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PRE-Cure

(Relevant Current Affairs for UPSC Civil Services Examination)

Weekly Compilation for the 1st Week

of

February 2021

(1st February - 6th February)

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1. Geography

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1.1.Russia Gives Nod to extend start Treaty

- The United states and Russia have "agreed in principle" to extend the NEW START ARMS TREATY by five years.

New START Treaty

- New START is a nuclear arms reduction treaty between the United States and the Russian Federation with the formal name of Measures for the Further Reduction and Limitation of Strategic Offensive Arms.

- The treaty calls for halving the number of strategic nuclear missile launchers.

- A new inspection and verification regime will be established, replacing the SORT [Strategic Offensive Reductions Treaty] mechanism.

- It is expected to last until 5 February 2026, having been extended in 2021.

Additional Info
Intermediate-Range Nuclear Forces Treaty

- The Intermediate-Range Nuclear Forces Treaty was an arms control treaty between the United States and the Soviet Union (and its successor state, the Russian Federation).

- The INF Treaty banned all of the two nations' land-based ballistic missiles, cruise missiles, and missile launchers with ranges of 500–1,000 kilometres (310–620 mi) (short medium-range) and 1,000–5,500 km (620–3,420 mi) (intermediate-range).

- The treaty did not apply to air- or sea-launched missiles.

- The US formally suspended the treaty on 1 February 2019, and Russia did so on the following day in response. The US formally withdrew from the treaty on 2 August 2019.

1.2.Spacex Launches 143 Satellites, Breaks World Space Record- Transporter-1

- Elon Musk's SpaceX has managed to break the world record of the greatest number of satellites carried by a single rocket as Falcon 9 carried as many as 143 payloads into space.

Note

- India's deployed 104 satellites in February 2017.

- The launch was part of SpaceX's Small Sat Rideshare Program mission - enables small-satellite customers to book a ride to orbit with SpaceX directly.

1.3.Shramshakti Portal

- The Ministry of Tribal Affairs on launched a new portal to collect data related to tribal migrant workers.

- The name given to this new portal is 'Shram Shakti' which will facilitate in collecting data about such workers and linking it to the existing welfare schemes.

- The data that will be collected by the portal will include demographic profile, livelihood options, skill-mapping, and migration pattern as well.

- ShramShakti" portal will be able to successfully address the issue of data gap and will aid in empowering the migrant workers who generally move across cities in search of employment and income generation.

- To educate the workers about their rights - a tribal training module called the 'ShramSaathi'.

- After training, tribal migrant workers will be able to demand and access services, rights, and entitlements related to livelihood and social security in their villages before migration and their destinations after migration.

1.4.World gold Council

- The World Gold Council is the market development organisation for the gold industry.

- It works across all parts of the industry, from gold mining to investment, and their aim is to stimulate and sustain demand for gold.

- They frequently publish research that demonstrates gold's strength as a preserver of wealth – both for investors and countries.

1.5. National baseline Geoscience data Generation Programmes (2020-2024)

- To expedite exploration activities in the country, Geological Survey of India (GSI), has embarked upon an scheme to complete some major National level surveys by 2024: National Geochemical Mapping (NGCM), National Geophysical Mapping (NGPM), National Aero Geophysical Mapping Program (NAGMP).

- GSI has also initiated its flagship initiative of National Geoscience Data Repository (NGDR) for collation of all the geoscience data of the country involving GSI, other national organizations with geoscience as a focused activity, all the state directorate of mines and geology, the academia engaged in research and development in the domain, the CPSEs engaged in exploration and geoscientific pursuits, and private sector agencies working in the domain.

- It aims at integrating the collected data by GSI and the similar organizations to build a

- repository on the digital medium entailing multiple user access.

- Further, the planned Baseline Geoscience Data Collection campaign would also lead to a huge database, which will be the primary inputs for future exploration programs.

- The collation, assimilation and integration of the data generated from the above projects and further interpretation will lead to identification of more areas for mineral exploration in the country.

- The increased investment in mineral exploration will build a robust pipeline of prospective mineral blocks for auction.

- This will ensure long-term viability and continuity of mining in the country taking India towards the cherished goal of 'Atmanirbhar Bharat'.

1.6. Ageing Dams In India, U.S., other nations pose growing threat:UN Report

- Over a thousand large dams in India will be roughly 50-years-old in 2025 and such aging structures across the world pose a growing threat, according to a United Nations (UN) report which notes that by 2050, most people on Earth will live downstream of tens of thousands of dams built in the 20th century.

- The report, titled 'Ageing water infrastructure: An emerging global risk' and compiled by United Nations University's Canadian-based Institute for Water, Environment and Health, says most of the 58,700 large dams worldwide were constructed between 1930 and 1970 with a design life of 50 to 100 years.

- A large concrete dam would most probably begin to express signs of ageing.

- Ageing signs include increasing cases of dam failures, progressively increasing costs of dam repair and maintenance, increasing reservoir sedimentation, and loss of a dam's functionality and effectiveness, "strongly interconnected" manifestations.

- By 2050, most people on Earth will live downstream of tens of thousands of large dams built in the 20th century, many of them already operating at or beyond their design lifeThe world is unlikely to witness another large dam-building revolution as in the mid-20th century, but dams constructed then will inevitably be showing their age.

- 32,716 large dams (55% of the world's total) are found in just four Asian countries: China, India, Japan, and South Korea - a majority of which will reach the 50-year threshold relatively soon.In India, there are over 1,115 large dams that will be roughly 50- years-old in 2025, more than 4,250 large dams in the country will be over 50-years-old in 2050 and 64 large dams will be more than 150-years-old in 2050.

- Approximately 3.5 million people are at risk if India's Mullaperiyar dam in Kerala, built over 100 years ago, "were to fail".

- The dam, in a seismically active area, shows significant structural flaws and its management is a contentious issue between Kerala and Tamil Nadu States

- Overall, dam decommissioning should be seen as equally important as dam building in the overall planning process on water storage infrastructure developments.

1.7.Kanha Tiger Reserve

- Kanha Tiger Reserve, also known as Kanha–Kisli National Park, is one of the tiger reserves of India and the largest national park of the state of Madhya Pradesh.

1.8.Rajasthan Govt. brings M-Sand policy for constructions works

- The Rajasthan government brought the policy on manufactured sand (M-sand), giving industry status to the units producing it for construction work and reducing the dependence on bajri (riverbed sand).

- The Supreme Court had banned illegal mining on riverbeds in 2017.

- Manufactured sand (M-Sand) is a substitute of river sand for concrete construction.

- The policy would help create employment opportunities through new units and resolve the issue of huge quantities of waste generated in the mining areas

- It will also help in environmental protection and generate faith among the public in the efficacy of M-sand for construction works.

- The demand for sand in the construction sector had touched 70 million tonnes, which would be met by the new policy.

Why Manufactured Sand is Used?

- Manufactured sand is an alternative for river sand.

M - Sand   River Sand

Greater Durability

- M-Sand has balanced physical and chemical properties that can withstand any aggressive environmental and climatic conditions as it has enhanced durability, greater strength and overall economy. Usage of M-Sand can overcome the defects occurring in concrete such as honey combing, segregation, voids, capillary etc.

High Strength

- The superior shape, proper gradation of fines, smooth surface texture and consistency in production parameter of chemically stable sands provides greater durability and higher strength to concrete by overcoming deficiencies like segregation, bleeding, honey combing, voids and capillary.

Greater Workability

- The crusher dust is flaky and angular in shape which is troublesome in working. There is no plasticity in the mortar which makes it even difficult for the mason to work, whereas the cubical shape with grounded edge and superior gradation gives good plasticity to mortar providing excellent workability.

Offsets Construction Defects

- M-Sand has optimum initial and final setting time as well as excellent fineness which will help to overcome the deficiencies of concrete such as segregation, bleeding, honeycombing, voids and capillary.

Economy

- Usage of M-Sand can drastically reduce the cost since like river sand, it does not contain impurities and wastage is NIL. In International Construction Scenario, no river sand is used at all, only sand is manufactured and used, which gives superior strength and its cubical shape ensures significant reduction in the cement used in the concrete

Eco-Friendly

- M-Sand is the only alternative to river sand. Dredging of river beds to get river sand will lead to environmental disaster like ground water depletion, water scarcity, threat to the safety of bridges,

dams etc.

Disadvantages Of M-Sand

- Crushed sand can be of coarser and angular texture. This can lead to more water and cement requirement to achieve the expected workability.

- Manufactured sand can contain larger amounts of micro fine particles than natural sand, This can affect the strength and workability of the concrete.

1.9.International Energy Agency

- The agreement aims to strengthen cooperation with India in global energy security, stability, and sustainability.

- Both IEA members and India will jointly decide the terms of the partnership.

- The International Energy Agency is a Paris-based autonomous intergovernmental organisation established in the framework of the Organisation for Economic Co-

- operation and Development (OECD) in 1974 in the wake of the 1973 oil crisis.

- The IEA was initially dedicated to responding to physical disruptions in the supply of oil, as well as serving as an information source on statistics about the international oil market and other energy sectors.

- The IEA acts as a policy adviser to its member states, but also works with non- member countries, especially China, India, and Russia.

- The Agency's mandate has broadened to focus on the "3Es" of effectual energy policy: energy security, economic development, and environmental protection.

- The latter has focused on mitigating climate change. The IEA has a broad role in promoting alternate energy sources (including renewable energy), rational energy policies, and multinational energy technology co-operation.

Association countries [edit]

In March 2017, after a series of intensive consultations with all the relevant ministries, India joined the IEA as an association country.[16] This was a major milestone for global energy governance and another major step towards the IEA becoming a truly global energy organisation and strengthening ties with the key energy players. Since then, Indian delegations have actively participated in IEA committees, meetings and workshops. The IEA launches major publications in New Delhi to share findings with Indian energy communities and policy-makers.[17]

- Brazil
- China
- India
- Indonesia
- Morocco
- Singapore
- South Africa
- Thailand

- IEA member countries are required to maintain total oil stock levels equivalent to at least 90 days of the previous year's net imports.

- Only the OECD member states can become members of the IEA.

Additional Info:

- Reports By Iea:

  ✓ Global Energy & CO2 Status Report. World Energy Outlook.

  ✓ World Energy Statistics.

  ✓ World Energy Balances.

  ✓ Energy Technology Perspectives.

2. History

Click here to watch the following questions on YouTube

2.1.Risa

History

- In the ancient days, they used to judge a woman's intelligence in these communities by her woven Rignai and Risa designs.

- Though the history is contested, Maharaj Trilochana, aka Subhrai Raja — one of the early Manikya kings — is said to have invented nearly 250 designs of Rignai during his time for his 250 wives.

- Hundreds of years down the line, the fabric is undergoing rapid changes now, especially due to the fierce competition with power-loom manufactured products available at cheaper rates in the market.

- Risa comes in vivid, multi-coloured designs and the skill is handed down through generations as visual lessons.

- However, most of the designs were lost with the passage of time and only a few remain now.

Risa for a modern world

- The Tripura government is now eyeing to promote Risa as the signature textile of Tripura nationally.

- As part of the effort, CM appealed everyone to wear Risa on occasion of Kokborok Day and share your pics on social media.

- This is in line with Prime Minister's 'Vocal for Local' slogan.

- Kokborok Day is a state-sponsored event to celebrate the Tripuri tribal language.

Why is Tripura stressing on promoting traditional weavers now?

- The government is trying to weave the Risa into its policy for self-employment.

- As of 2018, Tripura had 1,37,177 handloom weavers, according to the National Handloom Census, with 60 handloom clusters. However, only a handful of them exclusively work on traditional tribal handloom.

- The handloom and handicrafts directorate has already extended support to several artisans to market their products in expo and industry fairs at Agartala, among whom some represented Tripura elsewhere like Delhi and Guwahati.

What is a Risa, and why is it important?

- Risa is one of the three parts of a customary Tripuri female attire, the other two being the Rignai and Rikutu.

- The Risa, which is essentially a customary handwoven cloth, is used as a head gear, stole, female upper cloth or presented to honor a distinguished recipient.

- The Rignai is primarily used to cover lower part of the body and literally translates into 'to wear'.

- The Rituku covers the upper half of the body, wrapping it all around.

- However, it is also used like a 'chunri' or a 'pallu' of the Indian saree.

- It is also used to cover the head of newly married Tripuri women.

- Apart from its beautiful designs, the Risa plays a host of crucial social utilities.

- Adolescent Tripuri girls are first given risa to wear when she reaches 12-14 years in an event called Risa Sormani.

- The event involves prayers to a Lampra god, where her elder women pray for her wellbeing throughout her life.

- Risa is primarily used as a breastcloth and is woven in different colourful designs.

- However, it is also used in religious festivals like the Garia Puja, a customary festival of the tribal communities, or as a head turban by male folks during weddings and festivals, as a cummerbund over dhoti, head scarf by young girls and boys, muffler during winters.

- The cloth is even used as a makeshift baby carrier on the mother's back.

2.2. Archaeological excavations set to bEgin In Seven More Places In Tamil Nadu

- Context: Encouraged by the archaeological findings in Keeladi that testified to the existence of an ancient urban Tamil civilisation, the Department of Archaeology has decided to launch excavations at seven more sites and field studies in two places.

- The Central Advisory Board for Archaeology (CABA) has granted permission for the projects

- Excavations would be carried out in Keeladi and surrounding areas in Sivaganga district, Adichanallur and surrounding areas, Sivakalai and surrounding areas and Korkai and surrounding areas in Thoothukudi district, Kodumanal in Erode district, Mayiladumparai in Krishnagiri district as well as Gangaikondacholapuram and Maligaimedu in Ariyalur district.

- One field study will be conducted to find new Stone Age sites in Krishngiri, Vellore, Dharmapuri, Tiruvannamalai and Salem districts.
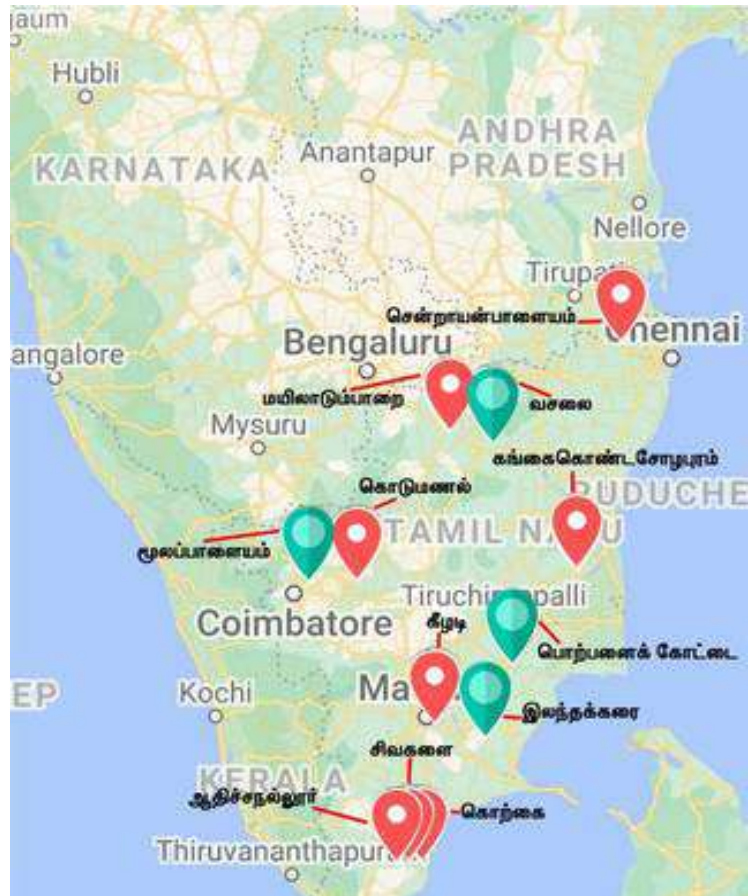
- Another field study will be done in Tirunelveli and Thoothukudi districts to find the Thamiraparani river civilisation.

- The excavations and field studies are a milestone in the efforts to restore the ancient cultural greatness of Tamil through scientific methods

- Besides the excavations and studies, proposals for excavations by universities, departments and agencies, have also been sent to CABA.

2.3.Thiruvalluvar Day

- Thiruvalluvar Day was first celebrated on May 17 and 18 in 1935.

- In the present time, it is usually observed either on January 15 or 16 in Tamil Nadu and is a part of Pongal celebrations.

- In 2020, Thiruvalluvar Day was celebrated on January 16.

- Thiruvalluvar, a poet and philosopher, is regarded as a cultural icon by Tamils.

- His most popular work is Thirukkuṛaḷ, a collection of couplets on ethics, politics, economy and love.

Who is Thiruvalluvar?

- While not much is known about Thiruvalluvar's life, speculations about it have been largely deduced from his work Thirukkural and other Tamil texts. Earliest references of the poet are found in the text Tiruvalluva Maalai.

- Thiruvalluvar's primary work Thirukkural contains 1330 couplets (kurals) that are divided into 133 sections of 10 couplets each.

- The text is divided into three parts with teachings on dharma, artha, and kama (virtue, wealth and love).

Social significance of Thiravalluvar

- In the early 16th century, a temple dedicated to Thiruvalluvar was built within the Ekambareswarar Temple complex in Mylapore.

- Locals believe that this was where he was born, underneath a tree within the temple complex.

- In 1976, a temple-memorial called Valluvar Kotam was built in Chennai and houses one of the largest auditoriums in Asia.

- A 133-feet tall statue of Thiruvalluvar stands at Kanyakumari as well.

- A statue of Valluvar was also erected outside the School of Oriental and African Studies in Russell Square, London.

2.4.Sulawesi island of Indonesia

- Context: A team of archaeologists has discovered what may be the world's oldest known cave painting dating back to more than 45,000 years.

- The cave painting depicts a wild boar endemic to the Sulawesi island of Indonesia, where the painting was found.

- The central Indonesian island, which occupies an area of over 174,000 sq. km, is situated between Asia and Australia and has a long history of human occupation

Significance of the cave painting

- The archaeologists note that the dated painting of the Sulawesi warty pig seems to be the world's oldest surviving representational image of an animal.

- The team came across this painting in the limestone cave of Leang Tedongnge while conducting field research.

- The painting was made using red ochre pigment and depicts a pig with a short crest of upright hairs and a pair of horn-like facial warts in front of the eyes, who is likely observing a social interaction or fight between two other warty pigs.

- These pigs have been hunted by humans for tens of thousands of years and are the most depicted animal in the ice age rock art of the island.

2.5. Jallikattu

- Context: Seen as the baiting of bulls and a ferocious display of cruelty by animal rights activists but venerated by others as a symbol of martial tradition and Tamil heritage, Jallikattu or Eru Thazhuvuthal (literally, embrace the bull) evokes polarised reactions from different sections of society.

- Jallikattu has been practised for thousands of years in Tamil Nadu and finds mention in Sangam literature, which dates back to as early as 200 BCE.

- Historical references indicate that the sport was popular among warriors during the Tamil classical period.

- The term 'jallikattu', comes from Tamil terms 'salli kaasu' (coins) and 'kattu' (a package), referring to the tying of prize money to the horns of a bull.

- Later, in the colonial period, the name was changed to 'jallikattu.'

- A well-preserved seal found at Mohenjodaro in the 1930s is available at the Delhi Museum, which depicts the bull fighting practice prevalent during the Indus Valley Civilization.

- Several rock paintings, more than 3,500 years old, at the remote Karikkiyur village in Tamil Nadu also show men chasing bulls with big humps and long, straight horns.

- According to local folklore, during the rule of the Nayak kings, an arena – usually the biggest open space in the village – would be designated for the sport to be played.

- A makeshift entrance, or Vaadi Vaasal, would then be marked out for both competing bulls, which were decorated and garlanded, and for their owners, who would stand in line with them.

- Gold coins, wrapped in a piece of cloth, were tied to the horns and the bulls were then released, one by one, onto the field.

- Excited by the gestures of those who trying to catch him, the bullock would then lower his head and charge wildly into the midst of the crowd, who would nimbly run off on either side to make way for him.

Indus Valley seal depicting Eru Thazhuvuthal/

- Willing young men would then grapple with the bull to untie the knot and get at the prize — they either successfully managed to hang on for dear life, or were simply tossed around like rag dolls, bouncing off the bulls' muscular body.

- Winners were greatly admired as the sport required quick reflexes and a fleet foot to tame the recalcitrant bull, which would try to get away, shake off the fighter and, at times, stamp or wound fallen participants.

- Traditionally, Jallikattu was played to judge a man's virility; it was seen as a way to win a woman's hand in marriage.

- The men who held on to the bulls, usually reared by the object of their affections, were declared winners.

- Kalithogai, a classic Tamil poetic work of Sangam literature, speaks of how the bulls were women's best friends, in that they selected the right partners for them.

- The text also talks elaborately about how to identify the right kind of bull and train it.

- Modern day Jallikattu is played by farming communities in Tamil Nadu to handpick the strongest bulls as studs for their cows so that, in turn, they may sire high-quality calves.

- The earliest evidence of the sport comes from Kalithogai, an anthology of 150 poems, which is part of the corpus of Tamil Sangam poetry.

- Dating to the early centuries of the common era, Kalithogai poems are found in the section on 'Mullai' — poems set in pastoral land — and provide the earliest descriptions of an ancient sport called eru thazhuvuthal (literally, 'embracing the bull').

- Attributed to poet Nalluruthiran, the five poems, totalling some 350 lines, conjure up the thrill, tumult and breathless pace of jallikattu.

- In the 14th century, the phenomenally erudite Nachinarkiniyar, praised as 'star commentator among scholars', provided glossary and elucidation — testimony that jallikattu was a continuing tradition.

2.6. Egypt unveils ancient funerary temple in Saqqara

- Context: Archaeologists unearthed the temple of Queen Neit, wife of King Teti, the first king of the Sixth Dynasty that ruled Egypt from 2323 B.C.E. till 2150 B.C.E.

- Archaeologists also found a 4-meter (13-foot) long papyrus that includes texts of the Book of the Dead, which is a collection of spells aimed at directing the dead through the underworld in ancient Egypt

- They also unearthed burial wells, coffins and mummies dating back to the New Kingdom that ruled Egypt between about 1570 B.C. and 1069 B.C.

- They unveiled at least 22 burial shafts up to 12 meters (40 feet) deep, with more than 50 wooden coffins dating back to the New Kingdom.

- The Saqqara site is part of the necropolis at Egypt's ancient capital of Memphis that includes the famed Giza pyramids as well as smaller pyramids at Abu Sir, Dahshur and Abu Ruwaysh.

- The ruins of Memphis were designated a UNESCO World Heritage site in 1970s.

- In recent years, Egypt has heavily promoted new archaeological finds to international media and diplomats in the hope of attracting more tourists to the country.

- The vital tourism sector suffered from years of political turmoil and violence that followed a 2011 uprising that toppled autocrat Hosni Mubarak.

2.7. Guru Gobind Singh Ji Jayanti

- Guru Gobind Singh Ji was born on December 22 according to the Georgian calendar, but his birth anniversary is calculated in accordance with the lunar calendar, and this year, it was observed on January 20.

- The day is observed in honour and remembrance of the great warrior, poet, philosopher and spiritual master. This year marks the 354th birth anniversary of Guru Gobind Singh Ji.

History

- Guru Gobind Singh Ji was the only son of Guru Tegh Bahadur, the ninth Sikh guru and Mata Gujri.

- His birth name was Gobind Rai and he was born in Patna, Bihar to a Sodhi Khatri family.

- When he was merely nine years of age, his father, Guru Tegh Bahadur was killed by Aurangzeb for refusing to convert to Islam.

- Following his father's death, Guru Gobind Ji took over as the leader and protector of the Sikhs and continued to fight against the injustices done against his community at the hands of the Mughals.

- Guru Gobind led the Sikhs through his own example; his teachings and philosophy soon gained historical importance in the Sikh way of life.

- He was responsible for institutionalising the Khalsa, who played a significant role in the protection of the Sikhs after his death, amidst the invasions of Punjab.

- In 1699, Guru Gobind Singh Ji initiated the Five K's tradition of the Khalsa, Kesh – uncut hair; Kangha – a wooden comb; Kara – an iron or steel bracelet worn on the wrist; Kirpan – a sword or dagger; and Kacchera – short breeches.

- In 1708, before his death, Guru Gobind Singh Ji declared Sikhism's holy scripture, the Guru Granth Sahib as the final Sikh guru.

2.8. Vice President launches book of poems of Sree Narayana Guru, 'Not Many But One'

- Context: The Vice President, suggested that the Indian worldview of 'Vasudhaiva Kutumbakam' can show the way for the contemporary problems facing humanity.

- Sri Narayana Guru, was a social reformer and saint. While he immersed himself in meditative practices for spiritual upliftment, he also worked for the empowerment of people in Kerala who were downtrodden due to caste prejudices.

- Sree Narayana Guru was born in a time when the caste system was rampant in Kerala society.

- Born in the Ezhava caste, which was thought to be a lower caste, he had experienced firsthand the discrimination brought upon them by the upper caste section of society.

- His most famous saying in Malayalam translates as ''One caste, one religion, one god for all''.

- Narayana Guru consecrated more than 40 temples across the state as an act of protest to permit so called lower caste people to enter temples.

- The famous ''Vaikom Satyagraha'' protest movement against caste discrimination and untouchability, which centered around the Sri Mahadeva Temple at Vaikom, was triggered by an upper-caste person blocking Narayana Guru from walking on the road leading to the famous temple.

- This led to all such restrictions being finally abolished and everyone, irrespective of caste, being given the freedom to walk on public roads that led to the temple.

- The Sivagiri pilgrimage was approved with his blessings in 1924 and initiated by three of his disciples and continues till this day.

- Under the Guru's tutelage, the pilgrimage is undertaken to promote the virtues of cleanliness, education, devotion, agriculture, handicrafts, and trade.
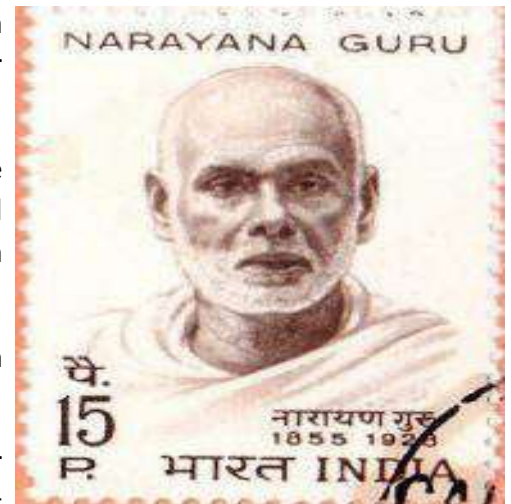
- While translating three major sacred texts, he also published more than 40 works of his own in Malayalam, Tamil, and Sanskrit.

- Sree Narayana Guru embodied and propagated communal harmony and universal brotherhood following in the footsteps of Adi Sankara.

- The development of Kerala into a more humane and egalitarian society began in the wake of these footsteps.

2.9.khadi shirt, eri shawl and eri stole

- Context: Assam government will provide khadi shirt, eri shawl and eri stole to Grade IV employees in a phased manner, in a move to pay tributes to Mahatma Gandhi and his movement for Khadi.

Eri Silk

- Eri silk comes from the caterpillar of Samia ricini, found in northeast India and some parts of China, Japan

- It was imported to Thailand in 1974.

- The name "eri" is derived from the Assamese word "era", which means "castor", as the silkworm feeds on castor plants.

- Another type of eri silk is "Ailanthus silk moth", refers to the host plant, Borkesseu, Ailanthus excelsa, practiced in China.

- Eri silk is also known as endi or errandi in India.

- Eri silk is processed without killing the silkworm.

- Commonly silk cocoons are boiled with the worm inside to maintain one continuous filament, which results in a smooth and shiny fabric.

- But the Eri silkworm spins short segments of a filament and creates a cocoon that is open at one end – enabling the moth to emerge.

- This peace silk is, therefore, a very popular fibre among vegans and Buddhists.

- The woolly white silk is often referred to as the fabric of peace as it is processed without killing the silkworm.

- This process results in a silk called Ahimsa silk. Moths leave the cocoon and then the cocoons are harvested to be spun.

- The eri silkworm is the only completely domesticated silkworm other than Bombyx mori.

- The humid climate of Northeast India is very favourable for the eri culture.

- Rural and tribal women traditionally carry out the processing, spinning and weaving as part of their daily life.

- In some areas, the silkworm is considered a delicacy and is also eaten.

- The empty cocoons are degummed by boiling in water, made into small cakes resembling cotton pads and then thrown against the mud houses for drying.

- Once the cakes are dry, they are used for spinning which is done similarly to spinning wool.

- Eri silk is funnily enough also known as the silk of the poor.

- Eri silk has excellent qualities: it is very strong, combining the elegance of silk with the comfort of cotton and warmth of wool.

- The more it is worn, the softer it gets and it is a great textile to be worn all year round.

Khadi

- Khadi (also known as khaddar) is a hand-spun fabric.

- It is a natural fiber cloth spun by hand in India, Bangladesh and Pakistan

- Khadi is usually manufactured from cotton and is also made from silk and woolen yarn (called khadi silk and khadi wool respectively).

- Hand-spinning and hand-weaving have been known to Indians for thousands of years.

- Archaeological evidence, such as terracotta spindles (for spinning), bone tools (for weaving) and figurines wearing woven fabrics indicates that Indus Valley Civilization had a well-developed and flourishing tradition of textiles.

- When Alexander the Great invaded India, his soldiers wore cotton clothes that were comfortable in the heat than their traditional woolens

- The paintings in the Ajanta Caves in Maharashtra depict the process of separating cotton fibers from seeds (called ginning) and women spinning cotton yarn.

- Khadi was then introduced in 1920 by INC at Nagpur session as a political weapon for giving concrete expression to the Swadeshi Spirit to boycott the foreign goods.

- During India's freedom struggle, Gandhi encouraged handloom weaving, spinned with Charkha and promoted khadi and also used it as a medium to spread the wave of nationalism at grass root level.

- The first Khadi Production Centre was established at Katiawad, Gujarat.

- In the early 20s and 30s, various Boards and Associaions were set up for Khadi.

- In 1948, Govt. of India recognized the role of Rural Cottage Industries in the Industrial Policy Resolution and soon included it in the DPSP of the Constitution in Article 43.

- In 1953, All India Khadi and Village Industries Board (AIKVIB) were set up which later became a statutory body - Khadi and Village Industries Commission (KVIC).

- Indian Government has declared 7th August as the National Handloom Day.

2.10.Swami Vivekananda

- National Youth Day is celebrated on 12 January every year on the birthday of Swami Vivekananda.

- Swami Vivekananda's pre-monastic name was Narendra Nath Datta.

- Before being initiated as a monk, Narendranath had sought divine influence from many sectors.

- He met Debendranath Tagore, founder of the Brahmo Samaj and father of Rabindranath Tagore, in 1880.

- When he asked Tagore if he had seen God, Tagore replied, " My boy, you have the Yogi's eyes"

- No one could help Narendranath with his question about God, Until he met Ramakrishna Paramahansa in 1881.

- When he asked the same question to Ramakrishna, the latter replied, " Yes, I see Him as I see you, only in an infinitely intense sense."

- Vivekananda is known to have introduced Hindu philosophies of yoga and vedanta to the western world.

- His best-known presence in the West is his speech at the Parliament of the World's Religions in 1893 in Chicago where he introduced the basic concepts of Hinduism to an international audience.

- After this session, Vivekananda toured around several parts of USA and UK, spreading philosophies on religion.

- The aspect of Hinduism that Vivekananda represented is known as 'neo-Vedanta' which is an interpretation of Hinduism through a Western esoteric lens.

2.11. Bangladesh Armed Forces Contingent To Participate In Republic Day Parade

- Context: For the first time, a 122-member strong contingent of the Bangladesh Armed Forces participated at the Republic Day celebrations.

- The contingent comprises soldiers of the Bangladesh Army, sailors of the Bangladesh Navy and air warriors of the Bangladesh Air Force.

- The majority of the soldiers in this contingent hail from the most distinguished units of the Bangladesh Army.

- These units have the distinct honour of fighting and winning the 1971 Liberation War.

- This Bangladesh contingent carries with them the legacy of legendary "Muktijoddhas" of Bangladesh, their forefathers who fought against oppression, mass atrocities by tyrannical forces and for the freedom of Bangladesh.

- Operation Jackpot and Kilo Flight of the Bangladesh Navy and Air Force, respectively, were demonstration of their resolve, courage and determination to fight against oppression

- This year India and Bangladesh celebrate 50 years of the establishment of their ties and Bangladesh celebrates 50 years of its independence.

- Both sides have agreed to hold commemorative events and also jointly organize events throughout the year.

- It is these fraternal ties that exist between the two countries that make the relations transcend even a strategic partnership.

2.12. Bharat Parv

- Bharat Parv 2021, a festival to celebrate the spirit of India, was organised on a virtual platform till 31st of January.

- The mega event envisages generating patriotic fervour and showcases the rich and varied cultural diversity of the country.

- Ministry of Tourism organizes Bharat Parv every year since 2016 in front of the ramparts of the Red Fort on the occasion of Republic Day Celebrations.

- Themed pavilions of multiple States and Union Territories have showcased their tourism destinations, cuisine, handicraft and other features.

- The glimpses of Republic Day Parade and recorded performances of Armed forces music bands will also be available on this virtual platform.

- Various Central Ministries and other organizations including Ministry of Culture, Ministry of Ayush, Ministry of Consumer Affairs, Ministry of Railways, Archaeological Survey of India, National Museum, National Gallery of Modern Arts, Khadi and Village Industries Commission and others are displaying handicrafts, handlooms, music, dance, paintings, literary material and other features from all over the country.

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BHARAT PARV

Bharat Parv is a kaleidoscope of the thousand little things that make India so incredible. Over the 6 day festival, let's celebrate India, and understand the true meaning of 'Ek Bharat Shreshtha Bharat.'

Event Venue: **Red Fort Lawns, Delhi**
Event Date & Timings: **26th Jan, 2020 - 5 pm to 10 pm (Inauguration at 5 pm)**
27th Jan-31st Jan, 2020 - 12 noon to 10 pm

Event Highlights: Republic Day Parade Tableaux | Crafts Bazaar | Multi-cuisine Food Court and Live Cookery Demos | Cultural Performances by States and NZCC | Theme Pavilions by States | Armed Forces Bands | Exhibition by M/o Culture | Yoga Demonstration by AYUSH

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- Prasar Bharati has set up its virtual stall which will showcase its efforts towards promoting Ek Bharat-Shrestha Bharat.

- Another media unit of the Ministry of Information and Broadcasting, Bureau of Outreach and Communication focuses on 150th Birth Anniversary of Mahatma Gandhi by exhibiting photos, videos, animation related to Swachch Bharat, Sashakt Bharat, Bapu Ke Sapno Ka Bharat'.

- Celebrating the diversity and spirit of India, Publication Division's virtual pavilion is exhibiting a rich display of books on art and culture, history and biographies of builders of modern India.

2.13. Battle of Bhima Koregaon

- Context: OCHCR has called for release of Bhima Koregaon activists.

- The story of the Battle of Bhima Koregaon on January 1, 1818 has come to be mediated by competing narratives of Dalit assertion against Brahminical oppression, and Indian 'nationalism' standing up to the colonial army of the East India Company.

- Dr B R Ambedkar visited the Jaystambh repeatedly, and said in a speech in Sinnar in 1941 that the Mahars had defeated the Peshwas at Koregaon.

- Despite British claims of having achieved "one of its proudest triumphs", the outcome of the battle remains contested, and some Maratha histories have claimed it was the Peshwa army that was, in fact, victorious.

- One of the earliest accounts of the battle was published in 1885 in The Poona District Gazetteer, edited by James M Campbell, ICS, as part of the series of Gazetteers of the Bombay Presidency.

- The battle took place at the village of Koregaon (population 960) 16 miles northeast of Pune, where 800 British troops faced 30,000 Marathas on January 1, 1818.

- Six months earlier, on June 13, 1817, Peshwa Bajirao II had been forced to cede large swathes of territory to the Company, officially ending the Maratha Confederacy.

- In November, the Peshwa's army revolted against the British Resident at Pune, but was defeated in the Battle of Khadki.

- Pune was placed under Colonel Charles Barton Burr.

- At the end of December, Burr received intelligence that Bajirao intended to attack Poona, and requested help.

- The second battalion of the first regiment Bombay Native Infantry of 500 rank and file under Captain Francis Staunton, accompanied by 300 irregular horse and two six-pounder guns, left Sirur for Poona on December 31, 1817.

- After marching 25 miles, about 10 the following morning, they came across the Bhima river the Peshwa's army of 25,000 Maratha horse.

- The Gazette does not mention the caste of Indian soldiers in Staunton's army, but later accounts say a sizeable number were Mahars.

- The Marathas recalled a body of 5,000 infantry that had proceeded some distance ahead, the Gazette records.

- Cut off from water and food, and after losing one of their artillery guns, some British troops were keen to surrender.

- Fierce fighting followed and, "as night fell", the Gazette records, "the attack lightened and they (the British) got water."

- Of the 834 British troops, 275 were killed, wounded, or missing.

- The Marathas lost between 500 and 600 killed and wounded.

- Subsequently, as Maratha strongholds started falling, Bajirao II went on the run, finally surrendering in 1823.

- The British kept him in Bithur until his death in 1851.

- His successor, Nanasaheb Peshwa, was the last of the titular heads of the Peshwai system.

About OHCHR

- The Office of the High Commissioner for Human Rights (UN Human Rights) is the leading UN entity on human rights.

- It is mandated to, inter alia, protect and promote all human rights and to conduct necessary advocacy in that regard, established pursuant to the United Nations General Assembly resolution 48/141.

- It also has to promote adherence to international human rights law and, with this purpose in mind, to support domestic courts, with their constitutional or judicial function, in ensuring the implementation of international legal obligations.

- This is the basis for seeking intervention.

2.14.Govind Ballabh Pant

- Context: The statue of Govind Ballabh Pant as part of construction of new Parliament building has been relocated.

- The Statue of Pandit Pant was installed in New Delhi in 1966 by the then President of India Dr S Radhakrishnan.

- The Gobind Ballabh Pant Memorial Society was formed to organise memorial functions across the country.

- Over the years it has been headed by past Presidents and Prime Ministers.

- Pandit Govind Ballabh Pant was a renowned Indian freedom fighter and one of the makers of modern India.

- He served as the Union Home Minister in Jawaharlal Nehru's cabinet and tackled the critical issues plaguing the newly independent nation with great elan.

- Govind Ballabh Pant began his career as a lawyer.

- After India's independence, he became the first Chief Minister of Uttar Pradesh.

- He made his mark by abolishing the zamindari system and stablising the economic condition of the state.

- After his nearly five year long stint as the chief minister, Prime Minister Jawaharlal Nehru inducted him in his cabinet as Union Home Minister.

- As Home Minister, he played a key role in the re-organisation of States along linguistic lines and in establishing Hindi as the official language of India.

- For his services towards the nation, he was honored with the India's highest civilian award, the Bharat Ratna.

- Pandit Govind Ballabh Pant was born on 10 September 1887, in a village called Khoont near Almora.

- He was born in a Maharashtrian Brahmin family that had migrated long back.

- His father was a government officer and had to move from one place to another frequently.

- In the initial years as a lawyer in Kashipur, Pandit Pant actively campaigned against the British Raj.

- In 1914, he helped a village council to effectively challenge a law that required locals, known as 'coolie beggars', to carry the luggage of travelling British officers for free.

- Having gained popularity as a lawyer, in 1921, he entered politics and was elected to the Legislative Assembly of the United Provinces of Agra and Oudh.

- Together with Pandit Badri Durr Pande, he started a weekly paper called 'Shakti', highlighting the problems and campaigning for the cause of the Kumaon region.

- In 1930, he was imprisoned for several weeks for arranging a Salt March inspired by Mahatama Gandhi.

- In 1933, he was arrested again for attending a session of the then outlawed provincial Congress.

- In 1935, the ban was withdrawn and he was elected to the Central Legislative Assembly.

- He won the respect of the leaders of the Congress with his political skills. Soon, he became deputy leader of the Congress party in the Assembly.

- In the 1937 election, he was elected unchallenged as the leader of the Congress Party in the United Provinces (present day Uttar Pradesh) and became the first Chief Minister of the United Provinces under the Government of India Act, 1935.

- In 1939, India was pulled into the Second World War.

- The Congress ministers, including Pandit Pant, resigned as a mark of protest.

- He acted as a tiebreaker between Gandhi's and Bose's conflicting approaches to the war.

- In 1940, he took part in Gandhi's Satyagraha Movement as a result of which he was imprisoned.

- In 1942, he was arrested for signing the Quit India resolution.

- In March 1945, he was let free after Jawaharlal Nehru pleaded his release on grounds of deteriorating health.

- After the war was over in 1945, the British Labour government held elections to the Provisional legislatures, and he emerged as the leader of the Party in United Provinces once again.

- He became the Chief Minister of the state for the second time continuing even after India's independence in 1947.

- He became the first Chief Minister of Uttar Pradesh and was in the office from 26 January 1950 to 27 December 1954.

- In 1955, he was inducted into Jawaharlal Nehru's cabinet and was made the Union Home Minister.

- He served in this position till his death in 1961

- He abolished the zamindari system, made monogamy compulsory for Hindu men and conferred Hindu women the rights to divorce and inherit ancestral property.

- In 1957, he was awarded India's highest civilian honor, the Bharat Ratna, for his selfless service to the nation.

2.15.Kala Utsav 2020

- Context: Union Education Minister addressed the Valedictory Function of Kala Utsav 2020.

- Kala Utsav gives the right direction and shape to the spirit of 'Ek Bharat Shreshtha Bharat'.

- Indigenous Toys and Games segment has been introduced in Kala Utsav 2020 and emphasized that this promotes 'Vocal for Local'.

- Kala Utsav 2020 has also incorporated the recommendations of the National Education Policy 2020.

- Students, when indulging in any form of art, use their imagination and try to realise it and give it life thus turning it into reality.

- Kala Utsav gives an opportunity to this process. Such opportunities enhance the students' reasoning, comprehensibility, problem solving, cognitive and decisive abilities, which are helpful in the all-round development of the student.

About Kala Utsav 2020

- Kala Utsav 2020 was launched online on 10 January 2021 through a digital platform.

- A total of 35 teams have participated in Kala Utsav 2020, from different states, union territories, Kendriya Vidyalaya Sangathan and Navodaya Vidyalaya Samiti schools where 576 students demonstrated their talent.

- In the competitions of Kala Utsav 2020 organised from 11 to 22 January 2021, a total of nine art forms, namely— 1. Classical singing 2. Traditional folk song 3. Classical instruments
4. Traditional/folk instruments 5. Classical dance 6. Folk dance 7. Visual Arts (Two-dimensional)
8.Visual Arts (Three-dimensional) 9. Local games-toys are included.

- Earlier there were only four art forms in Kala Utsav, now another five art forms have been added in it.

2.16.Patharughat : The forgotten peasant uprising of Assam in 1894

- Twenty five years before the Jallianwallah Bagh massacre, more than a hundred peasants fell to the bullets of the British on January 28, 1894 in Assam.

- The unarmed peasants were protesting against the increase in land revenue levied by the colonial administration, when the military opened fire.

- Today a "martyrs column" stands where the incident took place — Patharughat, a small village in Assam's Darrang district, 60km northeast of Guwahati.

What led to the Patharughat uprising?

- After the British annexation of Assam in 1826, surveys of the vast lands of the state began.

- On the basis of such surveys, the British began to impose land taxes, much to the resentment of the farmers.

- In 1893, the British government decided to increase agricultural land tax reportedly by 70- 80 per cent.

- Up until then the peasants would pay taxes in kind or provide a service in lieu of cash

- Across Assam, peasants began protesting the move by organising Raij Mels, or peaceful peoples' conventions.

- Despite these gatherings being democratic, the British perceived them as "breeding grounds for sedition". So whenever there was a Raij Mel, the British used to come down on it with a heavy hand to disperse them.

- That is what happened on January 28, 1894.

- Official records, as mentioned in the Darrang District Gazette, 1905, placed the casualties in the Patharughat incident as 15 killed and 37 wounded. However, unofficial sources claim it was a much higher number.

Why was the incident significant?

- For the larger Assamese community, Patharughat comes second only to the Battle of Saraighat, when the Ahoms defeated the Mughals in 1671.

- It is extremely inspirational for the Assamese community, like a national awakening

- While many often refer to the episode as the "Patharughat Ron" or the "Battle of Patharughat" it is a "misnomer."

- It was a peaceful protest and a precursor to the Civil Disobedience movement, which was later propagated by Mahatma Gandhi."

What about the site today?

- A martyrs column was erected at the site on 28 January, 2001 by the Army and unveiled by former Governor of Assam.

- Every year on January 28, the government and local people pay respects to the martyrs of the incident (Krishak Swahid Diwas) in an official function.

- On January 29, the Indian Army pays its respects in military style.

- On January 28, 2021, Assam CM inaugurated an Integrated Training and Skill Development Centre for the farmers near the site. The centre will be equipped to teach farmers new skills and technology.

2.17.Lala Lajpat Rai

- Context: Prime Minister paid tribute to freedom fighter Lala Lajpat Rai on his birth anniversary.

- Lala Lajpat Rai, also known as the 'Punjab Kesari' (the lion of Punjab) was born on 28 January 1865.

- He got the opportunity to know Swami Dayanand Saraswati, the founder of Arya Samaj. Inspired by his teachings, Lala Lajpat Rai also joined the Arya Samaj.

- He started practising Law at Hisar (in Punjab at that time) when his family moved to the same place in 1886.

- Later he served as the founding member of the Bar Council Of India in Hisar with Babu Churamani.

IF I HAD THE POWER TO INFLUENCE INDIAN JOURNALS, I WOULD HAVE THE FOLLOWING HEADLINES PRINTED IN BOLD LETTERS ON THE FIRST PAGE: MILK FOR THE INFANTS, FOOD FOR THE ADULTS AND EDUCATION FOR ALL.

- He, along with Babu Churamani, later went to establish a branch of Indian National Congress in Hisar.

- They also established a branch of Arya Samaj in the same district.

- He received the opportunity of being one of the four delegates participating in the annual session of Congress in 1888 and 1889. Both the sessions were held in Allahabad

- In 1892, he went to practice law at the Lahore High Court.

- During this time, he also practised journalism and use to write regularly for 'The Tribune' newspaper.

- Lala Lajpat Rai played a significant role in the birth of Punjab National Bank.

- Under his guidance, the Dayanand Anglo Vedic School managing committee was established.

- In May 1907, when he was deported to Mandalay, Burma for being a part of a political agitation that took place in Punjab.

- During the Calcutta Special Session held in 1920, Lala Lajpat Rai became the president of the Indian National Congress (INC).

- The Servants of the People Society which is a non-profit welfare organisation was founded by Lala Lajpat Rai in 1921. The then headquarter was at Lahore, which was shifted to Delhi after partition.

- When Simon Commission came to India on 30 October 1928, it was opposed by every political party.

- It was then, Lala Lajpat Rai organised a non-violence protest named 'Simon go back'.

- In 1927, he established the Gulab Devi Chest Hospital in the loving memory of his mother who died after suffering from Tuberculosis.

- It is said that the hospital is situated at the same place in Pakistan where his mother died.
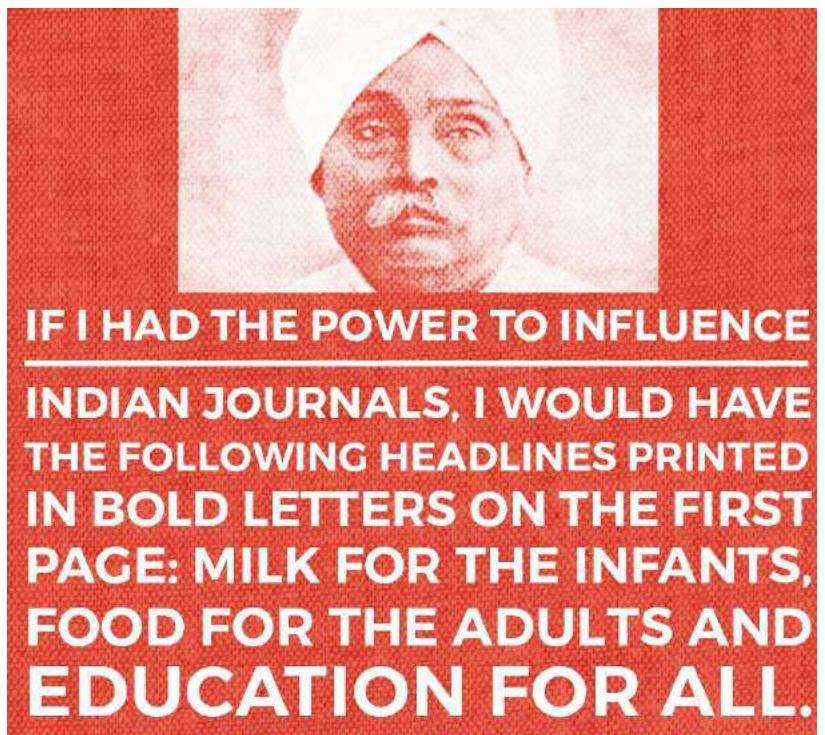
- It was inaugurated on 17 July 1934.

- The hospital is dedicated and run by women only.

- A group of philanthropists who belong to Punjab opened the Lala Lajpat Rai Trust in 1959. It was founded on the eve of his Centenary Birth Anniversary.

- In the year 2010, the Lala Lajpat Rai University of Veterinary & Animal Sciences was established by the Government of Haryana.

3. Polity & Governance

Click here to watch the following questions on YouTube

3.1.Provision of Act to suspend Internet

- Context: As farmers' protest turned violent in parts of Delhi on Republic Day, the Ministry of Home Affairs (MHA) issued orders to temporarily suspend Internet in some areas under a rarely used provision of a British era Act.

- The order issued under the Temporary Suspension of Telecom Services (Public Emergency or Public Safety Rules 2017) of the Indian Telegraph Act, 1885 had been issued only twice- in Delhi on December 19 and 20, 2019, at the height of the CAA (Citizenship [Amendment] Act/National Register of Citizens (NRC) protests.

- The rules framed in 2017 empower the Union Home Secretary and a State's Home Secretary to pass directions to suspend the telecom services, including Internet, in an area "due to public emergency or public safety."

- Several farmer groups had been sitting in protest since November 26 at Delhi's borders against the three farm laws passed by the government in September last.

COMPETENT AUTHORITY
The Secretary, Home Ministry [Centre]
Or
The Secretary, Home Department [State]

Review in 24 hrs

Subject to

Orders sent via an officer not below the rank of Superintendent of Police or of the equivalent rank

IN EMERGENCIES
Joint Secretary (or above) authorized by Union Home Secretary [Centre]
Or
Joint Secretary authorized by State Home Secretary [State]

Sent within the next working day

To Review the order in 5 working days

TSPs/ISPs/TELEGRAPH AUTHORITY
Designated Officers of TSPs/ISPs/Telegraph Authority in every licensed service area, State or Union territory

REVIEW COMMITTEE
The Central Government Review Committee
Or
The State Government Review Committee

About the Indian Telegraph Act, 1885

- It governs the use of wired and wireless telegraphy, telephones, teletype, radio communications and digital data communications.

- It gives the Government of India exclusive jurisdiction and privileges for establishing, maintaining, operating, licensing and oversight of all forms of wired and wireless communications within Indian territory.

- It also authorizes government law enforcement agencies to monitor/ intercept communications and tap phone lines under conditions defined within the Indian Constitution.

> • Other enactments which govern the telecom sector are as follows: Indian Telegraph Act, 1885
> ✓ Indian Telegraph (Amendment) Rules, 2000
> ✓ Indian Wireless Act, 1933
> ✓ Cable Television Networks (Regulations) Act,1995
> ✓ Information Technology Act, 2000
> ✓ Broadband Policy 2004

- Section 5(2) of the act allows central and state governments to prevent the transmission of messaging during a "public emergency or in the interest of public safety", or "in the interests of the sovereignty and integrity of India, the security of the state".

3.2.Election Commission Rolls Out Digital Voter Identity Card

- Context: The Election Commission rolled out the electronic version of the voters' photo identity card which can be stored on mobile phones and downloaded on personal computers.

- The e-voter card, available in the PDF format which cannot be edited, can be self-printed and laminated by the voter when required.

- With its formal launch electors in poll-bound West Bengal, Tamil Nadu, Assam, Kerala and Puducherry can use e-voter card on polling days. Elections are due in these states and the union territory in April-May.

Voter ID Card Online Service
- Check voter card status
- Search voter name in Electoral Roll
- Apply online for Registration of New Voter
- Apply online for Registration of Overseas Voter
- Correction of Entries in Electoral Roll
- Know your Booth, AC and PC
- Know your BLO, ERO and DEO
- Link to STATE/UT CEO's
- Voter Education Channel
- Polling Process
- Electronic Voting Machines

AND MANY MORE

- The conventional ''PV'' physical voter card would continue to be in use.

- The e-elector photo identity card is a non-editable digital version of the elector photo identity card and can be saved in facilities such as   digital locker as well as can be printed in the PDF format.

- The physical card takes time to print and reach the voter, and the   idea is to provide faster delivery and easy accessibility to the document.

- The Aadhaar card, Permanent Account Number (PAN) card and driving licence are available in digital mode.

- Introduced in 1993, the elector photo identity cards are acceptable as proof of identity and address.

- The online digital radio service will stream voter awareness programmes. It will be accessible through a link on the Election Commission of India website.

Radio Hello Voters

- The programming style of Radio Hello Voters has been envisaged to match that of popular FM radio services.

- It will provide information and education on the electoral processes through songs, drama, discussions, spots, stories of elections in Hindi, English and regional languages from all over the country, an official statement said.

Election Commission

- The EC came into being on January 25, 1950, a day before India became a republic.

- For the past few years, January 25 is also observed as National Voters' Day.

- Article 324 of the Constitution provides Election Commission of India with the power of direction, superintendence, and control of elections to parliament, state legislatures, the office of president of India and the office of vice-president of India.

- The Election Commission is an all-India body that is common to both the Central government and the State governments.

- The commission does not deal with the elections to the Municipalities and Panchayats in the states. A separate State Election Commission is provided by the Constitution of India for the same.

- Since its inception in 1950 and till 15 October 1989, the election commission was as a one-member body with only the Chief Election Commissioner (CEC) as its sole member.

- On 16 October 1989, the voting age was changed from 21 to 18 years. So, two more election commissioners were appointed by the president in order to cope with the increased work of the election commission.

- Since then, the Election Commission was a multi-member body which consisted of 3 election commissioners.

- The chief and the two other election commissioners have the same powers and emoluments including salaries, which are the same as a Supreme Court judge.

- In case of difference of opinion amongst the Chief Election Commissioner and/or two other election commissioners, the matter is decided by the Commission by a majority.

- The office is held by them for a term of 6 years or until they attain 65 years, whichever happens first. They can also be removed or can resign at any time before the expiry of their term.

3.3.Agreement for financial support to STARS project

- Context: An agreement for the financial support of the implementation of Strengthening Teaching-Learning and Results for States (STARS) project of Ministry of Education was signed between Department of Economic Affairs (DEA) and World Bank along with Ministry of Education.

- The total project cost of STARS project is Rs 5718 crore with the financial support of World Bank amounting to US $ 500 million (approximately Rs. 3700 crore) and rest coming as State share from the participating States, over a period of 5 years.

- STARS project would be implemented as a new Centrally Sponsored Scheme under Department of School Education and Literacy (DoSEL), MOE.

- Earlier Union Cabinet has approved the proposal of STARS project on 14th Oct 2020.

Implementation

- The project covers 6 States viz Himachal Pradesh, Rajasthan,

- Maharashtra, Madhya Pradesh, Kerala and Odisha.

- The identified States will be supported for various interventions for improving the quality of education.

- The Program envisions improving the overall monitoring and measurement activities in the Indian school education system through interventions in selected states.

- STARS will draw on existing structure under SAMAGRA Shiksha with the DoSEL, MoE as the main implementing agency at the national level.

- At the State level, the project will be implemented through the integrated State Implementation Society (SIS) for Samagra Shiksha.

- The proposed World Bank support under STARS is primarily in the form of a results-based financing instrument called Program for
  Results (PforR).

- This will ensure major reforms at the State level through a set of disbursement-linked indicators (DLIs).

- A State Incentive Grant (SIG) will be used to encourage States to meet desired project outcomes.

- The SIG matrix has been aligned with the intermediate outcome indicators as per the requirement of PforR instrument.

- An Independent Verification Agency (IVA) will verify each result before disbursement of funds.

Significance

- STARS project will be instrumental in the implementation of various recommendations of National Education Policy 2020 i.e. Strengthening Early Childhood Education and Foundational Learning, Improving Learning Assessment System, ICT-enabled approaches in education, Teachers Development and Vocational education etc.

3.4. India Announces Pledge Of $1,50,000 To UN Peacebuilding Fund

- Context: India has announced a pledge of USD 150,000 to activities of the Peacebuilding Fund this year and said that 2021 provides the international community with an opportunity to look at peacebuilding in a more focused manner, especially in the context of the COVID pandemic.

- In 2020, the Peacebuilding Fund mobilised over USD 180 million, which is an important sign of the trust the fund has garnered over he years and its demonstrated ability to deliver in the most difficult contexts.

UN Secretary-General's Peacebuilding Fund (PBF)

- The UN Secretary-General's Peacebuilding Fund (PBF) is the organization's financial instrument of first resort to sustain peace in countries or situations at risk or affected by violent conflict.

- The PBF may invest with UN entities, governments, regional organizations, multilateral banks, national multi-donor trust funds or civil society organizations. From 2006 to 2017, the PBF has allocated $772 million to 41 recipient countries.

- Since inception, 58 member states contributed to the Fund, 33 in the present 2017-2019 Investment Plan.

Objective

- The Fund works across pillars and supports integrated UN responses to fill critical gaps; respond quickly and with flexibility to peace building opportunities; and catalyse processes and resources in a risk-tolerant fashion.

India and PBF

- India believes that 2021 provides the international community with an opportunity to look at peacebuilding in the broader context and in a more focused manner, especially in the context of the COVID pandemic, which is threatening to erode the gains made over the years.

- India continues to assist countries bilaterally in post-conflict situations by providing substantial grants and soft loans, apart from

- focusing on infrastructure, especially housing, health, on connectivity, providing livelihood to by conflict, especially in agriculture and on grassroots level.

  ✓ For example, Afghanistan, where India has undertaken projects in every province of the country.

- India is also fulfilling its commitment to making available its COVID19 vaccines to other countries and has already supplied more than six million doses to nine countries in phase one as grant assistance.

3.5. US-Taliban deal

- Context: The US administration has said that it will review the US-Taliban deal to see if the Taliban are able to keep their end of the bargain.

- The deal was signed in February 2020 and is meant for "Bringing Peace to Afghanistan" enabling the US and NATO to withdraw their troops, which has been a longstanding demand of the Taliban.

The agreement

- The pact was signed between US Special Representative for Afghanistan Reconciliation, and political head of the Taliban on February 29, 2020.

- The agreement said [a] permanent and comprehensive ceasefire will be an item on the agenda of the intra-Afghan dialogue and negotiations.

- The participants of intra-Afghan negotiations will discuss the date and modalities of a permanent and comprehensive ceasefire, including joint implementation mechanisms, which will be announced along with the completion and agreement over the future political roadmap of Afghanistan.

- A joint declaration between the Afghan government (Islamic Republic of Afghanistan) and the US was issued in Kabul at the time.

Significance of this deal

- Some of the important elements of the deal include the withdrawal of US troops along with bringing down NATO or coalition troop numbers within 14 months from when the deal was signed.

- The main counter-terrorism commitment by the Taliban is that "Taliban will not allow any of its members, other individuals or groups, including al-Qaeda, to use the soil of Afghanistan to threaten the security of the United States and its allies.

- Other elements include removal of sanctions on Taliban leaders, releasing prisoners held by both sides and ceasefire.

- The joint declaration is a symbolic commitment to the Afghanistan government that the US is not abandoning it.

- This has also strengthened Pakistan, the Taliban's benefactor, and the Pakistan Army and the ISI's influence appears to be on the rise.

- However, the Afghan government was completely sidelined during the talks between the US and the Taliban.

- Therefore, the future for the people of Afghanistan is uncertain and will depend on how the Taliban honours its commitments. What the Taliban want out of a political settlement is unclear.

- In the past, they have denounced democracy as a western imposition on their vision of Afghanistan.

- They have dropped several hints of a return to the Taliban-run Islamic Emirate of Afghanistan of 1996-2001.

- But they have signalled they may accept some of the democratic gains Afghanistan has made in the last two decades.

4. Environment

Click here to watch the following questions on YouTube

4.1.Sunderbans home to 428 species of birds : ZSI

- Context: Indian Sunderbans, which is part of the largest mangrove forest in the world, is home to 428 species of birds, a recent publication of the Zoological Survey of India (ZSI) States.

- The publication, "Birds of the Sundarban Biosphere Reserve" not only documents the avifauna of the Sunderbans, but also serves as comprehensive photographic field guide, with detailed distribution and locality data for all the species from the region.

- The Indian Sunderbans, which covers 4,200 sq km, comprises of the Sunderban Tiger Reserve of 2,585 sq km — home to about 96 Royal Bengal Tigers (as per last census in 2020) — is also a world heritage site and a Ramsar Site.

- The scientists said that of the 428 birds listed, like the Masked Finfoot and Buffy fish owl, are recorded only from the Sunderbans.

- The area is home to nine out of 12 species of kingfishers found in the country as well rare species such as the Goliath heron and Spoon-billed Sandpiper.

- India has over 1,300 species of birds and if 428 species of birds are from Sunderbans, it means that one in every three birds in the country is found in the unique ecosystem.

- Scientists and nature lovers are also observing 125th birth anniversary year of Salim Ali, the Birdman of India

- Bird watching not only brings people closer to nature but also creates awareness and livelihood opportunities for the locals.

- Sunderbans are the most diverse of natural landscapes and accounts to 60 % of all mangrove forests in the country.

- The mudflats exposed in the low tides, rich in microorganism deposited during tidal activity are ideal feeding for migratory birds.

● These mudflats and wetlands of Sunderbans act as a stopover site for migratory flight south (south wards) and back.

Zoological Survey of India (ZSI)

● The Zoological Survey of India (ZSI) was launched in 1916 to promote survey, exploration, and research to enhance the knowledge regarding the flora and fauna of the British Indian Empire. It is India's apex organization on animal taxonomy.

  ✓ It originated as a Zoological Section of the Indian Museum in Kolkata.

  ✓ Initially, the ZSI had eight regional centers across India. Currently, there are 16 regional centers spread across the country.

  ✓ The headquarter is in Kolkata.

  ✓ It has been declared as a designated repository for the National Zoological Collection as per Section 39 of the National Biodiversity Act, 2002.

● The ZSI has contributed significantly to knowledge and research on the fauna of the country. The primary objectives of the ZSI are:

  ✓ To promote the survey, exploration, research, and documentation on various aspects of animal taxonomy in the Indian subcontinent. It also seeks the advancement of knowledge on animal taxonomy.

  ✓ Make a status survey of the threatened and endemic species.

  ✓ Preparation of Red Data Book, Fauna of India, and Fauna of States.

  ✓ Bio-ecological studies on important communities/species.

  ✓ Preparation of database for the recorded species of the country.

  ✓ Maintenance and Development of National Zoological Collections.

● The activities of the ZSI are coordinated by the Conservation and Survey Division under the Ministry of Environment, Forest, and Climate Change. Its functions are as follows:

  ✓ ZSI publishes the Red Data Book on Indian Animals. It was first published in 1983 and is similar to the Red Data Book published by IUCN.

  ✓ Publication of results including Fauna of India, Fauna of States, and Fauna of Conservation Areas.

  ✓ Training, Capacity Building, and Human Resource Development of the people involved.

  ✓ Geographic Information System (GIS) and Remote Sensing studies on recorded animal diversity as well as on threatened species.

  ✓ It works for the development of Environmental Information System(ENVIS) and Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Centers.

    ❖ CITES is a multilateral treaty to protect endangered plants and animals.

  ✓ Conducts collaborative research programs on "Biodiversity" with other organizations in India and abroad.

4.2. Two new species of ants discovered from Kerala and Tamil Nadu

- Two new species of a rare ant genus have been discovered in Kerala and Tamil Nadu by a team of scientists - Department of Science and Technology

- One of the two species found in the Periyar Tiger Reserve of Kerala has been named Ooceraea Joshii in honour of professor Amitabh Joshi — a distinguished evolutionary biologist from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR).

- The other named Ooceraea decamera (decamera refers to the ten-segmented antennal count) was discovered from Alagarkoil in Madurai.

- The species of the ant genus Ooceraea found in Kerala and Tamil Nadu add to the diversity of this rare genus.

- They differ from others of the same genus on the basis of the number of antennal segments.

- The genus is currently represented by 14 species of which eight possess nine-segmented antennae, while five possess 11-segmented antennae and one species has recently been reported with eight-segmented antennae.

- In India, the genus was so far represented by two species with nine and 11- segmented antennae respectively.

- "The newly discovered ant species with 10-segmented antennae discovered, establish an old world lineage that contains a species emerging as the only model organism among the ant subfamily.

4.3. Conservationist joins SC panel on elephant corridor case

The Supreme Court has appointed conservationist Nandita Hazarika as Member of a Technical Committee constituted by it on October 14 to hear complaints by land owners against the action taken by the Nilgiris Collector, which included sealing of their buildings and allegations about the "arbitrary variance in acreage of the elephant corridor."
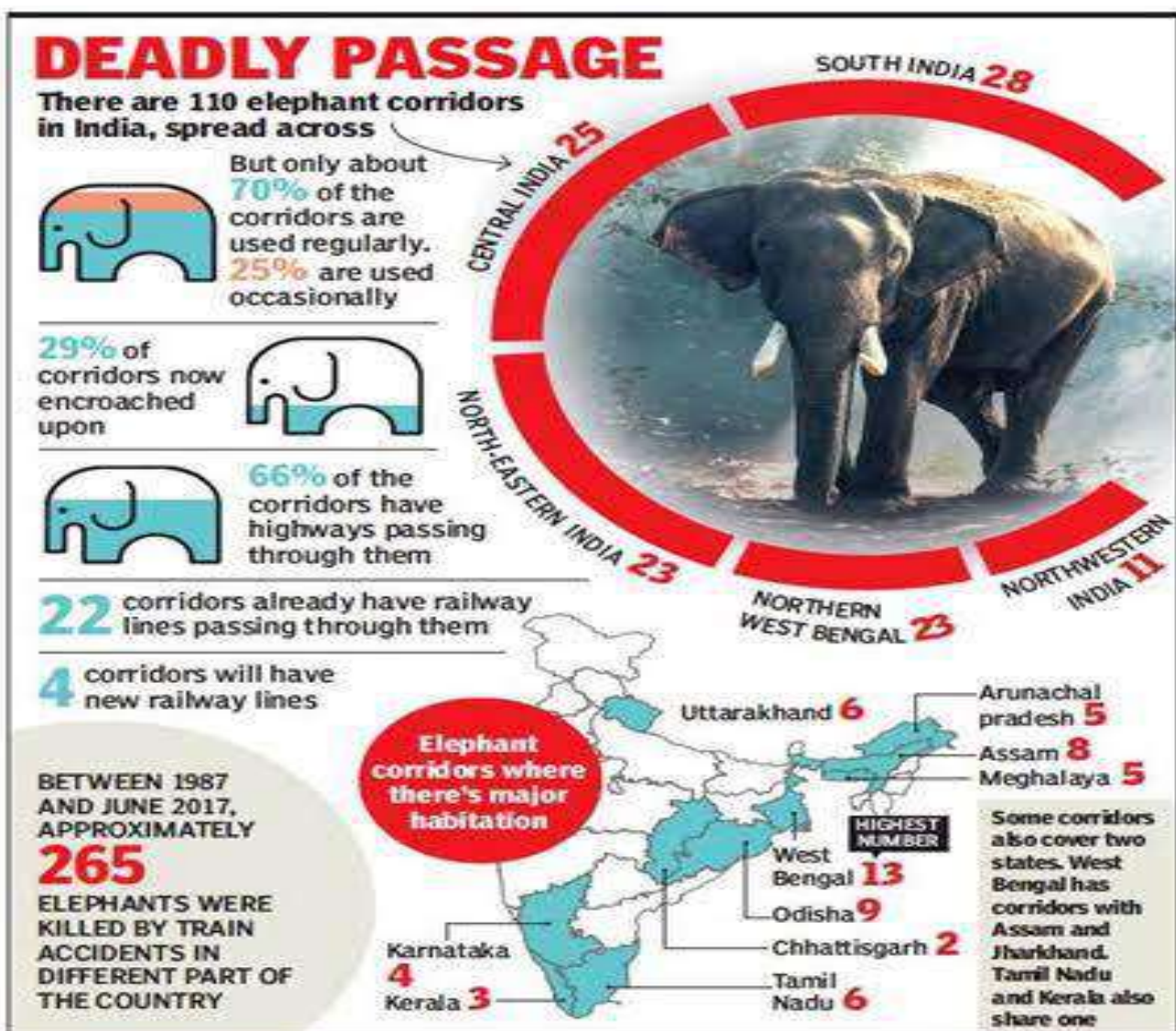
- On October 14, the top court upheld the Tamil Nadu government's authority to notify an 'elephant corridor' and protect the migratory path of the animals through the Nilgiri biosphere reserve.
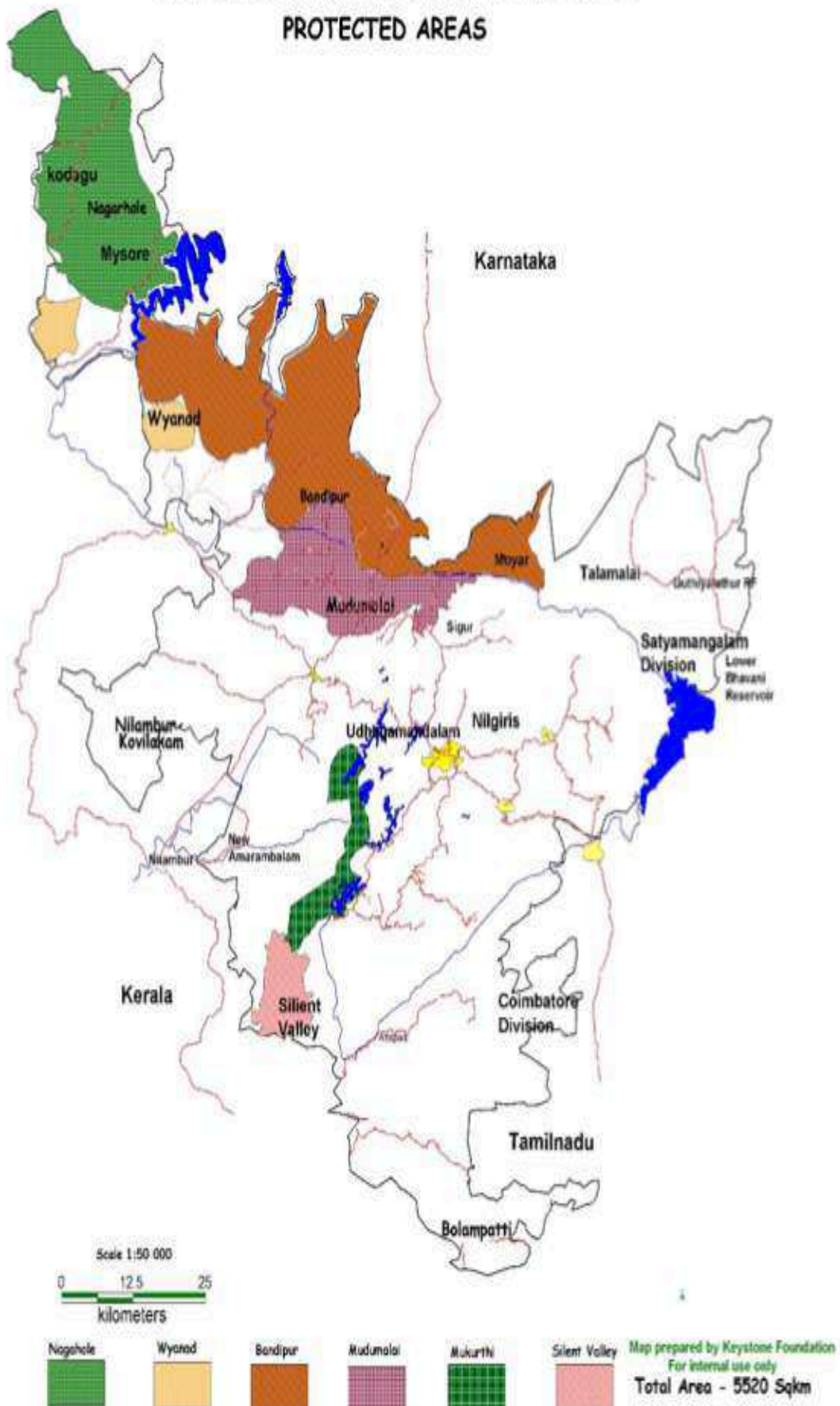
- The reserve is the largest protected forest area in India, spanning across Tamil Nadu, Karnataka and Kerala.

- The corridor is situated in the ecologically fragile Sigur plateau, which connects the Western and the Eastern Ghats and sustains elephant populations and their genetic diversity.

- It has the Nilgiri Hills on its southwestern side and the Moyar River Valley on its north-eastern side. The elephants cross the plateau in search of food and water.

- Elephant corridors are narrow strips of land that connect two large habitats of elephants. Elephant corridors are crucial to reduce animal fatalities due to accidents and other reasons. So fragmentation of forests makes it all the more important to preserve migratory corridors.

Importance of elephant corridors

- The movement of elephants is essential to ensure that their populations are genetically viable. It also helps to regenerate forests on which other species, including tigers, depend.

- Nearly 40% of elephant reserves are vulnerable, as they are not within protected parks and sanctuaries. Also, the migration corridors have no specific legal protection.

- Forests that have turned into farms and unchecked tourism are blocking animals' paths. Animals are thus forced to seek alternative routes resulting in increased elephant-human conflict.

DEADLY PASSAGE

There are 110 elephant corridors in India, spread across

But only about 70% of the corridors are used regularly. 25% are used occasionally

29% of corridors now encroached upon

66% of the corridors have highways passing through them

22 corridors already have railway lines passing through them

4 corridors will have new railway lines

BETWEEN 1987 AND JUNE 2017, APPROXIMATELY 265 ELEPHANTS WERE KILLED BY TRAIN ACCIDENTS IN DIFFERENT PART OF THE COUNTRY

SOUTH INDIA 28
CENTRAL INDIA 25
NORTH-EASTERN INDIA 23
NORTHERN WEST BENGAL 23
NORTHWESTERN INDIA 11

Elephant corridors where there's major habitation

Uttarakhand 6
Arunachal pradesh 5
Assam 8
Meghalaya 5
West Bengal 13 (HIGHEST NUMBER)
Odisha 9
Chhattisgarh 2
Karnataka 4
Kerala 3
Tamil Nadu 6

Some corridors also cover two states. West Bengal has corridors with Assam and Jharkhand. Tamil Nadu and Kerala also share one

THE NILGIRIS BIOSPHERE RESERVE
PROTECTED AREAS

Karnataka

kodagu

Nagarhole

Mysore

Wyanad

Bandipur

Moyar

Mudumalai

Talamalai

Guthiyathur RF

Sigur

Satyamangalam
Division

Lower
Bhavani
Reservoir

Nilambur
Kovilakam

Udhagamandalam

Nilgiris

New
Amarambalam

Nilambur

Kerala

Silent
Valley

Coimbatore
Division

Tamilnadu

Bolampatti

Scale 1:50 000

0   12.5   25

kilometers

Nagahole	Wyanad	Bandipur	Mudumalai	Mukurthi	Silent Valley

Map prepared by Keystone Foundation
For internal use only

Total Area - 5520 Sqkm

- Weak regulation of ecotourism is severely impacting important habitats. It particularly affects animals that have large home ranges, like elephants.

Conservation Efforts

- 'Gaj Yatra', a nationwide campaign to protect elephants, was launched on the occasion of World Elephant Day in 2017.

- The campaign is planned to cover 12 elephant range states.

- The campaign aims to create awareness about elephant corridors to encourage free movement in their habitat.

Forest Ministry guide to managing human-elephant conflict (Best Practices)

- Retaining elephants in their natural habitats by creating water sources and management of forest fires.

- Elephant Proof trenches in Tamil Nadu.

- Hanging fences and rubble walls in Karnataka.

- Use of chili smoke in north Bengal and playing the sound of bees or carnivores in Assam.

- Use of technology: Individual identification, monitoring of elephants in south Bengal and sending SMS alerts to warn of elephant presence.

  ✓ Asian Elephant Alliance, an umbrella initiative by five NGOs, had, last year, come together to secure 96 out of the 101 existing corridors used by elephants across 12 States in India.

  ✓ NGOs Elephant Family, International Fund for Animal Welfare, IUCN Netherlands and World Land Trust have teamed up with Wildlife Trust of India's (WTI) in the alliance.

4.4.Green Tax

- Union Transport Minister Ministry has announced its approval of a 'green tax' on vehicles of specified vintage, as a means of dissuading people from using polluting vehicles.

- Among the major features of the measure is a 10%-25% additional green tax on the road tax payable by commercial transport vehicles that are older than eight years at the time of fitness certification renewal, and for personal vehicles after 15 years.

- The policy provides exemptions for tractors, harvesters and tillers used in farms, hybrid, electric, ethanol, liquefied petroleum gas (LPG) and compressed natural gas (CNG)-powered vehicles, and a lower green tax for public transport vehicles such as buses

- Conversely, a higher additional 50% of road tax is proposed for vehicles in highly polluted cities, as well as differential tax based on fuel and vehicle type, such as diesel.

- Vehicles of government departments and public sector units that are older than 15 years are to be deregistered and scrapped.

- Green tax funds are to be kept in a separate account to help States measure pollution and tackle it.

- State governments must now comment on the proposal.

- The policy is scheduled to come into force on April 1, 2022.

Does scrapping old vehicles carry big benefits?

- India has been working on a scrappage policy for years that could, on the one hand, give a boost to the automobile industry and related businesses by stimulating demand, and lead to recovery of steel, aluminium, plastic and so on for recycling, on the other.

- Newer vehicles conforming to stricter emissions and fuel efficiency standards are more environment-friendly, and have modern safety features.

- In 2016, India notified the Corporate Average Fuel Economy (CAFE) Standard for passenger vehicles to boost efficiency.

- Those with not more than nine seats and weighing less than 3,500 kg were covered from April 1, 2017.

- The average fuel consumption standard is given by the Power Ministry's Bureau of Energy Efficiency (BEE) as less than 5.49 litres per 100 km.

- A second round of tighter efficiency norms is scheduled for 2022.

- Separate standards for light, medium and heavy commercial vehicles exist.

- CAFE also regulates CO_2 emissions, while other pollutants such as carbon monoxide, oxides of nitrogen and sulphur are covered by Bharat Stage fuel standards.

- The benefits from vehicle replacements can be gauged from Transport Ministry data: commercial vehicles making up 5% of the vehicle fleet but contribute an estimated 65-70% of total vehicular pollution.

- The Centre provided funds under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) to State governments to augment bus fleets, and help the recession-hit bus industry in 2009.

- Globally, accelerated vehicle replacement schemes have been used in several countries.

- The most notable were those in Europe, besides the high-profile, $3 billion "Cash for Clunkers" or CARS (or Car Allowance Rebate System) programme in the U.S. after the 2008 recession.

- The official evaluation of the U.S. scheme was that it led to an average mileage efficiency increase of 58%, and upgraded vehicles generally were high on environmental benefits such as lower air pollution.

- Some critics say the U.S. scheme was not carefully targeted to primarily help those who could not afford a replacement.

- The BEE estimates that higher efficiency norms could result in a fuel use reduction of 22.97 million tons by 2025 in India.

Is the proposed policy for scrappage workable?

- In 2015, as the Transport Ministry was drafting it the idea was to give a certificate to owners selling off old vehicles of specified age, which could be redeemed for a discount of ₹30,000 to ₹50,000 for new passenger vehicles.

- For a commercial vehicle, the benefits including taxes would be an estimated ₹1.5 lakh.

- This idea did not progress, however, and among those who expressed reservations on high costs was NITI Aayog.

- The Aayog was concerned that some sections may not be in a position to retire old vehicles because of the high capital cost.

- The proposals in earlier drafts also envisaged tax discounts for those who exchanged old motors for new ones.

- The present initiative, however, has the limited objective of nudging the owners of older vehicles to sell them off rather than pay a green tax penalty.

- Without sufficient incentive or penalty, and careful targeting of vehicles with knowledge of their condition, a tax penalty could be less of a disincentive to commercial vehicle owners, since the tax would be far lower than its resale value and earnings potential; there would be no compulsion to retire it.

- Continued operation of the vehicles would defeat the clean air objective and bring no cheer to the automobile industry.

What are the options available to tweak the policy?

- For a clean-up, commercial transport vehicles are of highest concern: on fuel efficiency, emissions and safety.

- The Centre could offer a green new deal with financial options such as loans and grants to smaller operators to scrap their junk vehicles, while escalating the green tax annually to achieve the nudge effect.

- A second stimulus to bus companies could help green the fleet and cut pollution.

- Small operators such as autorickshaws could be offered low-interest loans, particularly to move to electric vehicles.

4.5.Climate Adaptation Summit 2021

- Prime Minister addressed the Climate Adaptation Summit 2021 and said that India is targeting 450 gigawatt of renewable energy capacity by the year 2030.

Key announcements

- Climate Adaptation' is more significant today than ever before and that it is a key element of India's developmental efforts.

- India is targeting 450 gigawatt of renewable energy capacity by 2030.

- India is promoting LED lights and is saving 38 million tons of carbon dioxide emissions annually.

- India is going to restore 26 million hectares of degraded land by 2030.

Climate Adaptation Summit 2021

- The climate adaptation summit was hosted by the Netherlands government on January 25, 2021. The summit was held online and it is being called "CAS Online".

- The summit was built on the advances of the UN Climate Action Summit.

The summit also showcased the pioneering solutions of the climate emergency and sustaining momentum through UNFCCC's COP26.

- CAS will help in delivering the action and inspire the change to help the societies build back better.

- The organizers of the summit also called for major new funding for agricultural research.

- They also expanded the access to farmer advisory services, risk management and financial services.

- The summit was organized with the aim of realizing the transitions which is required for a climate-resilient world.

- The summit focuses on securing the new investments in order to ensure that millions of smallholder farmers could adapt to the impact of climate on food production.

- India has committed to provide the clean cooking fuel to 80 million rural households during the summit. It also committed to connect the 64 million households with the piped water supply.

4.6.National Marine Turtle Action Plan launched

- Considering the need to have a conservation paradigm for marine mega fauna and marine turtles, the Ministry of Environment Forest and Climate Change (MoEF&CC) has released 'Marine Mega Fauna Stranding Guidelines' and 'National Marine Turtle Action Plan'.

- India has rich marine biodiversity along a vast coastline of over 7,500 km.

- From colorful fish, sharks, including Whale Sharks, turtles and big mammals like whales, dolphins and dugongs to bright corals, marine habitats not only harbor diverse species but also provide resources essential for human wellbeing.

- Millions of people depend on these resources ranging from maritime trade and transport, food, mineral resources, cultural traditions, spiritual values and inspiration that draws tourists from around the world

- Despite the immense economic, ecological and cultural values of marine habitats in India, marine mega fauna species and marine turtles face a wide variety of challenges including stranding and entanglement.

- Managing such challenging situations requires coordination, action and people's participation which would help in the long-term conservation of marine species and their habitats.

- The documents launched contains ways and means to not only promote inter- sectoral action for conservation but also guide improved coordination amongst the government, civil society and all relevant stakeholders on the response to cases of stranding, entanglement, injury or mortality of marine mammals and also conservation of marine turtles.

- These two documents highlight actions to be taken for handling stranded animals on shore, stranded or entangled animals in the sea or on a boat, management actions for improved coordination, reducing threats to marine species and their habitats, rehabilitation of degraded habitats, enhancing people's participation, advance scientific research and exchange of information on marine mammals and marine turtles and their habitats.

## 4.7.Antarctic iceberg, once Earth's biggest, suffers major split

- A major crack appeared in the Antarctic ice giant, A68a, once the world's biggest iceberg, as captured in satellite images since January 25, 2021.

- The iceberg had detached from the Larcen C ice shelf in 2017 and was travelling up towards the island of South Georgia in the British Overseas Territory, when turbulent sea currents diverted it towards to the South Atlantic Ocean.

- The recent satellite footage captured a smaller slab, now called A68g, distinctly separated from the original iceberg but floating along it about 135 km off the south- eastern coast of South Georgia.

- A68a, when it first broke off Antarctica, measured 5,800 square kilometres, almost triple the size of Delhi.

- It splintered and shed much of its mass since because of higher temperatures and rough sea currents.

- It still posed a threat to the little island of about the same size and home to penguins, seals and endangered blue whales.

- In November, when it was dangerously close to South Georgia and before it was veered towards the South Atlantic Ocean, scientists thought it would anchor itself to the island's coast and destroy its thriving marine ecosystem.

- A68g is not the first one to depart from the floating ice giant.

- In fact, as the suffix 'g' suggests, it is the sixth smaller chunk or 'childberg' to have calved from A68a since the last part of 2020.

- These city-sized ice masses that have drifted away from Antarctica, still threaten marine and coastal habitats, squishing small species under their weight or erasing the lands where their food grows.

- The earth lost 28 trillion tonnes of ice between 1994 and 2017 of which 6.5 trillion tones were from Antarctic ice shelves.

- The phenomenon of ice sheets splitting up and melting could have long-term ramifications.

- The smaller chunks can melt away easily, raising the global sea level and setting off other environmental anomalies.
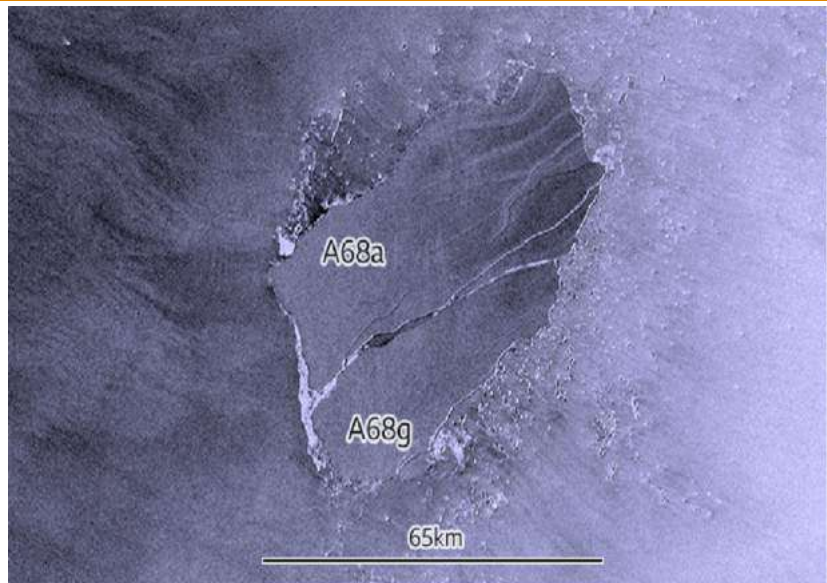
4.8.Bio coal

- Uttar Pradesh (UP) has begun the procurement of agricultural waste to wean away the farmers from the practice of stubble burning and to double the farm incomes.

- The UP government has set up its first bio-coal production unit in Risia of Bahraich district which has successfully completed the trial-run of manufacturing fuel briquette pellet from agricultural waste.

What is Bio-Coal?

- Bio-Coal is created through a torrefaction process that heats biomass primarily from waste-wood fibre which has essentially the same BTU values as coal and the same physical qualities. This means waste wood now has a value as a value-added product.
- Various fibres, however, can also be used including those from agriculture. There are various methods used for torrefaction. In our case we use a non-polluting, low-energy Microwave system.
- Bio-Coal is recognized world-wide as a bio-fuel that can help reduce emissions from many sources including coal-fired power stations. It is also finding uses in agriculture to replace some chemical fertilizers.

- For the plant, the state government is procuring paddy straw, corn stalks, sugarcane leaves at Rs 1,500-Rs 2,000 per quintal from the farmers.

- So far, about 10,000 quintals of agricultural waste have been procured for the plant which has received orders from the State-owned electricity giant National Thermal Power Corporation (NTPC)'s unit in Unchahar for the supply of 1,000 tonnes of pellet per day.

- Set up at Rs 3.1 crore, the plant is already employing over a hundred people and has so far supplied 106 quintal fuel briquette pellets to the NTPC for electricity generation.

- According to the report, proposalsProposals have now also been received from state's Shahjahanpur, Pilibhit, Faizabad, Basti and Gorakhpur to set up similar plants.
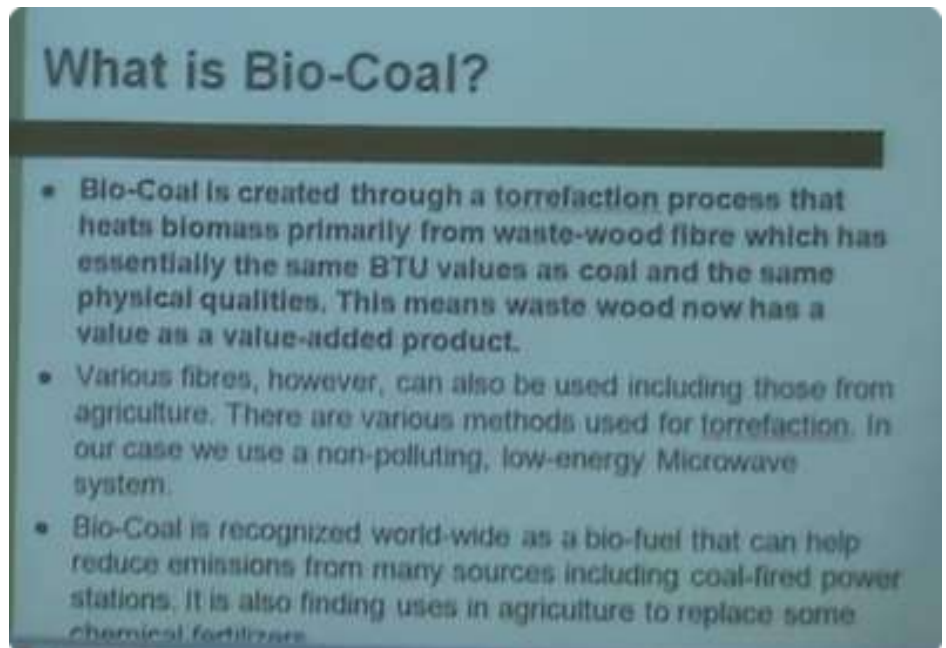
4.9.Global Climate Risk Index 2021

- Germanwatch located in Bonn, Germany has released the global climate risk index 2021.

- India has been ranked among the worst-hit countries by climate change.

- The Index was published on January 25, 2021.

- It was published a few minutes before the Global Climate Adaptation Summit started.

- It pushed for the need to support developing countries in coping with the effects of climate change.

Findings

- As per the index, India has been ranked 7th Global Climate Risk Report Index 2021.

- The index informs about the storms, droughts, heatwaves, floods etc.

- The data of 2019-20 has been used in this index

- Mozambique, Zimbabwe, the Bahamas in 2019 faced various weather and climate challenges and have been included in the worse hot locations lists

- The hurricane Dorian caused ravaging damage to the Bahamas

- Mozambique, Zimbabwe and Malawi had been affected by a single extreme weather event of cyclone Idai.

- 11.8 million people around the globe were affected by intense monsoon with the economic damage estimated to be $10 billion.

- The index also includes Japan, Malawi and Afghanistan

- Peurto Rico, Myanmar, and Haiti in 2000-19 were the worse hit states due to climate change.

- 10.As per the report, between 2000-19, 4,75000 people were affected by more than 11000 climate change resulting conditions.

India: As per the Report

- In 2019, the monsoon lasted longer than a month in India, as it normally lasts.

- From June to September end 2019 almost 110% of the long-period average was recorded.

- Heavy rains caused floods which were responsible for 1,800 deaths across 14 states. It led to the displacement of 1.8 million population.

- There were eight tropical cyclones in India in the last years. Six of those were classified as "very severe" due to intensity.

- 'Extremely severe' cyclone Fani affected 28 million people across the subcontinent and killed almost 90 people in India and Bangladesh.

- It also caused economic loss to the tune of US $8.1 billion.

- The floods affected 14 states of India in June 2019. It lasted from June to September 2019.

- The glaciers of India, the Himalayas, the coastlines and the desert areas in India have been all most affected due to global warming.

- As per the report, there has also been an increase in the heat waves, melting of glaciers and intensity of cyclones in India.

About Global Climate Risk Index

- The Global Climate Risk Index, CRI is tasked to analyse quantified impacts of extreme weather situations, in terms of the fatalities and economic losses, both.

- This index is based on data received from Munich Re's NatCatSERVICE.

- The Indian population is majorly dependent on agriculture.

- It has also been severely affected by the impact of climate change.

- A national adaptation plan was designed in 2008 which was followed by State action plans.

- Most of the plans lack resources so that they are integrated into district development and disaster risk reduction plan.

- Various government commissions in India's State and district-specific climate-risk maps to further dis-aggregate this information to understand which areas need more attention than others.

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5. Science & Technology

Click here to watch the following questions on YouTube

5.1.Mass Range of Dark Matter

- Around 95% of the Universe is unknown to human beings, and due to this unknown nature it is referred to as dark

- Scientists have narrowed down the range of masses within which particles that could make up dark matter may lie in

  ✓ The range they have established is 10-3 electron-volt to 107 electron-volt, far smaller than the earlier range of 10-24 electron-volt to 1019 giga electron-volt by carrying out research using quantum gravity.

- Research shows that the dark matter particles can neither be super light nor super heavy unless there is a force acting on it that is yet unknown.

- Scientists estimate that roughly 68 per cent of the Universe is made up of dark energy which is responsible for the accelerated expansion of the Universe

  ✓ Another 27 per cent is dark matter whose existence was inferred from the observation that ordinary matter in galaxies, including the Milky Way, is far less than that required by gravity to hold the galaxies together

- Dark matter's gravitational effects are also necessary to explain the motions of clusters of galaxies and the structure of the entire Universe at the largest scale

  ✓ But in smaller scales, its impact is too diffused to impact the motion of the Solar System, Earth or the origin and evolution of humans in any significant way

- The nature of Dark matter is unclear and it is unlikely to be made of primordial black holes because they would produce other effects that are ruled out observationally

5.2.COVID-19 Performance Index

- Released by Lowy Institute which is an Australian think-tank to assess the impact of geography, political systems and economic development in assessing outcomes

- India ranked 86 out of 98 countries, while the United States placed 94 and Brazil at the bottom of the index. China was not included "due to a lack of publicly available data on testing"

- New Zealand and Vietnam led the list, followed by Taiwan, Thailand and Cyprus in the top five

- Six indicators: Confirmed cases, confirmed deaths, cases per million people, deaths per million people, cases as a proportion of tests, and tests per thousand people

- Assessing regional responses, it found that although the outbreak began in China, the Asia-Pacific region fared the best, while Europe and the U.S. were initially overwhelmed.

  ✓ Europe, however, "registered the greatest improvement over time of any region" before succumbing to a second wave which it attributed to more open borders

- Smaller countries with fewer than 10 million people "consistently outperformed their larger counterparts throughout 2020"

- The level of economic development and regime-type were less significant than expected, which it attributed to "the relatively 'low-tech' nature of the health measures used to mitigate the spread of the virus" which "may have created a more level playing field between developed and developing countries."

5.3.Akash NG (New Generation) Missile

- Akash NG is a surface-to-air (SAM) missile being tested in Odisha

- It is an improvement over Akash missile, engineered to shoot down extremely high-performing fighter aircraft (high-manoeuvring, low radar cross-section aerial threats)

- It has a brand new two-pulse solid rocket motor instead of the old ramjet that powered the legacy Akash missile .

   ✓ This gives it a longer range of 30 km and the ability to generate a high terminal velocity, outperforming even the fastest and most agile enemy fighter

- Its seeker head locks onto the enemy aircraft and continuously guides the Akash NG and is entirely indigenous product of the DRDO

- Its weight has been reduced by half from 700 kg to 350 kg

Speed and precision

▶ Akash NG detects enemy fighters up to 80 km away

▶ By the time the enemy aircraft is 50 km away, Akash NG's computers have calculated launch trajectory and impact point, and the missile is launched

▶ Missile blazes its way to the impact point 30 km away and strikes the target in just over a minute

Prelims Test Series

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- 5 Full-Length Tests

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