WEEKLY CURRENT AFFAIRSMAGAZINE for

U.P.S.C. - C.S.E.

JANUARY-VOL-IV-2021

24 January to 31 January

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Success is born of action...

Topic 1:SUKHOI 30 MKI

Importance for Prelims: **Defence**

The resurrection of 222 Squadron at Thanjavur with Sukhoi-30 aircraft haspaved the way for strengthening maritime security in the southern peninsula andmaintaining Indian interests in the Indian Ocean region, Air Marshal Amit Tiwari, Air hassaid.

- Sukhoi 30 is a twin-engine Fighter Jet manufactured by Sukhoi AviationCorporation.
- There are many variants of Sukhoi-30 aircraft, and the variant used by Indian AirForce is Sukhoi 30 MkI.
- Apart from the Russian and Indian Air Force, the other users of Sukhoi-30 aircraftare Algeria, China, Vietnam, Venezuela, Malaysia.
- Sukhoi 30 MKI is the backbone of the Indian Air Force. As of January 2020, India noperates around 260 Sukhoi 30 MKI fighter jets. • Range – 3000 KmMaximum Speed – Mach 2.

Topic 2:FLASH DROUGHTS

Importance for Prelims: **Geography**

A new study has now pointed out that India could experience more such flashdroughts by the end of this century.Several factors including atmospheric anomalies, anthropogenic greenhouse gasemissions play an important role.

- Fash drought is the rapid onset of drought.
- It can develop in as little time as 10 to 15 days.
- In contrast with conventional drought, which is mainly driven by lack ofprecipitation, flash drought usually includes abnormally high temperatures,winds, and/or incoming radiation that leads to abnormally high evapotranspiration(ET) rates.
- Flash droughts occur more often than perceived and can cause major agriculturallosses if they are not predicted and detected in a timely manner.
- The prediction of flash droughts on subseasonal timescales is of critical importancefor impact assessment, disaster mitigation, and loss prevention.

Findings of the study

- The research team found that flash droughts had sudden decreases in ET anomalyover the drought regions before onset.
- That means that soil moisture was plentiful prior to the drought, but rapidlyevaporated due to heat/wind/radiation.
- The researchers noticed sharp declines in soil moisture anomaly associated with thesudden decreases in ET anomaly.
- Temperatures during the development periods were warmer than normal, due toheatwaves in the regions, and the three-month Standardized Precipitation Indexeswere negative for flash droughts.
- This suggests that closely monitoring rapid changes in ET (a responding variable totemperature), along with soil moisture and precipitation conditions, can provideearly warnings of flash drought development.

Topic 3:ALABAMA FOREST

Importance for Prelims: **Geography**

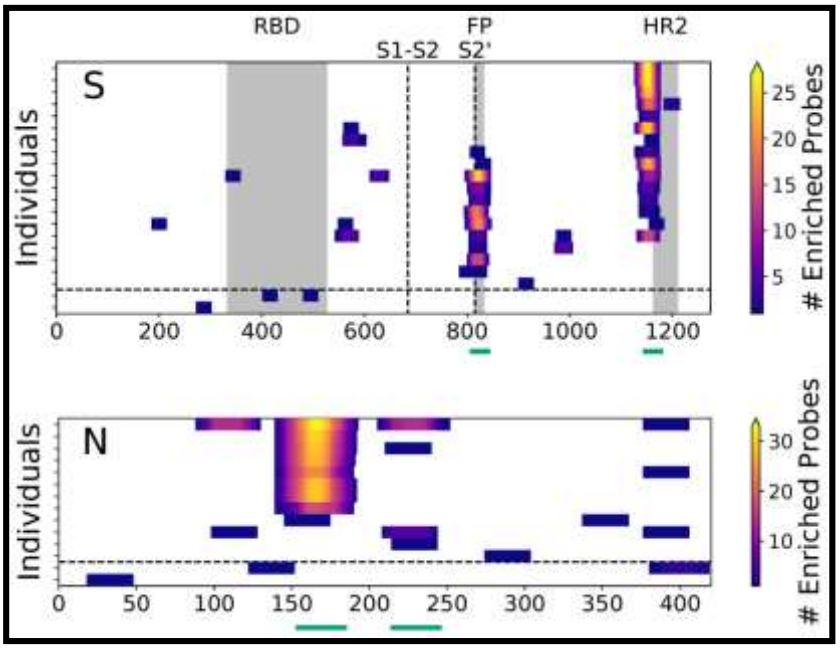
Among the petitions before United States President Joe Biden fromenvironmentalists is one to save a unique forest off the coast of Alabama.

- Entire Alabama forest is underwater — 10 fathoms (60 feet) deep — and created up ofthe remains of cypress trees that grew within the period, 60,000 years agone, whenprehistoric humans were simply beginning to move out of continent.
- Cypress may be a common name for various evergreen trees or shrubs of northerntemperate regions that belong to the family cupressaceae.
- The forest was submerged within the waters of the Gulf of mexico as sea levels rose, andremained entombed in thick layers of sediment, mud and sand for millennia.
- The sediments prevented oxygen from decomposing the stumps, barks and otherremnants of the forest.

- The forest was discovered only when hurricane Ivan hit the Gulf Coast in 2004 andunleashed large waves that removed the sediments.
- Divers thereafter saw a wonderfully preserved cypress forest that was in contrast to anythingelse on earth.

Topic 4:PEPSEQ TECHNOLOGY

Importance for Prelims: **Science & tech**



The results of a new study suggest that the immune systems of people infectedwith Covid-19 may rely on antibodies created during infections from earlier coronaviruses(other than SARS-CoV-2) to help fight the disease.

- The study wanted to understand however coronaviruses ignite the human immunesystem and conduct a deeper dive on the inner workings of the antibody response.
- The researchers used a tool known as PepSeq to finely map antibody responsesto all human-infecting coronaviruses. .
- Besides SARS-CoV-2, researchers examined the antibody responses from two otherpotentially deadly coronaviruses: MERS-CoV and SARS-CoV-1.

PepSeq Technology

- Molecules that bind to critical targets (organisms, proteins, toxins, or otherbiological molecules) have great potential as diagnostic/detection tools and also aspotential therapeutic drugs.
- For detection/diagnostics, the current standard is antibodies that are produced inrodents or with phage display technologies. This is labor intensive and lacks in costand time effectiveness.
- This technology relates to a method for identifying synthetic molecular bindingagents from peptide libraries using the PepSeq technology.

Topic 5:RISA CLOTH

Importance for Prelims: **Culture**

Tripura government have been promoting the traditional risa, a handwovencloth used by the state's indigenous communities, as a signature identity of the state.

- Risa is one amongst the three parts of customary Tripuri female attire, the opposite two beingthe Rignai and Rikutu.
- The Risa, that is basically a customary hand-woven artefact, is employed as headgear,stole, female upper artefact or bestowed to honour a distinguished recipient.
- The Rignai is primarily used to cover the lower a part of the body and literallytranslates into 'to wear'.
- The Rituku covers the higher half of the body, wrapping itall around.
- However, it's additionally used as a 'chunri' or a 'pallu' of the Indian dress.

- it's additionally used tocover the head of freshly married Tripuri women.

Cultural significance

- Apart from its beautiful designs, the Risa plays a bunch of crucial social utilities.
- Adolescent Tripuri girls are first given Risa to wear once shereaches 12-14 years inan event referred to as RisaSormani.
- The event involves prayers to a Lampra god, wherever her elder women pray for herwellbeing throughout her life.

Topic 6:SUNDERBANS

Importance for Prelims: **Environment**

The Indian Sunderbans, which is part of the largest mangrove forest in theworld, is home to 428 species of birds, a recent publication of the Zoological Survey ofIndia (ZSI) states.

- The scientists said of the 428 birds listed, some, like the masked finfoot and theBuffy 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 wellrare species such as the Goliath heron and the spoon-billed sandpiper.
- The mudflats exposed in the low tides, rich in microorganism deposited during tidalactivity, are ideal feeding for migratory birds. The mudflats and wetlands of theSunderbans act as a stopover site for migratory flight south [southwards] and back.

About Sunderbans

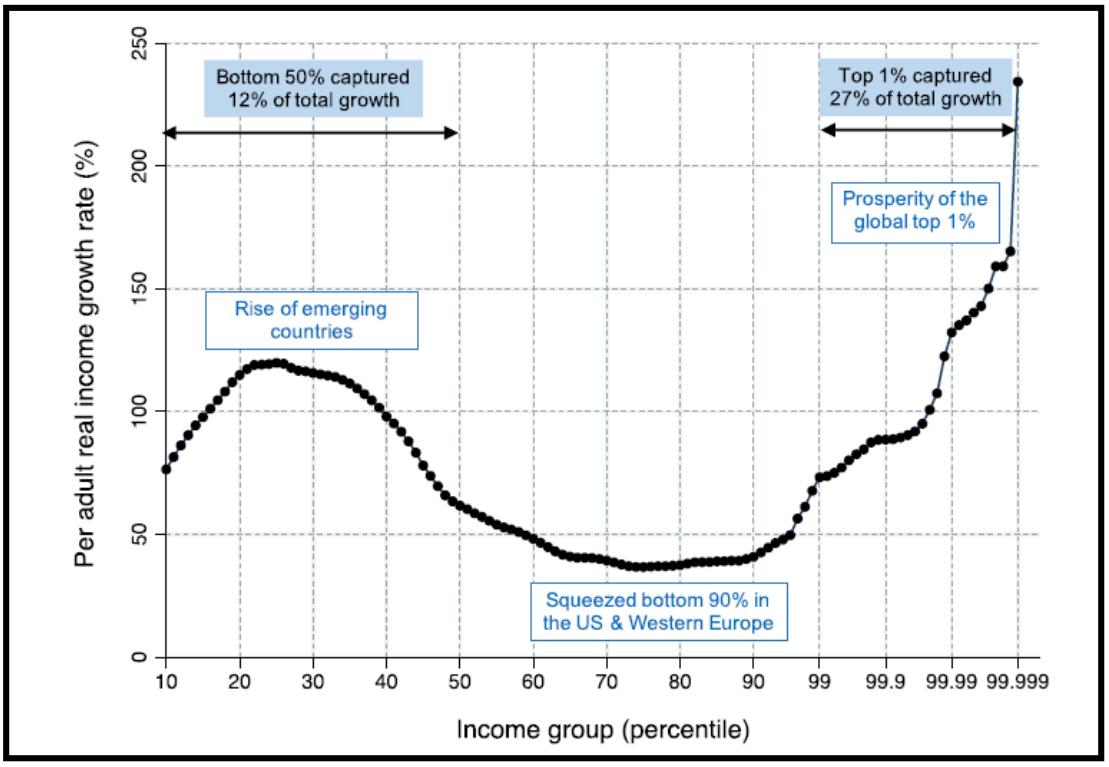
- it's a massive contiguous mangrove forest scheme within the coastal region of Bay ofBengal spread over India and bangladesh on the delta of the Ganges, **Brahmaputra and Meghna rivers.**
- The site is intersected by a complex network of tidal waterways, mudflats and smallislands of salt-tolerant mangrove forests and presents an excellent example ofongoing ecological processes.
- It constitutes over **60% of the country's total mangrove forest area.**
- Indian Sundarbans was recognized as **UNESCO World Heritage Site in 1987,'Wetland of International Importance' under the Ramsar Convention inJanuary 2019 and also a Biosphere Reserve in 1989.**
- The area is known for its wide range of fauna, and is home to several rare and globallythreatened wildlife species like the water crocodilian reptile,

Royal Bengal tiger.

- Water lizard, Gangetic Dolphin and olive ridley Turtles.
- The Sunderbans Delta is that the only mangrove forest within the world inhabited bytigers.
- For its preservation, Discovery India|Bharat|Asian country|Asian nation} and World Wide Fund (WWF) India partneredwith the government of west bengal and native communities within the Sundarbans in2019.

Topic 7:INEQUALITY REPORT

Importance for Prelims: **International Reports**



A new report by Oxfam has found that the Covid pandemic deeplyexacerbated existing inequalities in India and around the world.

- The report, titled 'The Inequality Virus', has found that as the pandemic stalledthe economy, forcing millions of poor Indians out of jobs, the richest billionaires inIndia increased their wealth by 35 per cent.
- In stark contrast, 170,000 people lost their jobs every hour in the month of April2020, the report points out.
- Sectorally, India's large informal workforce was the worst hit as it made up 75 percent of the 122 million jobs lost.
- Informal workers had relatively fewer opportunitiesto work from home and suffered more job loss compared to the formal sector.
- Oxfam has argued the urgent need for policymakers to tax the wealthy individualsand rich corporates and use that money to "invest in free

quality public services andsocial protection to support everyone, from cradle to grave".

Topic 8:ALIGARH MUSLIM UNIVERSITY

Importance for Prelims: **Current events**

The Aligarh Muslim University (AMU) will bury a time capsule recording theevolution of the varsity over the last 100 years of its existence on Republic Day as part ofits centenary celebrations.

- The capsule, which weighs around 1.5 tonnes, will contain documents showcasingthe rich history of the AMU.
- The time capsule will contain documents showcasing the history of the varsity andits journey over the past 100 years.
- It will also have the biography of founder Sir Syed Ahmed and his addresses.
- It willalso have texts of speeches of prominent people from pre-Independence era.
- The capsule has been built with high tempered steel and is around four

feet deep.

- It will be buried 30 feet deep into the earth.

About AMU

- AMU became a University in 1920, through an Act of Indian Legislative Council byelevating the Mohammedan Anglo Oriental (MAO) College to the status of a CentralUniversity.
- MAO College was set up in 1877 by Sir Syed Ahmad Khan.
- The University campus is located in the city of Aligarh, Uttar Pradesh.
- It also hasthree off-campus centres in Malappuram (Kerala), Murshidabad-Jangipur (WestBengal) and Kishanganj (Bihar).

Contributions of Syed Ahmed Khan

- He started his career as a civil servant and served the British before the revolt of1857.
- The 1857 revolt was one of the turning points in Syed Ahmed's life and he penned apamphlet titled "The Causes of the Indian Revolt" to explain the reasons of therevolt from a "native perspective".
- He supported the British during the 1857 revolution.
- He raised voice against the existing religious intolerance, ignorance andirrationalism prevailing in the society at that time.
- He denounced the orthodox systems of purdah, polygamy and easy divorce of theMuslim community.
- TahzebulAkhlaq (Social Reformer in English), a magazine founded by him,tried to awaken people's consciousness on social and religious issues in veryexpressive prose.
- He instituted the Scientific Society in 1863 to instill a scientific temperament intothe Muslims and to make the Western knowledge

available to Indians in their ownlanguage.

- He launched The Aligarh Institute Gazette, an organ of the Scientific Society inMarch 1866 and succeeded in agitating the minds in the traditional Muslim society.
- In 1875, Sir Syed founded the MadarsatulUloom in Aligarh and patterned the MAOCollege after Oxford and Cambridge universities that he went on a trip to London.
- His objective was to build a college in line with the British education system butnwithout compromising its Islamic values.

The Aligarh Movement:

- Sir Syed Ahmad Khan is best known for the Aligarh Movement a systemicmovement aimed at reforming the social, political and educational aspects of theMuslim community.
- In **1886, he set up the Mohammedan Anglo-Oriental Education Congress**which was later renamed the Mohammedan Anglo-Oriental EducationalConference.
  It aimed to bring together education and culture.
- He also emphasised the need for an autonomous Muslim institution free of anygovernment funding.
- It undertook to modernise Muslim's education by adapting English as a medium oflearning and western education rather than just focusing on traditional teachings.
- The movement helped the Muslims revival and gave them a

standard languageUrdu.

Topic 9:RHESUS MACAQUE

Importance for Prelims: **Environment**

The rhesus macaque, a monkey widely prevalent in India, is a promising modelfor vaccines against Covid-19, according to two independent studies.

- Scientists at Texas Biomedical Research Institute (Texas Biomed) and SouthwestNational Primate Research Center (SNPRC) evaluated three nonhuman primatespecies — Indian rhesus macaques, African baboons and new-world origin commonmarmosets — and young and old animals.
- They found that the macaque and baboon models develop strong signs of acute viralinfection leading to pneumonia, and the non-human primate immune systemmounts a strong response and clears the SARS-CoV-2 infection.

- Scientists have reported that rhesus macaques infected with SARS-CoV-2 developedprotective immune responses that might be reproduced with a vaccine.

Rhesus Macaque

- These ar familiar brown primates with red faces and rears. they need closecroppedhair on their heads, that accentuates their very expressive faces.
- Their natural vary includes Afghanistan, Pakistan, India, geographical area, andChina. some troops of introduced rhesus macaques currently live wild in Florida.
- It has a **least concerned status in the IUCN red list.**
- These intelligent animals can adapt to many habitats, and some can even becomeaccustomed to living in human communities. This is most common in India.
- Rhesus Macaque monkeys are protected species under **Schedule II of theWildlife (Protection) Act, 1972**. The law allows for it to be hunted by declaringit 'vermin' for a specific period if it poses a danger to human life or property.

Topic 10:MOUNT K2

Importance for Prelims: **Geography**

On January 16, a group of Nepali mountaineers became the first climbers toscale the K2 peak in winter.

- At 8,611 metres, K2 or Mount Godwin Austen is the second-highest mountain inthe world, after Mount Everest above sea level.
- It is located on the China–Pakistan border between Baltistan in the Gilgit-Baltistanregion of northern Pakistan, and Dafdar Township of Xinjiang, China.
- It is the highest point of the Karakoram mountain range and the highestpoint in both Pakistan and Xinjiang.
- Major Mountain peaks in Indian subcontinentKangchenjunga8586 metres.
- The third highest summit in the WorldAlso known as the ‘five treasures

of snow'Lies in Himalayan Mountain Range.

Nanda Devi

- 7816 metresRanked the 23rd highest peak across the globe.
- The Nanda Devi National Prak, placed in locality to the height, consists of the most effective highaltitude flora and fauna.
- This is the highest peak located entirely within India.
- It may be a a part of Himalayan mountain ranges (Garhwal).

Kamet

- 7756 metres
- It is located near the Tibetan Plateau.
- It is located in the Garhwal region.

SaltoroKangri

- 7742 metres
- It is located near the Siachen Region.
- The SaltoroKangri is ranked the 31st highest independent peakin the world.
- It lies in Saltoro range (a part of Karakoram Mountain range).

Topic 11:MAHA VIR CHAKRA

Importance for Prelims: **Current events**

Colonel B. Santhosh babu, commanding officer of 16 province regiment deployedin Galwan throughout Operation snow leopard, has been posthumously designated for theMahaVir Chakra (MVC), the second highest period gallantry award of India.Five different personnel deployed there are named for the Vir Chakra (VrC), that isthe third highest period gallantry award.

Mahavir Chakra

- The Mahavir Chakra (MVC) is that the second-highest military decoration in Indiaand is awarded for acts of conspicuous gallantry within the presence of the enemy,whether onto land, at sea or in the air.
- The Mahavir Chakra was instituted on 26 jan 1950 to recognise the act of gallantryin the presence of the enemy.
- The most MVCs awarded in a single conflict were within the Indo-Pakistan War of 1971when eleven awards area unit given to the Indian Air Force alone.
- Till 2017, there are around 218 personnel have been awarded from this

medal.

Gallantry Awards

- Gallantry Awards have been instituted by the Government of India to honour theacts of bravery and sacrifice of the officers/personnel of the Armed Forces, otherlawfully constituted Forces and civilians.
- These gallantry awards are announced twice in a year – first on the occasion ofthe Republic Day and then on the occasion of the Independence Day.

Types of Gallantry awards

- Gallantry Awards are classified into two Categories
    - ✓ Gallantry in the Face of Enemy.
    - ✓ Gallantry Other than in the Face of Enemy.
- First Category of Gallantry Awards Comprises of the following Awards
    - ✓ ParamVir Chakra (PVC).
    - ✓ Mahavir Chakra (MVC).
    - ✓ Vir Chakra.
- Second Category of Gallantry Awards Comprises of the following Awards
    - ✓ Ashok Chakra.
    - ✓ Kirti Chakra.
    - ✓ Shaurya Chakra
- Order of precedence of these awards is the ParamVir Chakra, the AshokaChakra, the Mahavir Chakra, the Kirti Chakra, the Vir Chakra and the ShauryaChakra.

Topic 12:GREAT RESET

Importance for Prelims: **Economy**

The Great Reset is an initiative by the world Economic Forum.It has been conceptualised by the founder and executive chairman of the WEF,Klaus Schwab, and has evolved over the previous few years.

- It is predicated on the assessment that the world economy is in deep hassle.
- The current scenario has been created worse by factors, just like the effects of thepandemic on world society, the unfolding technological revolution, and theconsequences of temperature change.
- The world should act jointly to revamp all aspects of our societies and economies,from education to social contracts and working conditions.
- Every country should participate and each trade should be reworked.

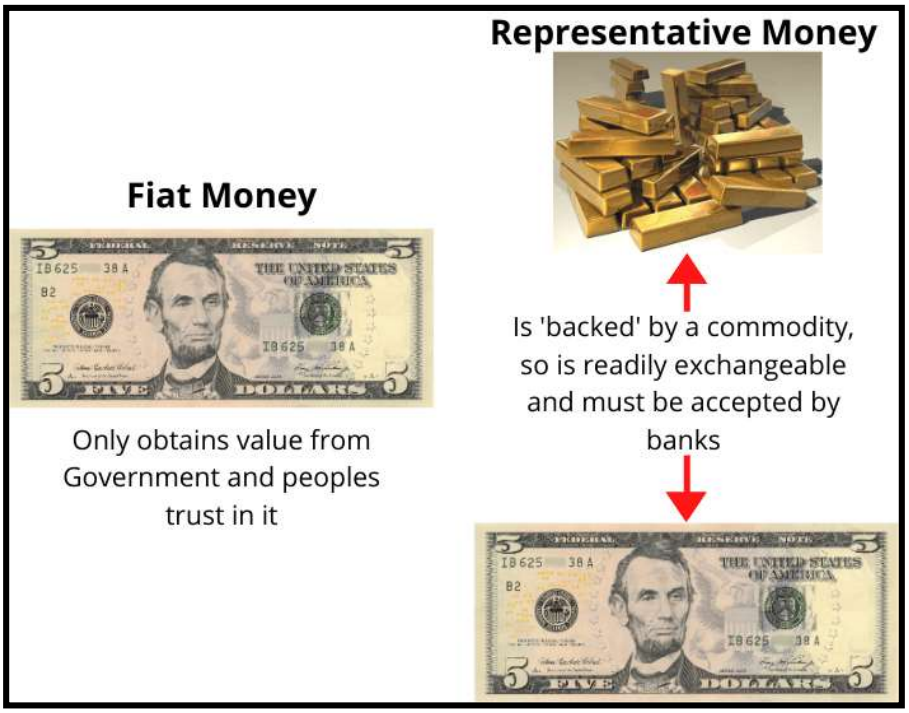
- In short, there's a requirement for 'Great Reset' of laissez-faire economy.

Three Components of Great Reset

- First is the question of reforming capitalism. WEF has been at the forefront ofcalling for "stakeholder capitalism" that looks beyond the traditional corporate focuson maximising profit for shareholders.
- Second, WEF is certainly right to focus on the deepening climate crisis.
- Climate sceptics have been ousted from Washington and President Biden hasrejoined the 2015 Paris accord on mitigating climate change.
- Third is the growing difficulty of global cooperation that WEF wants topromote. The era of great power harmony that accompanied the liberalisation of theglobal economy at the turn of the 1990s has yielded place to intense contestation.
- The contestation is not just political but increasingly economic and technological.

Topic 13:FIAT CURRENCY

Importance for Prelims: **Economy**



Reserve Bank of India (RBI) said it was open to exploring the possibility of adigital version of fiat currency.

- Fiat currency is government-issued currency that is not backed by a physicalcommodity, such as gold or silver, but rather by the government that issued it.
- The value of fiat currency is derived from the relationship between supply anddemand and the stability of the issuing government, rather than the worth of acommodity backing it as is the case for commodity money.
- Most modern paper currencies are fiat currencies, including the U.S. dollar, theeuro, and other major global currencies.

Fiat currency vs Legal Tender

- Fiat currency has no intrinsic value, while legal tender is any currency

declared legalby a government.

- Governments can issue fiat currency and make it legal tender by setting it as thestandard for debt repayment.
- The benefit of fiat currency is that it gives central banks greater control over theeconomy, but governments can print too much money and create hyperinflation.
- The U.S. dollar, Indian Rupee etc are both fiat currency and legal tender.

Digital Fiat currency

- The growing popularity of digital currencies (or cryptocurrency) such as Bitcoin,over the last decade, had made most central banks look seriously at launching adigital currency controlled by them that can address the shortcomings ofdigital currencies while hastening the shift towards a cashless society.
- Hence, the RBI is exploring the possibility as to whether there is a need for a digitalversion of fiat currency and in case there is, then how to operationalise it.

Digitalisation of Fiat Currency vs Digital Currency.

- In order to understand the importance of a Digital Rupee, it is required todistinguish the digitalisation of fiat currency from digital currency.
- The digitisation of fiat currency stems from the advent of electronic payment andinterbank IT systems, allowing commercial banks to more efficiently andindependently generate the credit flows that expand the broad money supply.
- By contrast, digital currency, enabled by blockchain technology, affects the basecurrency allowing the central bank to bypass commercial banks and regain controlof currency creation and supply end-to-end.

Topic 14:GREEN TAX

Importance for Prelims: **Environment**

Green tax mooted for personal vehicles older than 15 years.

- Personal vehicles will be charged a tax at the time of renewal of RegistrationCertification after 15 years.
- The levy may differ depending on fuel (petrol/diesel) and type of vehicle.
- Theproposal will now go to the States for consultation before it is formally notified.
- It includes 10-25% of road tax on transport vehicles older than eight years at thetime of renewal of fitness certificate.
- The proposal on green tax also includes steeper penalty of up to 50% of road tax forolder vehicles registered in some of the highly polluted cities in the country.
- The policy will come into effect from April 1, 2022.Green Tax

- Green tax is also called as pollution tax or environmental tax and is the tax levied onall the goods that cause environmental pollution.
- It is believed that charging tax onemissions will help bring about changes in firms and households.
- Green tax is an environmental tax that aims at ensuring that polluters are dulypunished for the activities that deter the environment by charging them a penaltyfor the harm caused to others.
- Charging direct taxes to perpetrators on emissions is an economical means toprovide them with an incentive to lower their pollution to the extent where furtherreduction could potentially turn out to be more expensive than paying the tax itself.

Topic 15:SEAWEED

Importance for Prelims: **Environment**

India is aiming to increase seaweed production in the country to 11.5 lakhtonnes from the current production levels of 2,500 tonnes in the next five years.

- Seaweeds are also known as Macroalgae. They constitute several species of marineplants and algae.
- Seaweeds may also include Red, Green and Brown algae.
- Seaweeds can grow in ocean, rivers, lakes and other water bodies.
- There are manytypes of seaweeds such as nori and laver seaweed.
- They belong to different groups on the basis of thallus color

¬Green algae– such as sea lettuce or ulva, and sea grapes.

¬ Brown algae– such as kombu, arame, kelp, and wakame (the miso soup with seaweed)

¬ Red algae– such as dulse, laver, and nori (the sushi seaweed)

.¬Blue-green algae- such as spirulina and chlorella.

Characteristics of Seaweeds

- Seaweeds are macroscopic and multicellular organisms
- Some species of seaweeds are microscopic like phytoplankton. Seaweed is as small because the single-celled phytoplankton or as giant as large kelp.
- Even though seaweeds don't seem to be classified as plants, it also needs light, water andnutrition for the growth and sustenance.

Advantages of Seaweeds-

- Nutrients affluent– Seaweed can provide important nutrients as it is full ofvitamins, minerals, and fiber, and can be tasty.
- Medicinal use– Many seaweeds contain anti-inflammatory and antimicrobialagents and it can be used as a medicinal plant.
- Cancer Fighting agents- Certain seaweeds do, in fact, possess powerful cancerfightingagents that researchers hope will eventually prove effective in the treatmentof malignant tumors and leukemia in people.
- Industrial use– Among their many uses in manufacturing, they are effectivebinding agents (emulsifiers) in such commercial goods as toothpaste and fruit jelly,and popular softeners (emollients) in organic cosmetics and skin-care products.

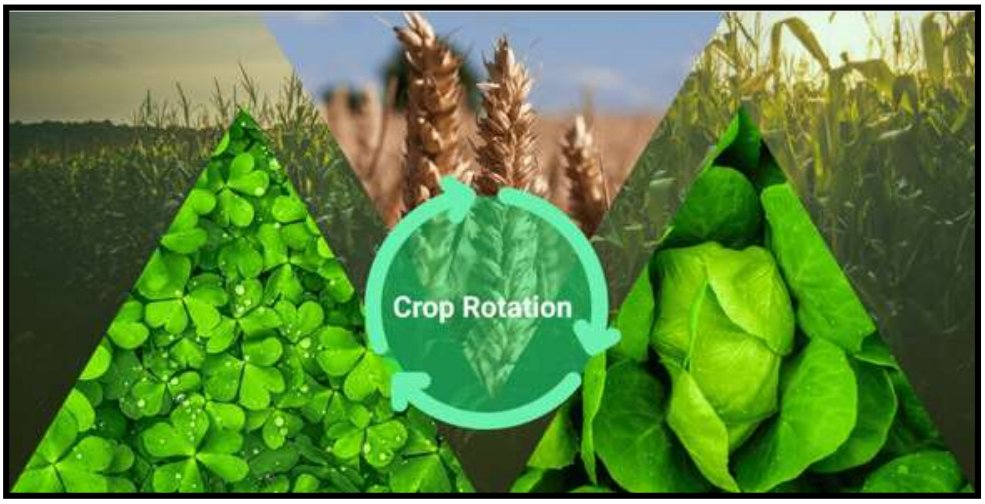
Seaweed farming

- Seaweed farming is the practice of cultivating and harvesting seaweed.
- In itssimplest type, it consists of the management of naturally found batches.
- In its mostadvanced type, it consists of fully controlling the life cycle of the algae.
- Seaweed farming has frequently been developed as an alternative to

improveeconomic conditions and to reduce fishing pressure and over exploited fisheries.

Topic 16:ROTATION OF CROPS

Importance for Prelims: **Agriculture**



Chief Minister K Chandrashekhar Rao on Sunday suggested farmers to do awaywith the single crop cultivation system and select crop rotation system to increase yieldand gain profits.

Crop Rotation

In this pattern, totally different crops are grown on the same land in preplannedsuccession.

¬ The crops are classified as annual rotation, two-year rotation, andthree-year rotation, depending upon their duration.

¬ Legumes are enclosed in the crop rotation programme to increase soil fertility.

¬ Thencrops that need high fertility level (wheat) may be grown after the

legumes.

¬ Thecrops that need low inputs may be grown once the crops that need highinputs.

Selection of crops for Rotation

¬ While selecting the crops for rotation, the following criteria should be adopted:

¬Enough moisture should be available.

¬Availability of fertilizers, man-power, and machine-power.

¬Marketing and processing facilities.

¬Availability of nutrients in the soil.

¬The crop duration- short or long.

Advantages of Crop Rotation

The soil fertility is maintained for a prolonged period.

¬ The growth of weeds and pests is prevented.

¬ A heap of chemical fertilizers don't seem to be needed.

¬ The physical and chemical nature of the soil remains unaltered.

Topic 17:RED FORT

Importance for Prelims: **Architecture / Culture**

Farmers protesting against new agriculture laws in India broke through policebarricades around the capital and entered the grounds of Delhi's historic Red Fort , inchaotic and violent scenes that overshadowed the country's Republic Day celebrations.

- Red fort fuses architectural forms of the Timurids and therefore the Persians.
- Red Fort has several structures that serve as fine samples of Islamic architecturalstyle and Mughal architecture,
- Built By: Shah Jahan
- Architect:Ustad Ahmad Lahauri architectural styles: Mughal, Indo-Islamic
- CurrentStatus: UNESCO World Heritage site On the Banks of river Yamuna,The Red Fort is understood for its gardens and a water channel known as The Stream of Paradise.

Indian Indo Islamic Architecture:

- The Indo-Islamic architecture inculcates the elements of Saracenic, Turkish andArab architecture
- The first new element added in the Indian architecture was the use of shapes insteadof natural forms.
- This apart, use of calligraphy as inscriptional art was also a newelement added to by MuslimsInlay decoration and use of coloured marble, painted plaster and brilliantly glazedtiles.

Salient Features of Indo-Islamic Architecture:

- Islamic architecture is characterized by some Visible Symbols.
- One is that the arch, that frames the space;
- second symbol is that the dome, that looms over the skyscape;
- third is that the minaret, that pierces the skies. Minarets were really Symbols inthe Middle of DesertsMuslims prohibited to replicate living forms on any surface, developed their religiousart and design consisting of the arts of arabesque, geometrical patterns andcalligraphy on plaster and stone.
- Indo-Islamic architecture is conventionally classified into the following four Categories:
    - ¬ Imperial Style (Delhi Sultanate)
    - ¬ Provincial Style (Mandu, Gujarat, Bengal, and Jaunpur)
    - ¬ Mughal Style (Delhi, Agra, and Lahore)
    - ¬ Deccani Style (Bijapur, Golconda).

Topic 18:INDIAN ASTRONOMICAL UNION

Importance for Prelims: **Science & tech**

The Indian Astronomical Observatory located in Hanle near Leh was featuredin the Republic day tableau .

- The Indian Astronomical Observatory (IAO), located in Hanle near Leh in Ladakh,India, has one of the world's highest located sites for optical, infrared and gammaraytelescopes.
- The Indian Astronomical Observatory, the high-altitude station of IIA is situated atan altitude of 4500 metres above mean sea level to the north of Western Himalayas.
- It is operated by the Indian Institute of Astrophysics, Bangalore. It is currently theninth highest optical telescope in the world, situated at an elevation of 4,500 meters.
- A 2-m optical infrared telescope is installed at the observatory. This telescope isremotely operated from CREST, Hosakote, using dedicated satellite links.
- A 0.70m wide field robotic telescope is under installation for monitoring transients,under the GROWTH project.
- Other larger facilities at IAO in Hanle include the Himalayan ChandraTelescope, the gamma-ray array telescope (HAGAR), and the imagingCherenkov telescope (MACE).
- IAO also hosts several site monitoring instruments such as seeing monitor,extinction monitor, all sky camera, Automated Weather Station, etc.
- The site isbeing characterised for a 10m class telescope.
- Global Relay of Observatories Watching Transients Happen (GROWTH).

- The GROWTH program is a 5 year project, funded by the National ScienceFoundation (NSF). NSF is a United States government agency.
- It is an international collaborative network of astronomers and telescopes dedicatedto the study of short-lived cosmic transients and near-earth asteroids.
- Cosmic transients are energetic flashes of light that are millions to billions oftimes the brightness of the sun, e.g. explosive deaths of massive stars, white dwarfdetonations, etc.
- Key follow-up observations of fast-fading or fast-moving events must occur at nightpromptly after discovery but before the sun rises.
- Therefore, a relay or network of telescopes spanning multiple longitudes (timezones)on earth is required to pass the baton amongst each other to effectivelyextend the night-time darkness.
- GROWTH enables detailed monitoring of events that would otherwise vanish beforethe next night.
- Its goals are threefold:Search for explosions in the optical regime whenever Laser Interferometer GravitationalwaveObservatory (LIGO) group detects a Binary Neutron Star merger.
- Study nearby young supernova explosions.
- Study nearby asteroids.

Topic 19:UNSC

Importance for Prelims: **International Organizations'**

India has said that the UN Security Council is finding itself unable to acteffectively to address increasingly complex issues of international peace and security as itlacked inclusivity of those who need to be members of the powerful organ of the worldbody.

- The Security Council was established by the UN Charter in 1945.
- It is one ofthe six principal organs of the United Nations.
- The other 5 organs of the United Nations are—the General Assembly, theTrusteeship Council, the Economic and Social Council, the International Court ofJustice, and the Secretariat.
- Its primary responsibility is to work to maintain international peace and security.
- The council has 15 members: the five permanent members and 10 nonpermanentmembers elected for two-year term
- The five permanent members are the United States, the Russian Federation, France,China and the United Kingdom.

- Each member of the Security Council has one vote. Decisions of the SecurityCouncil on matters are made by an affirmative vote of nine members including theconcurring votes of the permanent members.
- A "No" vote from one of the five permanent members blocks the passage of theresolution.
- Any member of the United Nations which is not a member of the Security Councilmay participate, without vote, in the discussion of any question brought before theSecurity Council whenever the latter considers that the interests of that member arespecially affected.
- The council's presidency is a capacity that rotates every month among its 15members.
- The council is headquartered at NewYork.

Topic 20:UDAN

Importance for Prelims: **Government schemes**

The first direct flight operations between Nashik (Maharashtra) and Belgaum(Karnataka) started today under the RCS-UDAN (Regional Connectivity Scheme —UdeDeshKaAamNagrik) of the Government of India.

- Operationalizing of this route expands the aerial connectivity of Belgaum to the 10destinations across India.
- Star Air was awarded the Belgaum-Nashik route during the UDAN 3 biddingprocess.
- The airlines are being provided Viability Gap Funding (VGF) under theUDAN scheme to keep the fares affordable & accessible for the common people.
- The airline will be operating thrice-weekly flights on the route and will deploy its50-seater Embraer ERJ-145 aircraft. UdeDeshKaAamNaagrik
- UdeDeshKaAamNaagrik (UDAN) was launched as a regional connectivity schemeunder the Ministry of Civil Aviation in

2016.

- It is an innovative scheme to develop the regional aviation market.
- The objective of scheme is to create affordable yet economically viable andprofitable flights on regional routes so that flying becomes affordable to thecommon man even in small towns.
- The scheme envisages providing connectivity to un-served and underserved airportsof the country through the revival of existing air-strips and airports.
- The scheme is operational for a period of 10 years.
- Under-served airports are those which do not have more than one flight a day, whileunserved airports are those where there are no operations.

Topic 21:SUBASH CHANDRA BOSE AAPDA PRABANDHAN PURASKAR 2021

Importance for Prelims: **Current Events**

For the year 2021, (i) Sustainable Environment and Ecological DevelopmentSociety and (ii) Dr. Rajendra Kumar Bhandari have been selectedfor the SubhashChandra Bose AapdaPrabandhanPuraskar.

- The Government of India instituted Subhash Chandra BoseAapdaPrabandhanPuraskaar to recognize the excellent work done by the individualsand institutions in the field of disaster management.

Administered By:

- National Disaster Management Authority (NDMA – created bythe Ministry of Home Affairs under the Disaster Management Act, 2005).

Award:

- The awards are declared on the birth anniversary of Netaji Subhash ChandraBose on 23rd january each year.
- In addition to a certificate, these awards carry a money award of Rs. fifty one lakhs for anInstitution and Rs. five lakhs for an individual.
- The establishment has got to utilize the cash prize for Disaster Management relatedactivities solely.

Eligibility:

- Only Indian nationals and Indian institutions will apply for the award.
- The appointive individual or institution ought to have worked in any space of disastermanagement like prevention, Mitigation, readiness, Rescue, Response, Relief,Rehabilitation, Research, Innovation or early warning in India.

Topic 22:AYU SAMVAD CAMPAIGN

Importance for Prelims: **Current Events**

"AYU SAMVAD" (My Health My Responsibility) is one of the largest publicawareness campaign program being organised on AYURVEDA and COVID 19PANDEMIC.

- **Organized by:** All India Institute of Ayurveda New Delhi, as envisioned &supported by Ministry of AYUSH.
- More than 5 lac lectures will be organized across the nation by Ayurveda Physiciansfor citizens of India.
- **Main objective:** To create awareness through Lecture series to make commonpeople aware about the theme "Ayurveda for COVID 19 Pandemic".

Topic 23:MOUNT MERAPI

Importance for Prelims: **Geography**

Indonesia's most active volcano Mt Merapi erupts again, unleashing river oflava.

- Merapi (Mountain of Fire) is that the most active of Indonesia's 130 active volcanoes.
- It rises to 2,911 metres and has steep slopes with dense vegetation on its lower sides.
- It is found close to the centre of the island of Java and Indonesia's culturalcapital, Yogyakarta.
- Mt Merapi's last important eruption was in 2010. At that point, more than 300people were killed and a few 2,80,000 residents were forced to evacuate thesurrounding areas.

Topic 24:PRESIDENTIAL ADDRESS

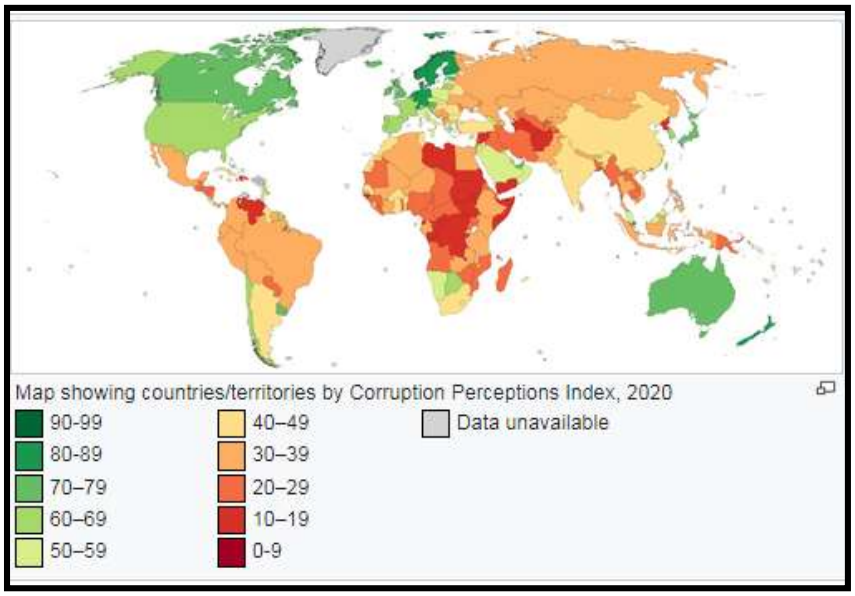
Importance for Prelims: Polity

As several as 18 Opposition parties, led by the Congress, declared their decision to boycott President address to the joint sitting of Parliament at the beginning of the Budget session on Friday in solidarity with the farmers protesting against the 3 farmlaws.

- All executive power is unconditional within the President of India. The Council of Ministers headed by the Prime Minister aids and advises the President who exercises his powers in accordance to such advice.
- Article 87 of the constitution provides two instances once the President specially addresses each homes of Parliament.
- The President of India addresses each the Rajya Sabha and also the Lok Sabha at the beginning of the primary Session once every election once the reconstituted lower house meets for the primary time.
- The President additionally addresses each the homes at starting of the primary session of annually.
- The President's speech basically highlights the government's policy priorities and plans for the coming year. The address provides a broad framework of the government's agenda and direction.

Topic 25:CORRUPTION PERCEPTION INDEX

Importance for Prelims: International Reports



- India's rank has slipped six places to 86th among 180 countries during a corruption perception index (CPI) in 2020.
- India's rank is 86 out of 180 nations with a score of 40. "India was stratified at 80thposition out of 180 countries in 2019.
- The CPI score for India is constant this year aswell because the previous year's score," the index same.
- This year, New zealand and Denmark were ranked initially position with scores of88.
- Somalia and South Sudan were stratified lowest at 179th position with scores of 12.

About the Index

- First launched in 1995 by the Transparency International, the Index has been widely credited with putting the issue of corruption on the international policy agenda.
- Transparency International is a non-profit, non-governmental organization dedicated to fighting corruption. It was founded in 1993 and is based in Berlin,Germany.
- The index, which ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and business

people, uses a scale of 0to 100, where 0 is highly corrupt and 100 is very clean.

Topic 26:IMD

Importance for Prelims: **National Organisation**

The India Meteorological Department has opened a portal that allows thepublic to share details about weather events in their surroundings. India Meteorological Department (IMD)

- Formed in 1875, the India Meteorological Department (IMD) is the national meteorological service of the country and it is the chief government agency dealing in everything related to meteorology, seismology, and associated subjects.
- The administrative responsibilities of the Department are under the supervision of the Ministry of Earth Sciences of the Indian Government.
- The IMD is headquartered in New Delhi.
- The IMD also releases a winter forecast every year in

November which gives predictions on the severity of the winter season starting December to February.

Topic 27:LIFE MISSION

Importance for Prelims: **Current Events**

As a part of Kerala Government's Life Mission project, Chief Minister Pinarayi Vijayan inaugurated 2.5 large integer homes in Thiruvananthapuram.

- Mission LIFE (Livelihood Inclusion and financial Empowerment) envisages acomprehensive housing theme for all the landless and homeless within the State.
- Housing is that the terribly basic demand that holds the key to accelerate social ldevelopment in many ways, thus the government of Kerala launched the LIFE.
- The target of the mission is to supply safe housing to just about 4.30 lakhs of homeless within the State among

a amount of five years.

- Among the homeless, about 1.60 large integer landless families are historically excluded from various housing schemes of the past.
- Under the programme, the homeless are going to be provided with :modern housing complexes with provision for following their livelihoods,converging social services together with Primary Health Care,Geriatric Supports,Skill Development and provision for monetary services inclusion.
- The mission will facilitate those that received help from different schemes but could not complete the development and move in a secure house.
- Priority are going to be given to coastal population, plantation staff and people who stayin temporary shelters in government lands.
- It envisages a situation wherever the beneficiaries are going to be sceptred and their active participation is mobilized within the maintenance of housing complexes.

Topic28:MAHARASTRA – KARNATAKA BORDER DISPUTE

Importance for Prelims: **Polity**

Maharashtra has staked claim to over 7,000 sq km area along its border with Karnataka, comprising 814 villages in areas predominantly Marathi-speaking.

- Maharashtra has staked claim to over 7,000 sq km area along its border with Karnataka, comprising 814 villages in the districts of Belagavi (Belgaum), UttaraKannada, Bidar, and Gulbarga, and the towns of Belagavi, Karwar, and Nippani.
- All these areas are predominantly Marathi-speaking, and Maharashtra wants themto be merged with the state.

What is the dispute?

- According to the State Reorganization Act of 1956, Belagavi was handed over to theMysore state, that was renamed as state in 1973.
- In 1957, slighted by the implementation of the States Reorganization Act, 1956,Maharashtra demanded readjustment of its border with Karnataka.
- Maharashtra invoked Section 21 (2) (b) of the Act and submitted a

memorandum tothe Ministry of Home Affairs stating its objection to Marathi- speaking areas beingadded to Karnataka.

- The central government accepted the Mahajan Committee in 1966 to assessthe scenario. Representatives from both sides, maharashtra and therefore the then Mysorestate were a part of the committee.
- In 1967, the committee suggested that some villages in Karwar, Haliyal andSuparna talukas of state tend to maharashtra however left Belagavi with thesouthern state.
- In 2006, the Supreme Court control that the difficulty ought to be resolved through mutualnegotiation which linguistic criterion should not be thought of because it could createmore practical issues.
- The case remains being detected by the Supreme Court.

The Mahajan Commission report:

- . While demarcating borders, the Reorganization of States Commission wanted toinclude talukas with a kannada-speaking population of over 50 per cent inMysore.
- Opponents of the region's inclusion in Mysore argued, and still argue, thatMarathi-speakers outnumbered Kannadigas who lived there in 1956.
- In September 1957, the bombay government echoed their demand and lodged aprotest with the Centre, resulting in the formation of the Mahajan Commission underformer chief justice Mehr Chand Mahajan in October 1966.

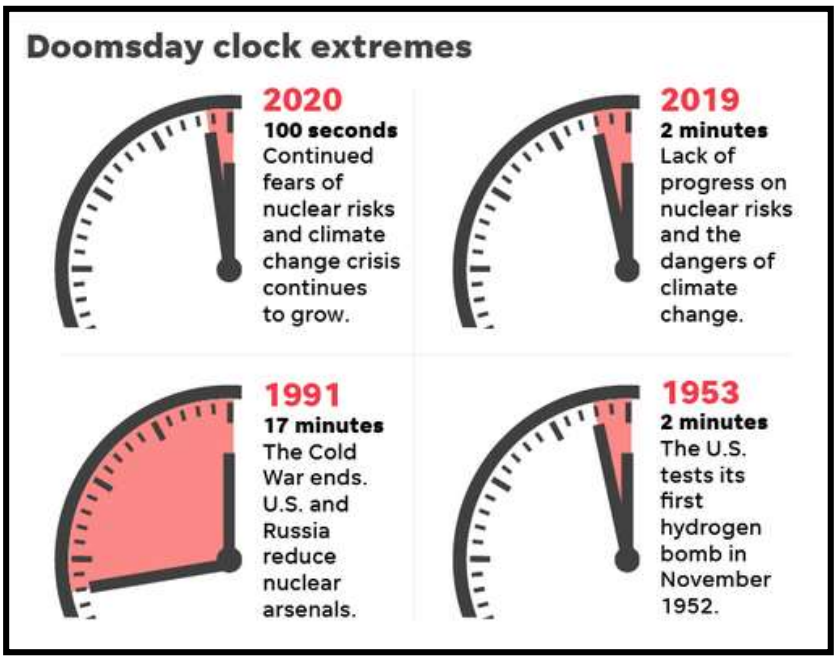
Recommendations of the Commission:

- The Commission in its report in August 1967 suggested that 264 villages betransferred to Maharashtra (which shaped in 1960) which Belgaum and 247villages stay with state.
- Maharashtra rejected the report, calling it biased and illogical, and demandedanother review.

- Karnataka welcome the report, and has ever since continued to press forimplementation, though this has not been formally done by the Centre.

Topic 29:DOOMSDAY CLOCK

Importance for Prelims: **Science & tech**



The hands of the 'Doomsday Clock', a visible depiction of however vulnerable theworld is to a climate or nuclear catastrophe, remained at '100 seconds to midnight' for thesecond consecutive year — the closest it's been to the symbolic annihilation ofhumanity.

- The Bulletin of the Atomic Scientists, supported by Albert Einstein and studentsfrom the University of Chicago in 1945, created the 'Doomsday Clock' as an emblem torepresent however shut the world is to a possible apocalypse.
- This clock represents that the nearer the hand is to midnight, the nearer theworld is to disaster.

- This clock is maintained by the members of the "Bulletin of the Atomic Scientists"since 1947.
- The scientists of this organization are attributed for the forward or backwardmovement of the needles of the clock.
- When scientists suppose that humanity is in danger, the needles of the clock are set closerto 12 O'clock and once the danger passes away, the needles are set some minutesaway from the twelve O'clock.
- For example, when the two years of nuclear attack on hiroshima and nagasaki bythe USA; the Doomsday Clock was set at simply seven minutes to midnight i.e. 12 O'clockfor the primary time.

Topic 30:GIG ECONOMY

Importance for Prelims: **Economy**

The lockdown gave a boost to the gig economy, whereas it had an "inevitableimpact on the vulnerable and informal sector," the Economic Survey for 2020-21 noted.

- In a gig economy, temporary, flexible jobs are commonplace and companies tendtoward hiring freelance contractors and freelancers rather than full-timeemployees.
- A gig economy undermines the traditional economy of full-time staff who rarelychange positions and instead focus on a lifetime career.
- The drivers of Uber, the delivery boys of Zomato, the plumbers and electricians ofUrban Clap frame the gig world.
- Global Gig Economy Index report has ranked india among the highest 10 countries.

Advantages:

- The gig economy will benefit workers, businesses, and consumers by creating workmore adaptable to the wants of the instant and demand

for flexible lifestyles.

- The results of a gig economy is cheaper, a lot of efficient services. Concerns
- The gig economy is largely unregulated, thus workers have very little job securityand few benefits.
- Unless an individual is extremely talented, his bargaining power can essentially belimited.
- While companies habitually invest in training workers, a gig-economy workers willhave to upgrade his skills on his own at his own cost.
- There are already more potential on-line independent workers than jobs, andthis demand-supply mismatch can only get worse over time, depressing wages.

Topic 31:TROPICAL CYCLONES

Importance for Prelims: Geography

Tropical cyclones across the globe, except Atlantic hurricanes, are movingcloser to land in recent decades, a replacement study found.

- Tropical cyclones generally are moving westward by about 30 kilometres perdecade since 1982, putting them nearer to land and creating them a lot of dangerous, astudy revealed in Science same.
- Storms generally move east to west thanks to trade winds within the tropics, so agreater westward shift sometimes puts them nearer to wherever the land is, Study said.
- Storms that kind simply west of land, like within the Pacific off the california andMexican coasts, are sometimes moving removed from land already, so this shift doesn'tspare a lot of land.
- However, it's mysterious that, in contrast to alternative areas, the Atlantic cyclone basin didn'tshow any important westward shift, however that would be because the Atlantichurricane zone is a lot of closely encircled by continents.

Tropical Cyclones

- Tropical cyclones are violent storms that originate over oceans in tropical areas and move over to the coastal areas bringing about large scale destruction due to violent winds, very heavy rainfall and storm surge.
- They are irregular wind movements involving closed circulation of air around a low pressure center. This closed air circulation is a result of rapid upward movement of hot air which is subjected to Coriolis force.

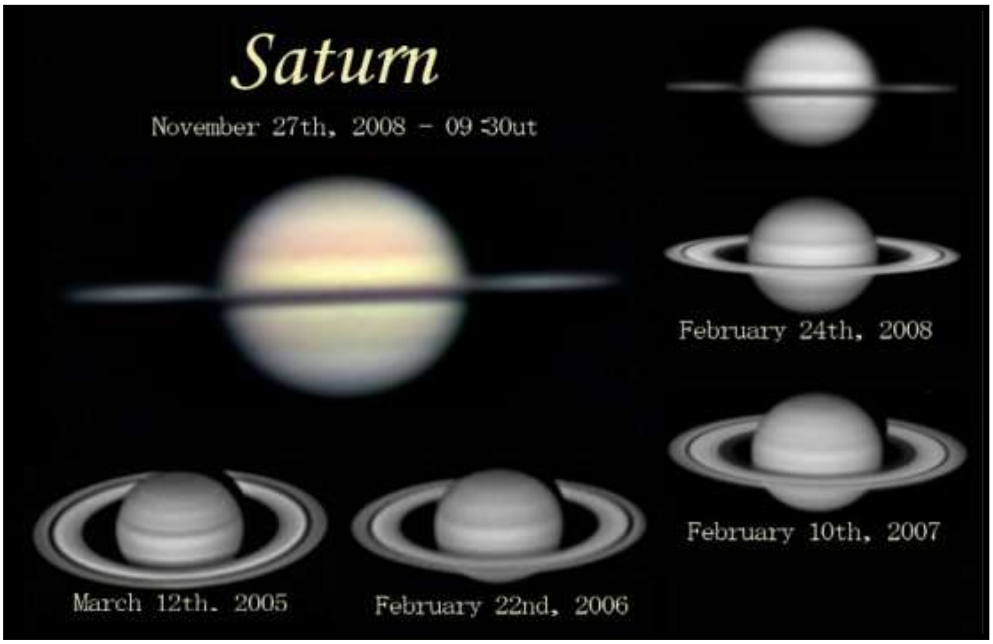
Conditions Favourable for Tropical Cyclone Formation

- Large sea surface with temperature higher than 27°C.

- Presence of the force enough to make a cyclonic vortex. Small variations in the vertical wind speed.
- A pre-existing weak low-pressure area or low-level-cyclonic circulation.
- Upper divergence on top of the ocean level system. Favorite Grounds for Tropical Cyclones
- South-east Caribbean region wherever they are known as hurricanes.
- Philippines islands, eastern China and Japan wherever they're known as typhoons.
- Bay of Bengal and Arabian Sea where known as known as cyclones.
- Around south-east African coast and Madagascar-Mauritius islands.
- North-west Australia.

Topic 32:SATURN TILT

Importance for Prelims: **Science & tech**



The tilt of the rotation axis of the gas giant Saturn may in reality be caused by itsmoons, scientists from CNRS, Sorbonne University and therefore the University of pisa havereported.

- Recent observations have shown that Titan and therefore the different moons are graduallymoving away from Saturn a lot of quicker than astronomers had previously estimated.
- The researchers concluded that this method affects the inclination of Saturn'srotation axis: as its satellites move more away, the planet tilts a lot of andmore.
- The current tilt of Saturn's rotation axis is caused by the migration of its satellites,and especially by that of its largest moon, Titan.

Saturn

- Saturn is similar to Jupiter, although about one-third the mass. It spins so fast thatits diameter at the equator is 10 percent larger than its

diameter from pole to pole.

- Saturn has a solid core likely made of rock and ice, which is thought to be manytimes the mass of Earth.
- Covering this core is a layer of liquid metallic hydrogen, and on top of that are layersof liquid hydrogen and helium.
- These layers conduct strong electric currents that, in turn, generate Saturn'spowerful magnetic field.

Saturn's Moons

- Saturn has 62 confirmed moons, and its largest moon is Titan, which is larger thanEarth's own moon and has a thick, opaque atmosphere.
- Titan is the second-largest moon in the Solar System (larger than Mercury) and it isthe only satellite in the Solar System with a substantial atmosphere(nitrogen-rich).

Saturn's Ring System

- The most spectacular part of Saturn is its magnificent system of planetary rings,which stretch some 300,000 kilometers across. The ring system is divided into threemain parts: the bright A and B rings and the dimmer C ring.
- Saturn's rings are probably made up of billions of particles of ice and ice-coveredrocks.

Additional Information

CASSINI MISSION

- The Cassini–Huygens mission, ordinarily known as Cassini, was a collaborationbetween NASA, the european space Agency, and also the Italian space Agency to send aprobe to check the earth Saturn and its system, as well as its rings and naturalsatellites.

DRAGONFLY MISSION

- Dragonfly aims to look for signs of microbial alien life on Saturn's moon Titan,while navigating its earth-like gravity and aerodynamics within the process.
- The mission can succeed NASA's Cassini probe, that concluded its 13-year missionorbiting Saturn in September 2017 by diving into Saturn's atmosphere.
- Dragonfly mission may be a a part of NASA's New Frontiers program, that includesa series of space exploration missions, that are being conducted with the purposeof researching many of the solar system bodies, including the dwarf planet Pluto.
- The New Frontiers programme additionally includes Pluto probe New Horizons,Jupiter probe Juno and OSIRIS-Rex asteroid mission.

Topic 33:BEEMA BAMBOO

Importance for Prelims: **Environment**

Crash barriers made of Beema bamboo and coir are being developed as a lowcostsolution as the Centre looks for innovative, newer ways to bring down fatalities andmishaps on roads.

Beema Bamboo

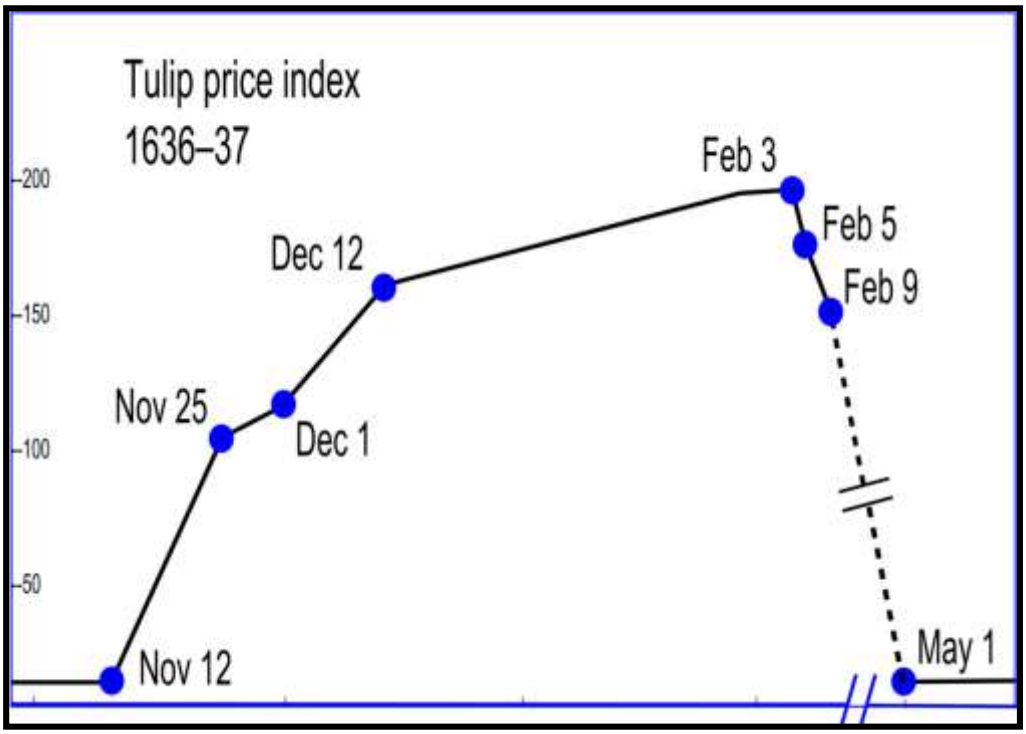
- Beema or Bheema bamboo is a type of bamboo engineered to be a stronger, fastgrowingand tall clone of the traditional bamboo found in the Indian subcontinent,especially the North-East. This variety grows well in southern India also.
- This cloned Bamboo is a superior clone, selected from Bambusabalcooa, a higherBiomass yielding Bamboo species.
- It is thornless, sterile, fast growing and High yeilding superior bamboo.
- It can grow in the field for more than hundred years without need for

replanting.

- If it is managed as per the Silvicultural methods it will higher Biomass onsustainable basis.
- Soil, water requirement and climatic conditions are similar assugarcane crop.
- Beema Bamboo acts as a Carbon Sink and absorbs excess Carbon-di-oxide in theair three to four times than other trees.
- Obviously, it is eco-friendly and absorbs 400 to 500 Kg of Carbon-di-oxide everyyear and grows five times faster than other spices of Bamboo.

Topic 34:DUTCH TULIP BUBBLE BURST

Importance for Prelims: **Economics**



Now, almost exactly 385 years and another pandemic later, Wall Street waits tosee however long it will hold history to repeat itself.

- Shares of video game distributor GameStop corp have soared one,625% since the beginning ofJanuary.
- Driving the rally are individual investors who have been stuck at home forthe last ten months.
- The price soars until one day the market runs out of buyers and freezes, causingprices to plummet and some} unlucky few to lose fortunes over ten times theirannual incomes within the span of a few hours.

Dutch liliaceous plant Bubble Burst

- The Dutch liliaceous plant bulb market bubble, additionally referred to as ‘tulipmania’ was one amongst the mostfamous market bubbles and crashes of all time.

- It occurred in European nation throughout the first to middle 1600s once speculation drove thevalue of liliaceous plant bulbs to extremes.
- At the peak of the market, the rarest liliaceous plant bulbs listed for the maximum amount as sixfold theaverage person's annual regular payment.
- Today, the tulipmania is a parable for the pitfalls that excessive greed andspeculation will cause.

Topic 35:LINGARAJ TEMPLE

Importance for Prelims: **Culture**

The ASI came across the stone structure engraved with arts while undertakingthe excavation drive being done under the EkamraKshetra heritage project forbeautification of the Lingaraj temple and its surroundings.

About Lingaraj Temple

- It is an ancient temple dedicated to Lord Shiva, situated in the city of Bhubaneswar.
- The temple was built in the 7th century by the King JajatiKeshari.
- Lingaraj is referred to as "Swayambhu" i.e. self-originated Shivling.
- The temple marks the culmination of the temple architecture inBhubaneswar which was the cradle of the Kalinga School of TempleArchitecture.
- The temple can broadly be divided into four main halls i.e.GarbaGriha(Sanctum Sanctorum),YajanaMandapa(the hall for prayers)'NatyaMandapa(dance and music hall) andBhogaMandapa(where

devotees can have the Prasad (offering) of the Lord).

- It signifies the syncretisation of Shaivism and Vaishnavism sects in Odisha.
- Bhubaneswar is called the EkamraKshetra as the deity of Lingaraja was originallyunder a mango tree (Ekamra) as noted in EkamraPurana, a 13th-century Sanskrittreatise.
- Bindusagar is the sacred pond near the temple which is the second most attractiveplace after the temple.
- Bindusagar is considered as the union of drops of water from various sacred riversof India.
-
- Additional Information Kalinga School of Temple ArchitectureAn inscription in the Amrtesvara Temple at Holalin Karnataka refers to fourstyles of Hindu temple architecture i.e. Nagara, Kalinga, Dravida and Vesara.
- Kalinga style is identified as a sub-class under the Nagara category.
- Bhuvanapradipa primarily defines three kinds of Kalinga temple styles i.e.Rekha, Khakhara and Bhadra.
- Rekha-deul (temple) is distinguished with its square plan topped with a curvilineartower.
- A Pidha-deul, also referred as Bhadradeul, also has a square plan topped with apyramidal tower composed of horizontal tiers arranged in receding manner.
- A Khakharadeul is surmounted with a barrel-shaped (vault-shape) tower over arectangular plan.
- Silpaprakasha is the most famous text describing the Odishan templearchitecture which was authored by Ramachandra Kaulachara who belonged tothe reign of king Viravarman.

- A typical Kalinga (Odishan) temple consists two parts, a sanctuary where an idol orlinga is placed and a hall where pilgrims can view the lord installed in the sanctuary.
- The sanctuary is referred as deul while the hall is known as jagamohana.
- The othercomponents under Kalinga style temple are:Pitha is the platform over which the entire structure of the temple stands.
- Bada is the vertical wall over which tower is supported.
- Gandi is the lower part of the tower while mastaka is the upper part of the tower.

Topic 36:CHANDRAYAAN 3

Importance for Prelims: **Science & tech**

K Sivan, the chairman of the Indian space research Organisation (ISRO),revealed the estimated cost for Chandrayaan-3 to be Rs 6.15 billion (about $91.2 million),a much lower figure compared with Chandrayaan-2, that price Rs 9.7 billion, as pernews reports.

Chandrayaan-3

- Chandrayaan-3 s a planned third lunar exploration mission by the Indian SpaceResearch Organisation (ISRO).
- Following Chandrayaan-2, wherever a snag in communication led to the failure of thelander's soft landing attempt when a successful orbital insertion, another lunarmission for demonstrating soft landing was proposed.
- Chandrayaan-3 are a mission repeat of Chandrayaan-2 however can only embody alander and rover similar to that of Chandrayaan-2. it will

not have anorbiter.

Chandrayaan-2 mission:

- In september 2008, the Chandrayaan-2 mission was approved by the governmentfor a value of Rs 425 crore.
- It is India's second mission to the moon.
- It aims to explore the Moon's south polar region.
- The mission is an important step in India's plans for planetary exploration, aprogram called Planetary Science and Exploration (PLANEX).
- There are three components of the mission, an orbiter, a lander and a rover.
- The mission payloads include — terrain Mapping Camera which is able to generate aDigital Elevation Model (DEM) of the entire moon, Chandrayaan 2 large area SoftX-ray spectrometer which is able to test the elemental composition of the Moon's surfaceSolar X-Ray Monitor which is able to give solar X-ray spectrum inputs for class.