

ASTRA

COMPLETE COVERAGE OF MONTHLY CURRENT AFFAIRS

SEPTEMBER 2021

2021 NOBEL LAUREATES



Corp. Office: # 61/3rt, 2nd Floor, SR Nagar, Near Community Hall, Hyderabad, Telangana - 500 038.

Main Campus: Padmashali Seva Samajam, Opp: St. Martin's Engg. College, Dulapally Road, Kompally, Hyderabad, Telangana - 500 100. Phone: 7997992479 / 80 / 82 / 83 | Website: igniteias.com

HISTORY AND CULTURE

Subramania Bharati	4
Hari Singh Nalwa	4
ASI discovered remains of an Ancient Temple of Gupta Period	5
Menhir from in Basrur	5
Water seepage in Ellora Caves	6
V. O. Chidambaram Pilla	6
Thamirabarani Civilisation	7
Battle of Saragarhi	8
Samvatsari Parva	8
Cheraman Juma Masjid	8

GEOGRAPHY

Brahmani River	9
Fukutoku-Okanoba Submarine Volcano	9
Zojila Tunnel	10
Hurricane Ida	10
Subansiri Hydroelectric Project (LSHP)	10
Mammoth Cave	11

ENVIRONMENT

Draft Regional Plan 2041: NCR	12
Deepor Beel	12
Raptors Facing Extinction	13
Global Award For Turtle Conservation	14
Koraput's Manda Buffalo Gets Unique Indigenous Tag	14
IUCN World Conservation Congress 2020	14
Renewable Energy and Land Use in India	15
India's First Dugong Conservation Reserve	16
Thawing Permafrost	16
Sea Cucumbers	17
WHO New AQGs: Pollution Norms	18
Blue Flag Certification	18
World Rhino Day	19
Bio-Decomposer	20
NET ZERO Emissions	20
World Freed From Toxic Lead: UNEP	21
Kendra Para District and Crocodiles	22
Bhitarkanika Mangroves Conservation	22
River Bhogdoi	23
River Rights Highlighted at IUCN World Conservation Congress	23
Oriental White- Backed Vultures	24
Global Methane Pledge	25
Who slashes Guideline Limits on Air Pollution from Fossil Fuels	26

POLITY & GOVERNANCE

District Level Committees for Power Related Schemes	27
Ladakh Resident Certificate Order 2021	27
FASTER System	28
Collegium Rush	28
NCLT AND ITAT	29
Committee for Development of National Curriculum	30
Female judges in Judiciary	31
Deputy Speaker of Lok Sabha	32
Right to Live with Partner	33
Amendment to Rajasthan Compulsory Registration of Marriages Act	33
Right to Govt. Aid is not a Fundamental Right	35
Annual Status of Education Report (ASER)	36
NIRF Ranking	37
Caste Census	38

SOCIAL ISSUES

World Social Protection Report 2020-22	40
WHO Report on Dementia	41
Rising Complaints of Crime against Women	42
Shikshak Parv	42
Swachh Survekshan Grameen 2021	43
State Food Safety Index	43
NCRB Report 2020	43
Pan-India toll-free helpline for Senior Citizens	45

ECONOMY

OECD TAX	46
Sukhet Model	46
Saath Initiative	47
Shoonya Campaign	47
Green Bonds	48
SPIN Scheme	49
Rail Kaushal Vikas Yojana	49
Scheme for Promotion of Medical Device Parks	50
Pearl Farming Promotion	50
Global Innovation Index 2021	51
GI Tag	52
PLI Scheme For Textiles	53
PLI for Auto Sector	54
Card Tokenisation	54
Common Services Centres (CSC)-PSK	55
National Asset Reconstruction Company Limited(NARCL)	55
National Monetisation Pipeline	56
Nobel Prize 2021- Economics	58

Core Sector Logs Growth	58
G-SECS	59
MSP hiked for Rabi Crops	60
Transport And Marketing Assistance (TMA)	61
E-SHRAM	62
National Mission on Edible Oil	63
Account Aggregator System	64
Coal Based Hydrogen Production	65
Ease of Doing Business	65
Reforms in Urban Planning: Niti Aayog	65

INTERNATIONAL RELATIONS

Food and Forex Crisis in Sri Lanka	67
AUKUS Grouping	67
Iran to Allow Nuclear Surveillance by IAEA	68
India-UAE Negotiations for CEPA	69
SAARC Foreign Ministers' Meeting Cancelled	69
First-ever 2+2 Ministerial Dialogue between India & Australia	70
Climate Action and Finance Mobilization Dialogue	71
8th Meeting of Agricultural Experts of BIMSTEC	71
6th Eastern Economic Forum 2021	72
Conference of Protectors of Emigrants (PoE)	72
SCO Summit 2021	72
UN Food Systems Summit 2021	73
China's first road-rail transport link to Indian Ocean	73
Nobel Prize 2021- Peace	74

SCIENCE & TECHNOLOGY

Mu Variant of Covid-19	75
Mosquirix-Anti Malarial Vaccine	75
Medicines from Sky Project	75
Chandrayaan 2	76
Saline Gargle RT-PCR technique	76
Zero-shot learning (ZSL)	77
Alternative to single use plastics	77
Inspiration4 Mission	77
Dark Energy	77
NOBEL PRIZE 2021	78
INDIAN SPACE ASSOCIATION (ISpA)	79
Deep Brain Stimulation	80
Fragile X Syndrome	80
Cosmic Collision	81
Precision- guided Sterile Insect Technique	81

DEFENCE & SECURITY

ZAPAD - 2021	82
Exercise Surya Kiran	82
Singapore-India Maritime Bilateral Exercise (SIMBEX)	82
India- US UAV Pact	83
C-295 MW Transport Aircraft	83
India and Australia Navy Talks	83
Arjun Mk-1A	84
Uttar Pradesh Defence Industrial Corridor	84
Samudra Shakti	85

INTER + IAS | DEGREE + IAS | Direct IAS (Day Cum Residential)

Ignite IAS

We made the dream of cracking IAS come true for many aspirants!

Our qualified faculty can help you succeed.

Join our 5 years Inter + IAS integrated program!

LIMITED ADMISSIONS! HURRY UP AND JOIN US!

Follow us

+91 7997992479 / 80 / 81

www.igniteias.com

Why in the news?

- 100th death anniversary of Tamil poet Subramania Bharati was observed on 11th September.

About Subramania Bharati

- He was an outstanding Indian writer of the nationalist period and is regarded as the father of the modern Tamil style.
- He is also known as 'Mahakavi Bharathiyar'
- Born in Ettayapuram of erstwhile Madras Presidency on December 11, 1822.
- He died on 11th September 1921.
- In his early life, he worked in various capacities as sub-editor of Swadesamitran, a Tamil daily and Chakravartini, a Tamil monthly.



Contribution to the National Movement:

- He got involved in the extremist wing of the Indian National Congress (INC) party.
- He attended the annual sessions of INC and discussed national issues with extremist leaders like Bipin Chandra Pal, B.G. Tilak and V.V.S. Iyer.
- His vision of nationalism was secular, against casteism and sexism, and pan-Indian.
- He wrote many patriotic poems which received praise for their nationalistic themes.
- In 1908 he was forced to flee to Pondicherry, where he lived until 1918. After his return, he rejoined the Tamil daily Swadesamitran.

Role as a social reformer:

- He was vocal against the caste system and consistently spoke about women's issues.
- He was influenced by Sister Nivedita, a disciple of Vivekananda.
- He spoke out against social issues such as child marriage, untouchability through his writings.

Literary Contributions:

- He was a prolific writer and poet and fluent in Tamil, Hindi, Sanskrit, English and French.
- He brought a renaissance in Tamil literature. He wrote poems concerning issues from all around the world. Three of his greatest works namely, **Kuyil Pattu**, **Panchali Sapatham** and **Kannan Pattu** were composed during 1912. He also translated Vedic hymns, Patanjali's Yoga Sutra and Bhagavat Gita to Tamil.
- His English works were collected in Agni.

Bharathi Award:

- It was instituted in 1994 by Vanavil Cultural Centre.
- It is conferred every year to eminent persons who have done laudable service in any field of social relevance.

Hari Singh Nalwa

History & Culture

Why in the news?

- US withdrawal from Afghanistan has brought into focus Sikh empire.

Key facts on Hari Singh Nalwa

- Hari Singh Nalwa was one of the main and most trustworthy commanders of Maharaja Ranjit Singh's force.
- He remained **Governor of Kashmir, Hazara and Peshawar**.
- He defeated various Afghans and established control over various regions along the boundary of Afghanistan and prevented Afghans from entering Punjab through **Khyber Pass**.
- Khyber Pass was the main route to enter India by the foreign invaders from 1000 AD till early 19th century.



- Hari Singh Nalwa was the biggest strength of **Maharaja Ranjit Singh**.
- The government of India released a stamp on the name of Nalwa in 2013, for his bravery and ferocity.

Important Battles

- **Battle of Kasur:** In 1807, at the age of 16, he participated in the **Battle of Kasur (now in Pakistan)** and defeated Afghani ruler Kutab-ud-din Khan.
- **Battle of Peshawar:** In 1818, Sikh army under Nalwa won the Battle of Peshawar and
- The Battle of **Multan, Hazara, Manekera, Kashmir** etc. also expanded Sikh empire by defeating Afghans.
- Such victories over Afghans created huge fear of Nalwa among the Afghans because of which his name is used to take in front of unruly children by their mothers.
- Nalwa remained stationed at Peshawar to keep an eye on the **Afghan-Punjab border**.

ASI discovered remains of an Ancient Temple of Gupta Period

History & Culture

Why in the news?

- Recently, the Archaeological Survey of India (ASI) discovered remains of an ancient temple dating back to the Gupta period (5th century) in a village in Uttar Pradesh's Etah district.

Key-findings

- Archeologists have found 'shankhalipi' inscriptions on the stairs on an ancient temple dating back to the Gupta period.
 - The stairs of the temple had 'shankhalipi' inscriptions, which were deciphered by the archaeologists, 'Sri Mahendraditya', the title of Kumaragupta I of the Gupta dynasty.
- As per the ASI, the stairs led to a structural temple built during the Gupta period.
- The team discovered two decorative pillars close to one another, with human figurines.
 - These two pillars were flat rectangular pillars, placed parallel and facing the same direction, and the front faces showed images of the yaksas, ganas, and various geometrical motifs.

Significance of the discovery

- The discovery becomes significant since only two other structural temples from the Gupta age have been found so far —
 - Dashavatara Temple (Deogarh)
 - Bhitargaon Temple (Kanpur Dehat)

What is the Shankhalipi script?

- Shankhalipi or "shell-script" is a term used by scholars to describe ornate spiral characters assumed to be Brahmi derivatives that look like conch shells or shankhas.
- They are found in inscriptions across north-central India and date to between the 4th and 8th centuries.
- Both Shankhalipi and Brahmi are stylised scripts used primarily for names and signatures.
- The inscriptions consist of a small number of characters, suggesting that the shell inscriptions are names or auspicious symbols or a combination of the two.

Menhir from in Basrur

History & Culture

Why in the news?

- A menhir, an upright standing stone, has been found at Basrur in Udupi district.

About Menhirs

- Menhirs are upright stones from the Megalithic period.
- They are erected above a burial site or near a burial site as a memorial.

Key-highlights of the discovery

- The discovery takes back the antiquity of Basrur to between 1,000 BC & 800 BC, which is the Megalithic period.
- The stone has a height of seven feet above the ground level.
- It was found on the roadside near the **Venkataramana temple**.

Basrur

- Basrur is a **medieval trading city** in coastal Karnataka.
- **Different names:** Basurepattana, Basurepura, Vasupura, Basaruru.
- The town is studded with many temples, which is an indicator of its splendid wealth.
 - The **Devi temple** of Basrur has special importance with the feast of Devi performed once every 60 years.
 - Mahalingeshwara temple, Kote Anjaneya temple, Tuluveshwara temple, Ramachandra temple, Umamaheshwara temple, Bhairava temple are the other surviving temples in the town in addition to Sadananda Mutt.

Water seepage in Ellora Caves

History & Culture

Why in the news?

- **The September downpour has led to water seepage in the cave number 32 of the world renowned Ellora Caves for the first time. It led to some damage to the paintings.**

About cave number 32

- Cave 32 is a Jain cave situated to the north of Kailasa Temple in Ellora.
- Known as the **Indra Sabha**, it is the largest and finest of all Jain temples in Ellora.
- It is a two-storey architectural marvel excavated in the **ninth century**.
 - The ground floor is plain, but the upstairs has intricate carvings.



Jain Caves at Ellora

- There are five Jain Caves at Ellora belong to the 9th & 10th centuries AD. They all belong to the **Digambara sect**.
- Jain Caves reveal specific dimensions of Jain philosophy and tradition. The most remarkable Jain shrines are the Chhota Kailash (Cave 30), the Indra Sabha (Cave 32) and the Jagannath Sabha (Cave 33)

Ellora Caves

- **Location:** It is located nearly 100 Kms away from Ajanta caves in the Sahyadri range of Maharashtra.
- **Number of Caves:** It is a group of 34 caves – **17 Brahmanical, 12 Buddhist and 5 Jain**.
- Time of Development
 - These sets of caves were developed during the period between the 5th and 11th centuries A.D. (newer as compared to Ajanta Caves) by various guilds from Vidarbha, Karnataka and Tamil Nadu.
 - That is why the caves reflect a natural diversity in terms of theme and architectural styles.
- **UNESCO Site:** The Ellora complex was designated a **UNESCO World Heritage site** in 1983.
- The most remarkable of the cave temples is **Kailasa (Kailasanatha; cave 16)**, named for the mountain in the **Kailasa Range** of the Himalayas where the Hindu god Shiva resides.
- The management of the Ellora Caves is carried out by the **Archaeological Survey of India (ASI)**, while the buffer zones are jointly managed by the **ASI**, the **Forest Department**, and the **Government of Maharashtra**.

V. O. Chidambaram Pilla

History & Culture

Why in the news?

- Recently, the Prime Minister paid tribute to V. O. Chidambaram Pillai, on the occasion of his 150th birth anniversary.

About V. O. Chidambaram Pillai(1872-1936)

The legendary freedom fighter was popularly known as 'Kappalottiya Tamizhan (the Tamil Helmsman)' and 'Sekkizuththa Semmal (scholarly gentry who suffered at the oil press)'. He graduated from Caldwell College, Tuticorin.

- He entered politics in 1905 following the partition of Bengal.
- Towards the end of 1905, VOC visited Madras and was drawn closer to the Swadeshi Movement initiated by Bal Gangadhar Tilak and Lala Lajpat Rai.
- It was not until the arrival of V.O. Chidambaram Pillai (VOC) at Tuticorin (Present day Thoothukudi) that the Swadeshi movement in Tirunelveli district began to gather force and momentum.
- VOC was drawn towards Ramakrishna Mission and came into contact with Subramania Bharati and the Mandayam family.
- He founded the Swadeshi Steam Navigation Company (SSNC) in 1906 to compete against the monopoly of the British India Steam Navigation Company.
- He launched the first indigenous Indian shipping service between Tuticorin and Colombo with the SSNC, competing against British ships.
- VOC won the active support of another fiery Tamil orator, Subramania Siva.
- VOC and Siva were aided in their efforts by a number of Tirunelveli-based lawyers, who formed an organisation called the Swadeshi Sangam, or 'National Volunteers'.
- He supported the Tuticorin Coral Mills strike.
- Even prior to Gandhiji's Champaran Satyagraha, VOC took up the cause of the working class in Tamil Nadu.
- Hence, Tuticorin Port Trust, one of India's thirteen major ports, is named after him.
- At one time a member of the Indian National Congress, he was later charged with sedition by the British government and sentenced to life imprisonment, and his barrister license was revoked.
- He was awarded a double life-sentence by the British court.

Literary works

- He had penned commentaries on Tirukkural and Sivagnana Potham.
- He also had a special interest in self-help books of James Allen and translated some of them when he was in the Coimbatore prison.
- The autobiography in Tamil verse which he started in prison was completed upon his release in 1912.
- He also compiled ancient works of Tamil grammar, Tholkappiam.
- He showed ingenuity in his works of Meyyaram and Meyyarivu, praised for spontaneous style.

Thamirabarani Civilisation

History & Culture

Why in the news?

- Recently, an excavation by archaeologists showed that the Thamirabarani River (Porunai) civilization dates back to 3,200 years.

About the discovery

- A carbon dating analysis of rice with soil, found in a burial urn at Sivakalai in **Thoothukudi district of Tamil Nadu**, by the Miami-based Beta Analytic Testing Laboratory has yielded the **date of 1155 BC**.
- It has indicated that the Thamirabarani civilization dates back to 3,200 years.
- It is found that the Thamirabarani civilization is **older than the Vaigai civilization** which is believed to be 2,600 years old.
- It is 600 years **older than the samples found in Keeladi in Sivaganga district** where ongoing excavation has been throwing up exciting findings.

Thamirabarani river-

- The shortest river in the state of Tamil Nadu, the **Thamirabarani starts in Pothigai hills of the Western Ghats** in the Ambasamudram taluk.
- It flows through Tirunelveli and Thoothukudi districts and empties at Korkai (Tirunelveli district) into the Gulf of Mannar (Bay of Bengal).
- It was **called the Tamraparni River in the pre-classical period**, a name it lent to the island of Sri Lanka.
- The old Tamil name of the river is **Porunai**. It is about 128 kilometres (80 mi) long & is the **only perennial river in Tamil Nadu**.



Battle of Saragarhi

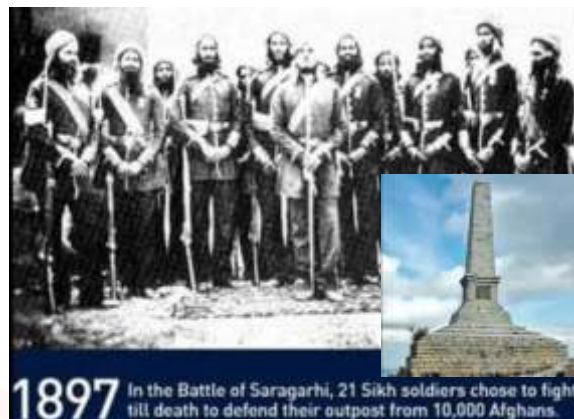
History & Culture

Why in the news?

- September 12 marked the 124th anniversary of the Battle of Saragarhi.

About the Battle of Saragarhi-

- The Battle of Saragarhi was a **last-stand battle fought before the Tirah Campaign** between the British Raj and Afghan tribesmen.
- Saragarhi was the communication tower** between Fort Lockhart and Fort Gulistan.
- The two forts in the rugged North West Frontier Province (NWFP) were built by Maharaja Ranjit Singh but renamed by the British.
- Saragarhi helped to link up the two important forts which housed a large number of British troops in the rugged terrain of NWFP.
- On **12 September 1897**, an estimated 12,000 – 24,000 Orakzai and Afridi tribesmen attacked the outpost of Saragarhi, cutting off Fort Gulistan from Fort Lockhart.
- Though Saragarhi was usually manned by a platoon of 40 soldiers, on the battle day, it was being held by only 21 soldiers from 36th Sikh (now 4 Sikh) and a non-combatant called Daad, a Pashtun who did odd jobs for the troops.
- Though heavily outnumbered, the soldiers of 36th Sikh, led by Havildar Ishar Singh, fought till their last breath, killing 200 tribals and injuring 600.
- The British, who regained control over the fort after a few days, used burnt bricks of Saragarhi to build an obelisk for the martyrs.
- They also commissioned gurdwaras at Amritsar and Ferozepur in their honour.
- In 2017, the Punjab government decided to observe Saragarhi Day on September 12 as a holiday.



Samvatsari Parva

History & Culture

Why in the news?

- The Prime Minister has greeted the people on the occasion of Samvatsari.

About Samvatsari

- It is the annual festival marked by people of the Jain community.
- This festival is celebrated on the last day of 'Parva Paryushana' which is the holiest festival for the Shwetambara sect of Jainism.
- It falls on Shukla Panchami each year in the Jain calendar month of Bhadrapada (somewhere between the middle of August and September in the Gregorian calendar).
- Samvatsari is also known as the Day of Forgiveness.
- On this day, Jains beg forgiveness from all living beings for faults they have made, whether deliberately or unknowingly.

Cheraman Juma Masjid

History & Culture

Why in the news?

- The renovation work of Cheraman Juma Masjid, the **oldest mosque in the Indian subcontinent**, is in the final stages.

About the mosque-

- The mosque located in Methala, near Kodungallur, Thrissur District, Kerala was **built in 629CE**.
- It was built by **Malik Deenar, on the orders of the successor of Cheraman Perumal**, the Chera King of modern-day Kerala.
- The mosque was constructed in **Kerala style** with hanging lamps.
- The mosque was completely destroyed by the Portuguese in 1504 when **Lopo Soares de Albergaria** attacked the port of Kodungallur.
- In 1984, to organise prayers at the mosque, concrete structures – mainly corridor and hall were built.
- To bring back the heritage structure, the **Muziris Heritage Project** took up the task of renovating the Cheraman Juma Masjid.



Ignite IAS



igniteias.com

8

Brahmani River

Geography

- Environmentalists expressed concern over the massive diversion of fresh water from the Brahmani river basin, which could pose a grave threat to the famous mangrove vegetation in Odisha.
- Bhitarkanika** — a notified Ramsar wetland — is spread over 195 sq. km and is home to 62 mangrove species. Besides, 1,600 salt water crocodiles crawl on the mudflats of the Bhitarkanika mangrove forest.
- Mangroves grow in brackish water. Proportionate fresh water flow from the Brahmani river basin and the **Kharasrota river** keep the salinity level of the water along the shore down. The brackish water becomes ideal for the mangroves to grow and stay healthy.
- The Wildlife Society of Orissa (WSO), an environmental pressure group, had drawn public attention on the excess water allocation for industries, which is likely to reduce fresh water discharge to the sea.
- The Talcher-Angul coal mines, steel and power plants as well as the Kalinganagar steel and power hub are drawing enormous quantities of fresh water from the Brahmani river.

Brahmani River

- Brahmani River is in northeastern Odisha state.
- Formed by the confluence of the **Sankh and South Koel rivers**, the Brahmani flows for 300 miles (480 km).
- It winds generally south-southeast past Bonaigarh and Talcher and then turns east to join northern branches of the Mahanadi River, which then empties into the Bay of Bengal at **Palmyras Point**.
- It is one of the few rivers that cut across the Eastern Ghats, and it has formed a **minor gorge at Rengali**, where a dam has been built.



Fukutoku-Okanoba Submarine Volcano

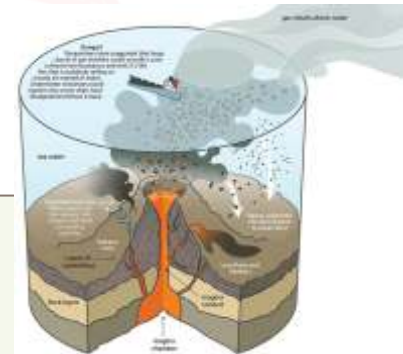
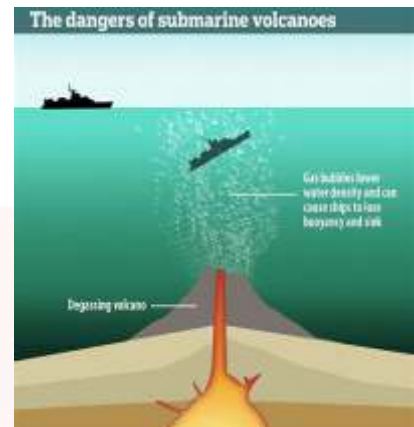
Geography

Why in the news

- Recently, Fukutoku-Okanoba Submarine Volcano exploded in the Pacific Ocean, off Japan that may poses a risk to the passage of planes and ships.

About Fukutoku-Okanoba volcano:

- The Fukutoku-Okanoba volcano is situated about 25 metres (80 feet) below the sea five kilometres north of **Japan's South Iwo Jima Island**.
- The plume reached a height of 16 kilometres above the surface, posing a risk to the passage of planes and ships.
- The eruption could have happened in shallow water due to which the ash plume had reached such a height.
- The normal cruising altitude of aircraft is about 10 kilometres.
- Plume went straight from being a submarine event to an eruption cloud reaching the lower boundary of the **Stratosphere**, this is not very common for this type of volcano.
- Normally lower-level plumes are seen from submarine eruptions.
- Eruption and submarine hydrothermal activities often cause water discoloration in the area, and during eruption, the volcano has built several temporary new islands.



Submarine volcanoes

- Submarine volcanoes are erupting **basaltic lavas** and **new crust material** is actively formed with substantial piles of pillow lavas.
- Submarine volcanoes are underwater vents or fissures in the Earth's surface from which magma can erupt.
- Many submarine volcanoes are located near areas of **tectonic plate formation, known as mid-ocean ridges**.
- The volcanoes at mid-ocean ridges alone are estimated to account for 75% of the magma output on Earth.

Why in the news?

- Union Minister for Road Transport and Highways Nitin Gadkari recently reviewed the construction work of the strategically important Zojila and Z-Morh tunnels on the Srinagar-Leh highway.

About Zojila Tunnel

- The 434-km Srinagar-Leh road connecting the Kashmir valley with Ladakh is snowed out at the 3,530-metre Zojila pass for four to six months every year.
- Once completed, at 14.15 km, the Zojila tunnel will be India's longest road tunnel, and Asia's longest bi-directional tunnel.
- The Zojila tunnel between Baltal and Minamarg on the Srinagar-Leh section will provide all-year connectivity between Leh and Srinagar.
- The distance from Baltal to Minamarg will come down to 13 km from the present 40 km, travel time is expected to be cut by an hour and a half.
- The Z-Morh tunnel between Gagangir and Sonmarg will provide connectivity in all weather conditions between Srinagar in Jammu and Kashmir and Kargil in Ladakh.
- The highway will have 2 twin-tube tunnels, 5 bridges, and 2 snow galleries.



Why in the news?

- Hurricane Ida made a devastating effect in the USA recently.

About Hurricane Ida

- It is a weakening tropical depression that became the second most intense hurricane to strike the U.S. state of Louisiana on record, only behind Hurricane Katrina.
- Ida made landfall with 240km/h winds.
- It has been tied for the strongest landfall in the state by maximum winds with Hurricane Laura in 2020 and the 1856 Last Island hurricane.
- Ida was previously deemed "life-threatening", drawing comparisons to Hurricane Katrina, a 2005 storm that had a path similar to Ida and killed 1,800 people.
- It has been considered as a category four hurricane – meaning it would cause severe damage to buildings, trees and power lines.

Why in the news?

- Work on the 2000 MW Subansiri Lower project resumed after being stopped in 2011 following protests amid fears of ecological damage and loss of livelihoods.

About Subansiri Lower Hydroelectric Project (SLHEP)

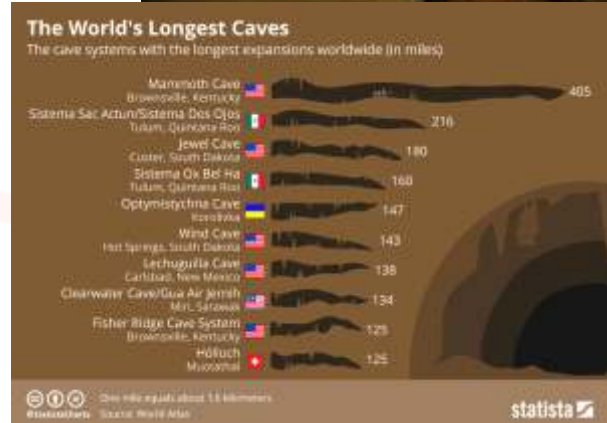
- It is located on the Subansiri River (largest tributary of Brahmaputra River), which is on the border of India's two northeastern states, Arunachal Pradesh and Assam.
- Subansiri River (gold river), originates in the Tibet Plateau and enters India through Miri hills in Arunachal Pradesh.
- River Subansiri flows from Arunachal Pradesh into Assam where it joins the Brahmaputra.
- The project is being developed by the state-run National Hydro Power Corporation (NHPC)

CONTEXT:

- Mammoth Cave National Park, home to the world's longest-known cave system, is now even longer. The legitimate length of Mammoth Cave has been extended to 420 miles. The extra mileage (8 miles) was mapped and documented through the Cave Research Foundation.

About the Cave

- Mammoth Cave was created by the natural process of limestone erosion, known as **karst topography**.
- During this process, rain and rivers slowly dissolve and shape soft limestone, creating a vast system of caves.
- Underground rivers are still carving new passages today.
- Location:** Mammoth Cave National Park, located in the nation of Kentucky (US).
- A giant roof of shale and sandstone form the upper cap of the cave system in Mammoth Cave.
- This rocky layer acts as an umbrella, preventing the slow dripping of water into the cave. It is the action of water that forms stalactites and stalagmites.
- Mammoth Cave is the world's longest cave system and a **UNESCO World Heritage Site**.
- Mammoth Cave was established as a national park on July 1, 1941.
- It received its official designation as the world's longest cave system in 1969. At the time, there were 65 miles of surveyed passageways.



Why in the news?

- The National Capital Region Planning Board (NCRPB) has recently approved the 'Draft Regional Plan 2041' according to which the National Capital Region (NCR) is likely to reduce in size.

About the plan

- The geographical size of the region will be a contiguous circular region of 100km radius from Rajghat (Delhi). The area in the 100km radius can be developed as a core area.
 - NCR is a region envisaged in 1985 for coordinated urban development in and around Delhi.
- Beyond 100 km radius and up to the existing NCR boundary, all notified cities/towns along with a corridor of one km on either side of connecting expressways/national highways/state highways/Regional Rapid Transit System will be included.
 - Currently, NCR consists of 24 districts in Uttar Pradesh, Haryana and Rajasthan and Delhi as a whole, spread over an area of 55,083 square kilometers.
- The name of the natural conservation zones, as introduced in Regional Plan-2021 will be changed to "natural zones" in the forthcoming Regional Plan-2041.
- States will be empowered to decide whether tehsils that fall partly inside the NCR boundary should remain in it or not.
- The DRP 2041 plan will pave the way for a National Capital Region region ready for the future, with an air ambulance station and high speed connectivity via helitaxis, road, railway and inland waterways.
- The plan proposes to test the possibility of a 30-minute Mass Transit Rail System (MTRS) from the nearest NCR border to Delhi.

Implications of the Move

- If implemented, parts of Panipat in Haryana and Muzaffarnagar in Uttar Pradesh will be dropped from the new NCR map.
- The idea is to have a compact area so that the development can be planned in a better manner.
- It will benefit rural areas, as state governments are better able to plan for their development.

What is the National Executive Planning Board?

- The NCR and its associated National Capital Region Planning Board were established in 1985 to plan for regional development and to change the corresponding policies for land use management and infrastructure development in the region.

Deepor Beel**Environment****Why in the news?**

- Local stakeholders have found flaws in the recently notified eco-sensitive zone (ESZ) of Deepor Beel Wildlife Sanctuary (Assam's only Ramsar Site).

About Deepor Beel

- Deepor Beel is a perennial freshwater lake located 10 km south-west of Guwahati city, Assam. Deepor Beel was designated a Ramsar site in 2002. It is the only Ramsar site in Assam. It is also an important bird sanctuary (IBA) inhabiting many migrant species. Deepor Beel constitutes a unique habitat for aquatic flora and avian fauna. About 150 species of birds have been recorded in the sanctuary, out of which two are critically endangered, one endangered, five vulnerable and four near-threatened. Elephants regularly visit the wetland from adjoining Rani and Garbhanga Reserve Forest. Further, the wetland is an integral part of the elephant habitat.

Eco-sensitive zone(ESZ):

- It is an area notified by the Ministry of Environment, Forests and Climate Change (MoEFCC), around Protected Areas, National Parks and Wildlife Sanctuaries.
- Notifications declaring areas as ESZ are issued under the Environment (Protection) Act 1986.
- The main aim behind ESZs is to regulate certain activities, to minimise the negative impacts of such activities on the fragile ecosystem surrounding the protected areas.

- Activities prohibited in the eco-sensitive zone are hydroelectric projects, brick kilns, commercial use of firewood, discharge of untreated effluents in natural water bodies or land areas among others.

Raptors Facing Extinction

Environment

Why in the news?

- The International Union for Conservation of Nature (IUCN) and BirdLife International (a global coalition of conservation non-governmental organisations (NGOs)) conducted the study. As per a recent study, almost 30% of the world's 557 raptor species are threatened with extinction in some way.

About Raptor Species

- A raptor is a type of bird of prey. A carnivore (meat-eater), a bird of prey kills and eats mammals, reptiles, amphibians, insects, rodents, and other birds.
- A hooked beak, strong feet with sharp talons, excellent eyesight, and a carnivorous diet are all characteristics of raptors.
- Raptors eat a wide variety of vertebrates, making long-distance seed dissemination easier. This boosts seed yield and pest control indirectly.
- Predators at the top of the food chain are known as indicator species because pesticides, habitat loss, and climate change have the greatest impact on them.
- Indonesia has the greatest number of raptor species, followed by Colombia, Ecuador, and Peru.
- Owls, vultures, hawks, falcons, eagles, kites, buteos, accipiters, harriers, are just a few more examples.



Threats faced by Raptors

- Diclofenac use: Due to the widespread use of diclofenac, some vulture populations in Asian nations such as India have fallen by almost 95 per cent.
- Diclofenac is an anti-inflammatory medication that is not a steroid.
- Deforestation: Due to significant deforestation, the number of Philippine eagles, the world's largest type of eagles, has declined rapidly in recent decades.
- According to the IUCN Red List, the Philippine Eagle is Critically Endangered.
- Vulture populations in Africa have fallen by an average of 95 per cent in rural regions over the last 30 years as a result of shooting and poisoning by eating on diclofenac-treated livestock carcasses.
- Because of fast habitat loss and degradation, the Annobon scops-owl, which is only found on Annobon Island off the coast of West Africa, was recently listed as "critically endangered" by the IUCN Red List.

Global efforts to Conserve the species

- Raptors MoU (Global): Raptors MoU stands for the Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia.
- It is a pact made under the Convention for the Conservation of Migratory Species of Wild Animals (Convention on the Conservation of Migratory Species of Wild Animals) (CMS). The CMS, or Bonn Convention, is a global framework for migratory animals and their ecosystems conservation and sustainable usage.
- It is not legally enforceable.

Conservation Efforts done to protect India

- The Raptors MoU includes India as a signatory.
- India has launched a Vulture Action Plan 2020-25 to help save vultures.
- SAVE (Saving Asia's Vultures from Extinction) is cooperation which India is also part of it.
- The Jatayu Conservation Breeding Centre in Pinjore (Haryana) is the world's largest facility for the breeding and conservation of Indian vulture species, located within the state's Bir Shikargah Wildlife Sanctuary.

Why in the news?

- Indian biologist Shailendra Singh has been awarded the Behler Turtle Conservation Award for bringing three critically endangered turtle conservation species back from the brink of extinction. It is referred to as the "Nobel Prize" of Turtle Conservation. These three species are red-crowned roofed turtle (*Batagur kachuga*), northern river terrapin (*Batagur baska*), and black softshell turtle (*Nilssononia nigricans*).

Turtle Survival Alliance (TSA)

- It was formed in 2001 as an International Union for Conservation of Nature (IUCN) partnership for sustainable captive management of freshwater turtles and tortoises.

Turtle Conservation Fund (TCF)

- It was established in 2002 as a partnership initiative of Conservation International, IUCN Tortoise and Freshwater Turtle Specialist Group (TFTSG), and Turtle Survival Alliance (TSA). Later, it was joined by other organizations.
- IUCN/SSC Tortoise and Freshwater Turtle Specialist Group (TFTSG)
- It is one of the more than 100 Specialist Groups and Task Forces that constitute the working network of the IUCN Species Survival Commission (SSC). It provides expertise and science-based recommendations with conservation relevance covering all species of freshwater and terrestrial turtles and tortoises.

Koraput's Manda Buffalo Gets Unique Indigenous Tag

Why in the news?

- National Bureau of Animal Genetic Resources (NBAGR) has recognised Manda buffalo, found in the Eastern Ghats and plateau of Koraput region of Odisha, as the 19th unique breed of buffaloes found in India.
- About the Species
- They are resistant to parasitic infections, less prone to diseases and can live, produce and reproduce at low or nil input system.
- The small, sturdy buffaloes are used for ploughing in their native habitat of Koraput, Malkangiri and Nabarangpur districts.
- These buffaloes have ash grey and grey coat with copper-coloured hair. The lower part of the legs up to elbow is light in colour with copper colour hair at the knee. Some animals are silver white in colour.



IUCN World Conservation Congress 2020

Why in the news?

- The world's largest environmental decision-making forum 'IUCN World Conservation Congress 2020' (postponed from June 2020 to September 2021) is being held in Marseille, France.
- International Union for the Conservation of Nature (IUCN)** conducts the World Conservation Congress which is held **every four years**. The **first** was conducted **in the United States in 1948**.

Highlights

1. Global Indigenous Agenda

- It calls for the secure recognition for collective **indigenous rights** and governance of lands, territories, waters, coastal seas and natural resources.
- It was **developed by IUCN's Indigenous Peoples Organisation Members**.
- It lays out 10 high-level proposals and outcomes relating to **five themes**: Indigenous governance; biodiversity conservation; climate action; post-Covid-19 recovery efforts and food security; and global policy setting.

2. IUCN Red List Update

- No. of Species on Nine Categories:** The updated [Red List](#) says that despite global improvement at the species

level, the number of species that are at high risk continues to grow. Some 902 species are officially **extinct**. 30% of the species that it assessed face the threat of extinction.

- Some 80 species are **extinct in the wild**, 8,404 are **critically endangered**, 14,647 are **endangered**, 15,492 are **vulnerable** and 8,127 are **near threatened**.
 - Some 71,148 species are of **least concern**, while 19,404 are **data deficient**. The ninth category is 'Not Evaluated'.
3. **Tuna Species:** Four of the seven most commercially fished tuna species have shown signs of recovery, namely **Atlantic bluefin tuna**, **Southern bluefin tuna**, **Albacore**, **yellowfin tunas**, **bigeye tuna**, **Pacific bluefin tuna**
 4. Indonesia's **Komodo dragon** is the world's largest living lizard and it has been moved from **vulnerable to endangered**.
 5. **Sustainable Tourism Initiative:** The programme is funded by Germany and includes implementing partners such as UNESCO and the Worldwide Fund for Nature (WWF). It will use tourism as an instrument to contribute to sustainable development in developing and emerging countries.

Renewable Energy and Land Use in India

Environment

Why in the news?

- Recently a report released by Institute for **Energy Economics and Financial Analysis (IEEFA)** named **Renewable Energy and Land Use in India by Mid-Century** suggested that **careful planning today can maximise the benefits** and minimise the costs of India's history-making **energy transition**.

About land utilization

- By 2050, India will have installed renewable energy-producing capacity on large swaths of land.
- In 2050, around 50,000-75,000 square kilometres of land will be used for solar energy generation, with an additional 15,000-20,000 square kilometres set aside for wind energy projects.
- In India, unlike Europe or the United States, power generation must compete with other land uses such as agriculture, urbanisation, human habitation, and environmental conservation.

Carbon emissions

- The consequent changes in land cover, including indirect consequences, are expected to result in net carbon emission of up to 50 grammes of carbon dioxide per kilowatt-hour (gCO₂/kwh).
- The amount of carbon released will be determined by the geography, the scale of expansion, the efficiency of solar technology, and solar parkland management techniques.

Impact on the ecosystem

- The use of land for renewable energy could place a strain on a variety of ecosystems. The labels zero impact regions, barren land, unused land, and the legal designation of wasteland all imply that these areas are worthless.
- Around 10% of India's land surface was covered by Open Natural Ecosystems (ONE), sometimes known as wastelands.
- Rajasthan, Madhya Pradesh, Maharashtra, Andhra Pradesh, and Gujarat have the longest spans.
- Some of these, on the other hand, feature the "greatest concentrations and diversity of large animal fauna," as well as supporting local inhabitants' livelihoods.
- Previously, the Supreme Court ordered that all solar power lines that cross through Great Indian Bustard habitats in Rajasthan and Gujarat be buried because overhead transmission lines could jeopardise the endangered species.

Recommendations

- Reduce the amount of environmental damage:
 - To reduce environmental harm, optimise the size of land used, its location, and its impact on human occupancy, agriculture, and natural resource protection.
- Land Use Reduction:
 - Promoting offshore wind, rooftop solar, and solar on aquatic bodies to reduce total land-use requirements for renewable energy.

- Land Evaluation:
 - By preventing unnecessary regional concentration and creating environmental and social standards for rating possible locations, land for renewable energy can be identified and assessed.
 - When assessing the location of renewable energy projects, policymakers and planners should rule out ONE with dense habitats.
- Agri-Voltaics Incentive:
 - The Indian Agri-Voltaics sector is receiving special attention, intending to provide benefits for farmers and incentivize Agri-Voltaics adoption in areas where crops, soils, and circumstances are adequate and yields may be maintained or enhanced.
 - Agri Voltaics combines the utilisation of land for agriculture with photovoltaic energy production.

India's First Dugong Conservation Reserve

Environment

Why in the news?

- **The Tamil Nadu State government has announced plans to set up a 500-sq km Dugong Conservation Reserve in Palk Bay. This is India's first dugong conservation reserve.**

About Dugongs

- **They are** also called the sea cow, is a **herbivorous mammal**. They can grow up to three meters long, weigh about 300 kilograms and live for about 65 to 70 years grazing on seagrass and coming to the surface to breathe.
- **Habitat:** They are found in over 30 countries and in India are seen in the Gulf of Mannar, Gulf of Kutch, Palk Bay, and the Andaman and Nicobar Islands.
- **Diet:** They are largely dependent on seagrass communities for subsistence and are thus restricted to the coastal habitats which support seagrass meadows.
- **Population:** According to a 2013 survey report of the Zoological Survey of India (ZSI), there were **only about 200 dugongs** in the **Gulf of Mannar in Tamil Nadu, the Andaman and Nicobar Islands and the Gulf of Kutch in Gujarat.**

Conservation Status of Dugongs

- IUCN Status: Vulnerable
- Indian Wild (Life) Protection Act, 1972: Schedule I
- CITES: Appendix I

Threats faced by Dugongs

- Loss of seagrass habitats, water pollution and degradation of the coastal ecosystem due to developmental activities have made life tough for Dugongs. Dugongs are also victims of accidental entanglement in fishing nets and collision with boats, trawlers.

Thawing Permafrost

Environment

Why in the news?

- Latest IPCC report warns that increasing global warming will result in reduction of arctic permafrost which will release greenhouse gases like CO₂ & Methane which will further melt it

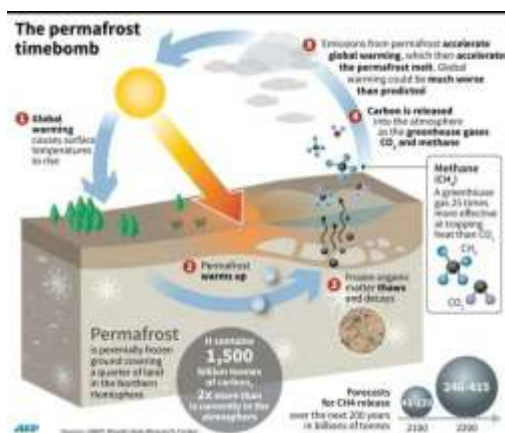
About Permafrost Thawing

- As Earth's climate warms, the permafrost is thawing. That means the ice inside the permafrost melts, leaving behind water and soil.

Consequences of Permafrost Thawing

- **Impact Infrastructure:** When permafrost is frozen, it's harder than concrete. However, thawing permafrost can destroy houses, roads and other infrastructure.

- **Altered landscapes:** Thawing permafrost alters natural ecosystems in many ways as well. It can create thermokarsts, areas of sagging ground, which may alter the flow of rivers and streams, degrade water quality.
- **Release of Greenhouse gases & Climate change:** When permafrost is frozen, plant material in the soil—called organic carbon—can't decompose, or rot away. As permafrost thaws, microbes begin decomposing this material. This process releases greenhouse gases like carbon dioxide and methane to the atmosphere.
- **Risk of disease:** When permafrost thaws, so do ancient bacteria and viruses in the ice and soil. These newly-unfrozen microbes could make humans and animals very sick. Scientists have discovered microbes more than 400,000 years old in thawed permafrost, which can be a reason for a new pandemic.



About IPCC

- It is the international body for assessing the science related to climate change.
- It was created in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP).
- The IPCC currently has 195 members.
- The IPCC provides regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.
- For the assessment reports, IPCC scientists volunteer their time to assess the thousands of scientific papers published each year.
- The IPCC does not conduct its own research.

Sea Cucumbers

Environment

Why in the news?

- Indian Coast Guard (ICG) has seized two tonnes in the Gulf of Mannar and Palk Bay areas in Tamil Nadu.

About sea cucumbers

- They are **marine invertebrates** that live on seafloor found generally in tropical regions.
- Sea cucumbers are echinoderms.
- It uses its tentacles to capture plankton and other tiny particles.
- They are an integral part of **coral ecosystem** as one of the main by-products of sea cucumbers digestion of sand is **calcium carbonate** (essential for survival of coral reefs).
- They are crucial to maintain the balance of ocean habitats by acting like **garbage collectors** of the ocean ecosystem.
- Sea cucumbers are in high demand in **China and Southeast Asia**, where they are consumed as food and used in medicine.
- It is treated as an endangered species and is placed in Schedule I of Wildlife protection Act.
- Lakshadweep has created the **world's first conservation area for sea cucumbers**.



Physical characteristics

- No limbs or eyes, or blood.
- Sea cucumbers **feed on tiny particles like algae, minute aquatic animals, or waste materials**.

Why in the news?

- Recently, the World Health Organisation (WHO) released a revised Global Air Quality Guidelines announcing more stringent limits for six pollutant categories —particulate matter (PM), ozone (O₃), nitrogen dioxide (NO₂) sulfur dioxide (SO₂) and carbon monoxide (CO).
- The guidelines recommend new air quality levels to protect the health of populations, by reducing levels of key air pollutants, some of which also contribute to climate change.
- These guidelines are not legally binding.
 - PM_{2.5}: The upper limit of annual PM_{2.5} as per the 2005 standards is 10 micrograms per cubic metre. It has now been revised to 5 micrograms per cubic metre.
 - The 24-hour ceiling used to be 25 micrograms but has now dropped to 15.
 - PM₁₀: The PM₁₀, or particulate matter of size exceeding 10 micrograms, the upper limit is 20 micrograms and has now been revised to 15 whereas the 24-hour value has been revised from 50 to 45 micrograms.

Implications

- These new guidelines will have major implications for public health.
 - They provide a practical tool for improving air quality around the world and a robust evidence-based for developing national and local air quality standards.
 - It guides legislation and policies, in order to reduce levels of air pollutants and decrease the burden of disease that results from exposure to air pollution across the world.

Impact on India

- The move doesn't immediately impact India as the National Ambient Air Quality Standards (NAAQS) don't meet the WHO's existing standards.
- The government has a dedicated National Clean Air Programme that aims for a 20% to 30% reduction in particulate matter concentrations by 2024 in 122 cities, keeping 2017 as the base year for the comparison of concentration. These are cities that don't meet the NAAQS when calculated from 2011-2015.

Standards for a host of chemical pollutants

- India's NAAQs — last revised in 2009 — specify an annual limit of 60 micrograms per cubic metre for PM₁₀ and 100 for a 24-hour period.
- Similarly, it's 40 for PM_{2.5} annually and 60 for a 24-hour period. There are also standards for a host of chemical pollutants including sulphur dioxide, lead and nitrogen dioxide.

Blue Flag Certification**Environment****Why in the news?**

- The international eco-label "Blue Flag", has accorded the Blue Flag Certification for 2 new beaches this year —Kovalam in Tamil Nadu and Eden in Puducherry beaches. With this India now has 10 International Blue Flag beaches.

About Blue Flag Beaches

- The 'Blue Flag' beach is an 'eco-tourism model' and marks out beaches as providing tourists and beachgoers clean and hygienic bathing water, facilities/amenities, a safe and healthy environment, and sustainable development of the area.
- The certification is accorded by the Denmark-based Foundation for Environment Education.
- It started in France in 1985 and has been implemented in Europe since 1987, and in areas outside Europe since 2001 when South Africa joined.
- It has 33 stringent criteria under four major heads for the beaches, that is, (i) Environmental Education and Information (ii) Bathing Water Quality (iii) Environment Management and Conservation and (iv) Safety and Services.

Beaches in India

- Shivrajpur (Dwarka-Gujarat)
- Ghoghla (Diu)



- Kasarkod (Karnataka) [NOT Kasargod which is in Kerala] and
- Padubidri (Karnataka)
- Kappad (Kerala)
- Rushikonda (AP)
- Golden Beach (Odisha) and
- Radhanagar (A&N Islands)

World Rhino Day

Environment

Why in the news?

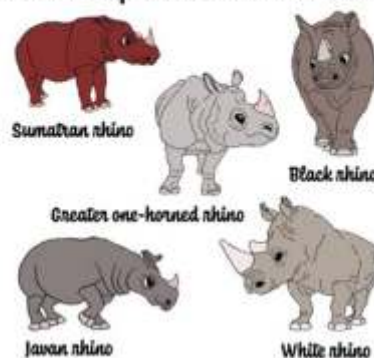
- On the occasion of World Rhino Day (**22nd September**) the "world's largest stockpile" of rhino horns was consigned to flames in eastern Assam's Bokakhat (headquarters of the Kaziranga National Park) to dispel the myth that have driven the illegal horn trade and the poaching of the animal.

About World Rhino Day

- The World Wildlife Fund (WWF) - South Africa was the first to announce it in 2010. The rhinoceros' species is on the verge of extinction as a result of decades of poaching and habitat loss.
- White and black rhinos can be found in Africa, while greater one-horned, Javan, and Sumatran rhinos can be found in Asia.
- IUCN Red List Status:
 - White Rhino: Near Threatened.
 - Black Rhino: Critically endangered.
 - Greater One-Horned: Vulnerable.
 - Javan: Critically Endangered
 - Sumatran Rhino: Critically Endangered.
- **Objectives:** Strengthening protection, expanding the distribution range, conducting research and monitoring, and ensuring adequate and consistent funding are all goals.

WORLD RHINO DAY 22 September Celebrating

the FIVE species of rhinoceros



About Greater One-Horned Rhinoceros

- It is the biggest rhino species and is also known as the Indian rhino. A single black horn and a grey-brown hide with skin wrinkles distinguish it. The world's largest population of Greater One-Horned Rhinoceros may be found in India.
- They mostly graze, and their diet consists nearly exclusively of grasses, as well as leaves, shrub and tree branches, fruit, and aquatic plants.
- There are around 2,600 Indian rhinos in India now, with more than 90% of the population residing in Assam's Kaziranga National Park.

Habitat of Greater One-Horned Rhinoceros

- The Indo-Nepal terai, as well as northern West Bengal and Assam, are home to the species.
- Rhinos are mostly found in Assam's Kaziranga NP, Pobitora WLS, Orang NP, Manas NP, West Bengal's Jaldapara NP and Gorumara NP, and Uttar Pradesh's Dudhwa TR.
- Status of Protection:
 - IUCN Red List: Vulnerable.
 - CITES: Appendix-I
 - Wildlife Protection Act, 1972: Schedule I.

India's Conservation Efforts

- **Declaration on Asian Rhinos in New Delhi 201'**: A statement for the conservation and protection of the species has been signed by India, Bhutan, Nepal, Indonesia, and Malaysia.



Ignite IAS



igniteias.com

19

- **All rhinos' DNA profiles:** The initiative will aid in the prevention of rhino poaching and the collecting of evidence in rhino-related wildlife crimes.
- The **National Rhino Conservation Strategy (NRCS)** aims to protect rhinos across the country.
- It was established in 2019 with the goal of protecting the larger one-horned rhinoceros.
- **Vision 2020 for the Indian Rhino:** By the year 2020, the goal was to have a natural population of at least 3,000 larger one-horned rhinos distributed over seven protected areas in Assam, India.

Bio-Decomposer

Environment

Why in the news?

- The Delhi government began spraying the Pusa bio-decomposer across fields in the city to prevent stubble burning.

About decomposer

- Bio-decomposer generally, an activator or accelerator is a substance that activates, accelerates or increases the total output of the process.
- Microbial cultures added to organic materials or residues to hasten their decomposition act as biological accelerators. **Decomposers produce enzymes**, which lower the activation energy **necessary to break chemical bonds in organic materials**.
- It is formulation of **fast decomposing fungus, which converts biomass** its includes grass windrows/clippings, animal wastes, fields straw after crop harvest and weeds, etc. in fertile humus gradually.
- It will take 60-90 days for conversion of agricultural wastes in powder form.

NET ZERO Emissions

Environment

Why in the news?

- Net zero refers to the balance between the amount of greenhouse gas produced and the amount removed from the atmosphere. We reach net zero when the amount we add is no more than the amount taken away.

India's obligations towards accepting net-zero target

- National interest due to vulnerability: India itself has a national interest in ambitious global and national climate action.
- It is among the most vulnerable countries to climate change and, therefore, should be among the more active against the threats.
- Influence as a rising power: Second, as a rising power, India naturally seeks stronger influence globally.
- Being an outlier on the global challenge facing our generation does not support this aim.
- Drag on international diplomacy: India's reluctance to commit to net-zero will become a significant drag on India's international diplomacy.
- This applies not just to key relationships like with the U.S., but also with much of the Group of 77 (G77) states, who are increasingly concerned to see climate action, and in multilateral groupings such as the United Nations and ASEAN-APEC.
- Interconnected with the economy: There is no longer a trade-off between reducing emissions & economic growth.
- For example, the U.K. has reduced emissions by over 40% and grown its economy by over 70% since 1990.
- Solar energy costs have fallen 90% in recent years, providing the cheapest electricity in India ever seen.
- Also, given the negative impacts, addressing climate change in India's economic development is now central to success, not an added luxury to consider.
- The transition of the global economy to net zero emissions is the biggest commercial opportunity in history.
- In just the energy sector alone, an estimated \$1.6 to \$3.8 trillion of investment is required every year until 2050.

India's climate actions

- India is set to significantly exceed its Paris Agreement commitment of reducing the emissions intensity of its GDP by 33-35% below 2005 levels by 2030.



- Emphasis on renewable: India is impressing the world with its leading roll-out of renewable energy and target for 450GW by 2030, linked to its leadership on the International Solar Alliance and recent national hydrogen strategy.
- Corporates: Indian corporates are also stepping up, with the Tata Group winning awards on sustainability, Mahindra committing to net-zero by 2040, and Reliance by 2035.
- Notwithstanding reasonable arguments about historical responsibility, per capita emissions, and equity, India's national interests in climate action are now engaged in ways that go significantly beyond waiting for donor support to drive ambition.

World Freed From Toxic Lead: UNEP

Environment

Why in the news?

- **The World has achieved a landmark global success. It is formally announced by the United Nations Programme on Environment (UNEP) that not a single fuel outlet across the globe is now selling leaded automotive petrol anymore.**

About Leaded Petrol

- Tetraethyl-lead (TEL) is a petro-fuel additive, first being mixed with petrol beginning in the 1920s as a patented octane rating booster that allowed engine compression to be raised substantially.
- This in turn caused increased vehicle performance and fuel economy.
- The practice of adding tetraethyl lead to petrol had spread widely to all countries soon after its anti-knock and octane-boosting properties were discovered.
- TEL is still used as an additive in some grades of aviation gasoline.

Issues with leaded petrol

- Lead is toxic, affects multiple body systems and is particularly harmful to young children.
- It affects the brain, liver, kidneys, and bones. Lead is measured in the blood to understand exposure.
- Lead in bone is released into the blood during pregnancy and becomes a source of exposure to the developing foetus.
- More recent research has indicated that lead can damage the infant brain even at blood levels as low as 5 microunits per decilitre (μdl).

Efforts by India:

- The process of eliminating lead in the petrol had started as early as 1994, which got completed in 2000.
- Unleaded petrol was introduced across India in the year 1995.
- The introduction of unleaded petrol was mandated in April 2000 for the entire country.
- **India has moved towards other anti-knocking additives which are relatively less toxic.**
- After the lead phase out, Indian refineries took voluntary steps to not use MMT (**Methylcyclopentadienyl manganese tricarbonyl**) and Methyl tertiary butyl ether (MTBE).

Curbing on other emission sources:

- TEL is the largest source of lead pollution, but other sources require urgent action too— such as lead in paints, leaded batteries, and lead in household items.
- Backyard smelting and unauthorised reprocessing of lead-acid batteries is also a point of concern. The draft for **Battery Waste Management Rules, 2020** is working towards making the recycling process a more responsible one, by functionalizing the idea of "**Extended Producer Responsibility**".

Greener Future:

- The "**global vehicle fleet**" contribute to air, water and soil pollution, as well as to the climate crisis. The transport sector is responsible for nearly 25% of energy-related global carbon emissions and is set to grow to 33% by 2050.
- Already many countries have started to transition to electric vehicles, about 1.2 billion new vehicles are expected to hit the road in coming decades, and many of these will still be using the traditional fossil fuels, especially in developing countries.
- The accelerated transition towards electric vehicles and reducing its cost of manufacturing hold the key to a greener future.



Why in the news?

- Odisha's Kendra Para district, has earned the distinction of being the only district in India where one can find all three species of crocodiles such as Salt-water, gharial, Mugger

Key-facts

- Odisha's Kendra Para district has already claimed fame for its successful conservation programme for salt-water or estuarine crocodiles at the Bhitarkanika National Park.
- The national park, having 1,768 estuarine crocodiles, is home to 70 per cent of India's such crocodiles, the conservation of which was started way back in 1975.
- It is the second largest mangrove forest in India after Sunder bans, hosts the largest population of saltwater crocodiles, including white albino crocodiles.
- It is listed as a Ramsar Site.
- The crocodilian family consists of 27 different species that are subdivided into three families: True crocodiles, alligators and caimans and gharials.
- All three species of crocodilians in the river systems of Odisha:
 - Gharial (*Gavialis gangeticus*)**, listed as a Critically Endangered by IUCN.
 - Mugger crocodile (*Crocodylus palustris*)**, listed as vulnerable by IUCN.
 - Saltwater crocodile (*Crocodylus porosus*)**, listed as least concern by IUCN

Bhitarkanika Mangroves Conservation

Environment

Why in the news?

- German government agency, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), will conserve mangrove and biodiversity of Odisha's Bhitarkanika National Park, India's second-largest mangrove forest.

About the project

- The project aims to support implementation of livelihood-oriented conservation and restoration activities and train community members in alternative sustainable livelihoods.
- The given ecosystem-based sustainable livelihood measures will be adopted— such as
 - mangrove restoration
 - sustainable fisheries
 - handicraft-based activities
 - science-led horticulture
- The project is supported by **International Climate Initiative (IKI)** of German Federal Ministry for the **Environment, Nature Conservation and Nuclear Safety (BMU)**.

Major Mangroves forests in India

- Sundarbans Mangrove Forest, West Bengal
- Bhitarkanika Mangroves, Odisha
- Godavari-Krishna Mangroves, Andhra Pradesh
- Gulf of Kutch Mangroves, Gujarat
- Mangroves of Thane Creek, Maharashtra
- Pichavaram Mangroves, Tamil Nadu
- Chorao Island Mangroves, Goa
- Baratang Island Mangroves, Andaman

Bhitarkanika Indian Wildlife Sanctuary

- Spread in a vast area of 672 Kms Bhitarkanika Indian Wildlife Sanctuary Orissa is the 2nd largest Mangrove ecosystems of India.
- The National park is essentially a network of creeks and canals which are inundated with waters from rivers **Brahmani, Baitarani, Dhamra and Patasala** forming a unique ecosystem.

- It is the breeding place for the endangered salt water crocodiles which are the prime attractions of the sanctuary.
- The **Gahirmatha Beach** which forms the boundary of the sanctuary in the east is the largest colony of the **Olive Ridley Sea Turtles**.

River Bhogdoi

Environment

Why in the news?

- **The rampant coal mining in Nagaland, coupled with waste discharge from tea estates and encroachment have been sounding death knells for River Bhogdoi in Assam.**

About the river

- River Bhogdoi is one of the south bank tributaries of the mighty river Brahmaputra.
- It originates from **Mokokchung** in Nagaland where it is also known as Tsujenyong nullah.
- The total catchment area of the inter-state river (flowing between Assam and Nagaland) is 1,545 square kilometres and travels 160 kilometres before joining Dhansiri river near its confluence with Brahmaputra.
- In 2019, the Union Ministry of Environment, Forest and Climate Change declared Bhogdoi as one of the most polluted rivers in Assam and 351st among the polluted rivers in the country.

Reasons behind the situation

- Massive encroachments along the river bank
- Laxity of administration in keeping a check on encroachments
- Disposing of human excreta and cremating dead bodies
- Water pollution

Biological Oxygen Demand (BOD)

- Biochemical oxygen demand is the amount of oxygen consumed by bacteria and other microorganisms while they decompose organic matter under aerobic conditions.
- The high BOD (Biological Oxygen Demand) indicates low water quality and less oxygen for aquatic life.

River Rights Highlighted at IUCN World Conservation Congress

Environment

Why in the news?

- **In the ongoing International Union for the Conservation of Nature (IUCN) World Conservation Congress, in Marseille, France, the issue of 'right of rivers' was highlighted.**
- **Universal Declaration of the Rights of Rivers**
- The press conference also marked approximately one year since the formal launch of the **Universal Declaration of the Rights of Rivers**.
- The declaration is a civil society initiative to define the basic rights to which all rivers are entitled, according to a note by non-profit, International Rivers.

Rights of rivers

- The rights of rivers mean that the ecological causes and conditions making up the natural habitat are to be protected to maintain a river's identity and integrity.
- The concept pushes for a healthy relationship respecting the river as an ecosystem.

Recognition of rights

- In the one year since the declaration, rights have been recognised or declared for the
 - Boulder Creek watershed in the United States
 - the Magpie river in Canada
 - waterways in Orange County in the US
 - the Alpayacu river in Ecuador



- the Paraná river and its wetlands in Argentina
- Some 1,700 individuals and 211 organisations from over 40 countries have pledged support to the declaration.

Recognized rivers

- The rights to recognise river as living entities rather than mere human property started in 2008. That year, **Ecuador** became the first country to constitutionally recognize the **Rights of Nature**.
- In 2017, a treaty agreement between the **Whanganui Iwi (a Māori tribe)** and the New Zealand government recognised the **Whanganui river** as a legal person
- Also in 2017, a Constitutional Court decision in Colombia recognised the rights of the **Atrato river**.
- A court in Uttarakhand recognised the **Ganga and Yamuna** rivers as legal persons with rights. This was later stayed.

Oriental White- Backed Vultures

Environment

Why in the news?

- In October 2020, eight critically endangered Oriental white-backed vultures were released into the wild for the first time in India from the Jatayu Conservation and Breeding Centre (JCBC) situated at the Bir Shikargah Wildlife Sanctuary in Shivalik ranges of the Himalayan foothills in Haryana's Pinjore.

About Oriental white-backed vultures

- The Oriental white-backed vultures that were released in the wild are resident birds and not migratory, so they largely stay within a radius of 50-100 km of the breeding centre.
- It is an Old World vultures in the family Accipitridae, which also includes eagles, kites, buzzards and hawks.
- It is closely related to the European Griffon Vulture, *fulvus*.
- In 2016, the centre released two Himalayan Griffon vultures, bred in captivity for 10 years, into the wild.



Cause of Concerns

- Once very common, vultures are on the verge of extinction in India. Uncontrolled veterinary usage of non-steroidal anti-inflammatory drugs (NSAID), including Aceclofenac, Ketoprofen and Nimesulide, and the illegal use of the banned drug Diclofenac, are toxic to vultures if they feed on carcasses within 72 hours of the drugs' administration to such livestock.
- The vulture population in India was estimated at 40 million once. Populations of three species of vultures — the Oriental white-backed vulture, the Long-billed vulture and the Slender-billed vulture — have declined by over 97% since the 1990s, and that of the Oriental white-backed vultures by a drastic 99.9%.
- It has been established that the vulture population was decimated by the veterinary usage of Diclofenac in India.

Use of Diclofenac

- In 2006, the veterinary use of Diclofenac was banned.
- Later, in 2015, after the Government of India placed restrictions on the size of Diclofenac vials for human consumption to just 3 ml, the prevalence of Diclofenac in cattle carcasses was reduced to less than 2%, which is safe for vultures.
- But while the use of Diclofenac has gone down, its unlawful usage is still reported.
- Moreover, the continued use of vulture toxic drugs, including Aceclofenac, Ketoprofen and Nimesulide in livestock treatment, could pose a major impediment to the reintroduction programme.
- Aceclofenac is a "prodrug" of Diclofenac, which rapidly metabolises into Diclofenac after it's administered to livestock.
- The key reason behind the use of Diclofenac is the fact that it's a very low-cost drug.

Vulture Action Plan 2020-25

- Conservation of vultures in the country
- Launched by MOEFCC
- There are nine recorded species of vultures in India — the Oriental white-backed, long-billed, slender-billed, Himalayan, red-headed, Egyptian, bearded, cinereous and the Eurasian Griffon.
- National Vulture Survey once in four years
- Reason: Vulture numbers saw a steep slide — as much as 90 per cent in some species — in India since the 1990s in one of the most drastic declines in bird populations.

IUCN Status

- Critically-Endangered
 - Oriental white-backed,
 - Long-billed
 - Slender-billed vultures
 - Red-headed vultures
- Endangered
 - Egyptian vulture is listed as 'endangered' while the
- Near Threatened
 - Himalayan, bearded and cinereous vultures
- About Vulture Conservation Breeding Centre (VCBC)
- The VCBC was established in 2001 to investigate the devastating declines in India's Gyps species of vultures.
- It's a collaborative initiative between the BNHS and the Haryana Forest and Wildlife Department, to save the three resident Gyps species of vultures in the State the Oriental white-backed vulture, the Long-billed vulture, and Slender-billed vulture from looming extinction.

Jatayu conservation breeding centre (JCBC)

- **About Jatayu Conservation and Breeding Centre:** It is the first Vulture breeding facility in Asia.
 - JCBC was established near Pinjore in 2004. Since then, the centre has successfully released its one pair of Himalayan Griffon vultures in 2016.
- **Location:** Jatayu conservation breeding centre (JCBC) for vultures is situated just outside Bir Shikargah Wildlife Sanctuary in Morni hills of the Shivalik ranges around 8km from the city of Pinjore off the busy Chandigarh-Shimla highway. It is situated within BirShikargah Wildlife in the town of Pinjore of Panchkula district, Haryana.
- **Purpose:** It was established for the breeding and conservation of Indian vultures and House sparrows.
- **Implementing Organizations:** JCBC is run by the Forests Department, Haryana and Bombay Natural History Society (BNHS) with the help of the British charity Royal Society for the Protection of Birds (RSPB).
- Jatayu Conservation and Breeding Centre hosts and works towards breeding four environmentally threatened species. Their respective threatened status in the IUCN red data book is as follows—
 - Indian vulture (also known as long-billed Vultures)- Critically Endangered
 - Slender-billed vultures- Critically Endangered
 - Himalayan Vultures (also known as Himalayan griffon vultures) – Near Threatened
 - Oriental white-backed vultures– Critically Endangered

Global Methane Pledge

Environment

Why in the news?

- The US and the EU made a joint pledge to cut global methane emissions by almost a third in the next decade.

Key-highlights of the Pact

- The pact between the US and the EU sets a target of cutting at least 30% from global methane emissions, based on 2020 levels, by 2030.

- If adopted around the world, this would reduce global heating by 0.2C by the 2040s, compared with likely temperature rises by then.
- The world is now about 1.2C hotter now than in pre-industrial times.

Impact of Methane gas

- More Global Warming Potential: It has a global warming capability that is nearly 80-85 times that of carbon dioxide.
- As a result, it's an important objective for lowering global warming faster while also attempting to reduce other greenhouse gases.
- Increased emissions are generating an increase in tropospheric ozone air pollution, which is responsible for more than one million premature deaths each year.

What are the initiatives in India

- The Indian Council of Agricultural Research (ICAR) has created an anti-methanogenic feed supplement called 'Harit Dhara' (HD) that can reduce cattle methane emissions by 17-20% while also increasing milk production.
- The India Greenhouse Gas Program is a voluntary industry-driven framework to quantify and regulate greenhouse gas emissions, led by WRI India (a non-profit organisation), the Confederation of Indian Industry (CII), and The Energy and Resources Institute (TERI).
- The initiative develops comprehensive measurement and management tools to help India's businesses and organisations become more lucrative, competitive, and sustainable.
- The National Action Plan on Climate Change (NAPCC) was launched in 2008 with the goal of raising public awareness about climate change and the activities that may be taken to combat it among members of the public, government agencies, scientists, industry, and communities.
- India transitioned from Bharat Stage-IV (BS-IV) to Bharat Stage-VI (BS-VI) emission standards.

Who slashes Guideline Limits on Air Pollution From Fossil Fuels

Environment

Why is in the news?

- The World Health Organization has cut its recommended limits for air pollution, for the first time since 2005.

Key highlights

- The new recommendations targeting pollutants including particulate matter and nitrogen dioxide, both of which are found in fossil fuel emissions.
- **NO₂**: The new limit for nitrogen dioxide (No₂), mainly produced by diesel engines, is now 75% lower.
- **PM 2.5**: Under the new guidelines, the WHO halved the recommended limit for average annual PM_{2.5} level from 10 micrograms per cubic meter to 5.
- **PM 10**: It also lowered the recommended limit for PM₁₀ from 20 micrograms to 15.
- These guidelines not legally-binding.

WHO's 2005 guideline

- The 2005 WHO Air quality guidelines offer global guidance on thresholds and limits for key air pollutants that pose health risks.
- The Guidelines indicate that by reducing particulate matter (PM₁₀) pollution from 70 to 20 micrograms per cubic metre (µg/m), we can cut air pollution-related deaths by around 15%.

NAAQS

- India last revised its **National Ambient Air Quality Standards** in 2009 —setting annual averages for
- PM_{2.5} (40 µg/m³)
- PM₁₀ (60 µg/m³)
- No₂ (40 µg/m³)

Why in the News

- Ministry of Power has issued an order for setting up of **District Level Committees**.

About District Level Committees

- They shall exercise oversight over **all power related schemes** of Government of India and also its **impact** on the provision of services to people.
- This is done in order to ensure the **involvement of people** in the process of power sector **reforms** and their **implementation**.
- All the States/UTs to notify and ensure establishment of these Committees, under intimation to Ministry of Power.
- The Committee will meet at **District Headquarters** at least once in **3 months** to **review** and **coordinate overall development** of power supply infrastructure in the district.

Composition of The Committee

- Chairperson** - Most Senior MP in district
- Co-chairpersons**- Other MPs in district
- Member Secretary**- District Collector
- Members** - Chairperson/President of the District Panchayat/ MLAs of the district

Power Sector at a glance

- 100%** FDI is permitted under automatic route.
- Electricity is a **concurrent** subject.
- In the past 5 years, almost **2 lakh crore** were provided under Deendayal Upadhyaya Gram Jyoti Yojana (**DDUGJY**), Integrated Power Development Scheme (**IPDS**), Pradhan Mantri Sahaj Bijli Har Ghar Yojana (**SAUBHAGYA**) etc.
- This is to ensure universal access by electrifying every village, hamlet and household; setting up more substations, upgrading existing substations, for High Tension/Low Tension Lines, Transformers etc. for strengthening the Distribution systems.

Why in the news?

- Ladakh administration has decided to issue "**Resident Certificate**" only to the **Permanent Resident Certificate** holders of the region, unlike J&K where new domicile laws allowed outsiders too to apply for jobs, land and other facilities.

About the certificate

- Any person who possesses a Permanent Resident Certificate (PRC) issued by the competent authority (Tehsildars) in the districts of Leh and Kargil or belongs to a category of persons who would have been eligible to be issued PRC shall be eligible to receive the 'Resident Certificate'.
- It is to **temporarily define** 'Resident of UT of Ladakh' for the purpose of **appointment to all the non- gazetted posts** borne on the establishment of any department or service of administration of Ladakh.

Permanent Residence Certificate (PRC)

- It is a kind of domicile certificate which helps people in availing domicile linked quotas in **government jobs** and admission in **educational institutions**.
- For obtaining a ration card of the respective state, cast the vote in elections, availing the benefits of **various schemes** of the state or to claim **scholarships** of the State.
- PRC is issued by states like Arunachal Pradesh, Assam, Mizoram, Meghalaya, Tripura & Manipur.

Other Related News

- J&K government has decided to **implement** the **Forest Rights Act (FRA), 2006**, which will elevate the socio-economic status of a sizable section of the 14-lakh-strong population of tribals and nomadic communities.
- The Administration also enhanced the upper age limit for entry into government services against all posts. The age relaxation would be a **one-time exception** and this shall remain in force for **2 years**

FASTER System

Polity & Governance

Why in the news?

- Supreme Court has introduced a new "**Fast and Secured Transmission of Electronic Records**" (**FASTER**) system by which its crucial decisions, including orders on bail and stay of arrest, can be communicated **electronically** to prison authorities and investigating agencies through a secure channel.

Significance

- It ensures that Prisoners granted bail will **no longer have to wait for the physical copy** of the order to reach jails for their release.
- This will ensure the effective implementation of **Article 21 (right to life)**.
- It is high time to **utilise information & communication technology tools** for efficient transmission of court's orders.
- **Prevent unnecessary arrests** and custody of people even after the court had already granted them its protection.

Collegium Rush

Polity & Governance

Why in the news?

- The Supreme Court Collegium, led by Chief Justice of India (CJI) N.V. Ramana, is proceeding with staggering speed to fill the vacancies and strengthen the judiciary. The past one month has seen the Collegium recommend over 100 judicial appointments, several transfers and elevations of judges, advocates and Chief Justices.

EVOLUTION OF THE SYSTEM:

- **First Judges Case (1981):**
 - It declared that the "primacy" of the Chief Justice of India (CJI)'s recommendation on judicial appointments and transfers can be refused for "cogent reasons."
 - The ruling gave the Executive primacy over the Judiciary in judicial appointments for the next 12 years.
- **Second Judges Case (1993):**
 - SC introduced the Collegium system, holding that "consultation" really meant "concurrence".
 - It added that it was not the CJI's individual opinion, but an institutional opinion formed in consultation with the two senior-most judges in the SC.
- **Third Judges Case (1998):**
 - SC on President's reference expanded the Collegium to a five-member body, comprising the CJI and four of his senior-most colleagues.
 - The SC collegium is headed by the CJI and comprises four other senior most judges of the court.
 - A HC collegium is led by its Chief Justice and four other senior most judges of that court.
 - Names recommended for appointment by a HC collegium reaches the government only after approval by the CJI and the SC collegium.
 - Judges of the higher judiciary are appointed only through the collegium system and the government has a role only after names have been decided by the collegium.
 - The government's role is limited to getting an inquiry conducted by the Intelligence Bureau (IB) if a lawyer is to be elevated as a judge in a High Court or the Supreme Court.
 - Intelligence Bureau (IB): It is a reputed and established intelligence agency. It is authoritatively controlled by the Ministry of Home Affairs.
 - It can also raise objections and seek clarifications regarding the collegium's choices, but if the collegium reiterates the same names, the government is bound, under Constitution Bench judgments, to appoint them as judges.

Issues with the system

- **Unaccountable:** Selection of judges by collegium is undemocratic since judges are not accountable to the people and representative of peoples i.e. executive or legislative.
- **Autocratic:** Collegium has been evolved by the judiciary itself for retaining the power to select judges by itself. There is no accountability to collegium system as judges select their own judges.
- **Non-transparency and opaque:** There is no official procedure for selection or any written manual for functioning. Selective publication of records of meetings with no eligibility criteria of judges, bring opacity in collegium's functioning.
- **Promotes nepotism:** Sons and nephews of previous judges or senior lawyers tend to be popular choices for judicial roles. Thus it encourages mediocrity in the judiciary by excluding talented ones.
- **Inefficient:** Collegium has not been able to prevent the increasing cases of vacancies of judges and cases in courts.
- **Ignores judicial guidelines:** The recent supersession in appointment is inconsistent with the view of the Supreme Court in the Second Judge's case, 1993, where it laid that, seniority amongst Judges in their High Courts and on all India basis is significant and should be given due consideration while making appointments of Judges to the Supreme Court.
- **Against established conventions:** The convention of seniority has long been held as the procedure for appointments but supersession ignores and abdicates this convention, creating space for subjectivity and individual bias in appointments.
- **No reforms made after fourth judges case:** After striking down the NJAC, the court did nothing to amend the NJAC Act or add safeguards to it that would have made it constitutionally valid. Instead, the court reverted to the old Collegium-based appointments mechanism.

NCLT AND ITAT

Polity & Governance

Why in the news?

- The government has appointed 31 people as judicial, technical and accountant members at the NCLT and the ITAT, amid the Supreme Court flagging concerns about vacancies in various tribunals.

NCLT

- National Company Law Tribunal is the outcome of the **Eradi Committee**. NCLT was intended to be introduced in the Indian legal system in 2002 under the framework of Companies Act, 1956 however, due to the litigation with respect to the constitutional validity of NCLT which went for over 10 years, therefore, it was notified under the Companies Act, 2013.
- It is a **quasi-judicial authority** incorporated for dealing with corporate disputes that are of civil nature arising under the Companies Act.
- NCLT **works on the lines of a normal Court of law** in the country and is obliged to fairly and without any biases determine the facts of each case and decide with matters in accordance with principles of natural justice and in the continuance of such decisions, offer conclusions from decisions in the form of orders.
- The orders so formed by NCLT could assist in **resolving a situation, rectifying a wrong done by any corporate or levying penalties and costs and might alter the rights, obligations, duties or privileges** of the concerned parties. The Tribunal isn't required to adhere to the severe rules with respect to appreciation of any evidence or procedural law.

MAJOR FUNCTIONS OF NCLT

Registration of Companies

- The new Companies Act, 2013 has enabled questioning the legitimacy of companies because of specific procedural errors during incorporation and registration.
- NCLT has been empowered in taking several steps, from cancelling the registration of a company to dissolving any company.
- The Tribunal could even render the liability or charge of members to unlimited.
- With this approach, NCLT can de-register any company in specific situations when the registration certificate has been obtained by wrongful manner or illegal means under section 7(7) of the Companies Act, 2013.

Transfer of shares

- NCLT is also empowered to hear grievances of rejection of companies in transferring shares and securities and under section 58- 59 of the Act which were at the outset were under the purview of the Company Law Board.
- Going back to Companies Act, 1956 the solution available for rejection of transmission or transfer were limited only to the shares and debentures of a company but as of now the prospect has been raised under the Companies Act, 2013 and the now covers all the securities which are issued by any company.

Deposits

- The Chapter V of the Act deals with deposits and was notified several times in 2014 and Company Law Board was the prime authority for taking up the cases under said chapter. Now, such powers have been vested with NCLT.
- The provisions with respect to the deposits under the Companies Act, 2013 were notified prior to the inception of the NCLT. Unhappy depositors now have a remedy of class actions suits for seeking remedy for the omissions and acts on part of the company that impacts their rights as depositors.

Power to investigate

- As per the provision of the Companies Act, 2013 investigation about the affairs of the company could be ordered with the help of an application of 100 members. Moreover, if a person who isn't related to a company and is able to persuade NCLT about the presence of conditions for ordering an investigation then NCLT has the power for ordering an investigation.
- An investigation which is ordered by the NCLT could be conducted within India or anywhere in the world. The provisions are drafted for offering & seeking help from the courts and investigation agencies and of foreign countries.

Freezing assets of a company

- The NCLT isn't just empowered to freezing the assets of a company for using them at a later stage when such company comes under investigation or scrutiny, such investigation could also be ordered on the request of others in specific conditions.

Converting a public limited company into a private limited company

- Sections 13-18 of the Companies Act, 2013 read with rules control the conversion of a Public limited company into the Private limited company, such conversion needs an erstwhile confirmation from the NCLT.
- NCLT has the power under section 459 of the Act, for imposing specific conditions or restrictions and might subject granting approvals to such conditions.

Income Tax Appellate Tribunal

- **Establishment:** Income Tax Appellate Tribunal (ITAT) is a **quasi-judicial institution** set up in 1941 under section 5A of the Income Tax Act, 1922.
- Initially, it had three Benches at Delhi, Kolkata (Calcutta) and Mumbai (Bombay).
- But presently ITAT has 63 Benches at 27 different stations covering almost all cities having a seat of the High Court.
- ITAT is referred to as '**Mother Tribunal**' being the oldest Tribunal in the country.
- **Functions:** It deals with appeals under the Direct Taxes Acts namely, the Income-tax Act, 1961.
- The orders passed by the ITAT are final, an appeal lies to the High Court only if a substantial question of law arises for determination.

Committee for Development of National Curriculum

Polity & Governance

Why in the news?

- The Union education ministry constituted a 12-member national steering committee to develop the new national curriculum framework (NCF) in line with the National Education Policy (NEP) 2020.

What is NCF?

- The national curriculum framework (NCF) serves as a guideline for syllabus, textbooks, teaching and learning practices in the country.

- Currently, NCF 2005, fourth national curriculum framework is being followed in the country.
- Its predecessors were published in 1975, 1988, 2000.

National steering committee

The Committee will be headed by **K Kasturirangan** who also headed the drafting committee of **national education policy (NEP) 2020**.

Tenure: 3 years.

- The Director NCERT will assist the Steering Committee to complete its module.
- The committee will develop four curriculum frameworks –
 - National curriculum framework for school education
 - National curriculum for early childhood care and education
 - National curriculum framework for teacher education
 - National curriculum framework for adult Education
- All the National Curriculum Frameworks will also reflect upon the implications of situations such as COVID-19 Pandemic on respective areas for future.

Female judges in Judiciary

Polity & Governance

Why in the news?

- The recent appointments of three female judges to the top court, and reports that one of them - Justice BV Nagarathna - could one day become India's first female chief justice, is being hailed as a "historic moment".

Current Status

- The 25 high courts in the states have 81 women among 677 judges - five of them do not have a single female judge.
- In High Courts, women judges constitute 11.5%. Here in the Supreme Court, we currently have four women Justices out of the sitting 33. That makes it just 12%.
- Of the 1.7 million advocates, only 15% are women. Only 2% of the elected representatives in the State Bar Councils are women.
- There is no woman member in the Bar Council of India. This needs urgent correction.

Need for female judges

- The judiciary, being an integral part of democracy should not stifle female voices. Though the number of females enrolled in undergraduate programme for law is equal to males, not many women lawyers get elevated to senior position.
- This gender disparity can only be tackled by internalizing gender sensitization and appointing women at all levels of judiciary. This, in no way, suggests that there should be reservation for women. There are many legislations which have provision to uplift women through positive discrimination.
- The female population of India stands at 48.5 per cent. However, the percentage of women judges is merely 29 per cent. There have been significant and tangible improvements in status of women in society in terms of literacy, economic participation, voting rights etc.
- In sharp contrast, we have also witnessed rising rates of crime against women. This grim scenario calls for a solid representation of women in judiciary. Gender sensitization also provides a diverse perspective to judgments. Justice Indu Malhotra in her farewell speech asserted that justice will be served if gender diversity is found on the bench.

Concerns

- Having a woman chief justice of Supreme Court would add to the list of feats and achievements. But are these feats mere tokenism under the garb of equality or empowerment? Or could the women in charge of positions actually help in making decisive changes?
- Simply inducting a woman CJI would not absolve the judiciary from the responsibility and accountability it holds. Reorientation and ground- level changes are required to convert the rosy picture into reality. We should bear in mind that seeing the first Woman Chief Justice would be an overwhelming moment for India. But this should be treated as a beginning to sea changes that must be brought and not as the final goal.

Why in the news?

- Delhi High Court recently notified the Central government to explain its stand on a petition that claimed keeping the post of Deputy Speaker of the Lok Sabha vacant is a violation of Article 93 of the Constitution.

Election of Lok Sabha Deputy Speaker

- Usually, the Deputy Speaker is **elected in the first meeting of the Lok Sabha after the General elections** from amongst the members of the Lok Sabha.
- He is chosen from the Lok Sabha members for a time **span of five years**.
- It is a norm in the Lok Sabha that the **Deputy Speaker must be impartial**. There is **no need to resign from their original party** though as a Deputy Speaker.
- It is by **convention** that the position of **Deputy Speaker is offered to opposition parties** in India.

Tenure and removal:

- He holds office until either ceasing to be a member of the Lok Sabha or by resigning.
- He can be removed from office by a resolution passed in the Lok Sabha by an effective majority of its members.

Constitutional and the post of deputy speaker:**Constitutional position of Deputy Speaker is evident from:**

- Article 93:** provides for the election of both the Speaker and the Deputy Speaker.
- Article 94:** Vacation and resignation of, and removal from, the offices of Speaker and Deputy Speaker.
- Article 95:** Power of the Deputy Speaker or other person to perform the duties of the office of, or to act as, Speaker.
- Article 96:** The Speaker or the Deputy Speaker not to preside while a resolution for his removal from office is under consideration
- Article 97:** Salaries and allowances of the Chairman and Deputy Chairman and the Speaker and Deputy Speaker.

Need for deputy speaker

- The constitutional office of the Deputy Speaker of the Lok Sabha is **mostly symbolic of parliamentary democracy than some real authority**. The **exception being in the absence of the Speaker**.
- Deputy Speaker acts as the presiding officer in case of leave or in absence caused by death or illness of the Speaker of the Lok Sabha.
- And in absence of the Speaker because of death, illness or any other reason, the Deputy Speaker also assumes the administrative powers.
- During this time, a Deputy Speaker enjoys the same legislative powers as the Speaker.
- It is Deputy Speaker's responsibility to carry on the role of Presiding Officer of the lower house of Parliament in the absence of the Speaker of Lok Sabha.
- The members of the Parliament raise various issues in the lower house before the Deputy Speaker of Lok Sabha.
- He is supposed to listen to every member and come out with a solution for it.
- He/She also headed various committees such as the Committee on Private Member Bills and Resolution (by M. Thambidurai in the previous Lok Sabha), which further provided a platform for inclusive policymaking.

Why in the news?

- Observing that adults have the right to choose their life partner irrespective of the religion professed by them, the Allahabad high court recently granted protection to an interfaith couple from Gorakhpur. In such a case, not even their parents could object to their relationship, the court further observed.

Previous judgements**Hadiya case (Shafin Jahan v. Asokan K.M), 2018**

- The Supreme Court observed that, **Marital status is conferred through legislation or custom.**
- The High Court was **wrong in letting parental love and concern override the right of an adult** to choose who she wishes to marry.
- Moreover, the Constitution guarantees that the ability to take **such decisions as a part of liberty and individual autonomy.**
- The **right to marry a person of one's choice is integral to Article 21.**
- Choice of a partner lies within the exclusive domain of an individual, and is a part of the core zone of privacy, which is inviolable.
- Thus, **High Court was wrong in using its powers under Article 226 to annul Hadiya's marriage with Shafin Jahan.**

Allahabad HC Ruling on conversion and Marriage:

- In September 2020, Allahabad High Court in the **Priyadarshini Case** said that religious **conversion only for the purpose of marriage is unacceptable.**
- Court's ruling came on a petition filed by an interfaith couple seeking directions to police and the girl's father not to interfere in their married life.
- Dismissing the writ petition of Priyanshi, alias Samreen, and her partner, the HC said, "The court has... found the first petitioner (the woman) has converted her religion on June 29, 2020, and... solemnised marriage on July 31, which clearly reveals the conversion has taken place only for the purpose of marriage.
- Rejecting their plea saying the HC was **not inclined to interfere in the matter under Article 226 (writ jurisdiction)** of the Constitution of India,
- Importance of the present Ruling**
- The Ruling has upheld the right of an individual to choose a life partner, and neither the state nor society can interfere with it.
- The ruling people are entitled to their rights irrespective of their gender or sexual orientation
- It gives right to a woman to choose even a transgender partner, thereby legitimising such unions.

Amendment to Rajasthan Compulsory Registration of Marriages Act**Why in the news?**

- Rajasthan Compulsory Registration of Marriages (Amendment) Bill, 2021 that recently passed by the Rajasthan State Assembly has generated controversy.

Provisions of the amendments

- On Sep 18, the Rajasthan Assembly passed the Rajasthan Compulsory Registration of Marriages (Amendment) Bill, 2021.
- It amends the provisions of the Rajasthan Compulsory Registration of Marriages Act (RCRMA), 2009.
- The Bill has sought to amend Sections 5 and 8 of the Act, dealing with the appointment of Marriage Registration Officers and the duty of parties to a marriage to submit the memorandum for registration.
- The amendment changes the age at which the obligation to register shifts from the parents or guardians to the parties to the marriage.
- Section 8 of the amended Act now requires all marriages in the state where the parties are under the age of 21 (in the case of the groom) and 18 (in the case of the bride) to be compulsorily registered within 30 days from the date of solemnisation.

State Government's Reasoning:

- Parliamentary Affairs Minister Shanti Dhariwal clarified in the Assembly that the provision for mandatory registration of all marriages, including the child marriages, existed in the Act of 2009
- the amendment had only reduced the age of girls from 21 years to 18 years for their responsibility to report about their marriage, which was earlier the duty of their parents.
- The State government said the Amendment Bill had been brought to protect legal rights of children, stop multiple marriages and take care of the matters related to maintenance and inheritance.

Evaluation of the Rajasthan Law Amendment

- Under the law, child marriages are not void, but only voidable at the instance of one of the parties, who may approach the court for nullifying the marriage within two years of attaining majority.
- Registering such a marriage may help establish the legal rights of the underage party and those of any children born and deter any attempt to deny the marriage later.
- It may even help prosecution of those solemnising child marriages and implement provisions relating to maintenance and residence of the girl whose marriage is invalidated later.
- Nothing prevents the marriage registrar from alerting the child marriage prohibition officer after registering the marriage.
- One must note that there was never any specific prohibition on registering child marriages.
- Even the Supreme Court observed that even though registration itself could not be proof of a valid marriage as such, it would have "great evidentiary value in the matters of custody of children, right of children born from the wedlock of the two persons whose marriage is registered and the age of parties to the marriage".
- Parliament should to consider the Law Commission's recommendation to amend the Prohibition of Child Marriage Act, 2006, to make child marriages below 16 years void, and those solemnised when either party was between 16 and 18, voidable.

SC verdict in Seema Vs Ashwani Kumar (2006) case:

- The most landmark case dealing with registration of marriages is the case of Seema v. Ashwani Kumar
- The Supreme Court made an observation that in a large number of matrimonial suits over the years, unscrupulous people denied the existence of marriage by taking the advantage of unavailability of any official record of solemnization of marriage which leads to abeyance of proceedings.
- It held that the registration of marriages would be a step in the right direction.
- It consequently issued a directive to the state governments and union territories to take measures in the direction of compulsory registration of marriages within a span of three months.

211th Law Commission Report:

- In 2008, the Law Commission of India released its 211th report titled 'Laws on Registration of Marriages and Divorce – A proposal for Consolidation and Reform' that recommended having a law for compulsory registration of marriages.
- The subject was taken up suo motu in the light of the directions of the Supreme Court verdict in Seema v. Ashwani Kumar
- The Law Commission recommended enactment of a "Marriage and Divorce Registration Act" to be made applicable in the whole of India and to all citizens irrespective of their religion and personal law and without any exceptions or exemptions.
- The proposed law should deal only with registration of marriages and divorces and not with any substantive aspect now governed by various matrimonial laws – general and community – specific
- **Law commission's recommendation to amend Prohibition of Child Marriage Act, 2006:**
- The Prohibition of Child Marriage Act, 2006 was enacted giving certain important rights to victims of child marriage and children born from these marriages.
- The PCMA, 2006 makes it punishable for parents and guardians of children (excepting women) with imprisonment of up to 2 years and a fine if they promote child marriage or permit it to happen either willfully or negligently.
- The Commission further examined whether the new Act addressed all the concerns relating to child abuse, health and human rights, which are an inevitable consequence of child marriage.

• **Law Commission's Observations:**

- The report takes into account the fact that child marriage may often result in early pregnancy
- and that complications during childbirth and both maternal and infant mortality (both of the mother & child) are common during childbirth for young pregnant girls.
- It further notes that child marriage results in child labour at home and young girls have very little decision making powers.
- Child marriage makes girls more vulnerable to domestic violence and sexual abuse.
- It also deprives the girl child of her right to obtain education and live a life of freedom and dignity.
- child marriage deprives all girl children of their basic fundamental human rights to develop in a natural, healthy environment.
- It deprives girls of their right to education and to physical and mental and psychological development.
- It isolates girls from their environment and infringes on their fundamental right to liberty, speech, movement.

Right to Govt. Aid is not a Fundamental Right

Polity & Governance

Why in the news?

- The right of an institution, whether run by a majority or minority community, to get government aid is not a fundamental right. Both have to equally follow the rules and conditions of the aid, the Supreme Court held in a judgment.

Supreme court observations:

- The right of an institution, whether run by a majority or minority community, to get government aid is not a fundamental right.
- Whether it is an institution run by the majority or the minority, all conditions that have relevance to the proper utilisation of the grant-in-aid by an educational institution can be imposed.
- All that **Article 30(2)** states is that on the ground that an institution is under the management of a minority, whether based on religion or language.
- The grant of aid to that educational institution cannot be discriminated against, if other educational institutions are entitled to receive aid
- If the government made a policy call to withdraw aid, an institution cannot question the decision as a "matter of right".
- A grant of government aid comes with accompanying conditions. An institution is free to choose to accept the grant with the conditions or go its own way

Ahmedabad St. Xavier's College v State of Gujarat:

- The Supreme Court pointed out that the spirit behind Article 30(1) is the conscience of the nation that the minorities, religious as well as the linguistic.
- It said minorities are not prohibited from the establishment and the administering educational institutions of their choice for the purpose of giving their children the best general education to make them a complete men and women of the country.

T.M.A Pai Foundation v State of Karnataka:

- SC overruled the proposition that no regulation can be cast in the interest of the nation if it does not serve the interest of the minority as well.
- Justice Kirpal C. J. had ruled that any of the regulation which is framed in the national interest must necessarily apply to all the educational institutions, whether run by majority or by a minority.
- Moreover, such a limitation must necessarily be read into Article 30.
- The right under Article 30(1) cannot be such as to override the national interest or to prevent the Government from framing regulations on that behalf.
- The court was of the view that no right can be absolute. Whether a minority or a nonminority, no community can claim its interest to be above national interest.

Why in the news?

- The recent **ASER Report** stated that the learning took a hit in the pandemic year. The study was conducted in March 2021 among 18,385 children between the ages of 5 and 16 across 24 districts of Karnataka.

About

- This is the first survey to indicate how learning levels among school-going children have been impacted because of schools being shut during the pandemic.
- The study was conducted in March 2021 among 18,385 children between the ages of 5 and 16 across 24 districts of Karnataka.
- Although the original plan was to conduct this exercise in several states, it could successfully be completed in only one state, Karnataka, before the second wave of COVID hit the country.

Key Findings

- Drop in Skills:** A year-and-a-half of Covid-enforced school closures has led to a drop in reading and numeracy skills among children, especially among students in primary classes.
- Primary classes:**
 - Most learning losses**
 - The highest level of text given in the ASER reading assessment is from Class 2.
 - Only 9.8% children in Class 3 in both government and private schools could read the text, down from 18.3% in 2014.
 - This dip is sharper for private schools — from 23.3% in 2014 to 9.9% now.
 - Numeracy Skills**
 - Numeracy skills were impacted too.
 - For example, the percentage of children in Class 1 who cannot recognise digits between 1 and 9 went up from 29.7% in 2014 to 42.6% in 2020.
 - For Class 5 students, this figure was 2.3% in 2014 and now stands at 4.6%.
 - The percentage of Class 4 students who can do simple division went down from 12.1% to 3.6% in the same period.
 - Recognition for letters in Kannada:**
 - The percentage of students in Class 4, for example, who cannot recognise even a letter in Kannada, went from 5.1% in 2018 to 12% in 2020.
 - For students in Class I, this percentage dipped from 40.3% in 2018 to 56.8% in 2020.
- Less Learning losses in higher classes:**
 - The learning loss was less acute in higher classes, an indication that reading and numeracy skills set in in the primary years.
 - Among Class 8 students, for instance, the learning loss in terms of reading fell from 70.6% in 2014 to 66.4% in 2020.

Suggestions

- Educational videos:**
 - Educational video, which has helped thousands, can advance learning even beyond the pandemic, using talented teacher-communicators.
- Continue Monitoring:**
 - When schools reopen, it will be important to continue to monitor who goes back to school as well as to understand whether there is learning loss as compared to previous years.
- Family Support:**
 - Parents' increasing levels of education can be integrated into planning for learning improvement, as advocated by **National Education Policy, 2020**.
 - Reaching parents at the right level is essential to understand how they can help their children and older siblings also play an important role.

- **Hybrid Learning:**
 - As children do a variety of different activities at home, effective ways of hybrid learning need to be developed which combine **traditional teaching-learning with newer ways of "reaching-learning"**.
 - States such as Tamil Nadu and Kerala have already hosted curriculum-based video lessons on the Internet, after beaming them on television.
 - It will take out-of-the-box thinking during the pandemic to come up with interventions that are a substitute for traditional methods and prevent 2020 from becoming a zero year.
- **Observational learning:**
 - Students, specifically for lower classes, could use the safety of the open countryside to learn a variety of topics by doing it themselves, under guidance from teachers. Observational learning like that will create a strong foundation.
- **Assessment of Digital Modes and Content:**
 - In order to improve digital content and delivery for the future, an in-depth assessment of what works, how well it works, who it reaches, and who it excludes is needed.
- **Mediating the Digital Divide:**
 - Children from families who had low education and also did not have resources like smartphones had less access to learning opportunities.
 - However, even among such households, there is evidence of effort with family members trying to help and schools trying to reach them.
 - These children will need even more help than others when schools reopen.

NIRF ranking

Polity & Governance

Why in the news?

- Union Education Ministry released its India Rankings 2021 under the National Institutional Ranking Framework

Highlights of India Rankings 2021:

- **Overall:** IIT-Madras, IISc-Bangalore, and IIT-Bombay have emerged as the country's top three higher education institutions
- **University:** IISc, Bengaluru tops the category.
- **Research Institution:** IISc, Bengaluru was ranked the best research institution, **a category included for the first time in India Rankings 2021.**
- **Colleges:** Miranda College retains 1st position amongst colleges for the fifth consecutive year, followed by Lady Shri Ram College for Women and Loyola College.
- **Engineering:** Among engineering institutions, IIT-Madras remained number one.
- **Management:** Indian Institute of Management Ahmedabad was ranked one.
- **Medical:** All India Institute of Medical Sciences, New Delhi occupies the top slot in Medical for the fourth consecutive year.
- **Pharmacy:** Jamia Hamdard tops the list in Pharmacy subject for the third consecutive.
- **Architecture:** IIT Roorkee takes the top slot for the first time in Architecture subject.
- **Law:** National Law School of India University, Bangalore retains its first position in Law for the fourth consecutive year.
- **Dental:** Manipal College of Dental Sciences, Manipal secured 1st position.

National Institutional Ranking Framework (NIRF) – 10 Categories

- NIRF ranks education institutions under 10 different categories. The 1st NIRF rankings released in 2016 had only 4 categories of institutions, 2017 saw the addition of 2 more categories of institutions. In 2020, overall 3800 education institutions had participated in the NIRF ranking process. NIRF 2020 rankings also saw the addition of a new category i.e. Dental institutions.

- Below-table gives the categories of education institutions ranked under NIRF.

Sl.No	Categories of Institutions
1.	Engineering
2.	Universities
3.	Management
4.	Pharmacy
5.	Medical
6.	Architecture
7.	Law
8.	Overall
9.	Colleges
10.	Dental

NIRF Ranking – Main Parameters

- The education institutions are ranked under NIRF as per 5 different parameters, which are listed below.
- Teaching, Learning & Resources** – This parameter checks the core activities in the education institutions.
- Research and Professional Practice** – Excellence in teaching and learning is closely associated with the scholarship
- Graduation Outcome** – Tests the effectiveness of learning/core teaching
- Outreach & Exclusivity** – Lays special emphasis on the representation of women
- Perception** – Importance is also given to the perception of an institution

Caste Census

Polity & Governance

Why in the News?

- Several political groups have called for a countrywide caste census ahead of the 2021 Census.

About SECC

- For the first time, SECC was conducted in 1931 and since then it is being conducted.

SECC is intended to survey every Indian family, whether rural and urban and elicit information:

- Economic status, to enable Central and State governments to develop a range of deprivation indicators, permutations, and combinations of which might be used to identify a poor or deprived person.
- Additionally, it is intended to inquire about each individual's unique caste name, allowing the government to re-evaluate which caste groups were economically disadvantaged and which were not.
- SECC has the potential to enable more comprehensive mapping of inequality.

Why is it important?

- Between 1951 and 2011, every census in independent India provided data on Scheduled Castes and Scheduled Tribes, but not on other castes.
- Prior to then, caste data was collected in every census till 1931.
- Caste-based data was obtained in 1941, but not released.
- There is no accurate estimate of the number of OBCs, various groupings within the OBCs, and others in the absence of such a census.
- The OBC population was estimated to be 52 percent by the Mandal Commission, while some other figures were based on National Sample Survey data.
- During elections, several political parties make their own projections in states and Lok Sabha and Assembly seats.



Arguments for caste census

- A caste census isn't just for the purposes of reserving seats.
- A caste census would actually bring to the fore the amount of individuals who are on the fringes, or who are disadvantaged, or the types of jobs they follow, or the kind of grip that institutions like caste have on them.
- Data for Policy Making: Any democratic policymaking needs this information.
- Judicial support: India's courts have often said that having sufficient data on the reservation is critical.
- Privileges come with caste: In our culture, caste is both a cause of disadvantage and a source of privilege and benefit.
- Caste does not marginalise: We must abandon the notion that caste applies solely to the poor, the disadvantaged, and those who are deficient in some manner.
- Caste rigidities are broken: Caste counting does not guarantee that caste or the caste system would continue to exist. A caste census can disprove caste elitist myths.

Objections to the census of castes

- **Data:** The Centre argued that even during the pre-Independence period when caste censuses were conducted, the data lacked "completeness and correctness."
- It stated that the caste data compiled in 2011 Socio-Economic and Caste Census (SECC) is "unusable" for official purposes due to "many technical faults."
- **Not an Ideal Policy Tool:** The government stated that caste-based enumeration in the Census was discontinued in 1951.
- Additionally, the Centre stated that a population census was not the "perfect instrument" since "many persons may choose not to register in the census in order to conceal their caste."
- This may jeopardise the census's "fundamental integrity."
- **Administrative Difficulty:** Additionally, the government asserted that it is too late to include caste in the 2021 Census.
 - The planning and preparations for the census began about four years ago, and the preparations for Census 2021 are nearly complete.

About Census

- The census provides data on the country's population's size, distribution, socioeconomic, demographic, and other characteristics.
- The 'Rig-Veda' shows that a population count was kept in India during 800-600 BC.
- The collecting of demographic data was mandated in Arthashastra by 'Kautilya' in the 3rd Century BC as a gauge of state policy for taxes.
- The administrative report 'Ain-e-Akbari' provided detailed statistics on population, industry, wealth, and many other qualities during the reign of Mughal ruler Akbar.
- Between 1865 and 1872, a systematic and modern population census was performed in several regions of the nation non-synchronously.
- The first synchronised census in India, however, took place in 1881. Since then, censuses have been conducted every ten years without fail.
- The latest census in India was conducted in 2011, when the country's population was estimated to be 121 million. The Indian Census is one of the world's greatest administrative undertakings.

What is the difference between Census and SECC?

- The Census gives a picture of the Indian people, whereas the SECC is used to identify recipients of state assistance.
- Due to the fact that the Census is governed by the Census Act, 1948, all data are considered confidential, however, the SECC website states that "all personal information provided in the SECC is available for use by Government agencies to grant and/or restrict benefits to households."

Why in the news?

- Recently, International Labour Organisation (ILO) has released World Social Protection Report 2020-22.

About the report

- It gives a global overview of recent developments in social protection systems, including social protection floors, and covers the impact of the COVID-19 pandemic.
- Based on new data, it offers a broad range of global, regional and country data on social protection coverage, benefits and public expenditures.
- The report identifies protection gaps and sets out key policy recommendations, including in relation to the targets of the 2030 Agenda for Sustainable Development.

Highlights Of The Report

- Coverage:** Currently, only 47 per cent of the global population are effectively covered by at least one social protection benefit, while 4.1 billion people (53 per cent) obtain no income security at all from their national social protection system. Over half of all people in the world have no social protections, even after the pandemic spurred countries to offer more services to their populations.
- Impact of COVID-19 pandemic :** The COVID-19 pandemic has revealed and exacerbated the social protection gap between countries with high and low-income levels.
- Regional inequalities:** There are significant regional inequalities in social protection.
- Europe and Central Asia have the highest rates of coverage, with 84 per cent of people being covered by at least one benefit.
- The Americas are also above the global average, with 64.3 per cent. Asia and the Pacific (44 per cent), the Arab States (40 per cent) and Africa (17.4 per cent) have marked coverage gaps.
- Government spending:** Government spending on social protection also varies significantly. On average, countries spend 12.8 per cent of their gross domestic product (GDP) on social protection (excluding health), however, high-income countries spend 16.4 per cent and low-income countries only 1.1 per cent of their GDP on social protection.

Suggestions

- The world community must recognize that effective and comprehensive social protection is not just essential for social justice and decent work but for creating a sustainable and resilient future too.
- This is a pivotal moment to harness the pandemic response to build a new generation of rights-based social protection systems.
- To guarantee at least basic social protection coverage, low-income countries would need to invest an additional US\$77.9 billion per year, lower-middle-income countries an additional US\$362.9 billion per year and upper-middle-income countries a further US\$750.8 billion per year. That's equivalent to 15.9, 5.1 and 3.1 per cent of their GDP, respectively.

Notable schemes to promote social security

Several initiatives have been taken up by the Government of India to eliminate poverty, inequality and to empower the marginalized sections of the society by expanding the social security net through schemes and Programmes like:

- Pradhan Mantri Suraksha Bima Yojana (Accident Insurance)
- PM Jeevan Jyoti Bima Yojana (Life Insurance)
- SC/ST Entrepreneurs hub
- Atal Pension Yojana (Unorganized Sector)
- MUDRA bank
- PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi) scheme

India is focusing on improving the social security net. The Code of Social Security, 2020 is a welcome step in this regard.

Importance of Social protection

- It helps individuals and families, especially the poor and vulnerable, cope with crises and shocks, find jobs, improve productivity, invest in the health and education of their children, and protect the ageing population.
- It enhances human capital and productivity, reduces inequalities, builds resilience and ends the inter-generational cycle of poverty.
- It also helps ensure equality of opportunity by giving them a chance to climb out of poverty and become productive members of society.

International Labour Organisation (ILO)

- It is a specialised agency of the United Nations.
- It is the only tripartite U.N. agency since 1919.
- The unique tripartite structure brings together governments, employers and workers of 187 member States, to set labour standards, develop policies and devise programmes promoting decent work for all women and men.
- Aim: To promote rights at work, encourage decent employment opportunities, enhance social protection and strengthen dialogue on work-related issues.
- History: Established in 1919 by the Treaty of Versailles as an affiliated agency of the League of Nations.
- Became the first affiliated specialized agency of the United Nations in 1946.
- India is a founder member of the ILO.
- Headquarter: Geneva, Switzerland.
- Received the Nobel Peace Prize in 1969:
 - For improving peace among classes
 - Pursuing decent work and justice for workers
 - Providing technical assistance to other developing nations
- Flagship Reports of ILO are:
 - Global Wage Report
 - World Employment and Social Outlook (WESO)
 - World Employment and Social Outlook
 - World Social Protection Report
 - World of Work Report

WHO Report on Dementia

Social Issues

Why in the news?

- WHO has released a report titled '**Global Status Report On Public Health Response To 'Dementia'**'. The report takes stock of progress made towards **2025 global targets** for dementia laid out in the WHO's 'Global Dementia Action Plan' 2017.

Key Highlights Of The Report

- Currently, more than 55 million people are living with dementia. This number is estimated to rise to 78 million by 2030 and to 139 million by 2050.
- Only a quarter of countries worldwide have a national strategy for supporting people with dementia and their families.
- Disability-adjusted life years (DALYs) due to dementia are 60% higher in women than in men.
- The Western Pacific Region has the highest number of people with dementia (20.1 million), followed by the European Region.

Concern for India

- With demographic ageing, India is expected to have one of the largest numbers of elders with dementia in next 2-3 decades.
- Such increased numbers of people with dementia have a marked impact on the states' healthcare systems, families (emotional and financial burden, poor quality of life) and the society at large (directly through government expenditure or indirectly through loss of productivity).
- It should be using a collaborative community-based care model to enable such a service to be universally available, accessible, equitable, effective and affordable to the population at large.



Why in the news?

- National Commission for Women (NCW) has informed that there was **46% rise** in complaints of crimes against women in the first eight months of 2021 over the corresponding period of last year.

About the report

- In July, as many as 3,248 complaints were received by the NCW which is highest in a month since June 2015
- Complaint received under various Heads in the decreasing order are:** Right to live with dignity > domestic violence > harassment of married women or dowry harassment > outraging modesty of women or molestation > rape and attempt to rape > cyber crimes
- The right to live with dignity clause takes into account **emotional abuse** of women.
- Domestic violence has intensified since the outbreak of COVID-19.
- State wise:** Uttar Pradesh (10,084) > Delhi (2,147) > Haryana (995) > Maharashtra (974). Over half of these were from Uttar Pradesh.

NCW was set up as a statutory body in January 1992 under the National Commission for Women Act, 1990. Its mission is to strive towards enabling women to achieve equality and equal participation in all spheres of life.

Shikshak Parv

Social Issues

Why in the news?

- Recently, Prime Minister addressed teachers and students during the inaugural conclave of 'Shikshak Parv'. PM highlighted that the transformation being ushered in the education sector is not just policy-based but **also participation based**.

About Shikshak Parv, 2021

- Ministry of Education (MoE) is celebrating Shikshak Parv, 2021 from **September 5-17** in recognition of the **valuable contributions of teachers** and to take National Education Policy (NEP) 2020 a step forward.
- Theme for 2021:** Quality and Sustainable Schools: Learnings from Schools in India.
- Theme of Shikshak Parv has been identified keeping in view **three** of the five pillars of Azadi Ka Amrit Mahotsav celebrations.

5 New Initiatives

- PM launched **five initiatives** in the education sector for **accessible education** on this occasion

Indian Sign Language	<ul style="list-style-type: none"> Dictionary of 10,000 words for the Children and persons with hearing impairments.
Talking Books	<ul style="list-style-type: none"> <u>Audiobooks</u> for visually impaired.
School Quality Assessment and Accreditation Framework (SQAACF)	<ul style="list-style-type: none"> To provide global parameters as standards in schools affiliated to CBSE. It would address the deficiency of the absence of a common scientific framework for dimensions like curricula, pedagogy, assessment, infrastructure, inclusive practices and governance process.
NISHTHA teachers' training programme for NIPUN Bharat	<ul style="list-style-type: none"> National Initiative for School Heads' and Teachers' Holistic Advancement. Every teacher and head teacher is expected to participate in at least 50 hours of Continuous Professional Development (CPD) every year for their own professional development, driven by their own interest (For <u>Nipun Bharat</u>, refer July Recitals)
<u>Vidyanjali</u> PORTAL	<ul style="list-style-type: none"> Facilitating education volunteers, donors and CSR contributors for school development. <u>Vidyanjali</u> portal will help the country take advantage of community participation to help students.



Why in the news?

- Swachh Survekshan Urban comes under the Ministry of Housing and Urban Affairs (MoHUA).
- Jal Shakti Ministry launched **Swachh Survekshan Grameen 2021** or rural cleanliness survey 2021

About the award

- It comes under Swachh Bharat Mission (Grameen) **Phase-II** which is from **2020-21 to 2024-25**.
- Department of Drinking Water and Sanitation (DDWS)** will undertake Swachh Survekshan Grameen 2021 countrywide to support **acceleration of ODF Plus** interventions
- ODF plus is to increase momentum for improving ODF Sustainability as well as **Solid and Liquid Waste Management (SLWM) activities** across the villages in the country.
- It is an **upgradation** of ODF status in which construction of adequate toilets was required.
- DDWS had commissioned Swachh Survekshan Grameen (SSG) on two occasions earlier in 2018 and 2019.
- As part of the 2021 rural cleanliness survey, as many as 17,475 villages spanning across 698 districts would be covered
- Weightage to Different Elements
 - Direct Observation of sanitation at public places - 30%**
 - Citizen's Feedback - 35%**
 - Service Level Progress on sanitation related parameters - 35%**

Why in the news?

- Recently, the Union Minister for Health and Family Welfare released FSSAI's 3rd State Food Safety Index (SFSI) for 2020-21 to measure the performance of States across five parameters of food safety.

About State Food Safety Index (SFSI)-

- The index is based on performance of State/ UT on five significant parameters, namely;
- Human Resources and Institutional Data(with 20% weightage).
- Compliance(with 30% weightage).
- Food Testing-Infrastructure and Surveillance(with 20% weightage).
- Training & Capacity Building(with 10% weightage).
- Consumer Empowerment(with 20% weightage).
- The Index is a dynamic **quantitative and qualitative benchmarking model** that provides an objective framework for evaluating food safety across all States/UTs.
- Gujarat topped the ranking** among the large states followed by Kerala and Tamil Nadu.
- Among the **smaller states**, Goa, Meghalaya and Manipur grabbed top three positions.
- Among UTs, Jammu and Kashmir**, Andaman and Nicobar Islands and New Delhi secured top ranks.
- Criteria for ranking are** Infrastructure and Surveillance, Training and Capacity Building, Consumer Empowerment.
- The first State Food Safety Index for the year 2018-19 was announced on the first-ever World Food Safety Day on 7th June, 2019.

Why in the news?

- Recently, National Crime Records Bureau (NCRB) released the Crime in India Report 2020.

About the report findings

- Impact of a pandemic: The Coronavirus pandemic and subsequent lockdown resulted in a drop in traditional crimes like theft, robbery, and assault on women and children in 2020. There was a drastic jump in disobedience to government orders, primarily arising due to violations of COVID-19 norms.



- Registered crimes: A total of 66,01,285 cognisable crimes comprising 42,54,356 Indian Penal Code (IPC) crimes and 23,46,929 Special and Local Laws (SLL) crimes were registered in 2020. India reported an average of 80 murders daily in 2020, totalling 29,193 fatalities over the year, with Uttar Pradesh topping the chart among states.

Category wise data:

A JUMP IN NUMBERS			
OFFENCES	2019	2020	% increase
Communal riots	438	857	96%
Caste riots	492	736	50%
Agrarian riots	1,579	2,188	38%
Andolan/Morcha riots	1,442	1,905	33%
Promoting Enmity Between Groups	1,058	1,804	70%
TOTAL RIOTS (including other causes)	45,985	51,606	12%
Offences Against The State decreased by 27%, but UP only major state where they increased			
Source: NCRB			

Cybercrime:

- India recorded 50,035 cases of cybercrime in 2020, with an 11.8% surge in such offences over the previous year.
- Bengaluru tops India in the highest number of cyber crimes registered in 2020.

Crime Against Women :

- Across the 19 metropolitan cities, a total of 35,331 cases of crime against women were registered during 2020, showing a decrease of 21.1% over 2019 (44,783 cases).
- The majority of crimes against women were registered under 'cruelty by husband or his relatives (30.2%) followed by 'assault on women with intent to outrage her modesty (19.7%),

'kidnapping and abduction of women (19.0%) and 'rape' (7.2%).

- "False/fake news:** Incidents of circulation of "false/fake news" and rumours, a crime under the Indian Penal Code, saw nearly a three-fold rise in 2020 over 2019
 - Telangana with 273 cases tops the list of states followed by Tamil Nadu (188) and Uttar Pradesh (166). Hyderabad tops the list of cities with 208 cases, followed by Chennai (42) and Delhi (30).

Other Crimes

- Communal Riots:** Delhi > Bihar > Haryana > Jharkhand > Maharashtra > Gujarat Uttar Pradesh did not record a single case of communal violence in 2020
- Caste conflict:** Bihar > Maharashtra > UP > Karnataka > Tamil Nadu
- Agrarian riots:** The year saw unprecedented protests against the **three farm laws** passed by the Centre, recorded 2,188 agrarian riots, a jump from 1,579 in 2019.
 - Punjab reported **zero cases** of agrarian riots and Haryana (34).
 - Highest cases have been reported from Bihar > Maharashtra > Karnataka > UP > Jharkhand
- Andolan/morcha:** It is Kerala that has recorded the highest number
- Attacks on police personnel** decreased, a drop of almost 40%.
- Promoting Enmity Between Groups:** Tamil Nadu > UP > Telangana > Assam
- Environment Related Offences:** Increased by **78.1%** in the country in 2020.
- Cyber Crime:** Rate of cyber-crime (incidents per lakh population) also increased from 3.3% in 2019 to 3.7% in 2020.

About National Crime Record Bureau (NCRB)

- It was set up in 1986 to function as a repository of information on crime and criminals.
- It was established on the recommendations of the Tandon Committee to the National Police Commission (1977-1981) and the MHA's Taskforce (1985).
- NCRB was entrusted with the responsibility for monitoring, coordinating and implementing the Crime and Criminal Tracking Network & Systems (CCTNS) project in the year 2009.
- This project connects 15000+ police stations and 6000 higher offices of police in the country.
- In August 2017, NCRB launched the National Digital Police Portal, which allows search for a criminal/suspect on the CCTNS database.
- The Bureau has also been entrusted to maintain the National Database of Sexual Offenders (NDSO) and share it with the States/UTs on a regular basis.
- NCRB has also been designated as the Central Nodal Agency to manage technical and operational functions of the 'Online Cyber-Crime Reporting Portal.



Why in the news?

- India's first Pan-India toll-free helpline for senior citizens – **14567**, called 'Elder Line' has been launched.

More about the helpline

- The purpose of 'Elder Line' is to provide all senior citizens, or their well-wishers, with ONE platform across the country to connect and share their concerns, get information and guidance on problems that they face.
- It provides free information and guidance on pension issues, legal issues, extends emotional support, intervenes on field in cases of abuse, and rescues homeless elderly.
- It is a culmination of the initiative of Tata Trusts and its partner, Vijayavahini Charitable Foundation, in 2017, in collaboration with the Government of Telangana in Hyderabad, to help the elderly in the city.
- Tata Trusts and NSE Foundation**, as technical partners, are jointly supporting the **Ministry of Social Justice** in operationalizing Elder Line.
- Till date, 17 states have already opened the Elder line for their respective geographies.
- Till date nearly 40% calls were related to guidance required in the vaccine and queries related to it and nearly 23% of calls were related to pension.

INTER + IAS | DEGREE + IAS | Direct IAS (Day Cum Residential)

Ignite IAS
Creating Ambitious Leaders in Young Minds

Get trained by professors who have a tight grip on the UPSC syllabus!

JOIN OUR
3 years Degree + Civil Services Program

YOUR JOURNEY BEGINS HERE! HURRY UP. ONLY LIMITED ADMISSIONS!

Follow us
f i t y

+91 7997992479 / 80 / 81 **www.igniteias.com**



Ignite IAS



igniteias.com

Why in the news?

- International Monetary Fund (IMF) has recently made an allocation of Special Drawing Rights (SDR) 12.57 billion (latest exchange rate equivalent to around \$17.86 billion) to India. After this, India's total SDR holding is SDR 13.66 billion.

Special Drawing Rights (SDR)

- SDR is an international reserve asset, created by the IMF in 1969.
 - It was created as a **supplementary international reserve asset** in the context of the Bretton Woods **fixed exchange rate system**.
 - The collapse of Bretton Woods system in 1973 and the shift of major currencies to **floating exchange rate** regimes lessened the reliance on the SDR.
 - Nonetheless, SDR allocations plays a role in providing liquidity and supplementing member countries' official reserves, as was the case amid the global financial crisis
- It was created in response to the shortfall of gold and US dollars, which were the only means of international trade.
- IMF makes SDR allocation to its members in proportion to their existing quotas in IMF. A member country's quota determines its maximum financial commitment to IMF and its **voting power**.
- The **value of SDR** is based on a weighted basket of **five currencies**— U.S. dollar, Euro, Chinese Renminbi, Japanese Yen, and the British Pound Sterling.
- SDR basket is reviewed every **5 years** to ensure that it reflects the relative importance of currencies in the world's trading and financial systems.
- SDR value in terms of the U.S. dollar is determined daily based on the spot exchange rates.

How is SDR Value determined?

- The SDR's currency value is determined by adding the values of the SDR basket of currencies in US dollars using market exchange rates.
- It is determined on a daily basis (except on IMF holidays or when IMF is closed for business). Every five years, the SDR value basket is reviewed and modified.

- International Monetary Fund (IMF)**
- IMF is an international financial institution, headquartered in Washington, D.C., consisting of 190 countries. It was formed in 1944 at the Bretton Woods Conference.
- Its primary purpose is to ensure the stability of the international monetary system.
- It aims to encourage global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty around the world

Sukhet Model**Economy****Why in the news?**

- An initiative called 'Sukhet Model' adopted by Dr Rajendra Prasad Agriculture University, Madhubani and local agricultural research centres was praised by Prime Minister during his Maan Ki Baat address.

About Sukhet model

- Sukhet model is named after Sukhet village in Madhubani district of Bihar.
- It is being implemented by the scientists of Dr Rajendra Prasad Central Agriculture University, Pusa (Samastipur).
- It is promoting cleanliness and organic manure to the farmers.
- It is also helping the village in getting rid of pollution.
- Under this project, garbage and dung from houses are collected door-to-door and then converted into vermicompost (organic manure).
- From the income generated from the sale of organic manure, every family is provided LPG cylinders every two months in exchange for the waste and cow dung.
- This project also provides employment to 14 to 15 people at the village.



Why in the news?

- A **Rural Enterprises Acceleration Programme** titled Saath for women was recently launched for Self Help Groups (SHGs) in Jammu and Kashmir (J&K). It is an initiative of the Jammu & Kashmir Rural Livelihood Mission (UMEED).

About SAATH initiative

- Four lakh women are connected to around **48,000 SHGs** in J&K. However, there is lack of knowledge about marketing, packaging and branding, along with low profits.
- The workshops will focus on mentoring, innovation, value creation, market linkages of products and convert these businesses into Higher Order Enterprises. Further, it aims to create 11,000 more SHGs in the coming year.
- Workshops will be conducted under it to train women in 10 different sectors including agriculture, animal husbandry, handicraft, handloom etc.
- Initially, workshops will be held for 5000 women, out of which 500 will be selected for intensive training and further 100 will be selected for mentoring.

Jammu & Kashmir Rural Livelihood Mission (JKRLM)

- Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM) is implemented as JKRLM (UMEED programme) in J&K.
- DAY-NRLM is a **centrally sponsored scheme** that aims at eliminating rural poverty through promotion of multiple livelihoods for rural poor households across the country.

Why in the news?

- NTI Aayog** and Rocky Mountain Institute (RMI) has recently launched the Shoonya campaign to promote **zero-pollution delivery vehicles** by working with consumers and industry. The campaign will target to fully electrify vehicles in **urban deliveries segment** in the next **two years**.

About Shoonya Campaign

- Electric Deliveries:** The campaign aims to increase consumer awareness of the benefits of zero-pollution delivery by accelerating the adoption of electric vehicles (EVs) in the urban delivery market.
- Shoonya Brand:** To recognise and promote the industry's efforts to shift to electric vehicles for final-mile deliveries, a corporate branding and certification scheme has been developed.
 - It will assist e-commerce businesses in differentiating their products from those of their competitors.
- Online Tracking Platform:** Through data such as vehicle kilometres electrified, carbon savings, criterion pollutant saves, and other advantages from clean delivery vehicles, an online tracking platform will reveal the campaign's impact.

Merits of EVs for E-commerce

- Growing E-Commerce Business:** India's online retail market increased at a compound annual growth rate of 53 percent between 2013 and 2017, and is estimated to reach \$150 billion by 2022.
 - This has drastically increased the fleets of delivery vehicles by relocating the end-of-transportation of items away from the consumer.
- Reduce Emissions:** In India, urban freight cars account for 10% of freight transportation-related CO₂ emissions, which are anticipated to increase by 114% by 2030.
 - EVs have no tailpipe emissions, which can help to improve air quality significantly.
 - Even after accounting for their manufacturing costs, they produce 15-40% less CO₂ and have lower operating costs than internal combustion engines.
- Energy Security:** Moving to electric vehicles will help India lessen its reliance on oil while also addressing the issue of energy scarcity and moving toward renewable and sustainable energy sources.

Challenges

- Technologically, India lags behind in the production of electronics that are the backbone of the electric vehicle sector, including batteries, semiconductors, and controllers.
- Lack of clarity about AC versus DC charging stations, grid reliability, and range anxiety (fear that batteries may run out of power soon) are all challenges that are impeding the EV industry's growth.
- Battery availability for domestic production: The battery is the most significant component of electric vehicles. India has no known lithium or cobalt reserves, both of which are required for battery manufacture.
- For lithium-ion battery imports, India is reliant on countries such as Japan and China.
- Lack of Skilled Workers: EVs have higher maintenance costs and require higher degrees of expertise. In India, there are no designated training programmes for this type of skill development.

Initiatives

- The National Electric Mobility Mission Plan (NEMMP) was developed in 2013 with the goal of achieving national fuel security by encouraging the use of hybrid and electric vehicles.
- Faster Use and Manufacturing of (Hybrid &) Electric Vehicles (FAME) Scheme: The Indian government has built momentum with its FAME Scheme, which encourages, and in some cases mandates, the adoption of EVs, with an aim of reaching 30% EV penetration by 2030.
- The National Mission on Transformative Mobility and Battery Storage will recommend and drive transformative mobility policies and phased production programmes for electric vehicles, electric vehicle components, and batteries.
- Fiscal incentives, such as income tax rebates and customs duty exemptions, are being used to encourage the development and consumption of electric vehicles and charging infrastructure.

Rocky Mountain Institute

- Rocky Mountain Institute (RMI) is a US based non-profit organization founded in 1982.
- It engages businesses, communities, institutions, and entrepreneurs to accelerate the adoption of market-based solutions that cost-effectively shift from fossil fuels to renewable energy.

Green Bonds

Economy

Why in the news?

- Recently, Power Finance Corporation (PFC) launched its maiden ₹300 million 7-year Euro Green Bond issuance.

About green bond

- The issuance saw strong participation from institutional investors across Asia and Europe with participation from across 82 accounts and was oversubscribed 2.65 times.
 - The overwhelming response to the issuance reflects international investors' confidence in PFC.
 - This issuance also demonstrates a commitment to achieving India's renewable energy goals.
- The pricing of 1.841 per cent achieved is the lowest yield locked in by an Indian issuer in the Euro markets.
- It is not only the first Euro bond issuance by PFC but also the first-ever Euro-denominated Green bond issuance from India.
 - Moreover, it is the first Euro issuance by an Indian non-banking finance corporation (NBFC) and the first Euro bond issuance from India since 2017.
- Relevance
 - This bond issuance would help PFC in diversifying its currency book as well as the investor base.

Green Bonds vs Climate Bonds

- The term 'labelled' green bonds refers to bonds marketed by the issuer as 'green', where the proceeds are for climate / green assets or projects.
- 'Climate-themed bonds' are represented by a broader category of bonds whose proceeds are for climate projects but that are not (yet) labelled as green. It is much wider than the 'labelled green bonds market'.

Benefits of green bonds

- The most vital characteristic of green bonds is that it focuses on garnering positive impact on sustainable development goals and protection of the environment.



- In addition to this, since these bonds are issued for projects ear-marked as 'green', its credentials have the potential to attract a larger pool of investors globally in view of the rapid integration of environmental, social, and governance ("ESG") metrics in the process of investment analysis.
- Apart from being a good alternative to conventional bank debt which is subject to sectoral limitations, green bonds are also an effective tool in driving down the cost of capital and reducing asset-liability mismatches.
- Additionally, with the development and growth of the green bonds market in the country, we may see new participants such as debt aggregators who pool loans from banks or developers and issue green bonds, securitising cash flows from the loan pool.

SPIN Scheme

Economy

Why in the news?

- Khadi and Village Industries Commission (KVIC) has recently launched SPIN (**S**trengthening the Potential of **I**ndia) scheme and set up **Kashi pottery cluster** under SFURTI Scheme in Varanasi.

About the scheme

- **Objective of the scheme**
- It aims to promote long-term development through fostering local self-employment, in line with the Prime Minister's pledge to "Jobs for Every Hand" (Har Hath Me Kaam).

Features

- It is a scheme with no subsidies.
- Under the Pradhan Mantri Shishu Mudra Yojana, KVIC assists potters in obtaining bank loans.
- There is no financial load on the government.
- The loans can be repaid in convenient instalments by the recipients.

Significance

- It will minimise their need for government subsidies, allowing potters to become self-sufficient.

Scheme of Fund for Regeneration of Traditional Industries (SFURTI)

- It was launched in 2005 by Ministry of Micro, Small and Medium Enterprises (MSME) to promote **cluster development**.
- It aims to organize traditional industries and artisans into clusters to make them competitive and provide support for their long-term sustainability.

Khadi and Village Industries Commission (KVIC)

- KVIC is a **statutory body** formed under the KVIC Act, 1956. It seeks to promote the development of khadi and village industries in rural areas in coordination with other agencies engaged in rural development.

Rail Kaushal Vikas Yojana

Economy

Why in the news?

- Recently, Rail Kaushal Vikas Yojana, a programme under the aegis of Pradhan Mantri Kaushal Vikas Yojana (PMKVY) was launched.

About the Rail Kaushal Vikas Yojana

- This is a skill development programme in which youth will be trained in jobs that are relevant to the railways.
- Training will be provided in four different trades: Zonal railways and production units will add electricians, welders, machinists, and fitters, among other trades, based on regional demand and needs assessments.
- Apprentices will receive training under the Apprentice Act of 1961.

Objectives

- To provide youth with training skills in various trades in order to improve their quality of life.
- Over the next three years, 50,000 candidates will be trained.



Eligibility to the scheme

- Candidates who have completed the tenth grade and are between the ages of 18 and 35 are eligible to apply. Participants in the scheme, however, will not be able to work for the railways as a result of their training.

Significance of this scheme

- Through reskilling and upskilling, the scheme will improve not only the employability of young people, but also the skills of self-employed people and those who work with contractors.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

- Launched in 2015, PMKVY is the flagship scheme for skill training of youth implemented by the Ministry of Skill Development and Entrepreneurship through the National Skill Development Corporation (NSDC).

Key Components of PMKVY

- **Short Term Training:** It provides training to school/college dropouts or unemployed as per National Skills Qualification Framework (NSQF).
- **Recognition of Prior Learning:** Individuals with prior learning experience or skills are assessed and certified under RPL. It aims to align the competencies of the unregulated workforce of the country with NSQF.
- **Special Projects:** It facilitates training in special areas and/or premises of Government and Corporates bodies and aims to encourage training for vulnerable and marginalised groups in the society.

Scheme for Promotion of Medical Device Parks

Economy

Why in the news?

- **Department of Pharmaceuticals** notified the Scheme for Promotion of Medical Device Parks (MDP).
- **Status Of Medical Devices In India**

About the Scheme

- Under the scheme, medical parks will be developed to provide common infrastructure facilities in one place thereby creating a robust ecosystem for medical device manufacturing in the country and also reduce the manufacturing cost significantly.

Objectives of the Scheme

- Easy access to standard testing and infrastructure facilities through the creation of world-class common infrastructure facilities for increased competitiveness. This will result in a significant reduction of the cost of production of medical devices, leading to better availability and affordability of medical devices in the domestic market.
- Reaping the benefits arising due to optimization of resources and economies of scale
- **Duration:** The total financial outlay of the scheme is Rs. 400 crores and the tenure of the scheme is from FY 2020-2021 to FY 2024-2025.
- **Financial Assistance:** The financial assistance to a selected Medical Device Park would be 70% of the project cost of common infrastructure facilities. In the case of the North-Eastern States and the Hilly States, financial assistance would be 90% of the project cost. Maximum assistance under the scheme for one Medical Device Park would be limited to Rs. 100 crores.

Pearl Farming Promotion

Economy

Why in the news?

- TRIFED (Tribal Co-operative Marketing Development Federation of India), an agency under the Tribal Affairs Ministry which markets and promotes tribal products, recently signed an agreement with Jharkhand based **Purty Agrotech** for promotion of pearl farming in tribal areas.

Significance

- Purty Agrotech pearls will be sold through 141 Tribes India outlets, as well as various e-commerce platforms, as part of the agreement.
- The Purty Agrotech centre will become a Van Dhan Vikas Kendra Cluster (VDVKC). In addition, Jharkhand is planning to build 25 VDVKCs for pearl farming.

- VDKs help tribals improve their skills and build their capacity by setting up primary processing and value-added facilities.
- TRIFED has also entered into an agreement with Big Basket, an e-grocery platform, to promote and sell natural 'Van Dhan' products.
- Oyster breeding and pearl development is a sustainable business model that tribals with access to nearby water bodies can easily implement.
- In the future, it will prove to be game-changers for tribal livelihoods.

Pearl Farming

- Pearls are the **only gemstones** in the world that come from a **living creature**. **Mollusks** such as oysters and mussels produce these precious jewels. In saltwater, pearls are found in oysters, while in freshwater they are produced by mussels.
- The time taken for a pearl to develop depends on a variety of factors. Generally **freshwater types** form a **lot faster** than the saltwater ones.
- Pearl oysters are farmed in a number of countries in the production of cultured pearls.

Benefits of Pearl Farming

- Pearl farming is **eco-friendly**, as a single oyster clears over 15 gallons of water a day. It accumulates heavy metals from the water, removes harmful pollutants thereby reduces turbidity, improves light penetration, and reduces anoxia and nitrification.
- It provides habitat for fish and improves species diversity.
- It promotes tourism, improves foreign exchange earnings and leads to significant employment generation.

Global Innovation Index 2021

Economy

Why in the news?

- India has been ranked 46th in the Global Innovation Index 2021.

About the report 2021

- **India's performance**
 - India has been on a rising trajectory, over the past several years in the Global Innovation Index (GII), from a rank of 81 in 2015 to 46 in 2021.
 - India ranks 2nd among 34 lower middle-income economies? and? 1st among 10 Central and Southern Asian economies.
- **Global scenario**
 - Switzerland topped the league table, followed by Sweden, the US and the UK.
 - Among Asian economies, South Korea jumped to the fifth position, up from 10 last year.
 - China was in the 12th position.

Global Innovation Index

- The Global Innovation Index (GII) project was launched by Professor Soumitra Dutta in 2007 during his tenure at INSEAD.
- The goal was to find and determine metrics and methods that could capture a picture of innovation in society that is as complete as possible.
- WIPO started its association with the GII in 2011 and began co-publishing the GII in 2012.
- The GII continued to be co-published by Cornell University, INSEAD and WIPO up to 2020.
- As of 2021, the GII is published by WIPO in partnership with the Portulans Institute, various corporate and academic network partners and the GII Advisory Board.
- WIPO's criteria to measure innovation cover institutions, human capital and research, infrastructure, credit, investment, linkages, creation, absorption and diffusion of knowledge, and creative outputs.
- Three measures are calculated:
 - Innovation Input Sub-Index: Five input pillars capture elements of the economy that enable and facilitate innovative activities.
 - Innovation Output Sub-Index: Innovation outputs are the result of innovative activities within the economy. Although the Output Sub-Index includes only two pillars, it carries the same weight as the Input Sub-Index in calculating the overall GII scores.
 - The overall GII score is the average of the Input and Output Sub-Indices, on which the GII economy rankings are then produced.



World Intellectual Property Organization (WIPO)

- It is the global forum for intellectual property (IP) services, policy, information and cooperation.
- It is a self-funding agency of the United Nations, with 193 member states.
- Mission: To lead the development of a balanced and effective international IP system that enables innovation and creativity for the benefit of all.
- Its mandate, governing bodies and procedures are set out in the WIPO Convention, which established WIPO in 1967.

GI Tag

Economy

About the news?

- Recently **3 products** from the North East were awarded the geographical indication (GI) tag. These include Judima wine from Assam and Manipur's Hathei chilli and Tamenglong orange.

About the recent GI tags

Judima wine	<ul style="list-style-type: none">• Made by the Dimasas community of Assam, Judima wine is the first beverage to get a GI tag from the north-east.• Made from sticky rice, which is steamed and mixed with traditional herbs, the wine has a distinct sweet taste and takes around one week to prepare.• It is intrinsic to the social and cultural life of the Dimasas, who mainly inhabit Dimapur in Nagaaland besides Cachar, Karbi Anglong, and Dima Hasao districts of Assam
Hathei Chilly	<ul style="list-style-type: none">• Hathei chilly, commonly known as the Sirarakhong chilly, is known for its unique flavour. It is almost 9-inches in size and bright red in colour, and is loaded with antioxidants and contains high calcium and Vitamin C levels.• It thrives well only in climatic condition of Sirarakhong village, Ukhrul district (Manipur).
Tamenglong Orange	<ul style="list-style-type: none">• Tamenglong Orange belongs to the Tamenglong district of Manipur, which is also known as The Orange Bowl of Manipur.

Geographical indication

- A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities, characteristics or a reputation that are due to that origin.
- In order to function as a GI, a sign must identify a product as originating in a given place.
- Since the qualities depend on the geographical place of production, there is a clear link between the product and its original place of production.

Significance of the Geographical Indication tag

- A geographical indication right enables those who have the right to use the indication to prevent its use by a third party whose product does not conform to the applicable standards.
- For example, in the jurisdictions in which the Darjeeling geographical indication is protected, producers of Darjeeling tea can exclude the use of the term "Darjeeling" for tea not grown in their tea gardens or not produced according to the standards set out in the code of practice for the geographical indication.
- However, a protected geographical indication does not enable the holder to prevent someone from making a product using the same techniques as those set out in the standards for that indication.
- Protection for a geographical indication is usually obtained by acquiring a right over the sign that constitutes the indication. Typically, such a name conveys an assurance of quality and distinctiveness which is essentially attributable to the fact of its origin in that defined geographical locality, region or country.
- From **Switzerland's Gruyère cheese to Mexico's Tequila**, geographical indications and appellations of origin are a common feature of everyday life.
- They not only provide a way for businesses to leverage the value of their geographically unique products but also inform and attract consumers.
- Proponents of GIs regard them as strong tools for protecting their national property rights. Opponents, however, consider GIs as barriers to trade.

Accords that regulates Geographical Indications

- Geographical Indications are covered as a component of intellectual property rights (IPRs) under the **Paris Convention for the Protection of Industrial Property**.
- At the International level, GI is governed by the World Trade Organisation's (WTO's) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).
- India, as a member of the World Trade Organization (WTO), enacted the **Geographical Indications of Goods (Registration & Protection) Act, 1999** has come into force with effect from 15th September 2003.
- This tag is issued by the **Geographical Indication Registry** under the **Department of Industry Promotion and Internal Trade, Ministry of Commerce and Industry**.
- Geographical indications are typically used for agricultural products, foodstuffs, wine and spirit drinks, handicrafts, and industrial products.
- Darjeeling Tea was the first Indian product to get the geographical indication tag in 2004.

PLI Scheme For Textiles

Economy

Why in the news?

- Union Cabinet has recently approved Rs 10,683 crore production-linked incentive (PLI) scheme for Textiles specifically aimed at boosting the production of high value man-made fibre (MMF) fabric, MMF apparel and technical textiles.

MMF and Technical Textiles

- MMFs are made from various chemicals or are regenerated from plant fibres. Examples include viscose, polyester, acrylics etc. The domestic MMF industry mainly comprises two components i.e., polyester and viscose, which together account for about 94% volume.
- **Technical Textiles** segment is a new age textile, with application in several sectors including infrastructure, water, health and hygiene, defence, security, automobiles, aviation, etc.
- Till now, India has primarily focused on cotton textiles. However, two-thirds of the international trade market is of man-made and technical textiles.
- To address this, the government has also launched a **National Technical Textiles Mission** in the past for promoting R&D efforts in the sector.

Scheme Details

- **Only manufacturing companies registered in India** will be eligible to participate. Moreover, there are **2 Phases** of investment possible with different sets of incentive structures.
- The investment period is 2 years, and incentives under the scheme will be available for **5 years** during 2025- 26 to 2029-30 on incremental turnover achieved during 2024-25 to 2028-29.

1st Phase	<ul style="list-style-type: none">• Any person or company willing to invest a minimum ₹300 Crore in plant.• machinery, equipment and civil works (excluding land and administrative building cost) to produce notified products will be eligible.• Such producers will receive incentives under the scheme once they achieve a turnover of at least Rs 600 crore.
2nd Phase	<ul style="list-style-type: none">• Investors willing to spend a minimum ₹100 Crore and generating a turnover of at least Rs 200 crore will receive incentives

Impact

- It will lead to fresh investment of more than Rs 19,000 crore, cumulative turnover of over Rs 3 lakh crore and will create additional employment opportunities of more than 7.5 lakh jobs.
- The textiles industry predominantly employs women; therefore, the scheme will **empower women** and increase their participation in the formal economy.
- As priority will be given for investment in **Aspirational Districts, Tier 3 and 4 towns, and rural areas**, it will especially have a positive impact on States like Gujarat, UP, Maharashtra, Tamil Nadu, Punjab, AP, Telangana, Odisha etc.
- It will make domestic companies global champions in the sector, give a major push to the growing high value MMF segment and help India to regain its historical dominant status in global textiles trade.



Why in the news?

- Government recently notified Rs 25,938 crore worth Production Linked Incentive (PLI) Scheme for Automobile & Auto components, to primarily boost the production of electric vehicles (EVs) and hydrogen fuel cell vehicles. In addition, the government has also announced Rs 120 crore for the drone industry.

Scheme Details

- The scheme **excludes** conventional petrol, diesel and CNG segments. It will incentivize only **advanced automotive technologies** or auto components whose supply chains are weak, dormant, or non-existing.
- It is open to existing Automotive companies as well as new Non-automotive investor companies.
- It will be effective from FY 2022-23 for **five years** & the base year for the eligibility criteria would be FY 2019-20.
- The PLI **incentives are sales-linked** and are expected to be in the range of 13-18% on determined sales values for original equipment manufacturers (OEMs) and 8-13% on determined sales values for auto component manufacturers.
- An additional 5% is to be given for manufacturing components for battery electric vehicles and hydrogen fuel cell vehicles.

Eligibility

- OEMs** in the auto sector must have a minimum of Rs 10,000 crore in revenue and Rs 3,000-crore investment in fixed assets.
- Auto-component manufacturers** must have minimum revenue of Rs 500 crore and fixed asset investment of Rs 150 crore
- New non-automotive investors** must have a global net-worth of Rs 1,000 crore and a clear business plan for investment in advanced automotive technologies.
- Moreover, companies that invest over Rs 80 crore in the drone industry will be eligible for the benefits.

Impact

- It will lead to fresh investments of over Rs 42,500 crores, incremental production of over Rs 2.3 lakh crore and additional employment opportunities of over 7.5 lakh jobs.
- The scheme will contribute towards reducing carbon emissions and oil imports, by accelerating the country's progress towards **green mobility**.
- It will make Indian firms self-reliant and help them to be **globally competitive** in EVs and technology.
- It will also lead to the promotion of next-generation safety technologies to make Indian automobiles & roads safer.
- Boost in drone development will contribute to economic growth due to their reach, versatility, and ease of use, especially in India's remote and inaccessible areas.

Card Tokenisation

Economy

Why in the news?

- Reserve Bank of India (RBI) has directed that no entity or merchant, other than card issuers and card networks, should store card details— or **card-on-file (CoF)**— from January 1, 2022.

About tokenization

- It aims at improving the safety and security of the payment system.
- The Reserve Bank had earlier permitted 'tokenization' services, under which a unique alternate code is generated for transaction purposes, on mobile phones and tablets of cardholders.
- RBI had issued guidelines on "Tokenization – Card transactions" in 2019, permitting authorised card networks to offer card tokenization services to any token requestor, subject to conditions.
- Prior to the latest circular, the facility was available only for mobile phones and tablets of interested cardholders.
- A tokenized card transaction is considered safer as the actual card details are not shared with the merchant during transaction processing.

Safety and Security of card details

- Actual card data, token and other relevant details are stored in a secure mode by the authorised card networks.

- Token requestor cannot store Primary Account Number (PAN), i.e., card number, or any other card detail.
- Card networks are also mandated to get the token requestor certified for safety and security that conform to international best practices / globally accepted standards.

Common Services Centres (CSC)-PSK

Economy

Why in the news?

- Common Services Centres (CSC) has received approvals to manage and operate Passport Seva Kendra (PSK) kiosks in rural areas.

About CSC

- It is a strategic cornerstone of National e-Governance Plan (NeGP) as part of its commitment in National Common Minimum Programme.
- It is conceptualized as Information and Communications Technology (ICT) enabled front end service delivery points for delivery of Government, Social and Private Sector services in the areas of agriculture, health, education etc.
- CSC is an initiative of Ministry of Electronics & IT (MeitY).
- It is strategic cornerstone of the Digital India programme.
- It is pan-India network catering to regional, geographic, linguistic and cultural diversity of country, thus enabling Government's mandate of a socially, financially and digitally inclusive society.
- There are as many as 2.91 lakh CSCs operate in the country today.
- They are mostly ICT enabled front end service delivery points at village level for delivery of government and private services.
- These CSCs serve as access points for delivery of essential public utility services, social welfare schemes, financial, healthcare, education and agriculture services, apart from host of B2C services to citizens in rural and remote areas of the country.

National Asset Reconstruction Company Limited (NARCL)

Economy

- Paving the way for a major clean-up of bad loans in the banking system, the Cabinet cleared a Rs.30,600-crore guarantee programme for securities to be issued by the newly incorporated 'bad bank' for taking over and resolving non-performing assets (NPAs) amounting to Rs.2 lakh crore.

About NARCL

National Asset Reconstruction Company Ltd (NARCL)

- It is a newly incorporated 'bad bank' set up by banks to aggregate and consolidate stressed assets for their subsequent resolution.
- NARCL has been incorporated under the Companies Act.
- It has applied to the Reserve Bank of India for a license as an Asset Reconstruction Company (ARC).
- **Ownership:**
 - **Public Sector Banks (PSBs) will maintain 51% ownership in NARCL.**
 - **NARCL has eight PSBs as its shareholders.**
 - SBI, Union Bank of India, Bank of Baroda and Indian Bank own 99 lakh shares each, Canara Bank owns 1.2 crore shares.
 - **Other shareholders include** — Punjab National Bank (90 lakh shares), Bank of India (90 lakh shares) and Bank of Maharashtra (50 lakh shares).
- **Share Capital:** The authorised share capital of the company is Rs 100 crore divided into 10 crore shares of Rs 10 each.
- NARCL proposes to acquire stressed assets of about Rs. 2 Lakh crore in phases within extant regulations of RBI.
- It intends to acquire these through 15% Cash and 85% in Security Receipts (Srs).

India Debt Resolution Company Ltd. (IDRCL)

- IDRCL is a service company/operational entity which will manage the asset and engage market professionals and turnaround experts.



- Public Sector Banks (PSBs) and Public FIs will hold a maximum of 49% stake and the rest will be with private-sector lenders.
- The NARCL will acquire assets by making an offer to the lead bank. Once NARCL's offer is accepted, then, IDRCL will be engaged for management and value addition.
- It will be a service company/operational entity that will manage the assets and employ market professionals and turnaround experts.

Benefits of NARCL-IRDCL Setup

- It will incentivize quicker action on resolving stressed assets thereby helping in better value realization.
- This approach will also permit freeing up of personnel in banks to focus on increasing business & credit growth.
- As the holders of these stressed assets and SRs, banks will receive the gains.
- Further, it will bring about improvement in the bank's valuation and enhance their ability to raise market capital.

Need for a separate bad bank (NARCL)

- **Likely resurgence in NPAs:** With Covid-related stress, Indian banks are expected to see a **resurgence in their non-performing loans** from Rs. 8.34-lakh crore in end-FY21 to ₹10-11 lakh crore by end of this fiscal.
- **Declining performance of IBC:** The IBC of late is following the law of diminishing returns—after the initial success of selling a few big steel mills and other good assets, where the lenders recovered well over 50% of their dues, things have gone downhill. In some high-profile cases, such as Videocon, Ruchi Soya and Jet Airways, the lenders have hardly recovered 5-6% of their dues.
- **Pending cases:** Also, too many cases and too few NCLT judges have meant pile-ups and most resolutions taking twice the time limit originally set under the IBC.
- **Problem with existing ARCs:** Also, the asset construction route has also run into issues. Here too the recoveries have slowed and the **ARCs are also facing capital issues**. Their security receipts are being downgraded by rating agencies as the recovery expectations move downwards. The ARCs are also reluctant to take up NPAs unless offered very steep discounts.
- **Panel recommendation: K V Kamath Committee also suggested setting up Bad bank** to revive sectors such as Trade, Textile, NBFCs, Steel and construction, etc.

National Monetisation Pipeline

Economy

- The government unveiled a four-year National Monetisation Pipeline (NMP) worth an estimated Rs 6 lakh crore. It aims to unlock value in brownfield projects by engaging the private sector, transferring to them revenue rights and not ownership in the projects, and using the funds so generated for infrastructure creation across the country.

About National Monetisation Pipeline

- The Union Budget 2021-22 has identified monetisation of operating public infrastructure assets as a key means for sustainable infrastructure financing.
- The Budget provided for preparation of a 'National Monetisation Pipeline (NMP)' of potential brownfield infrastructure assets.
- The pipeline has been developed by NITI Aayog, in consultation with infrastructure line ministries, based on the mandate for 'Asset Monetisation'
- It aims to provide a medium term roadmap of the programme for public asset owners; along with visibility on potential assets to private sector.
- NMP estimates aggregate monetisation potential of Rs 6.0 lakh crores through core assets of the Central Government, over a four-year period, from FY 2022 to FY 2025.
- The Asset Monetisation programme is based on the vision of universal access to high-quality and affordable infrastructure to the common citizen of India.

Features of National Monetisation Pipeline

- The pipeline has been prepared based on inputs and consultations from respective line ministries and departments, along with the assessment of total asset base available therein.
- The monetization through disinvestment and monetization of non-core assets have not been included in the NMP.
 - Currently, only assets of central government line ministries and CPSEs in infrastructure sectors have been included.

- The framework for monetisation of core asset monetisation has three key imperatives:
- It includes selection of de-risked and brownfield assets with stable revenue generation profile with the overall transaction structured around revenue rights.
- The primary ownership of the assets under these structures continues to be with the Government with the framework envisaging hand back of assets to the public authority at the end of transaction life.

Significance of National Monetisation Pipeline

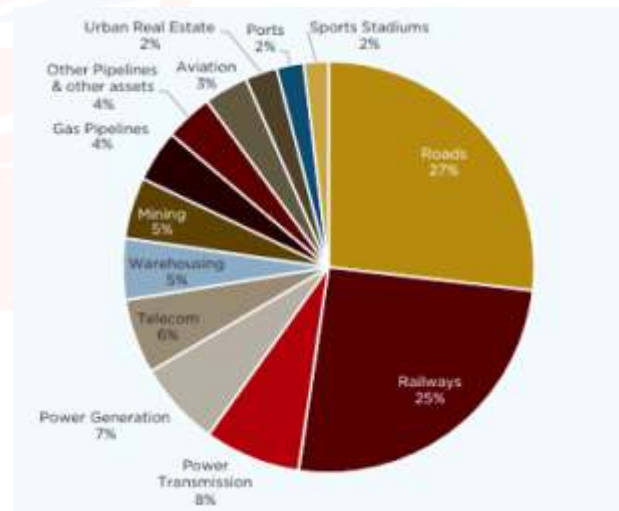
- Its strategic objective is to unlock the value of investments in brownfield public sector assets by tapping institutional and long-term patient capital.
- The NMP is envisaged to serve as a medium-term roadmap for identifying potential monetisation-ready projects, across various infrastructure sectors.
- The NMP is aimed at creating a systematic and transparent mechanism for public authorities to monitor the performance of the initiative and for investors to plan their future activities.
- The NMP is a culmination of insights, feedback and experiences consolidated through multi-stakeholder consultations undertaken by NITI Aayog, Ministry of Finance and line ministries.

Potential of National Monetisation Pipeline

- The period for NMP has been decided so as to be co-terminus with balance period under National Infrastructure Pipeline (NIP).
- The aggregate asset pipeline under NMP over the four-year period, FY 2022-2025, is indicatively valued at Rs 6.0 lakh crore.
- The estimated value corresponds to ~14% of the proposed outlay for Centre under NIP (Rs 43 lakh crore).
 - It includes more than 12 line ministries and more than 20 asset classes.
- The sectors included are roads, ports, airports, railways, warehousing, gas & product pipeline, power generation and transmission, mining, telecom, stadium, hospitality and housing.
- The top 5 sectors (by estimated value) capture ~83% of the aggregate pipeline value.
 - These top 5 sectors include Roads (27%) followed by Railways (25%), Power (15%), oil & gas pipelines (8%) and Telecom (6%).

NATIONAL MONETISATION PIPELINE

- The assets and transactions identified under the NMP are expected to be rolled out through a range of instruments.
 - It includes direct contractual instruments such as public private partnership concessions and capital market instruments such as Infrastructure Investment Trusts (InvIT) among others.



What are the challenges?

- Among the key challenges that may affect the NMP roadmap are: lack of identifiable revenues streams in various assets, level of capacity utilisation in gas and petroleum pipeline networks, dispute resolution mechanism, regulated tariffs in power sector assets, and low interest among investors in national highways below four lanes.
- While the government has tried to address these challenges in the NMP framework, execution of the plan remains key to its success.
- Structuring of monetisation transactions is being seen as key.
- The slow pace of privatisation in government companies and less-than-encouraging bids in the recently launched PPP initiative in trains, indicate that attracting private investors interest is not that easy.
- The MNP framework notes that other key impediments to the monetisation process are asset-specific challenges such as presence of an identifiable revenue stream. This is specifically relevant to the railway sector, which has seen limited PPP success as a mode of project delivery.
- Konkan Railway, for instance, has multiple stakeholders, including state governments, which own stake in the entity. Creating an effective monetisation transaction structure could be a bit challenging in this case.

Nobel Prize in Economics 2021

NEW INSIGHTS ABOUT THE LABOUR MARKET AND WORK ON NATURAL EXPERIMENTS



David Card

Canada
Born in 1956

Affiliation at the time of award:

University of California, Berkeley (US)

• "For his empirical contributions to labour economics"

Source: nobelprize.org

Joshua Angrist

Israel-US
Born in 1960

Massachusetts Institute of Technology (US)

• "For their methodological contributions to the analysis of causal relationships"

Guido Imbens

Netherlands-US
Born in 1963

Stanford University (US)



David Card

Joshua D. Angrist

Guido W. Imbens

Core Sector Logs Growth

Why in the news?

- The key infrastructure sector spanning coal, crude oil, natural gas, refinery products, fertilisers, steel, cement and electricity grew an annual 11.6% in August, higher than the 9.9% in July. The sector had contracted by 6.9% in August last year. The expansion was also helped by a low base of last year.

Index of Core sector industries

- Index of core industries**
- The **eight core sector industries** include coal, crude oil, natural gas, refinery products, fertiliser, steel, cement and electricity.
- The eight Core Industries in **decreasing order** of their weightage: **Refinery Products > Electricity > Steel > Coal > Crude Oil > Natural Gas > Cement > Fertilizers**.
- The eight core industries **comprise 40.27% of the weight of items** included in the **Index of Industrial Production (IIP)**.

Index of Industrial Production

- The Index of Industrial Production (IIP) is an index which details out the growth of various sectors in an economy such as mineral **mining, electricity, manufacturing, etc.**
- It is compiled and published monthly by the **Central Statistical Organisation (CSO), Ministry of Statistics and Programme Implementation** six weeks after the reference month ends, i.e a **lag of six weeks**.
- The **Base Year** of the Index of Eight Core Industries has been revised from the year 2004-05 to **2011-12** from April, 2017.
- The **combined Index of Eight Core Industries stood at 125.8 in May 2021**, which increased by **16.8 per cent** (provisional) as compared to the Index of May 2020.
- The production of **Coal, Natural Gas, Refinery Products, Steel, Cement and Electricity** industries **increased in May 2021** over the corresponding period of last year.

Industry	Weight (In percentage)
Petroleum & Refinery production	28.04
Electricity generation	19.85
Steel production	17.92
Coal production	10.33
Crude Oil production	8.98
Natural Gas production	6.88
Cement production	5.37
Fertilizers production	2.63



The **summary of the Index of Eight Core Industries** is given below:

- **Coal** – Coal production (weight: 10.33 per cent) **increased by 6.9 per cent** in May, 2021 over May, 2020.
- **Crude Oil** – Crude Oil production (weight: 8.98 per cent) **declined by 6.3 per cent** in May, 2021 over May, 2020.
- **Natural Gas** – Natural Gas production (weight: 6.88 per cent) **increased by 20.1 per cent** in May, 2021 over May, 2020.
- **Petroleum Refinery** production (weight: 28.04 per cent) **increased by 15.3 per cent** in May, 2021 over May, 2020. corresponding period of previous year.
- **Fertilizers** – Fertilizers production (weight: 2.63 per cent) **decreased by 9.6 per cent** in May, 2021 over May, 2020.
- **Steel** – Steel production (weight: 17.92 per cent) **increased by 59.3 per cent** in May, 2021 over May, 2020.
- **Cement** – Cement production (weight: 5.37 per cent) **increased by 7.9 per cent** in May, 2021 over May, 2020.
- **Electricity** – Electricity generation (weight: 19.85 per cent) **increased by 7.3 per cent** in May, 2021 over May, 2020.

G-SECs

Economy

- The Reserve Bank of India (RBI) is planning to enable international settlement of transactions in government securities (G-secs) through International Central Securities Depositories (ICSDs), to help expand the investor base for the G-secs market.

About Government Security (G-Sec)

- Government Securities?
- It is a tradeable instrument issued by the Central Government or the State Governments.
- The government securities market is dominated by institutional investors like mutual funds, banks, insurance companies.
- The government securities are of two types:
 - Short term popularly called treasury bills, with original maturities of less than one year;
 - Long term generally called Government bonds or dated securities with an original maturity of one year or more.
- In India, the Central Government issues both, treasury bills and bonds or dated securities while the State Governments issue only bonds or dated securities, which are called the State Development Loans (SDLs).
- G-Secs are called risk-free gilt-edged instruments because practically they carry no risk of default.
- G-Secs offer the maximum safety as they carry the Sovereign's commitment for payment of interest and repayment of principal.
- G-Secs can be sold easily in the secondary market to meet cash requirements.

Treasury Bills (T-bills)

- Treasury bills or T-bills, which are money market instruments, are **short term debt instruments** issued by the Government of India and are presently issued in three tenors, namely, **91 day, 182 day and 364 day**.
- Treasury bills are **zero coupon securities** and **pay no interest**. Instead, they are issued at a discount and redeemed at the face value at maturity. For example, a 91 day Treasury bill of Rs. 100/- (face value) may be issued at say Rs. 98.20, that is, at a discount of say, Rs. 1.80 and would be redeemed at the face value of Rs. 100/-.
- The return to the investors is the difference between the maturity value or the face value (that is Rs. 100) and the issue price.

Cash Management Bills (CMBs)

- In 2010, Government of India, in consultation with RBI introduced a new short-term instrument, known as Cash Management Bills (CMBs), to meet the temporary mismatches in the cash flow of the Government of India. The CMBs have the **generic character of T-bills but are issued for maturities less than 91 days**.

Dated G-Secs

- Dated G-Secs are securities which carry a **fixed or floating coupon** (interest rate) which is paid on the face value, on half-yearly basis.
- Generally, the tenor of dated securities ranges from 5 years to 40 years.

State Development Loans (SDLs)

- As the name implies, SDLs are issued only by the state governments of India to fund their activities and to satisfy their budgetary needs. These types of government securities are very similar to dated G-Secs. They support the same repayment methods and come with a wide range of investment tenures. The only difference between dated G-Secs and SDLs is that the former is issued only by the central government, while the latter is issued solely by the state governments of India.

MSP hiked for Rabi Crops

Economy

Why in the news?

- The Centre has increased the minimum support price (MSP) for wheat for the upcoming rabi season to 2,015 per quintal, a 2% hike from last year. Oilseeds and pulses such as mustard, safflower and masoor dal saw higher MSP increases of up to 8% in a bid to encourage crop diversification.

About Minimum Support Price (MSP)

- The MSP is the rate at which the government purchases crops from farmers.
- It is a "minimum price" for any crop that the government considers as remunerative for farmers and hence deserving of "support".
- It is a mechanism to protect farmers from fall in market prices and hence is announced before the start of sowing season.
 - Crops Under the MSP
 - Currently, rates are fixed for 22 crops excluding Sugarcane (Total 23).
 - Please note that for Sugarcane, fair and remunerative price (FRP) are declared not MSP.
 - The mandated crops include
 - 14 crops of the kharif season,
 - 6 rabi crops and
 - 2 other commercial crops.
 - In addition, the MSPs of toria and de-husked coconut are fixed on the basis of the MSPs of rapeseed/mustard and copra, respectively.

CROPS COVERED UNDER MSP

KHARIF CROPS (14)

1. Paddy
2. Jawar
3. Bajara
4. Ragi
5. Maize
6. Arhar
7. Moong
8. Urad
9. Cotton
10. Ground Nuts
11. Sunflower
12. Soyabean
13. Sesamum
14. Nigerseed

RABI CROPS (7)

1. Wheat
2. Barley
3. Gram
4. Masur
5. Rapeseed & Mustard
6. Safflower
7. Torai

CALENDAR YEAR CROPS (4)

1. Copra
2. De-husked Coconut
3. Jute
4. Sugar Cane (FRP)

- **CACP recommends MSP for 22 crops before the sowing period each year**
- **MSP derived for Toria based on MSP for Rapeseeds and Mustard and for De-husked Coconut on the Basis of MSP of Copra.**
- **Fair and Remunerative prices for Sugar is also declared**

- It is based on the calculation of at least 1.5 times the cost of production incurred by the farmers.
 - The government is currently using A2 + FL price whereas the Swaminathan Committee suggested C2 price as production cost.

Declaration of MSP:

- The Commission for Agricultural Costs & Prices (CACP) recommends MSPs for all crops based on different factors.
- These factors include crop-related factors, supply-related factors and other factors as listed below in the table.

Crop Related Factors	Supply Factors	Other Factors
Cost of Production	Area under crop	Parity between the price paid and price received by farmers
Input Prices	Yield	Issue prices
Input-Output price parity	Productivity	Subsidies impact
Past Market prices	Import and Export Scenarios	
Cost of living	Processing Cost	
Demand and Supply	Transportation and Distribution cost	
Price Level/ Inflation	Taxes and Fees	
International Prices	Domestic stock availability	

- CACP considers both A2+FL and C2 costs while recommending MSP.
 - It reckons only A2+FL cost for return.
 - However, C2 costs are used primarily as benchmark reference costs (opportunity costs) to see if the MSPs are at least in some of the major producing States.
- The Cabinet Committee on Economic Affairs (CCEA) takes a final decision on the level of MSPs and other recommendations made by the CACP.

What are A2, A2+FL and C2 costs?

- 'A2' Cost
 - It covers all paid-out costs directly incurred by the farmer in cash and kind on seeds, fertilisers, pesticides, hired labour, leased-in land, fuel, irrigation, etc.
- 'A2+FL' Cost
 - It Includes A2 plus an imputed value of unpaid family labour.
- 'C2' Cost
 - It is a more comprehensive cost that factors in rentals and interest for owned land and fixed capital assets, on top of A2+FL.

About Commission for Agricultural Costs & Prices (CACP)

- It is an advisory body attached to the Ministry of Agriculture and Farmers Welfare.
- It was established in 1965 as the Agricultural Prices Commission, and was given its present name in 1985.

Transport And Marketing Assistance (TMA)

Economy

Why in the news?

- In order to enhance agri exports, the central government has enhanced the scope of Transport and Marketing Assistance (TMA) scheme for specified agriculture products by increasing rate of interest and including dairy products under its purview, and extended the scheme till March 31, 2022.

About TMA

- It was launched in **2019**, for providing financial assistance for the transport and marketing of agricultural products to boost exports of such commodities to certain countries in Europe and North America.
- In the year 2018, the government approved an Agriculture Export Policy with an aim to double the shipments to USD 60 billion by 2022.
- APEDA (Agricultural and Processed Food Products Export Development Authority)** works towards expanding the export potential of Indian agricultural and food products.
- Under the TMA, the government **reimburses a certain portion of freight charges and provides assistance for the marketing of agricultural produce.**

- The assistance, at notified rates, will be available for export of eligible agriculture products to the permissible countries, as specified from time to time.
- The revised scheme has included dairy products among other agriculture products in its purview and increased the rates of assistance.
- Rates of assistance have been increased, by 50% for exports by sea and 100% through the air.
- TMA would be **reimbursed through the Regional Authorities of DGFT (Directorate General of Foreign Trade)**.
- **Objective**
- To provide assistance for the international component of freight and marketing of agricultural produce.
- To mitigate the disadvantage of higher cost of transportation of export of specified agriculture products due to trans-shipment.
- To promote brand recognition for Indian agricultural products in the specified overseas markets.

Agricultural and Processed Food Products Export Development Authority

- APEDA is a non-trading, statutory body established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act passed by the Parliament in December, 1985.
- It functions under the Ministry of Commerce and Industry. The Authority has its headquarters in New Delhi.
- It has been mandated with the responsibility of export promotion and development of the scheduled products viz. fruits, vegetables, meat products, dairy products, alcoholic and non-alcoholic beverages etc.
- It has also been entrusted with the responsibility to monitor import of sugar.
- In 2017, APEDA launched a mobile app- "**Farmer Connect**" to allow farmers to apply online to facilitate their farm registration, tracking the status of application & approvals by State Government and Lab sampling by authorized Laboratories.

E-SHRAM

Economy

Why in the news?

- The Ministry of Labour and Employment (MOLE) launched the E-Shram, the web portal for creating a National Database of Unorganized Workers (NDUW), which will be seeded with Aadhaar.

About the Portal

- The portal will maintain a database of workers in the country's unorganised sector.
- Workers will be provided with an e-SHRAM card which will have a 12 digit unique number.
 - The details of workers will also be shared by the state government and departments.
- This will be a single-point reference to help authorities reach out to and track workers in the informal sector, and offer welfare in times of crisis.
- The database will include construction workers, migrant workers, gig and platform workers, street vendors, domestic workers, agriculture workers, migrant workers and similar other sub-groups of unorganised workers.
- It will be available in public for open access where workers can self-enrol through Aadhaar and mobile numbers.
- It will integrate the social security schemes of the government and will ensure that welfare schemes reach the right beneficiary at the right time across the length and breadth of the country.

What is an Unorganised/Informal sector?

- It is characterised by small and scattered units which are largely outside the control of the government. There are rules and regulations but these are not followed. Jobs here are low-paid and often not regular.
- There is no provision for overtime, paid leave, holidays, leave due to sickness etc. Employment is not secure.
- People can be asked to leave without any reason.
- This sector includes a large number of people who are employed on their own doing small jobs such as selling on the street or doing repair work.
 - Similarly, farmers work on their own and hire labourers as and when they require

Unorganised/Informal sector in India

- Around 80% of India's labour force is employed in the informal sector and the remaining 20% in the formal sector.
 - Of the 80% informal sector workforce, half work in agriculture & the remaining in non-agricultural sectors.

Why is in the news?

- The Union Cabinet has approved implementation of a new centrally sponsored scheme **National Mission on Edible**

About Vegetable Oils

- India's **vegetable oil economy** is the **world's fourth largest** after the USA, China & Brazil.
- India is the **largest edible oil importer** importing about 68% of the country's total edible oil requirement (22 MT).
- Of the total oil imported around 60% of the edible oil import is palm oil and its derivatives from Indonesia and Malaysia.
- **The Mission aims** to increase the area under cultivation for Oil Palm by an additional area of 6.5 lakh hectare thereby reaching the target of 10 lakh hectares in the next 5 years. The self-sufficiency in oilseeds attained through the "**Yellow Revolution**" during early 1990's, could not be sustained beyond a short period.
- Despite being the **fifth largest oilseed crop producing country** in the world, India is also one of the largest importers of vegetable oils today.

Present Status of Vegetable Oil Production in India

- Nine oilseeds are the primary source of vegetable oils in the country, which are largely grown **under rainfed condition** over an area of about 26 million ha.
- Among oilseeds, soybean (34%), groundnut (27%), rapeseed & mustard (27%) contributes to more than 88% of total oilseeds production in the country.
- Mustard (35%), soybean (23%) and groundnut (25%) contribute >80% of vegetable oil production in the country.
- Andhra Pradesh (groundnut) & Gujarat (groundnut), Haryana (Mustard), Karnataka (G.nut), M.P (Soybean), Maharashtra (Soybean), Rajasthan (Mustard & Soybean), Tamil Nadu (G. nut), U.P(Mustard), West Bengal (Mustard) contributing more than 95% of total oilseed production in the country.
- India is producing about 7-8 million tons of vegetable oils from primary sources.
- In addition to nine oilseeds, 3 million tonnes of vegetable oil is being harnessed from secondary sources like cottonseed, rice bran and coconut.

About Palm Oil

- Palm oil is the world's most consumed edible oil derived from Palm fruits. It is an incredibly productive crop.
- It is used in most packaged food, cosmetics, detergents, chemicals, energy to pharmaceuticals, and even in animal feed.
- Indonesia and Malaysia are the world's largest palm oil producers.

Aims and Benefits of NMEO - OP Mission

- **Reduce Imports:**
- The mission with a pegged outlay of Rs. 11,040 crore has been formulated to **boost palm oil production in the country and reduce dependence on edible oil imports.**
- NMEO-OP aims to **reduce import dependence from 60% to 45% by 2024-25**, by increasing domestic edible oil production from 10.5 million tonnes to 18 million tonnes.
- With this move, the government expects to increase palm oil production to 11.2 lakh tonnes by FY26 and 28 lakh tonnes by FY30 and thereby reducing import dependency.
- **Development of NE region:** The Mission identifies the **North East region and Andaman and Nicobar** as special focus areas.
- **Price stability for farmers:** The Centre will give **oil palm farmers a price assurance**, with the industry mandated to pay the viability gap funding of 14.3% of crude palm oil prices.
- **Price assurance on Backward Linkages:**
- The Mission will also more than **double the support provided for the cost of planting materials**, with an increase from Rs.12,000 per hectare to Rs.29,000 per hectare along with **further assistance for maintenance, inter cropping interventions and the rejuvenation of old gardens.**
- To deal with the shortage of planting materials, the Mission will **provide assistance to seed gardens** up to Rs.100 lakh for 15 hectares in the focus areas of the northeast and Andamans, and up to Rs.80 lakh in the rest of the country.

Concerns with the Mission

Issues with oil palm cultivation in India

- Impact on biodiversity: Studies on agrarian change in Southeast Asia have shown that increasing oil palm plantations is a major reason for the region's declining biodiversity.
- The Northeast is recognised as the home of around 850 bird species, it is also home to citrus fruits, it is rich in medicinal plants and harbours rare plants and herbs.
- Above all, it has 51 types of forests.
- Studies conducted by the government have also highlighted the Northeast's rich biodiversity.
- The palm oil policy could destroy this richness of the region.
- To preserve the environment and biodiversity, Indonesia and Sri Lanka have already started putting restrictions on palm tree plantation.
- Water pollution: Along with adversely impacting the country's biodiversity, it has led to increasing water pollution.
- Climate change: The decreasing forest cover has significant implications with respect to increasing carbon emission levels and contributing to climate change.
- Against the notion of self-reliance: Such initiatives are also against the notion of community self-reliance:
- The initial state support for such a crop results in a major and quick shift in the existing cropping pattern that are not always in sync with the agro-ecological conditions and food requirements of the region.
- Against commitment to sustainable agriculture: The policy also contradicts the government's commitments under the National Mission for Sustainable Agriculture.
- The mission aims at "Making agriculture more productive, sustainable, remunerative and climate resilient by promoting location specific integrated/composite farming systems."
- The palm oil mission, instead, aims at achieving complete transformation of the farming system of Northeast India.
- Studies also show that in case of variations in global palm oil prices, households dependent on palm oil cultivation become vulnerable.

Account Aggregator System

Economy

CONTEXT

- **Eight major banks have recently joined the Account Aggregator (AA) network, which will allow clients to view and share their financial data more easily.**

About Account Aggregator (AA)

- An AA is a framework that allows regulated businesses to share financial data in real-time and in a data-blind manner (data flows through AA are encrypted) (Banks and NBFCs).
- The Reserve Bank of India (RBI) certified AA as a new type of NBFC (Non-Banking Financial Company) in 2016, with the primary function of facilitating the flow of financial data with the explicit agreement of users.
- Financial Information Providers (FIPs) and Financial Information Users (FIUs) can exchange data using AAs (FIUs).
- The Data Empowerment and Protection Architecture (DEPA) framework serve as the foundation for AA's architecture.
- DEPA is an architecture that allows users to safely access and shares their data with others.

Significance

- **For the general public:** Users can access a variety of financial services from a variety of providers on a single site using the AA framework, which uses a consent approach that allows customers to pick which financial data to share with which business. It allows users to manage who has access to their information, track and report its travel, and decrease the danger of data loss while in transit.
- **For Financial Institutions:** It will allow banks to access permitted data flows and verified data as part of India's digital infrastructure. This will enable banks to minimise transaction costs, allowing them to offer smaller loan amounts and more customised products and services to their consumers.
- **Fraud Reduction:** By adding secure digital signatures and end-to-end encryption for data sharing, AA lowers the fraud associated with physical data.

Why in the news?

- **Recently, a Task Force and an Expert Committee have been constituted by the Ministry of Coal to prepare the roadmap for coal-based hydrogen production.**

About Task Force on coal-based hydrogen production

- The Ministry of Coal has constituted 2 Committees, one to oversee the program and another of experts to give guidance to the Ministry.
- This is aimed at contributing to the agenda of a hydrogen-based economy in a clean manner.
- The Task Force constituted is chaired by the Additional Secretary, Coal and has the following terms of reference:
- Identification of role to be played by each stakeholder Ministry.
- Coordination with Stakeholder Ministries.
- Monitoring of activities towards achieving coal based Hydrogen production and usage.
- Setting up sub committees to achieve the objective.
- To coordinate with Coal Gasification Mission and NITI Aayog.

The Expert Committee has the following terms of reference:

- Identifying experts in India and co-opting as members.
- Desk based review of progress in hydrogen technology and also review ongoing research projects in Hydrogen technology.
- Coordinate with various national/international technology institutions in hydrogen.
- Prepare a road map for coal based Hydrogen production and usage including economic viability, environmental sustainability and policy enablers required.
- Identifying activities for implementation of coal based hydrogen production and usage.
- Assisting Task force in implementation of Coal based Hydrogen production and usage.

Why in the news?

- **World Bank to stop its famous and fought-over 'ease of doing business' report after an internal audit found "undue pressure" by top bank officials to manipulate data had resulted in country rankings changed to favour China.**

Ease of Doing Business Index

- The Ease of Doing Business (EoDB) index is a ranking system established by the **World Bank Group**. It is an aggregate figure that includes different parameters which define the ease of doing business in a country.
- **Indicators:** The quantitative indicators ranged from
 - dealing with construction permits
 - getting electricity
 - getting credit
 - protecting minority investors
 - paying taxes
 - trading across borders

Why in the news?

- The NITI Aayog has released a paper called "Reforms in Urban Planning Capacity in India."

National level scenario of Urbanization

- In 2011, India's population was 1210 million, with a 31.1 percent urbanisation rate (Census of India 2011).
- The increase of people living in towns and cities is known as urbanisation.

- The speed of urbanisation and the distribution of urban centres are not uniform across the country.
- Maharashtra, Uttar Pradesh, Tamil Nadu, West Bengal, Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Rajasthan, and Kerala account for more than 75% of the country's urban population.

Urbanization in States

- Goa, Tamil Nadu, Kerala, Maharashtra, and Gujarat have urbanisation rates that are higher than the national average.
- Bihar, Odisha, Assam, and Uttar Pradesh continue to be less urbanised than the national average of 31.1 per cent.
- The National Capital Territory of Delhi, Daman and Diu, Chandigarh, and Lakshadweep have urbanisation rates of more than 75%.

Need for enhancing Urban Planning Capacity

- **A surge in Urbanization:** India's urban population accounts for 11% of the world's total.
- In absolute terms, however, India's urban population outnumbers that of highly urbanised countries/regions such as the United States, Japan, Western Europe, and South America.
- Between 2011 and 36, urbanisation will account for 73 per cent of India's population growth.
- **India's Economy Depends on Urbanization:** Urbanization accounts for roughly 60% of the country's Gross Domestic Product (GDP).
- However, there are significant economies of scale that have yet to be realised.

India's National Growth Goals are as follows:

- By 2024, the economy is expected to grow to \$5 trillion.
- By 2030, the total workforce is expected to be 0.64 billion people, with 0.26 billion of them working in cities.
- **Infrastructure Goals:** As part of the National Industrial Corridor Program, 11 significant industrial corridors will be built, as well as multiple multimodal logistics parks.
- River rejuvenation, clean air in cities, and other environmental goals
- **The urban sector accounts for a considerable 17 per cent of the National Infrastructure Pipeline (NIP).**
- During the period 2020-25, NIP promotes infrastructure projects across the country, with an estimated investment of Rs 111 lakh crore.

Recommendations

- **Planning for Healthy Cities:** For a period of five years, the Central Sector will implement the '500 Healthy Cities Programme,' in which priority cities and towns will be chosen jointly by states and local governments.
- The Program can also lead to the most efficient use of urban land.
- **Re-engineering of urban governance:** To improve institutional clarity and multi-disciplinary skills in order to address urban difficulties.
- It is suggested that a state-level apex committee be formed to evaluate planning legislation on a regular basis (including town and country planning or urban and regional development acts or other relevant acts).
- Adoption of fair mechanisms for acquiring technical consultation services, developing project structuring and management abilities in the public sector, and empanelment of private sector consultancies are all examples of ways to strengthen the role of the private sector.
- The Government of India should establish a 'National Council of Town & Country Planners' as a statutory entity.
- Within the MoHUA's National Urban Innovation Stack, a 'National Digital Platform of Town and Country Planners' is also envisaged.
- For the purpose of demystifying urban planning, a citizen outreach campaign has been launched.
- Building a Stronger Urban Planning Education System.

India's International Commitments

- **Goal 11 of the Sustainable Development Goals** is to promote urban planning as one of the recommended approaches for attaining long-term development.
- **The New Urban Agenda of UN-Habitat:** In 2016, it was approved at Habitat III. It lays out guidelines for urban planning, construction, development, management, and enhancement.
- As a concept, **UN-Habitat (2020)** addresses spatial sustainability. It implies that a city's physical environment can boost its ability to generate social, economic, and environmental value and well-being.
- India's National Determined Contributions (NDCs) under the **Paris Agreement** include targets to reduce the emission intensity of the country's GDP by 33 to 35 percent by 2030, compared to 2005 levels.



Why in the news?

- Sri Lankan President has **declared a state of Economic Emergency** for the **Supply of Essential Foods**. It has now been **passed by the Sri Lankan Parliament**.

Factors that led to Sri Lanka's Economic Crisis

- The tourism industry, which accounts for about 10% of the country's GDP and generates foreign cash, has been heavily damaged by the coronavirus pandemic. As a result, foreign exchange reserves have fallen from over \$7.5 billion in 2019 to roughly \$2.8 billion in July 2021.
- **Currency Depreciation:** As the supply of foreign exchange has dried up, the amount of money that Sri Lankans have had to spend to purchase the foreign exchange required to import goods has increased. The Sri Lankan currency has fallen by roughly 8% so far this year as a result of this.
- **Rising Inflation:** Even basic food supplies, such as sugar, dairy products, wheat, and medical supplies, are significantly reliant on imports in Sri Lanka. As a result, food prices have grown in lockstep with the rupee's depreciation.
- **Reduced Foreign Currency Inflow:** The pandemic has impacted all main sources of foreign exchange revenues, including exports, worker remittances, and so forth.
- **Food scarcity:** Sri Lanka's recent decision to prohibit the import of artificial fertilisers in favour of an "organic exclusively" strategy. This abrupt switch to organic fertilisers could have a significant influence on food output.

Measures taken

- The government can impose retail pricing for vital food goods and seize traders' stocks under emergency laws.
- Authorities can hold people without warrants, confiscate property, enter and search any location, suspend laws, and issue directives that cannot be challenged in court under the emergency law.
- Officials who issue such instructions are also shielded from legal action.
- The military will be in charge of overseeing the measure, which provides officials with the authority to ensure that critical commodities are sold at government-set prices.

AUKUS Grouping**International Relations****Why in the news?**

- **United States, UK, and Australia announced a new trilateral defence deal for Indo-Pacific.** Under this deal, USA and Britain will help Australia deploy nuclear-powered submarines in Pacific region.

About AUKUS

- AUKUS, as the partnership is being called, will strive over the next 18 months to equip Australia with nuclear propulsion technology.
- As part of this, Australia will acquire nuclear-powered submarines with help from the UK and the US.
- It will also involve a new architecture of meetings and engagements between the three countries, as well as cooperation across emerging technologies (applied AI, quantum technologies and undersea capabilities).
- Australia's nuclear-powered submarines, when they deploy, will be armed with conventional weapons only and not nuclear weapons.

Advantage over Conventional and AIP (Air-Independent Propulsion) Submarines

- Both of these submarines need to come to the surface to recharge their batteries. The diesel engine propels the vessel on the surface. However, the fuel cells of AIP can only be charged at on-land stations, not while at sea. Since nuclear-powered propulsion submarine is propelled by a nuclear-powered engine rather than by batteries, it does not have to emerge on the surface at all, except to replenish supplies for the crew.
- **For Indo-Pacific Region:** This will be a partnership where technology, scientists, industries and defence forces of these three countries will work together to **deliver a safer and more secure region**.
- **For Australia:** Australia has never had nuclear-powered submarines. Hence, this step will give **Australia naval heft in the Pacific**, where China has been particularly aggressive.
- **For India:** The new pact will add to the **global efforts to balance China in the region**. Australia is also a member of **QUAD group**. A stronger Australia would lead to further strengthening of QUAD.

- **For France:** France is not happy with the deal and has termed this deal a "**stab in the back**". **Australia had signed a contract** to buy 12 Attack-class **submarines from France** in 2016. The first submarine was expected to be operational around 2034.

How China Views This Development

- China has **denounced** a new Indo-Pacific security alliance saying **such partnerships should not target third countries**.
- It claims that the current cooperation would gravely undermine regional peace and stability, aggravate arms race and **hurt the international non-proliferation efforts**.
- This highlights that **western powers are using nuclear exports for geopolitical gaming tools**.

Iran to Allow Nuclear Surveillance by IAEA

International Relations

Why in the news?

- Iran has agreed to let the International **Atomic Energy Agency (IAEA)** **service monitoring cameras at Iranian nuclear sites**.

Joint Comprehensive Plan of Action

- Iran and a group of world powers known as the P5+1 reached an agreement on a long-term nuclear accord in 2015. (the US, UK, France, China, Russia and Germany).
- Iran committed to drastically reduce its stockpiles of crucial nuclear weapons components, including centrifuges, enriched uranium, and heavy water as part of the deal.
- Without the potential to produce a nuclear weapon, Iran would only have enough enriched uranium to meet its energy requirements.
- In exchange for billions of dollars in sanctions relief, it pledged to destroy much of its nuclear programme and open its facilities to more thorough foreign inspections.
- The International Atomic Energy Agency (IAEA) was instrumental in enforcing the agreement by monitoring Iran and conducting inspections.

Earlier Sanctions on Iran

- Sanctions were implemented by the United Nations (UN), the United States (US), and the European Union (EU) to force Iran to stop enriching uranium.
- Iran's economy was devastated, costing the country more than USD 160 billion in oil income from 2012 to 2016.
- Iran got access to more than USD 100 billion in frozen assets abroad as a result of the JCPOA and was allowed to begin selling oil on international markets and trading through the global financial system.

Current Scenario

- **The United States Position:**
 - On the subject, it is ready to "re-engage in real diplomacy."
 - It plans to re-join the accord, but only if Iran returns to full compliance with the terms.
- **Iran's Position:**
 - Iran has ruled out convening an informal meeting with US and European leaders to discuss restarting the agreement, stressing that the US first eliminate all unilateral sanctions. Iran has also begun to limit some IAEA site inspections.
 - The action is intended to increase pressure on the United States and other countries to relax sanctions on the oil, banking, and financial sectors.
 - Iran has increased its production of enriched uranium in the past, according to the IAEA.
 - The International Atomic Energy Agency (IAEA) and Iranian diplomats have reached a "temporary" agreement to maintain inspections of Iran's nuclear facilities for three more months, keeping the diplomatic route to reviving the accord open.
- **Significance for India**
 - Removing sanctions may rekindle India's interest in the Chabahar and Bandar Abbas ports, as well as other regional connectivity projects.
 - This would also assist India in neutralising China's footprint in Pakistan's Gwadar port.
 - The re-establishment of links between the United States and Iran will assist India in obtaining low-cost Iranian oil and ensuring energy security.



International Atomic Energy Agency (IAEA)

- It is the **international centre for cooperation in nuclear field**.
- It is widely known as the **world's "Atoms for Peace and Development" organization** within United Nations family.
- The Agency works with its Member States and multiple partners worldwide to promote the safe, secure and peaceful use of nuclear technologies.
- It was **created in 1957** in response to the deep fears and expectations generated by the discoveries and diverse uses of nuclear technology.
- **Headquarter** – Vienna, Austria

India-UAE Negotiations for CEPA

International Relations

Why in the news?

- India and UAE started formal negotiations for a mutually-beneficial Comprehensive Economic Partnership Agreement (CEPA).

Comprehensive Economic Partnership Agreement

- It's a type of free trade agreement that encompasses negotiations on trade in services and investment, as well as other aspects of economic cooperation. It may even contemplate negotiating on issues like trade facilitation and customs cooperation, as well as competition and intellectual property rights.
- Free Trade Agreements are less extensive than Partnership Agreements or Cooperation Agreements.
- CEPA also looks into the regulatory side of the trade and includes an agreement that covers these concerns.
- South Korea and Japan have both inked CEPAs with India.

Significance of India-UAE Economic Relations

- The UAE is India's third-largest commercial partner, with bilateral trade of USD 59 billion in 2019/2020.
- With exports estimated at over USD 29 billion in 2019-2020, the UAE is India's second-largest export destination after the United States.
- The UAE is India's eighth-largest investor, having invested USD 11 billion between April 2000 and March 2021, while Indian firms have invested over USD 85 billion in the UAE.
- Petroleum products, precious metals, stones, gems and jewellery, minerals, and other items are major exports.
- Petroleum and petroleum products, precious metals, stones, jewels and jewellery, minerals, and other items are major imports.
- Within five years of the signing of the agreement, bilateral trade in goods is anticipated to reach USD 100 billion, and bilateral trade in services is expected to reach USD 15 billion, resulting in increased social and economic possibilities in both countries.

SAARC Foreign Ministers' Meeting Cancelled

International Relations

Why in the news?

- A meeting of foreign ministers of South Asian Association for Regional Cooperation (SAARC) countries, has been cancelled. **Nepal was the host of the meet.**

Reason for Cancellation

- Pakistan wanted the Taliban to represent Afghanistan in the SAARC meet. However, India along with some other members objected to the proposal.
- Taliban has not been **recognised** by India and other countries of the world. Top cabinet ministers of the Taliban regime in Kabul are blacklisted by the UN.
- The majority of members in SAARC agreed that an empty chair can be kept for Afghanistan during the meet to which Pakistan did not agree.
- **SAARC works on consensus** and the member countries could not achieve it on this issue. Hence, the meeting was called off.

About South Asian Association for Regional Cooperation (SAARC)

- **Secretariat**- Kathmandu.
- 8 Member states and 9 observer states.
- 9 observer states are Australia, China, the European Union, Iran, Japan, Mauritius, Myanmar, South Korea and the United States.
- The combined economy of SAARC is **3rd largest in the world** in the terms of GDP (PPP) after the United States and China.
- **SAARC has 21%** (Around 1.7 billion) **of world's total population**.
- India makes up over 70% of the area and population among these eight nations.
- **SAARC Summits Status** - The **19th Summit which was supposed to be held in Islamabad in 2016**. It was postponed due to boycott by members following Islamabad's alleged involvement in the Uri terror attack.

First-ever 2+2 Ministerial Dialogue between India & Australia

International Relations

Why in the news?

- India hosted the **first-ever 2+2 Ministerial Dialogue with Australia** in New Delhi.
- "2+2 ministerial dialogue" is the highest-level institutional mechanism involving **foreign and defence ministers** of two countries.

Key Outcomes of the Dialogue

- **Cooperation** - The Ministers committed to work together on regional and global issues. It was further decided to establish secure communication (hotlines) between the two Ministers of the countries. This would help maintain regular high-level communication on emerging developments.
- **Defense** - Strategic importance of India's designation as US's Major Defense Partner (MDP) was reaffirmed. It was committed to expand the scope of India's MDP status. India recently being offered license exception under the Strategic Trade Authorization (**STA-1**) was mentioned. It was also agreed to explore other means for expansion in two-way trade in defense items and defense manufacturing supply chain linkages.
- Significantly, the Communications Compatibility and Security Agreement (COMCASA) was signed. This is likely to open the way for sales of more sensitive US military equipment to India. The Ministers also announced their readiness to begin negotiations on an Industrial Security Annex (ISA).
- **Technology** - The unique role of technology in the India-U.S. defense partnership was acknowledged. It was agreed to continue the co-production and co-development of defence projects through the Defense Technology and Trade Initiative (DTTI). In this regard, the conclusion of a Memorandum of Intent was welcomed. This was between U.S. Defense Innovation Unit (DIU) and Indian Defence Innovation Organization – Innovation for Defence Excellence (DIO-iDEX).
- **Terrorism** - Intent to increase information-sharing efforts on known or suspected terrorists was announced. It was also decided to implement UN Security Council Resolution 2396 on returning foreign terrorist fighters. They also committed to enhance their ongoing cooperation in multilateral fora such as the UN and FATF. The countries reaffirmed their support for a UN Comprehensive Convention on International Terrorism.
- **Indo-Pacific** - The aim was spelt out as advancing a free, open, and inclusive Indo-Pacific region, based on recognition of ASEAN centrality. Respect for sovereignty, territorial integrity, rule of law, good governance, free and fair trade, freedom of navigation and overflight was also mentioned.
- **Afghanistan** - The two sides expressed support for an Afghan-led, Afghan-owned peace and reconciliation process. Shared commitment to a united, sovereign, democratic, inclusive, and peaceful Afghanistan was reiterated. The U.S. acknowledged India's economic and development assistance to Afghanistan.
- **North-Korea** - India welcomed the recent U.S.-North Korea summit. India and U.S. pledged to work together to counter North Korea's weapons of mass destruction programs.
- **Nuke** - The United States welcomed India's accession to the Australia Group, the Wassenaar Arrangement, and the Missile Technology Control Regime. It also reiterated its full support for India's immediate accession to the Nuclear Suppliers Group.

Why in the news?

- India and USA launched the "Climate Action and Finance Mobilization Dialogue (CAFMD)".

About CAFMD

The CAFMD is one of the two tracks of the India-U.S. Climate and Clean Energy Agenda 2030 partnership launched at the Leaders' Summit on Climate in April 2021.

- India and the U.S. are collaborating to reach green energy targets.
 - The United States is to collaborate with India to work towards installing 450 GW of renewable energy by 2030.
 - Currently India's installed power capacity is projected to be 476 GW by 2021-22 and is expected to rise to at least 817 GW by 2030.
- It would have three pillars:
 - Climate Action Pillar: It would have joint proposals looking at ways in which emissions could be reduced in the next decade.
 - Roadmap Pillar: It would be setting out a roadmap to achieving the 450GW in transportation, buildings and industry.
 - Finance Pillar: It would involve collaborating on attracting finance to deploy 450 GW of renewable energy and demonstrate at scale clean energy technologies.
- A key mission of the US is to build global support for 'Net Zero', or carbon neutrality, and is critical to ensuring that the planet doesn't heat up an additional half a degree by 2100.
- The launch was preceded by a bilateral meet where both sides discussed at length a wide range of climate issues relating to COP26, Climate Ambition, Climate Finance, Global Climate Initiatives including International Solar Alliance (ISA), Agriculture Innovation Mission for Climate (AIM4C).

Significance

- It will help to demonstrate how the world can align swift climate action with inclusive and resilient economic development.
- It will provide both countries an opportunity to renew collaborations on climate change while addressing financing aspects and deliver climate finances primarily as grants and concessional finance as envisaged under the Paris Agreement.
- The dialogue would serve as a "powerful avenue" for the U.S.-India collaboration

Why in the news?

- India hosted the 8th Meeting of Agriculture Experts of Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) countries virtually.

Agricultural Cooperation under BIMSTEC

- Agriculture is one of the **14 priority areas** identified for sectoral cooperation.
- The **4th Summit of BIMSTEC**, held in August 2018 at Kathmandu, emphasised deepening the cooperation in agriculture sector.
- The agricultural cooperation has assumed even greater significance in view of the **COVID-19 pandemic and its impacts on the food system**.

BIMSTEC

- It is an **economic bloc** with **Permanent Secretariat** at Dhaka, Bangladesh
- Aim:** To counter the onslaught of **globalisation** by accelerating **regional growth** through mutual cooperation by utilising regional resources and geographical advantages.
- It is **sector-driven cooperative organisation** in which **6 sectors have been included**: Trade, Technology, Energy, Transport, Tourism and Fisheries
- Under these 6 sectors, 14 priority areas have been identified. **Climate change was added as the 14th priority area of cooperation in 2008.**

- Among these priority areas, a member country chooses which of the 14 priority areas it is willing to take lead.
- **India is lead country** for:
 - Transport & Communication, Tourism, Environment & Disaster Management, Counter-Terrorism & Transnational Crime.

6th Eastern Economic Forum 2021

International Relations

Why in the news?

- PM Modi addressed the plenary session of **6th Eastern Economic Forum (EEF)**.

About Eastern Economic Forum (EEF)

- It was established by the President Vladimir Putin, in 2015.
- **Aim:** To support the **economic development of Russia's Far East**, and to **expand international cooperation in the Asia-Pacific region**.

Conference of Protectors of Emigrants (PoE)

International Relations

Why in the news?

- The Fourth edition of Conference of Protectors of Emigrants was held recently, which also coincided with the date of enactment of the Emigration Act 1983.

About Conference of Protectors of Emigrants (PoE)

- POEs are responsible for granting emigration clearance to the intending emigrants as per the procedure prescribed under the Emigration Act, 1983, and work under the general superintendence and control of the Protector General of Emigrants.
- eMigrate system is an online platform which helps the POEs to integrate POE offices, passport offices, Indian missions, Bureau of Immigration and helps regulate overseas employment.
- Powers of Protector of Emigrants:
 - To protect and aid all intending emigrants and emigrants and oversee all the provisions of the Emigration Act.
 - Inquire into the treatment received by emigrants during their voyage, their return and during the period of their residence in the country to which they emigrated.

SCO Summit 2021

International Relations

Why in the news?

- **21st summit** of **Shanghai Cooperation Organisation (SCO)** was held in **Dushanbe, Tajikistan**. **Dushanbe Declaration** was issued at the end of the summit by the SCO members.

Key Highlights of the Summit

- This was **20th anniversary** of SCO and the **first summit to be held in a hybrid format**.
- **Iran was admitted as a full member** and Saudi Arabia, Egypt and Qatar as observers.
- Proposal to **establish the SCO Counter-Terrorism Centre in Dushanbe** as a separate permanent body was discussed.

Dushanbe Declaration

- At the summit, the countries adopted the Dushanbe Declaration. The declaration called for an inclusive government in Afghanistan, with representatives from all ethnic, religious, and political groups of Afghan society. It also reaffirmed the need to step up joint efforts to prevent terrorism and its financing.
- Indian Prime Minister has raised concerns about the situation in Afghanistan. The important concerns raised by him are:
 - The change of power in Afghanistan is not inclusive and has taken place without negotiation. This raises questions about the acceptability of the new system.
 - Developments in Afghanistan could lead to an uncontrolled flow of drugs, illegal weapons, and human trafficking. A large amount of advanced weapons remain in Afghanistan. Due to these, there will be a risk of instability in the entire region.
 - The concern is about the humanitarian situation in Afghanistan, where India is ready to help and be part of any regional or global initiative to help Afghan society.



Why in the news?

- **First-ever UN Food Systems Summit** was held during the UN General Assembly in New York. It will seek to set the stage for global food system transformation to achieve the Sustainable Development Goals by 2030.

Objectives and outcomes

1. Raise awareness of food systems' centrality to the entire sustainable development agenda, and the urgency of transforming food systems, particularly in the wake of a global pandemic.
2. Align stakeholders around a common understanding and narrative of a food system framework as a foundation for concerted action, making food and food systems a more widespread issue for advocacy and action to achieve the 2030 **Agenda**.
3. Recognize the need for inclusivity and innovation in food systems governance and action.
4. Motivate and empower stakeholders who support food systems transformation through the development of improved tools, measurement, and analysis.
5. Catalyze, accelerate, and enlarge bold action for the transformation of food systems by all communities, including countries, cities, companies, civil society, citizens, and food producers. Five action areas to help inform the transitions needed to realise the vision of the 2030 agenda have emerged from the Summit process. **These include: 1. Nourish all people. 2. Boost nature-based solutions. 3. Advance equitable livelihoods, decent work and empowered communities. 4. Build resilience to vulnerabilities, shocks and stresses. 5. Support means of implementation.**

About the Summit

- The Food Systems Summit is convened as part of the Decade of Action to achieve the Sustainable Development Goals (SDGs) by 2030. The Summit will launch bold new actions to deliver progress on all 17 SDGs, each of which relies to some degree on healthier, more sustainable and equitable food systems. Guided by five Action Tracks, the Summit will bring together key players from the worlds of science, business, policy, healthcare and academia, as well as farmers.

Why food systems?

- The term "food system" refers to the constellation of activities involved in producing, processing, transporting and consuming food. Food systems touch every aspect of human existence. The health of our food systems profoundly affects the health of our bodies, as well as the health of our environment, our economies and our cultures. When they function well, food systems have the power to bring us together as families, communities and nations.
- **Concerns/Challenges:** Too many of the world's food systems are fragile, unexamined and vulnerable to collapse, as millions of people around the globe have experienced firsthand during the COVID-19 crisis. When our food systems fail, the resulting disorder threatens our education, health and economy, as well as human rights, peace and security. As in so many cases, those who are already poor or marginalized are the most vulnerable.

China's first road-rail transport link to Indian Ocean

International Relations

Why in the news?

- China recently completed the construction of the world's first road-rail connection to the Indian Ocean.

About the link


- The first cargo on a newly opened railway route from Myanmar's border to Chengdu, western China's most important commercial Centre, has arrived.
- It connects China to the Indian Ocean via a new road-rail corridor.
- It links Singapore's, Myanmar's, and China's logistical networks.
- The new railway line completes a sea-road-rail transportation corridor.
- It is now the most practical land and maritime route between the Indian Ocean and southwest China. 20-22 days can be saved if you do things one way.

Implications on India

- India faces a serious danger from China's direct access to the Bay of Bengal.
- The Andaman and Nicobar Islands are also in the way of China's desire to trade with countries in Southeast Asia.
- Chinese ships will travel across the Bay of Bengal in significant numbers in the future.
- They can simply keep an eye on the Indian islands with this.
- Because of China's expanding reach, the problem in Northeast India, where insurgents frequently strike, may worsen.
- The Western Theatre Command (WTC) of China is in charge of the strategic direction of India. Because of its proximity to the Arunachal Pradesh border, the 77th Group Army will play a key role in mobilising soldiers if there is an escalation along the border.
- Near Arunachal Pradesh, the Sichuan-Tibet railway runs perilously close to the Indian border. As a result, when completed in 2030, it will improve the PLA's mobility and connectivity along the Indian border, particularly in the eastern sector.

Nobel Prize 2021- Peace

International Relations



Nobel Peace Prize

The 2021 Nobel Peace Prize has been awarded to journalists **Dmitry Muratov** (left) of Russia and **Maria Ressa** (right) of the Philippines for their "courageous fight" to safeguard "freedom of expression"

● 2020 World Food Programme	● 2017 International Campaign to Abolish Nuclear Weapons (ICAN)
● 2019 Abiy Ahmed Ethiopia	● 2016 Juan Manuel Santos Colombia
● 2018 Denis Mukwege D.R. Congo	● 2015 Tunisian National Dialogue Quartet
Nadia Murad Iraq	

Why in the news?

- The World Health Organization (WHO) has introduced a new Covid-19 variation to the list of Variants of Interest (VOI), naming it Mu (B.1.621). C.1.2 has also been introduced as a new VOI.
- According to the Indian SARS-CoV-2 Genomics Consortium (INSACOG), Mu and C.1.2 have yet to be found in India, and the Delta variation and its sub-lineages remain the primary Variants of Concern (VOC).
- C.1.2 is a sub-lineage of the C.1 variety that was first discovered in South Africa but never expanded worldwide.

About Mu Variant of Covid-19

- Mu is a member of the B.1.621 lineage and is called after the Greek alphabet's twelfth letter. In January 2021, it was discovered for the first time in Colombia.
- It possesses a slew of mutations that point to possible immune-evasion characteristics. The Spike Protein and amino acid modifications are affected by various substitutions.
- Mutations like E484K, N501Y, P681H, and D614G have been found in additional VOIs and VOCs.
- It is the WHO's fifth VOI to be tracked. Eta (lineage B.1.525), Iota (lineage B.1.526), Kappa (lineage B.1.617.1), and Lambda (lineage B.1.617.1) are the other four VOIs (lineage C.37).
- Variants of Concern
- If a VOI is linked to a rise in transmissibility or virulence or a "reduction in the efficacy of public health and social interventions, as well as existing diagnostics, vaccines, and treatments," it can become a VOC.
- Currently, four coronavirus variants have been identified as variations of concern: Alpha (lineage B.1.1.7, dubbed the "UK variant"), Beta (lineage B.1.351, dubbed the "South Africa version"), Gamma (lineage P.1, dubbed the "Brazil variant"), and Delta (lineage P.1, dubbed the "Brazil variant") (lineage B.1.617.2).

Mosquirix-Anti Malarial Vaccine**Science & Technology****Why in the news?**

- The World Health Organization (WHO) recently authorised the world's first Malaria Vaccine in the hopes of reviving stalled efforts to combat the parasitic disease's spread.

About Mosquirix

- RTS, S/AS01, often known as Mosquirix, is an injectable malaria vaccine that targets *P. falciparum*, the most common strain in Africa. It is the first and only vaccination to provide partial protection in children under the age of five.
- GlaxoSmithKline, a British pharmaceutical company, created it in 1987.
- Mosquirix's active ingredient is a protein discovered on the surface of *Plasmodium falciparum* parasites (PFP).
- When the PFP enters the human host's circulation from a mosquito bite and infects liver cells, RTS, S tries to activate the immune system to protect against the earliest stages of malaria.
- It also aids in the prevention of Hepatitis B virus infection of the liver.
- Potency: Although the vaccine's efficacy in preventing severe instances of malaria in children is only approximately 30%, it is the only one that has been authorised.
- It was authorised by the European Union's medicines agency in 2015, with the benefits outweighing the dangers.
- It has a few adverse effects, including a fever that might lead to brief convulsions.

Medicines from Sky Project**Science & Technology****Why in the news?**

- The Telangana government, World Economic Forum and HealthNet Global, had signed a collaboration agreement for the 'Medicine from the Sky' project. A feasibility study is being planned to study drone-based delivery of blood, Key

Highlights

- The permission has been granted for conducting experimental delivery of Covid-19 vaccines within Visual Line of Sight (VLOS) Range.



- The permission exemption is valid for one year or until further orders, subject to the conditions laid out.
- It is proposed to take up BVLOS flights in Vikarabad district of Telangana with the Area Hospital as the take-off site and various PHCs and sub-centres as the landing sites.
- The programme will be for 24 days, where the eight selected consortia would be divided into four batches of two consortia, and each batch would perform the sorties for 6 days.

Significance of Medicines from Sky Project

- It would yield important information on the reliability of drones and their adoption in medical deliveries.
- The success of this programme has the potential to disrupt the healthcare industry and save many lives during emergencies and in less accessible geographies.
- The project aims to explore the use of drones to increase access to healthcare for communities across the Telangana state.
- The project could become a reference model for other states looking at drone applications around healthcare in India.

Chandrayaan 2

Science & Technology

Why in the news?

- The Imaging Infrared Spectrometer (IIRS) instrument on Chandrayaan-2 lunar orbiter has confirmed the presence of hydroxyl ions (OH) and water molecules (H₂O) on the surface of the moon

Findings of the Project Water

- The presence of water on the Moon had already been confirmed by Chandrayaan-1, India's first mission to the Moon that flew in 2008.
- Using far more sensitive instruments, the Imaging Infra-Red Spectrometer (IIRS) onboard Chandrayaan-2 has been able to distinguish between hydroxyl and water molecules and found unique signatures of both.
- This is the most precise information about the presence of H₂O molecules on the Moon to date.
- Previously, water was known to be present mainly in the polar regions of the Moon.
- Chandrayaan-2 has now found signatures of water at all latitudes, although its abundance varies from place to place.

Minor elements

- The Large Area Soft X-ray Spectrometer (CLASS) measures the Moon's X-ray spectrum to examine the presence of major elements such as magnesium, aluminum, silicon, calcium, titanium, iron, etc.
- This instrument has detected the minor elements chromium and manganese for the first time through remote sensing, thanks to a better detector.
- Sodium, also a minor element on the Moon surface, was detected without any ambiguity for the first time.

Study of Sun

- One of the payloads, called Solar X-ray Monitor (XSM), besides studying the Moon through the radiation coming in from the Sun, has collected information about solar flares.
- XSM has observed a large number of microflares outside the active region for the first time.

Saline Gargle RT-PCR technique

Science & Technology

Why in the news?

- The National Environmental Engineering Research Institute (NEERI) has transferred the Saline Gargle RT-PCR technique to MSME Ministry.

About Saline Gargle RT-PCR technology

- The Saline Gargle RT-PCR technology is a simple, fast, economical, environment and patient-friendly technique used for testing COVID-19 samples.
- It is well-suited for rural and tribal areas with poor connectivity as it has minimal infrastructure requirements.
- Sampling is done instantly and results are generated within three hours.
- A simple collection tube filled with a saline solution is used. The patient gargles with the solution and rinses it inside the tube.
- The sample is then taken to a laboratory where it is kept at room temperature in a special buffer solution and an RNA template is produced when this solution is heated, which is further processed for RT-PCR test

Zero-shot learning (ZSL)

Science & Technology

Why in the news?

- Machines have become much more intelligent, but without a properly labeled training data set of seen classes, they cannot distinguish between two similar objects. On the other hand, humans are capable of identifying approximately 30,000 basic object categories. In machine learning, this is considered as the problem of Zero-shot learning (ZSL).

About Zero-shot learning (ZSL)

- ZSL is a problem setup in machine learning, where at testing, a learner observes samples from classes that were not observed while training the model and predicts the category they belong to Zero-shot methods.
- It basically works by combining the observed/seen and non-observed/unseen categories through some types of auxiliary information, which encodes observable distinguishing properties of objects.
- The auxiliary information may include attributes, textual descriptions etc.

Alternative to Single use Plastics

Science & Technology

Why in the news?

- Researchers have developed a polymer using non-edible oil and cellulose extracted from agricultural stubble.

About the novel polymer

- Non-edible Castor oil was used in this process of making the polymer which reacts with the cellulose and diisocyanate compound.
- Flexibility of the polymer sheet depends on the proportion of cellulose and non-edible oil. Higher the concentration of cellulose less flexible the polymer will be and vice versa.

Inspiration4 Mission

Science & Technology

Why in the news?

- Recently, the Inspiration4 Mission was launched by SpaceX.

About the mission

- It was launched from NASA's Kennedy Space Center and crew aboard a Crew Dragon capsule and SpaceX Falcon 9 rocket for an Earth-orbiting mission.
- It is the world's first all-civilian mission to orbit.
 - It is largely made up of civilians with no professional space experience, although the crew has undergone basic training.
 - It will orbit the Earth at 575km, higher than the [International Space Station](#) (408km) and the [Hubble space telescope](#) (547km).
 - This will be the farthest distance travelled by a crewed mission since 2009, when astronauts last went to repair the Hubble.
- Inspiration4 is the third space flight by a billionaire in 2021.
 - The other two — both suborbital missions — were the flight of Virgin Galactic founder Richard Branson and company employees aboard the Unity 22 mission on July 11, and the flight of Blue Origin founder Jeff Bezos and three other passengers (including noted aviator Wally Funk) flew aboard a New Shepard spacecraft on July 20.

Dark Energy

Science & Technology

Why in the news?

- International team of researchers conducted XENON1T experiment and detected first direct detection of dark energy. XENON1T was operated deep underground at the INFN Laboratori Italy, from 2016 to 2018. It was primarily designed to detect dark matter.

About Dark energy

- Dark Energy is also opposite of Dark Matter as dark matter attracts and holds galaxies together, dark energy repels and causes the expansion of our universe
- Dark energy, the mysterious form of energy that makes up about 68% of the universe
- Dark Energy is a hypothetical form of energy that exerts a negative, repulsive pressure, behaving like the opposite of gravity.
- It is causing the rate of expansion of our universe to accelerate over time, rather than to slow down which is opposite what earlier scientist had thought
- Earlier, astronomers believed that eventually the expansion of the Universe will slow down because of gravity and it will recollapse.

NOBEL PRIZE 2021

Science & Technology

2021 NOBEL PRIZE IN PHYSICS

Awarded to Syukuro Manabe and Klaus Hasselmann for physical modelling of the Earth's climate, and to Giorgio Parisi for the discovery of the interplay of disorder and fluctuations in physical systems.

Predicting the behaviour of complex systems (like Earth's climate in 2021). This year's prize-winning research allows scientists to describe and predict the long-term behaviour of these complicated and seemingly random systems.

Syukuro Manabe (University of Maryland): Investigating the way in which our climate is changing, he developed a model of the Earth's climate. His mathematical models of the atmosphere showed the climate model's good ability.

Klaus Hasselmann (University of Hamburg): He developed a model of the Earth's climate. His mathematical models of the atmosphere showed the climate model's good ability.

Giorgio Parisi (University of Rome): He developed a model of the Earth's climate. His mathematical models of the atmosphere showed the climate model's good ability.

WHY DOES THIS RESEARCH MATTER?
The work of this year's winners has helped us understand how human activity influences Earth's climate, and predict how it may change. It also helps us describe and predict the behaviour of other complex systems, from the brain to the economy.

Source: Nobel Prize in Physics Press release: <https://www.nobelprize.org/prizes/physics/2021/press-release/>

THE NOBEL PRIZE IN PHYSICS 2021

Three Laureates share this year's prize "for groundbreaking contributions to our understanding of complex physical systems"

ONE HALF JOINTLY TO

KLAUS HASSELMANN
Max Planck Institute for Meteorology, Hamburg, Germany

SYUKURO MANABE
Princeton University, USA

WHY: "For the physical modelling of Earth's climate, quantifying variability and reliably predicting global warming"

THE OTHER HALF TO

GIORGIO PARISI
Sapienza University of Rome, Italy

WHY: "For the discovery of the interplay of disorder and fluctuations in physical systems from atomic to planetary scales"

NOBEL PRIZE 2021- MEDICINE

NOBEL PRIZE 2021- CHEMISTRY

2021 NOBEL PRIZE IN PHYSIOLOGY/MEDICINE

The Nobel Prize in Physiology or Medicine 2021 was awarded jointly to **David Julius** and **Ardem Patapoutian** for their discoveries of several receptors for temperature and touch.

Receptors build sense (changes in temperature, and what gets us from when we're touching something). The winners of this year's prize identified how nerve receptors that pass on this information are triggered by changes in temperature or pressure, allowing our bodies to sense our environment.

David Julius (University of California, San Francisco): He discovered the TRPV1 receptor, which is activated by heat and capsaicin (the spicy ingredient in chili peppers). This receptor is part of a family of receptors that sense temperature and touch.

Ardem Patapoutian (University of California, San Francisco): He discovered the TRPA1 receptor, which is activated by cold and menthol (the cooling ingredient in mint). This receptor is part of a family of receptors that sense temperature and touch.

WHY DOES THIS RESEARCH MATTER?
This research explains some of the ways in which we sense our environment. Understanding how our bodies sense changes in temperature and touch is important for the development of treatments for pain, cancer, and asthma.

Source: Nobel Prize in Physiology or Medicine Press release: <https://www.nobelprize.org/prizes/physiology-or-medicine/2021/press-release/>

2021 NOBEL PRIZE IN CHEMISTRY

Awarded jointly to **Benjamin List** and **David W.C. MacMillan** for their development of a new type of catalysis, asymmetric organocatalysis, a precise new tool for molecular construction.

Molecules can exist in mirror-image forms with different properties. To make medicines and other compounds we often need just one of these forms. Catalysts, substances that speed up reactions, can help. Nature's catalysts, enzymes, build specific mirror-image molecules all the time, but have complicated structures. Metal catalysts can do the job but are sensitive to air and moisture, and sometimes harmful to the environment.

Benjamin List (University of Bonn): He discovered a new type of catalysis, asymmetric organocatalysis, which allows the synthesis of mirror-image molecules in a precise and efficient way.

David W.C. MacMillan (University of Cambridge): He discovered a new type of catalysis, asymmetric organocatalysis, which allows the synthesis of mirror-image molecules in a precise and efficient way.

WHY DOES THIS RESEARCH MATTER?
The winners, along with other researchers, have since designed many more organic molecular catalysts. They are cheap, environmentally friendly, and can make specific mirror images of molecules. They can be used one after another for different reaction steps, improving the efficiency of molecule-making.



Ignite IAS



igniteias.com

78

Why in the news?

- Prime Minister launched the Indian Space Association (ISpA), an industry body consisting of various stakeholders of the Indian space domain.
- The members of the organisation include government bodies such as Indian Space Research Organisation (ISRO) & private telecom companies such as Bharti Airtel's One Web, Tata Group's Nelcom, L&T, MapMyIndia, & others.

Significance of ISpA

- Ever since the race to reach the space and then land on the Moon began between the US and the erstwhile USSR, governments across the world have poured millions of dollars to push the envelope in term of exploring the edges of the space. With time, governments and government agencies collaborated to explore newer planets and galaxies in search of life forms that exist outside Earth.
- In the recent past, private sector companies such as Elon Musk's SpaceX, Richard Branson's Virgin Galactic, and Jeff Bezos' Blue Origin have taken the lead in spaceflight, promising to start tourist flights to space.
- Though India too has made significant strides in space exploration over time, state-run ISRO has been at the centre and front of this progress. Several private sector companies, however, have shown an interest in India's space domain, with space-based communication networks coming to the fore.



Objectives

- One of the main goals of the organisation is to supplement the government's efforts towards making India a global leader in commercial space-based excursions. Of late, ISRO's rockets have been carrying the payload and communication satellites of various countries; now, private players will also look to broach this space with the new organisation.
- ISpA said it would engage with stakeholders across the ecosystem for the formulation of an enabling policy framework which fulfils the government vision of leading commercial space exploration.
- ISpA will also work towards building global linkages for the Indian space industry to bring in critical technology and investments into the country to create more high skill jobs.

Stakeholders

- ISpA will be represented by leading domestic and global corporations that have advanced capabilities in space and satellite technologies.
- The founding members include telecom service providers such as Bharti Airtel, engineering firm Larson & Toubro, and other companies such as Nelco of Tata Group, OneWeb, Mapmyindia, Walchandnagar Industries and Alpha Design Technologies.
- Other core members include Godrej, Hughes India, Ananth Technology Limited, Azista-BST Aerospace Private Limited, BEL, Centum Electronics, and Maxar India.
- In India, the space-based communications network has taken off with several Indian and international companies betting on it as the next frontier to provide high-speed and affordable Internet connectivity to inaccessible areas as well. This includes SpaceX's StarLink, Sunil Bharti Mittal's OneWeb, Amazon's Project Kuiper, US satellite maker Hughes Communications, etc.
- OneWeb, for example, is building its initial constellation of 648 low-earth orbit satellites and has already put 322 satellites into orbit. Its services are expected to begin this year to the Arctic region including Alaska, Canada, and the UK. By late 2022, OneWeb will offer its high-speed, low latency connectivity services in India & the rest of the world.
- In addition, StarLink and Amazon are also in discussion with the Indian government for a licence to offer satellite-based Internet services. SpaceX has a plan to create a network of 12,000 satellites of which over 1,300 are already sky-borne.

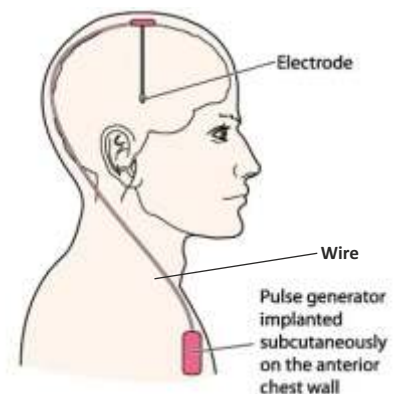


Why in the news?

- Physicians at the University of California, San Francisco (UCSF) have successfully treated a patient with severe depression by recognising and tapping into the brain circuits linked with depressive brain patterns. The physicians have tried to reset these patterns, which they have said is the equivalent of using a pacemaker for the heart.

Significance

- The work, which represents a landmark in the use of neuroscience to treat psychiatric disorders, has been published in the journal Nature Medicine.
- The doctors used an existing technique called deep brain stimulation (DBS), customising it for this patient's case.
- DBS is a surgical procedure in which electrodes are implanted into certain brain areas. These electrodes, or leads, generate electrical impulses that control abnormal brain activity.
- The electrical impulses can also adjust for the chemical imbalances within the brain that cause various conditions.
- A DBS system has three components (see illustration):
 - The electrode, or lead. This is a thin, insulated wire inserted through a small opening in the skull and implanted into a specific brain area.
 - The extension wire. This too is insulated, and is passed under the skin of the head, neck and shoulder, connecting the electrode to the third component of the system.
 - The internal pulse generator (IPG) is the third component. It is usually implanted under the skin in the upper chest, according to the AANS.
- Conditions that are traditionally treated using DBS include dystonia, epilepsy, essential tumour, obsessive-compulsive disorder and Parkinson's disease.
- In treating depression, however, previous clinical trials with DBS has shown limited success because most devices are only able to deliver constant electrical stimulation to one area of the brain.
- During this treatment, UCSF physicians customised a new DBS device, which would stimulate the brain whenever it recognised the depressive pattern. Additionally, the team of physicians had also found a neural biomarker that indicated the onset of symptoms. Using the customised DBS device, they were able to stimulate a different area of the brain, which in turn created immediate therapy for the brain.

**Why in the news?**

- Fragile X syndrome (FXS) is a genetic disorder. FXS is caused by changes in a gene that scientists called FMR1 gene when it was first discovered.

About the syndrome

- The FMR1 gene usually makes a protein called FMRP. FMRP is needed for brain development. People who have FXS do not make this protein. People who have other fragile X-associated disorders have changes in their FMR1 gene but usually make some of the protein.
- FXS affects both males and females. However, females often have milder symptoms than males. The exact number of people who have FXS is unknown, but a review of research studies estimated that about 1 in 7,000 males about 1 in 11,000 females have been diagnosed with FXS.
- FXS can be diagnosed by testing a person's DNA from a blood test. A doctor or genetic counselor can order the test. Testing also can be done to find changes in the FMR1 gene that can lead to fragile X-associated disorders.
- A diagnosis of FXS can be helpful to the family because it can provide a reason for a child's intellectual disabilities and behavior problems.
- This allows the family and other caregivers to learn more about the disorder and manage care so that the child can reach his or her full potential.

Why in the news?

- Indian researchers have discovered three supermassive black holes merging together to form a triple active galactic nucleus.

About the Discovery

- The rare occurrence of a known interacting galaxy pair, NGC7733 and NGC7734.
- The researchers detected unusual emissions from the centre of NGC7734 and a large, bright clump along the northern arm of NGC7733.
- The emission line analysis from the central regions of NGC 7733 and NGC 7734 shows Seyfert and low ionization nuclear emission-line regions type AGN activity.
- The galaxy pair NGC 7733–34 also shows evidence of a third component, which has Seyfert-like emission.
- The galaxy pair NGC 7733–34 forms a triple-AGN system. We also detected an extended narrow-line region associated with the nucleus of NGC 7733.
- As they dug deeper, they found that the clump is moving with a different velocity compared to the galaxy NGC7733 itself indicating that it was not part of the galaxy instead it was a small separate galaxy behind the arms.
- Interaction of galaxies and mergers are the major drivers of galaxy evolution leading to the growth of supermassive black hole bulges and massive galaxies.
- One of the most favourable environments for such activity are galaxy groups where galaxies are closely interacting, especially those that have significant reservoirs of cold gas that can be used to fuel star formation and active galactic nuclear (AGN) activity.
- Interaction of galaxies begins when they come close and exert tremendous gravitational forces on each other, during which, the respective supermassive black holes can get further close and the dual black holes start consuming gas from their surroundings and become dual AGN.

Precision- guided Sterile Insect Technique

Science & Technology

Why in the news?

- CRISPR-based genetic engineering researchers have created a "precision- guided sterile insect technique" (pgSIT), a system that restrains populations of mosquitoes that infect millions each year with debilitating diseases.

Precision-guided sterile insect technique (pgSIT)

- It alters genes linked to male fertility—creating sterile offspring—and female flight in *Aedes aegypti*, the mosquito species responsible for spreading diseases including dengue fever, chikungunya and Zika.
- It uses CRISPR to sterilise male mosquitoes and render female mosquitoes (which spread disease) flightless.
- Males don't transmit diseases so the idea is to release more and more sterile males, so that the population can be suppressed without relying on harmful chemicals and insecticides.
- The system is self-limiting and is not predicted to persist or spread in the environment, two safety features that should enable acceptance for this technology.
- pgSIT eggs can be shipped to a location threatened by mosquito-borne disease or developed at an on-site facility that could produce the eggs for nearby deployment.
- Once the eggs are released in the wild, sterile pgSIT males will emerge and eventually mate with females, driving down the wild population as needed.

CRISPR

- CRISPR is a family of DNA sequences found in the genomes of prokaryotic organisms such as bacteria and archaea.
- These sequences are derived from DNA fragments of bacteriophages that had previously infected the prokaryote.
- They are used to detect and destroy DNA from similar bacteriophages during subsequent infections.
- It's a way of finding a specific bit of DNA inside a cell. After that, the next step in CRISPR gene editing is usually to alter that piece of DNA.
- CRISPR-Cas9 technology behaves like a cut-and-paste mechanism on DNA strands that contain genetic information. The specific location of the genetic codes that need to be changed, or edited, is identified on the DNA strand, and then, using the Cas9 protein, which acts like a pair of scissors, that location is cut off from the strand.
- Emmanuelle Charpentier of France and Jennifer A Doudna of the USA were awarded the 2020 Nobel Prize in Chemistry for developing CRISPR/Cas9 genetic scissors.**



Why in the news?

- India is going to participate in a two-week multinational military exercise named 'ZAPAD 2021' at Nizhny in Russia.

Key- highlights of 'ZAPAD 2021' exercise

- ZAPAD 2021 is one of the theatre level exercises of the Russian Armed Forces and will focus primarily on operations against terrorists.
- The exercise began at Nizhny in Russia where the Indian contingent will participate.
- Over a dozen countries from Eurasian and South Asian Region will participate in this signature event.
- Nine are Participating countries which include Mongolia, Armenia, Kazakhstan, Tajikistan, Kyrgyzstan, Serbia, Russia, India and Belarus.
- The other eight countries are Observing countries which include Pakistan, China, Vietnam, Malaysia, Bangladesh, Myanmar, Uzbekistan and Sri Lanka.
- India also participated in the exercise TSENTR, which is part of the annual series of large scale exercises that form part of the Russian Armed Forces' annual training cycle.

Exercise Surya Kiran**Defence & Security****Why in the news?**

- 15th Edition of Indo - Nepal Joint Military Training, Exercise Surya Kiran is commencing from 20 September 2021 at Pithoragarh (UK).

Significance

- It is an important exercise in terms of the security challenges faced by both nations in the realm of changing facets of global terrorism.
- This joint military training will improve bilateral relations and also will be a major step towards further strengthening the traditional friendship between the two nations.

Singapore-India Maritime Bilateral Exercise (SIMBEX)**Defence & Security****Why in the news?**

- 28th edition of Singapore-India Maritime Bilateral Exercise (SIMBEX) was conducted from Sep 2-4, 2021.

About Singapore-India Maritime Bilateral Exercise

- India and Singapore have carried out a mega naval war game in the southern fringes of the South China Sea, in reflection of their growing congruence of interests in the strategically key region.
- It was the 28th edition of the Singapore-India Maritime Bilateral Exercise (SIMBEX).
- Initiated in 1994, SIMBEX is the Indian Navy's longest uninterrupted bilateral maritime exercise with any foreign navy.
- Sustaining the continuity of this significant engagement despite the challenges of the ongoing pandemic further underscores the strength of bilateral defence ties.
- India-Singapore defence ties remain a very significant aspect of the overall engagement between the two countries.
- Both navies have a representation in each other's Maritime Information Fusion Centres and have also recently signed an agreement on mutual submarine rescue support and coordination.

India- US UAV Pact

Defence & Security

- India and the United States have signed an agreement recently to co-develop air-launched Unmanned Aerial Vehicles (UAV) under the US-India Defense Technology and Trade Initiative, a bilateral defense cooperation mechanism that promotes collaborative technology exchange.
- The agreement is the inaugural co-development project under the **US-India Defense Technology and Trade Initiative**, a bilateral defense cooperation mechanism that promotes collaborative technology exchange, strengthens cooperative research, and enables co-production/co-development of defense systems for sustainment and modernization of military forces.
- The project is valued at more than USD 22 million with costs shared equally, and marks the largest-ever defense Research, Development, Test and Evaluation collaboration between the United States and India.
- The **objectives** are the Design, Development, Demonstration, Test and Evaluation of technologies including physical hardware such as small UAVs, avionics, payload power, propulsion, and launch systems through prototyping that meet the operational requirements of the Indian and US Air Forces.
- The co-development project will be carried out jointly between the **US Air Force Research Lab (AFRL)** and India's **Defence Research and Development Organisation (DRDO)**.

C-295 MW Transport Aircraft

Defence & Security

- The procurement of **56 C-295MW transport aircraft from Airbus Defence and Space S.A., Spain** approved by the Cabinet Committee on Security marks the culmination of a decade-long process by the Indian Air Force (IAF) to replace the ageing Avro aircraft in service, pending signing of the formal contract.
- This is the first project of its kind in which a military aircraft will be manufactured in India under technology transfer by a private company and is expected to cost close to \$3bn.
- The deal has become even more critical for the IAF as a separate project to jointly co-develop and produce a Medium Transport Aircraft (MTA) of 20 tonnes with Russia to replace the An-32s in service was scrapped after initial design discussions.
- The IAF has 56 Avro transport aircraft procured in the 1960s and in urgent need of replacement.
- The project would give a boost to aerospace ecosystem in India wherein several Micro, Small and Medium Enterprises spread over the country would be involved in manufacturing of parts of the aircraft.
- On the project spread, the Ministry said that a large number of detail parts, sub-assemblies and major component assemblies of aero structure were scheduled to be manufactured in India. The programme would act as a catalyst in employment generation in the aerospace ecosystem of the country and was expected to generate 600 highly skilled jobs directly, over 3,000 indirect jobs and an additional 3,000 medium skill employment opportunities with more than 42.5 lakh man hours of work within the aerospace and defence sector of India.
- During the process of manufacturing in India, it is expected that all the suppliers of Tata Consortium who will be involved in special processes will gain and maintain globally recognised National Aerospace and Defence Contractors Accreditation Program accreditation. It will involve development of specialised infrastructure in form of hangars, buildings, aprons and taxiway.



- The C-295MW is a transport aircraft of 5-10 tonne capacity and has a rear ramp door for quick reaction and para dropping of troops and cargo. It is powered by Pratt & Whitney PW127 engines, part of the PW100 family. All 56 aircraft will be installed with indigenous Electronic Warfare Suite.

India and Australia Navy Talks

Defence & Security

- India and Australia inked the terms of reference (ToR) for the conduct of navy to navy talks under the framework of '**Joint Guidance for the India-Australia Navy to Navy Relationship**'.
- The document would be pivotal in consolidating the shared commitment to promote peace, security, stability and prosperity in the Indo-Pacific region.

- The ToR set out the broad objective of achieving deeper mutual understanding, trust and transparency, improved goodwill and understanding of each other's concerns and future directions, and provides detailed guidance for the conduct of the bilateral talks. They also provide flexibility for implementation of separate agreements based on the specific outcomes of the talks.
- This is the **first such document signed by the Indian Navy with any country**.
- The 'Joint Guidance' document sets the Navy to Navy talks as the principal medium for guiding the bilateral relationship.
- Noting that India and Australia have grown closer since the first Navy to Navy talks in 2005, the statement highlighted the Comprehensive Strategic Partnership, Mutual Logistics Support Agreement, conduct of trilateral Maritime Security Workshop and the Australian Navy's participation in **Exercise MALABAR** as milestones of the bilateral defence relations between the two nations.
- With over a decade of bilateral talks, they remain more committed than ever to strengthen and deepen this important Navy to Navy relationship.

Arjun Mk-1A

Defence & Security

Why in the news?

- Recently, the Ministry of Defence (MoD) placed an order with Heavy Vehicles Factory (HVF), Avadi, Chennai for supply of 118 Main Battle Tanks (MBTs) Arjun Mk-1A for the Indian Army.

About Arjun Mk-1A

- The state-of-the-art MBT Mk-1A is a new variant of Arjun Tank designed to enhance fire power, mobility and survivability.
- The MBT Arjun Mk-1A has been designed & developed by Combat Vehicles Research and Development Establishment (CVRDE), along with other laboratories of DRDO.
- It is equipped with accurate & superior firepower, all-terrain mobility and an invincible multi-layered protection provided by an array of advanced technology systems.
- This tank is particularly configured and designed for Indian conditions and hence it is suitable for deployment to protect the frontiers in an effective manner.
- It has a multi-layered robust protective armour named 'Kanchan'.
- The additions, along with its robust 120 mm rifled gun, have contributed to its categorisation as the 'hunter killer'.
- At the moment, the Arjun Mk-1A carries a total of 39 rounds of different types of ammunition.
- For the first time, this includes thermobaric shells designed as bunker-busters that can be used to target soldiers.
- The Prime Minister had handed over the MBT Arjun Mk-1A to the Chief of Army Staff in Chennai on February 14, 2021.



Uttar Pradesh Defence Industrial Corridor

Defence & Security

Why in the news?

- Recently, the Indian Prime Minister visited the Defence Industrial Corridor in Uttar Pradesh.

About Defence Industrial Corridor, UP

- Uttar Pradesh Defence Industrial Corridor (UP DIC) is an aspirational project that intends to reduce foreign dependence on the Indian Aerospace & Defence Sector.
- It was launched by the PM in 2018.
- This Corridor aims to bring up the state as one of the largest & advanced Defence manufacturing hubs and put it on the world map.
- Planned across 6 nodes namely – Lucknow, Kanpur, Jhansi, Agra Aligarh, Chitrakoot, which spreads across Central, East, West region of Uttar Pradesh and along the Golden Quadrilateral connecting Delhi – Kolkata supported by networks of expressways.

- The defence corridor would come up in Bundelkhand region & is expected to generate more than one lakh jobs.
- The Uttar Pradesh Expressways Industrial Development Authority (UPEIDA) is the nodal agency for the defence corridor project.

Importance

- The setting up of the Defence Corridor will facilitate the development of internationally competitive enterprises to manufacture and maintain all major defence ecosystem and platforms within the country in order to become strategically independent in defence manufacturing.

Tamil Nadu Defence Industrial Corridor(TIDCO)

- TIDCO comprising Chennai, Tiruchirappalli, Coimbatore, Salem and Hosur was announced by the Government of India.
- This corridor will create new defence production facilities and promote clusters with necessary testing and certification facilities, export facilitation centres, technology transfer facilitation, etc.
- The corridor was inaugurated on 20.01.2019.
- TIDCO has signed MoUs with IIT-Madras and DRDO as Knowledge Partners for the project.
- IIT-Madras acts as a Knowledge Partner for setting up common testing facilities, common infrastructure, common certification centres, and training facilities.

Samudra Shakti

Defence & Security

Why in the news?

- The Indian Navy and the Indonesian Navy are taking part in a bilateral maritime exercise, known as 'Samudra Shakti'.

About Samudra Shakti

- The two-day exercise is being held near to Sunda Strait.
- A strait is a naturally formed, narrow, typically navigable waterway that connects two larger bodies of water. Most commonly it is a channel of water that lies between two landmasses.
- It was started in 2018, as a bilateral exercise under India's "Act East Policy".

INTER + IAS | DEGREE + IAS | Direct IAS (Day Cum Residential)

 **Ignite IAS**
Aptitude, Interview, Current Affairs, Previous Papers

The teaching of our faculty is of expert level and makes understanding of concepts easy

Join our Degree + Civil Services Program today

To realize your dream of cracking IAS easily




Ignite IAS



www.igniteias.com

85



IGNITE IAS FOUNDATION COURSE

COURSE FEATURES

PEDAGOGUE METHOD

- Teachers with expert domain knowledge
- Systematic and well-framed subject sequence
- Focus on conceptual clarity and with keen eye on recent exam pattern

COURSE MATERIAL

- Daily Newspaper Analysis and a monthly Current Affairs Astra Magazine
- Primer NCERT series
- Prelims and Mains exhaustive standard material

NOVEL FEATURES

- Daily answer writing practice
- Topic-wise consolidation tests
- Essay writing sessions
- Exam centric approach

IGNITE IAS FOUNDATION COURSE

COURSE FEATURES

PEDAGOGUE METHOD

- Teachers with expert domain knowledge
- Systematic and well-framed subject sequence
- Focus on conceptual clarity and with keen eye on recent exam pattern

COURSE MATERIAL

- Daily Newspaper Analysis and a monthly Current Affairs Astra Magazine
- Primer NCERT series
- Prelims and Mains exhaustive standard material

NOVEL FEATURES

- Daily answer writing practice
- Topic-wise consolidation tests
- Essay writing sessions
- Exam centric approach

Website: igniteias.com
Email: info@igniteias.com
Ph.: 7997992479/80/82/83