climate politics and it enables comparison of individual countries' climate protection efforts and progress.

### Findings:

- The report leaves the first three places empty as "no country performed well enough in all index categories to achieve an overall very high rating". It puts Denmark in fourth place, followed by Sweden and Chile.
- China, which is the world's biggest polluter now, fell 13 places to 51st in this year's CCPI and received an overall very-low rating due to plans for new coal-fired power plants.
- The US rose by three ranks to the 52nd place. Iran (63rd), Saudi Arabia (62nd) and Kazakhstan (61st) fared the worst.

### Indian Scenario:

- The jump can be attributed to India's low emissions and the increasing use of renewable energy.
- India earned a high rating in the GHG Emissions and Energy Use categories, while it got a medium rating in Climate Policy and Renewable Energy sections.
- The report said India is "on track" to meet its 2030 emissions targets, compatible with a well-below 2-degree-Celsius scenario. "However, the renewable energy pathway is not on track for the 2030 target," it said.



- The report noted that India is among the nine countries responsible for 90 per cent of global coal production and it also plans to increase its oil, gas, and oil production by over 5 per cent by 2030. This is incompatible with the 1.5 degree Celsius target.

## TOPIC: HEALTH

### Monkey Pox

#### In News:

- There is now more evidence for pre-symptomatic transmission of monkeypox virus.
- A study published recently in BMJ, found that pre-symptomatic transmission had taken place as long as four days before symptoms manifested. The researchers have estimated that 53% of monkeypox virus transmission have occurred during the pre-symptomatic phase.

#### Analysis of Background:

##### Pre-symptomatic transmission

- Pre-symptomatic transmission of monkeypox virus will mean that many infections cannot be prevented by simply isolating people showing symptoms. Also, the effectiveness of contact tracing and subsequent quarantine will not be sufficient to break the transmission chain since by the time all the contacts have been traced, they might have already spread the virus to other people.
- “Pre-symptomatic transmission has implications for vaccination strategies and the feasibility of disease elimination.
- According to the researchers, pre-symptomatic transmission can take place in “specific types of high intensity interactions such as sexual contacts where lower pre-symptomatic viral loads are infectious.

##### Monkey Pox Virus

- Monkeypox is a viral zoonotic disease that occurs primarily in tropical rainforest areas of Central and West Africa and is occasionally exported to other regions.
- The first case of monkeypox in humans was recorded in 1970 in the Democratic Republic of Congo during a period of intensified effort to eliminate smallpox.
- Scientists have so far discovered two distinct genetic groups of monkeypox virus—Central African and West African.

## Cause

- It is caused by monkeypox virus, a member of the Orthopoxvirus genus in the family Poxviridae.
- Monkeypox belongs to the same family of viruses as smallpox. But Smallpox had a higher fatality rate than monkeypox.
- Smallpox was declared eradicated worldwide in 1980.
- Symptoms
- Monkeypox is characterised by flu-like symptoms and swelling of the lymph nodes, which gradually progresses to a widespread rash all over the face and body.

## Transmission

- Monkeypox virus is mostly transmitted to people from wild animals such as rodents and primates, but human-to-human transmission also occurs.
- It spreads from one person to another via respiratory droplets.

## Treatment

- There is currently no specific treatment recommended for monkeypox.
- Vaccination against smallpox was about 85% effective in preventing monkeypox.
- Thus, prior childhood smallpox vaccination may result in a milder disease course.

## Malaria

### In News:

WHO approval in October 2021 for RTS, S/AS01 (Mosquirix) developed by GlaxoSmithKline for immunizing children was a major milestone. It took more than 30 years and approximately \$700 million for this breakthrough.

### Analysis of Background:

## Malaria

- Malaria is caused by single-celled microorganisms of the Plasmodium group parasites.
- The disease is most commonly spread by an infected female Anopheles mosquito.
- The mosquito bite introduces the parasites from the mosquito's saliva into a person's blood.
- The parasites travel to the liver where they mature and reproduce.
- Five species of Plasmodium can infect and be spread by humans.
- Most deaths are caused by falciparum, whereas *P. vivax*, *P. ovale*, and *P. malaria* generally cause a milder form of malaria.
- The species knowlesi rarely causes disease in humans.

- Malaria is predominantly found in the tropical and subtropical areas of Africa, South America as well as Asia.
- Symptoms: Fever, tiredness, vomiting, and headaches. In severe cases, it can cause yellow skin, seizures, coma, or death.
- Malaria is preventable as well as curable.
- Vaccine: RTS, S vaccine.

### India's efforts in tackling Malaria

- According to The World Malaria Report (WMR) 2020 India is the only high endemic country, which has reported a decline of 17.6% in 2019 as compared to 2018.
- India has made remarkable progress in recent years in reducing malaria incidence.
- In May 2015, the World Health Assembly endorsed the Global Technical Strategy (GTS) for Malaria Elimination 2016-2030, which lays down clear global goals, milestones, and targets till 2030.
- In line with the GTS, the Government of India launched the National Framework for Malaria Elimination 2016-2030 in February 2016 and the National Strategic Plan for Malaria Elimination 2017-2022 in July 2017 with WHO support.
- **India has a vision of a malaria-free country by 2027 and elimination by 2030.**
- **The WHO has also identified 25 countries with the potential to eradicate malaria by 2025 under its 'E-2025 Initiative'.**

### Malaria Free Status

- Countries that have achieved at least three consecutive years of zero indigenous cases can apply for WHO certification of their malaria-free status.

### Malaria Free Countries

- China is the first country in the WHO Western Pacific Region to be awarded a malaria-free certification in more than 3 decades.
- Globally, 40 countries and territories have been granted a malaria-free certification from WHO.
- Recent Declarations: El Salvador (2021), Algeria (2019), Argentina (2019), Paraguay (2018), and Uzbekistan (2018).

### China's Malaria Elimination Strategy in brief

#### 1-3-7 Strategy: The strategy refers to:

- A one-day deadline to report a malaria diagnosis,
- Confirming a case and determining the spread by the third day, and

- Measures taken to stop the spread by the seventh day, along with continued surveillance in high-risk areas.

## **MEASLES, RUBELLA:**

### **In News:**

Amid an increase in the number of measles cases, the Ministry of Health and Family Welfare Wednesday asked states and Union Territories to administer one additional dose of measles and rubella vaccines to all children, aged 9 months to 5 years, in vulnerable areas.

### **Analysis of Background:**

#### **What is Measles?**

- Measles is a highly contagious infectious disease caused by measles virus.
- It mostly affects children. It is one of the leading causes of death and disability among young children.

#### **It's Symptoms**

- Initial symptoms typically include fever, cough, runny nose, and inflamed eyes. Small white spots known as Koplik's spots may form inside the mouth two or three days after the start of symptoms.
- Common complications include diarrhea, middle ear infection, and pneumonia.
- Less commonly seizures, blindness, or inflammation of the brain may occur.

#### **It's Transmission**

- Measles is an airborne disease that spreads easily by coughing and sneezing, close personal contact or direct contact with infected nasal or throat secretions.

#### **It's Treatment**

- There is no specific treatment for measles but there is a vaccine to stay protected from the disease, which is both safe as well as cost effective.
- Treatment includes providing comfort measures to relieve symptoms, such as rest, and medications like antibiotics, fever reducers and Vitamin A.

#### **What is Rubella?**

- Rubella is a contagious, generally mild viral infection that occurs most often in children and young adults.

- Rubella infection in pregnant women may cause death or congenital defects known as Congenital Rubella Syndrome (CRS) which causes irreversible birth defects.

### **Government Initiatives for prevention:**

#### **Measles-Rubella Vaccination:**

- The Ministry of Health and Family Welfare launched the MR Vaccination program in 2017.
- The MR campaign targets around 41 crore children across the country, the largest ever in any campaign.
- All children aged between 9 months and less than 15 years are given a single shot of MR vaccination irrespective of their previous measles/rubella vaccination status or measles/rubella disease status.
- MR vaccines are provided free-of-cost across the states.

#### **Measles-Rubella (MR) Vaccination Campaign:**

- The campaign was launched by the Union Ministry of Health and Family Welfare. It is an ambitious phased vaccination campaign that intends to cover more than 40 crore children.
- The campaign is aimed at protecting the children from the two highly contagious viral diseases measles and rubella.

## TOPIC: SOCIAL ISSUES

### PVTGs

#### In News

The Anthropological Survey of India (AnSI) has recreated the huts of several tribal communities, especially those of Particularly Vulnerable Tribal Groups (PVTGs) communities to showcase the heritage of tribal communities at different regional centres

#### Analysis of Background:

##### Particularly Vulnerable Tribal Groups

- Particularly Vulnerable Tribal Groups are more vulnerable among the tribal groups.
- Due to this factor, more developed and assertive tribal groups take a major chunk of the tribal development funds, because of which PVTGs need more funds directed for their development.
- In 1975, the Government of India initiated to identify the most vulnerable tribal groups as a separate category called PVTGs and declared 52 such groups, while in 1993 an additional 23 groups were added to the category, making it a total of 75 PVTGs out of 705 Scheduled Tribes, spread over 17 states and one Union Territory (UT), in the country (2011 census).
- The government of India follows the following criteria for the identification of PVTGs.
  - Pre-agricultural level of technology
  - Low level of literacy
  - Economic backwardness
  - A declining or stagnant population
- Odisha has the highest number of PVTGs in India while no PVTGs are found in the states of Punjab and Haryana.
- The Scheme for Development of Primitive Vulnerable Tribal Groups (PVTGs), came into effect on April 1, 2008.
- The Scheme defines PVTGs as the most vulnerable among the Scheduled Tribes and the Scheme, therefore, seeks to prioritise their protection and development.

##### About Tribal in India

- The Term “Tribal” is used for the very old Communities, being among the oldest inhabitants of the Sub-Continent.
- They did not practice a religion with a written text, did not have Sharp Caste/Class divisions
- In terms of language, tribes are Categorized into 4 Categories:
  - Indo-Aryan

- Dravidian
- Austric
- Tibeto-Burman
- In terms of size, the biggest tribes are Gonds, Bhils, Santhals, Oraons, Minas, Bodos and Mundas.
- The total population of tribes amounts to about 8.2% of the population of India.
- Based on livelihood, tribes can be Categorized into Fishermen, food gatherers and hunters, Shifting Cultivators, Peasants Plantation and industrial workers.
- Tribal Society is a more egalitarian and kinship-based mode of Social organization.
- Tribals were not always the oppressed groups they are now; there were Several Gond kingdoms in Central India.
  - Many of the So-Called Rajput kingdoms of Central and western India emerged through a Process of Stratification among Adivasi Communities themselves.
  - Adivasis often exercised dominance over the Plains People through their Capacity to raid them, and through their Services as local militias.
  - They also occupied a Special trade niche, trading forest Produce, Salt and elephants.
  - Capitalist economics to exploit forest resources and minerals to recruit cheap labour has brought tribal Societies into Contact with mainstream Society a long time ago.
  - They were losing their land to non-tribal immigrant Settlers, and their access to forests because of the government policy of reservation of forests and the introduction of mining operations.

### **Challenges faced by Tribals**

- Land and Forests were taken away from Tribal Societies in the name of development.
- Development involved the building of large dams, factories and mines. Because the tribal areas were located in mineral-rich and forest Covered Parts of the Country, tribals have paid a huge Price for the development of the rest of Indian Society. This kind of development has benefited the mainstream at the expense of the tribes.
- Forests Started to be systematically exploited in British times and the trend continued after Independence. The Coming of Private Property in the land has also adversely affected tribals, whose Community-based forms of Collective ownership were placed at a disadvantage in the new System.
- Many tribal Concentration regions and States have been experiencing the Problem of heavy in-migration of non-tribals. This threatens tribal Communities and Cultures, besides accelerating the Process of exploitation of tribals.

- In Tripura, the tribal Share of its Population halved within a Single decade, reducing them to a minority. Similar Pressure is being felt by Arunachal Pradesh.
- Many Tribals in the North-East States have been living for decades under Special laws that limit the Civil liberties of Citizens, States have been declared as 'disturbed areas'.
- The vicious Circle of armed rebellions Provoking State repression which in turn fuels further rebellions has damaged the economy, Culture and Society of the North-eastern State.



## *Our Initiative For Current Affair Coverage:*

**DAILY NEWS HEADING (DNH):** Highlights Important topics from *The Hindu Newspaper*.

**DAILY NEWS ANALYSIS (DNA):** - Detailed Analysis of current affair from *The Hindu Newspaper and Pib*.

**MONTHLY COMPILATION MAGAZINE –** *Compilation of Daily News Analysis* for Revision.



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