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Success is born of action...

Topic 1. SIMPLER DRONE RULES IN THE OFFING

Importance for Prelims: Governance

Ministry of Civil Aviation (MoCA) has free the updated – The Drone Rules, 2021 for public consultation. The Drone Rules, 2021 can replace the UAS Rules 2021 (released on twelve March 2021).

Draft Drone Rules, 2021:

- The range of forms to be stuffed to hunt authorisation before operational a drone has been reduced from twenty five to 6.
- Fee reduced to nominal levels. No linkage with the dimensions of the drone.
- Safety options like ‘No permission – no take-off’ (NPNT), time period following beacon, geo-fencing, etc. to be notified in future.
- A six-month time interval are provided for compliance. Digital sky platform would be developed as a business-friendly single-window on-line system.
- No pilot licence needed for small drones (for non-commercial use), nano drones and for R&D organisations.
- No restriction on drone operations by foreign-owned corporations registered in Asian country.
- Import of drones and drone elements to be regulated by the board General of Foreign Trade.
- This is so as to encourage autochthonous producing.
- No security clearance needed before any registration or licence provision. Coverage of drones beneath Drone Rules, 2021 hyperbolic from three hundred kilo to five hundred kilo.
- This can cowl drone taxis additionally. board General of Civil Aviation shall bring down coaching necessities, superintend drone faculties and supply pilot licences on-line.

- Maximum penalty beneath Drone Rules, 2021 reduced to bureau one large integer. Drone corridors are developed for consignment deliveries.
- Drone promotion council to be originated to facilitate a business-friendly regulative regime.
- The Union government might specify sure standards for getting a certificate of soundness for drones, which can promote the utilization of made-in-India technologies, designs, elements and drones; and India's regional navigation satellite system named Navigation with Indian Constellation [NavIC].

Topic 2. KAMARAJAR 119TH BIRTH ANNIVERSARY

Importance for Prelims: Current Events

The Prime Minister Narendra Modi has paid court to K. Kamaraj on his birth day of remembrance.

- Kumaraswami Kamaraj (1903 – 1975), popularly referred to as Kamarajar was associate Indian independence activist and politician.
- He served because the Chief Minister of Madras State (Tamil Nadu) from thirteen Gregorian calendar month 1954 to two Oct 1963.
- He was the founder and therefore the president of the Indian National Congress (Organisation), wide acknowledged because the “Kingmaker” in Indian politics throughout the Nineteen Sixties.
- He additionally served because the president of the Indian National Congress for 2 terms i.e. four years between (1964–1967) and was to blame for the elevation of Lal Bahadur Shastri to the position of Prime Minister of Republic of India once Nehru’s death and Indira Gandhi once Shastri’s death.
- As the president of the Iraqi National Congress, he was instrumental in steering the party once the death of national leader.
- He was the Member of Parliament, Lok Sabha throughout 1952–1954 and 1969–1975. He was awarded with Bharat Ratna, posthumously in 1976.
- Kamraj arrange In 1963 he steered to statesman that senior Congress leaders ought to leave ministerial posts to require up organisational work.
- This suggestion came to be referred to as the Kamaraj arrange, that was designed primarily to dispel from the minds of Congressmen the lure of power, making in its place a passionate attachment to the objectives and policies of the organisation.

Topic 3. AMAZON RAINFORESTS

Importance for Prelims: Environment



In a study revealed within the journal Nature, scientists UN agency conducted this analysis over a amount of 9 years within the japanese Amazon forests have same that a major quantity of deforestation in japanese and south japanese Brazil has turned the forest into a supply of carbon dioxide that has the power to heat the earth.

- Amazon rainforests The Amazon rainforests cowl regarding eighty per cent of the basin and as per NASA’s Earth observatory, they’re home {to nearly|to just regarding|to almost} a fifth of the world’s land species and is additionally home to about thirty million folks as well as endemic teams and several other isolated tribes.
- The Amazon basin is big with a neighborhood covering over vi million sq. kilometres, it’s nearly doubly the dimensions of India.

- The Amazon forests have absorbed carbon dioxide from the atmosphere, serving to moderate the worldwide climate
- The basin produces regarding twenty per cent of the world's flow of fresh into the oceans.
- Over the previous couple of years, the forest has been below threat because of deforestation and burning.
- Forest fires, have doubled since 2013.

Findings:

- The Amazon forests in South America, that square measure the biggest tropical forests within the world, have started emitting CO₂ (CO₂) rather than engrossing carbon emissions.
- Some forests in geographic region have additionally changed into carbon sources within the previous couple of years as a results of formation of plantations and fires.
- The reason that they happen is once farmers burn their land to clear it for subsequent crop Deforestation within the Brazilian Amazon includes regarding common fraction of the realm of the rain forest NASA's Earth Observatory notes that state policies that encourage economic development, like railway and road growth comes have junction rectifier to "unintentional deforestation" within the Amazon and Central America.
- Researchers aren't spoken language that owing to important levels of deforestation (over the course of forty years) there has been a long decrease in precipitation and increase in temperatures throughout the season.
- Because of those reasons the japanese Amazon forests aren't any longer carbon sinks, whereas the additional intact and wetter forests within the central and western elements square measure neither carbon sinks nor square measure they emitters.

- The conversion of forests into agricultural land, caused a seventeen per cent decrease within the forest cowl, Scientists have recorded a twenty five per cent reduction in precipitation and a temperature increase of a minimum of two.7 degrees Fahrenheit or one.5 degrees Celsius throughout the dry months.

Topic 4. GODAVARI RIVER MANAGEMENT BOARD AND KRISHNA RIVER MANAGEMENT BOARD

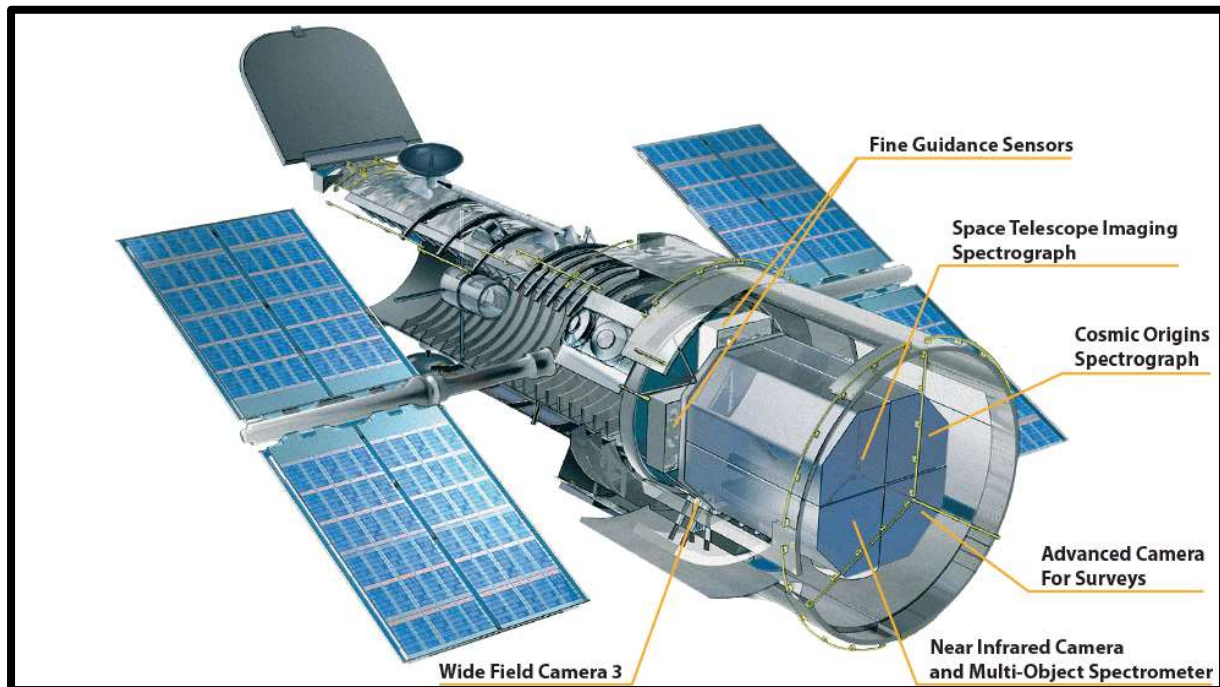
Importance for Prelims: Polity

The Ministry of Jal Hindu deity through Gazette Notification dated 15.07.2021 has notified the jurisdiction of Godavari watercourse Management Board and Krishna watercourse Management Board,

- The province Reorganization Act 2014 (APRA) contains provisions for the effective management of watercourse waters within the states of province and Telangana, Constitution of the Godavari Associate in Nursingd Krishna watercourse Management Boards and therefore the constitution of an Apex Council for the superintendence of the functioning of those Boards, is arranged down during this Act.
- The Central Government in exercise of the powers of the APRA, the administration, regulation, maintenance and operation of such comes on Godavari and Krishna rivers, as could also be notified by the Central Government.
- Apex Council: it's been set up by the Central Government underneath the provisions of province organization Act (APRA), 2014. It supervises the functioning of the Godavari watercourse Management Board and Krishna watercourse Management Board.
- KRMB & GRMB area unit autonomous bodies established as per APRA-2014 underneath the executive management of MoJS to manage and regulate the Waters of Krishna and Godavari Basin severally within the states of province and Telangana.
- It includes the Union Jal Hindu deity Minister and therefore the Chief Ministers of Telangana and province.

Topic 5. HUBBLE SPACE TELESCOPE

Importance for Prelims: Science and Tech



NASA plans to repair a fault that has stopped the astrophysicist house telescope from getting used for science work for quite a month.

- The astrophysicist, launched in 1990, is that the most vital scientific tool ever to be designed, the observatory is that the initial major astronomical telescope to be placed in house and has created ground-breaking discoveries within the field of uranology since its launch.
- According to NASA's official web site, the launch and readying of astrophysicist in Apr 1990 is claimed to be the "most vital advance in uranology since Galileo's telescope."
- It is encompasses a seven.9 feet mirror, and captures gorgeous pictures of region enjoying a serious role in serving to astronomers perceive the universe by observant the foremost distant stars, galaxies and planets.
- NASA conjointly permits anyone from the general public to go looking the astrophysicist info that new galaxy it captured, what uncommon did it notice regarding our stars, system and planets and what patterns of

ionising gases it discovered, on any specific day.

- Astounding captures By astrophysicist, The disintegration of Associate in Nursing ancient extraterrestrial object 332P/Ikeya-Murakami whereas it had been approaching the sun.
- It was one in all the clearest views of a breaking icy extraterrestrial object. The collusion of 2 dwarf galaxies one in all that is I Zwicky eighteen with another one on its higher right. This semiconductor diode to the formation of a brand new star.
- A disc encompassing a star ‘Beta Pictoris’, that was discovered in 1984, was found to be ingrained by 2 planets, light-scattering dirt and junk.
- The black hole-powered core of the constellation Galaxy seems during this National Aeronautics and {space Administration|NASA|independent agency} Edwin Hubble Space Telescope image.
- (NASA/Hubblesite) vibrant patterns of gases in an exceedingly part battery-powered galaxy referred to as the ‘Circinus Galaxy’.
- These gases delineate a caldron of vapours, focused in 2 disks of the galaxy.
- ‘Galaxy Cluster Abell 2744’ that is three.5 billion light-years away and has many clusters of little galaxies in it.
- It conjointly poses a robust field of force that acts as a lens to replicate the sunshine of just about three,000 background galaxies.
- Neptune that is that the most distant planet. The image of the world disclosed the formation of high-altitude clouds composed of paraffin ice crystals.
- Collision between 2 galaxies UGC 06471 and UGC 06472 that ar one hundred forty five million light-years removed from the planet were captured.
- The collision eventually diode to the formation of a bigger galaxy.

- Triangulum Galaxy was snapped representational process the particular areas of star birth with a sky-blue light-weight spreading across the galaxy in lovely nebulas of hot gas ‘Galaxy ESO 243-49, that had a medium-sized part.
- The 20,000 suns sized part was positioned on a glacial plane of the galaxy.
- An encounter of a extraterrestrial object named C/2013 A1 with Mars. The ‘Comet Siding Spring’ passed with a distance of simply eighty seven,000 miles to it of Mars.
- ‘Gum 29’ a spirited stellar being ground, that is twenty,000 light-years away, consisting of a large cluster of three,000 stars was captured by the telescope.
- This behemoth cluster of stars is named ‘Westerlund 2’.
- ‘Southern Ring Nebula’ was recorded that did show 2 stars a bright white star and a fainter boring star at the centre of the nebula wherever the boring star was so making the complete nebula.

Topic 6. DOPPLER RADARS

Importance for Prelims: Geography



The Bharat meteoric Department's (IMD) solely physicist measuring system in metropolis, that surveys weather patterns and forecast, stopped operating once more on Wednesday afternoon, once the town was witnessing downfall.

- Doppler radars area unit crucial for gauging the intensity of downfall and impact space in period.
- Doppler measuring system working: In radars, a beam of energy—referred to as radio waves— is emitted from Associate in Nursing antenna.
- When this beam strikes Associate in Nursing object within the atmosphere, the energy scatters altogether directions, with some reflective directly back to the measuring system.
- The larger the article deflecting the beam, the larger is that the quantity of

energy that the measuring system receives reciprocally.

- Observing the time needed for the beam to be transmitted and came to the measuring system permits prediction departments to “see” raindrops within the atmosphere, and live their distance from the measuring system.
- It will offer data on each the position of targets similarly as their movement.
- It will this by chase the ‘phase’ of transmitted electromagnetic wave pulses; section which means the form, position, and kind of those pulses.
- As computers live the shift in section between the initial pulse and therefore the received echo, the movement of raindrops are often calculated, and it's attainable to inform whether or not the precipitation is moving toward or aloof from the measuring system. In India, physicist radars of varied frequencies — S-band, C-band and X-band — area unit ordinarily employed by the IMD to trace the movement of weather systems and cloud bands, and gauge downfall over its coverage space of concerning five hundred kilometer.
- The radars guide meteorologists, notably in times of utmost weather events like cyclones and associated serious downfall.
- An X-band microwave radarion and ranging|radiolocation|measuring instrument|measuring system|measuring device} is employed to detect thunderstorms and lightning whereas C-band guides in cyclone chase.
- With the measuring system observations, updated each ten minutes, forecasters will follow the event of weather systems similarly as their varied intensities, and consequently predict weather events and their impact.
- The section shift in these radars works on a similar lines because the “Doppler effect” determined in sound waves– during which the sound pitch of Associate in Nursinging object approaching the observer is higher

thanks to compression of sound waves (a amendment in their phase).

- The discovery of the development is attributed to Christian physicist, a 19th-century Austrian scientist.
- A physicist measuring system transmits an indication for less than over seven seconds, and spends the remaining fifty nine minutes and fifty three seconds taking note of came signals. Radars operational at eight locations, Kolkata, Paradip, Gopalpur, Visakhapatnam, Machilipatanam, Sriharikota, Karaikal and Madras
- Along the geographic region, there area unit radars at Thiruvananthapuram, Kochi, Goa and metropolis.
- Other radars area unit operational from Srinagar, Patiala, Kufri, Delhi, Mukteshwar, Jaipur, Bhuj, Lucknow, Patna, Mohanbar, Agartala, Sohra, Bhopal, Hyderabad and Nagpur.

Topic 7. KISAN SARATHI

Importance for Prelims: Government Schemes

Digital Platform
Kisan Sarathi
launched to
Facilitate Farmers to get
'Right information at
Right time'
in their desired language

In order to facilitate farmers to urge 'right data at right time' in their desired language, a digital platform particularly 'KisanSarathi' was launched conjointly by Shri Narendra Singh Tomar, Minister for Agriculture and Farmers Welfare with Shri AshwiniVaishnaw, Minister for physics and knowledge Technology, through video conference on sixteenth July 2021 on the occasion of ninety three ICAR Foundation Day.

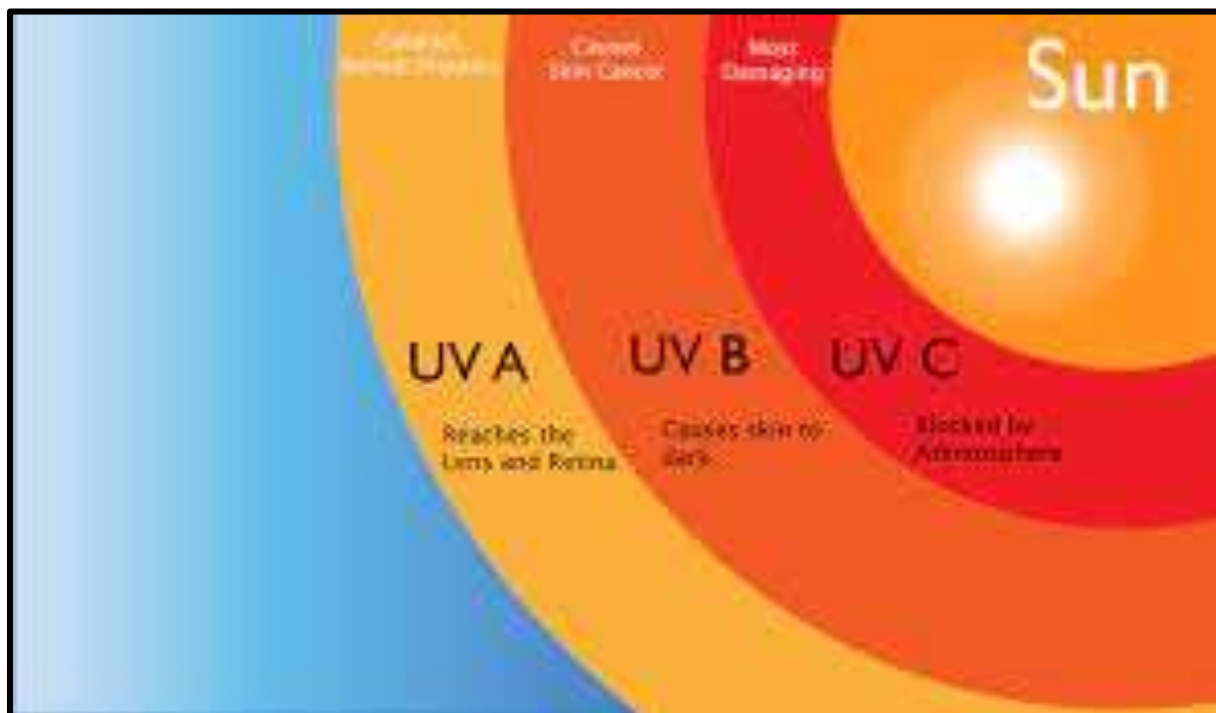
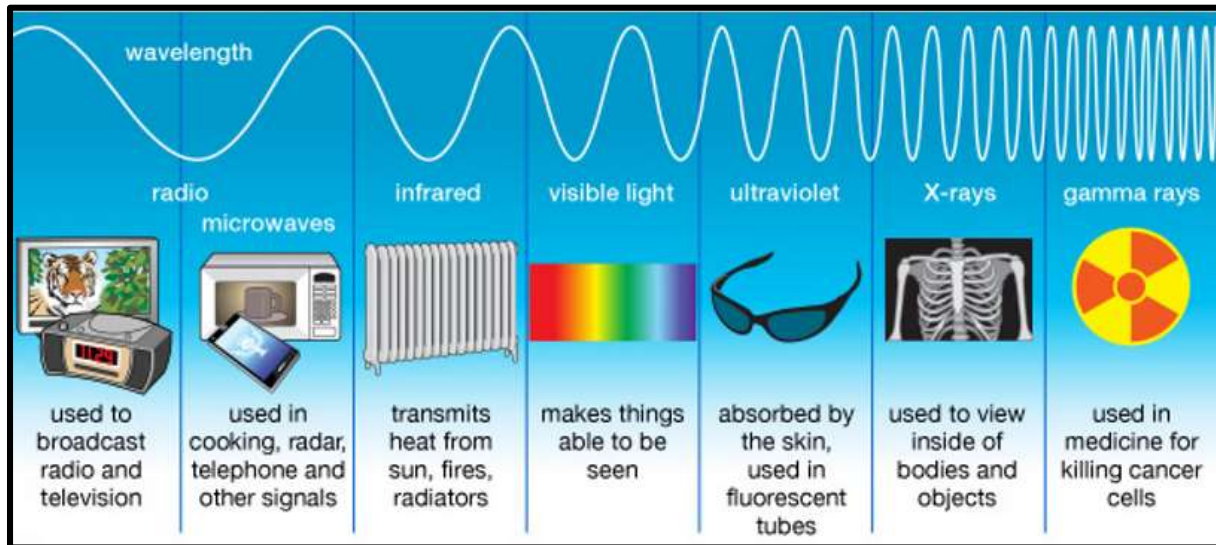
- Ministry of Agriculture and Farmers Welfare and Ministry of physics and knowledge Technology for taking this initiative of Kisan Sarathi to empower farmers with the technological interventions to achieve farmers in remote areas
- The digital platform, the farmers will move and avail individualized advisories on agriculture and allied areas directly from the individual scientists of KrishiVigyan Kendra (KVKs).
- The ICAR Scientists to take-up analysis on new technological interventions within the space of transportation of farmer's crop from

their farm gate to warehouses, markets and also the places wherever they require to sell with minimum injury.

- Ministry of physics and IT and Ministry of Communications can perpetually be able to offer all necessary support to Ministry of Agriculture and Farmers Welfare and Ministry of Fisheries, husbandry and dairy farming for authorization of Farmers.

Topic 8. ULTRAVIOLET RADIATION

Importance for Prelims: Science and Tech



Dr. Jitendra Singh, Union Minister of State for Science and Technology, recently declared that the govt would install Ultraviolet-C or UV-C medical care Technology in Parliament to mitigate the likelihood of transmission mechanism of SARSCoV-2.

- Ultraviolet is that the Sun's natural radiation or light-weight and covers wavelengths within the 100-400 nm vary.

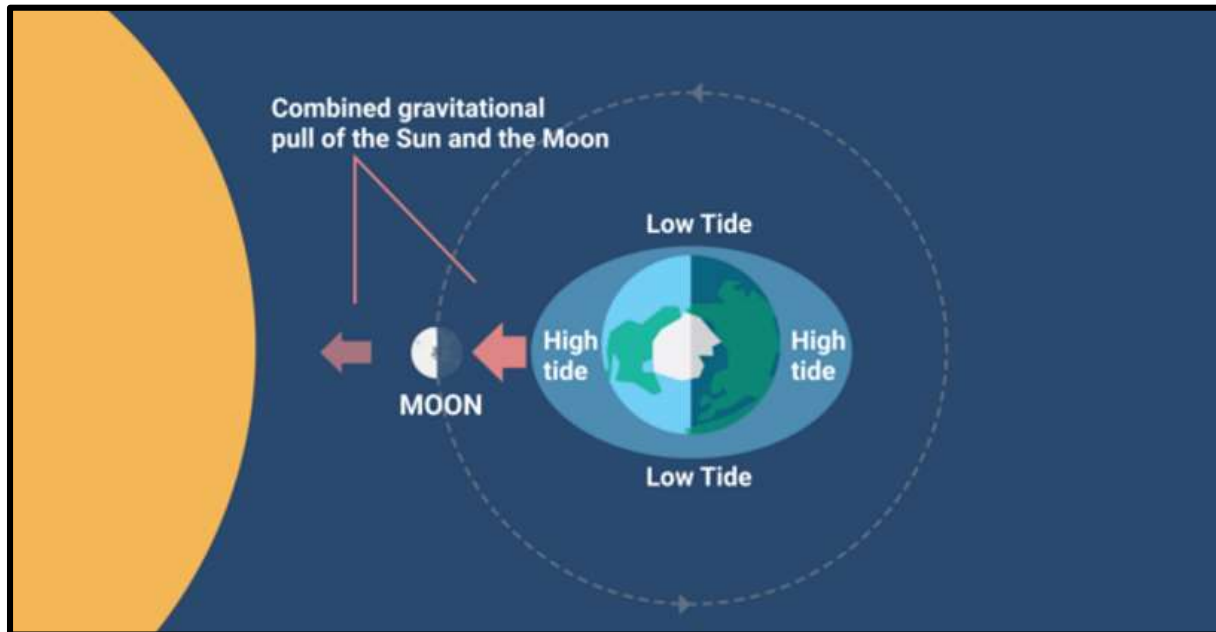
- The light-weight ranges visible for humans is from 380–700 nm. There square measure 3 bands for ultraviolet light — UV-C (100-280 nm), UV-B (280-315 nm) and UV-A (315-400 nm). The Sun transmits each UV-A and UV-B rays through the Earth's atmosphere, whereas the ozonosphere filters all UV-C. Effects UV-B rays will reach the stratum or outer layer of the human skin, inflicting sunburns
- It is additionally related to inflicting carcinoma.
- UV-A rays will penetrate the corium or the skin's middle layer to age skin cells and indirectly injury cell deoxyribonucleic acid.
- Man-made UV-C radiation is understood to possess caused eye injuries and skin burns.
- Hospitals and laboratories have used UV-C radiation of 254 nm wavelength for many years to make clean the air.
- It is additionally wont to treat water. It couldn't penetrate through the human skin's outer dead-cell layer or maybe the tear layer in eyes and wasn't a risk.
- Far-UVC light-weight will reach the deoxyribonucleic acid of viruses and bacterium and kill them since they're smaller than human cells.
- UVC light-weight will management the unfold of airborne-mediated microorganism diseases UV-C and Corona virus
- The outer supermolecule layer of SARS-CoV-2 may be destroyed victimization UV-C radiation.
- The 222-nm radiation, additionally referred to as far-UVC light-weight, will kill mobile human coronaviruses like alpha HCoV-229E and beta HCoV-OC43.
- This, however, is completely different from SARS-CoV-2, that terribly restricted knowledge is obtainable on the wavelength and period needed.
- 222 nm UV-C irradiation at zero.1 mW/cm² killed ninety nine.7% of

SARS-CoV-2's microorganism culture following a 30-second exposure UV-C irradiation effectively inactivated SARS-CoV-2 replication.

- UV-C and disinfective applications UV-C air passage medical care system will match into any air-duct.
- It aforementioned tag levels of UV-C light-weight is employed to deactivate the virus in any aerosol particles, and therefore the system was an ideal fit malls, auditoriums, AC buses, academic establishments, and railways.
- A tiny disinfectant device that used UV-C radiation (222-254 nm), aforementioned it absolutely was developed specifically for non-living things.
- The device's UV-C radiation might hurt skin and eyes and therefore the operator should use spectacles that protects from UV-C radiation whereas the Ministry of Science and Technology didn't mention the wavelength of radiation or the period that it'll be used, it mentioned that tests had shown that the merchandise managed ninety nine medical care.
- UV light-weight Technology offers disinfecting instrumentation to hospitals and pharmaceutical, one shouldn't be exposed to UV-C, it takes hours to induce a sunburn from UV-B, UV-C will lie with in seconds.
- UVC light-weight (207–222 nm) doesn't cause hurt to class skin.

Topic 9. TIDES

Importance for Prelims: Geography



The frequency of high-tide flooding on the coasts of us has doubled since 2000, and it's expected to extend 5 to fifteen times a lot of within the next thirty years, the National Oceanic and atmospheric Administration (NOAA) warns in an exceedingly new report

- The attraction pull of the moon and therefore the movement force of the planet cause tides to rise and fall across the earth.
- The species living in coastal areas most tormented by ever-changing tides have distinctive ways in which of extant.
- The alternating advance and retreat of water on a outline is named a tide.
- High tide is once water advances to its furthest extent onto the bounds. tide is once it recedes to its furthest extent. Some fresh rivers and lakes will have tides, too.
- A tide that's considerably on top of traditional is named a king tide.
- It usually accompanies a brand new moon and once the moon is nighest to the planet.
- The moon's attraction pull on the planet and therefore the Earth's

movement force are the 2 main factors that cause high and low tides.

- The aspect of the planet nearest to the Moon experiences the Moon's pull the strongest, and this causes the seas to rise, making high tides.
- On the aspect facing faraway from the Moon, the movement force of the planet is stronger than the Moon's attraction pull.
- The movement force causes water to collect because the water tries to resist that force, therefore high tides type on this aspect, too.
- Elsewhere on the planet, the ocean recedes, manufacturing low tides.
- The gravitation of the Sun additionally plays a little role within the formation of tides.
- Tides move round the Earth as bulges within the ocean.
- Most shorelines experience 2 high and 2 low tides at intervals a twenty-four-hour amount, although some areas have only 1 of every.
- A coastline's physical options, like a good sandy beach or a rocky cove, at the side of the depth of the water simply offshore, have an effect on the peak of the tides.
- Tides have an effect on marine ecosystems by influencing the varieties of plants and animals that thrive in what's referred to as the sea-coast zone—the space between high and tide.
- Because the realm is alternately lined and uncovered by the ocean throughout the day, plants and animals should be ready to survive each underwater and get into the air and daylight.
- They should even be ready to stand up to unmitigated waves.
- Tide pools Tides type tide pools.
- These little pools of water are usually left behind among the rocks at tide.
- They will embrace a various population of small plants and animals which will function food for larger species.

- Tide flooding as water level rises, it may be simple to miss the subtlety of upper water.
- It's a lot of more durable to overlook seawater a lot of often flooding streets, preventative everyday life and creating existing issues worse.
- The frequency of high-tide flooding on the coasts leads to tide flooding Perigean Spring Tide throughout a perigean spring tide, those areas that unremarkably expertise frequent tide flooding may even see even higher levels of inundation with longer period.
- In this image, a point of periapsis moon coincides with tide to cause coastal flooding conditions

Topic 10. IFC

Importance for Prelims: International Relations



IFC, a member of the globe Bank cluster, has endowed \$16.5 million (₹123 crore) in genetic medicine and analysis company, MedGenome, to extend access to Covid-19 testing and support analysis to higher perceive the virus, its variants, and manage future outbreaks.

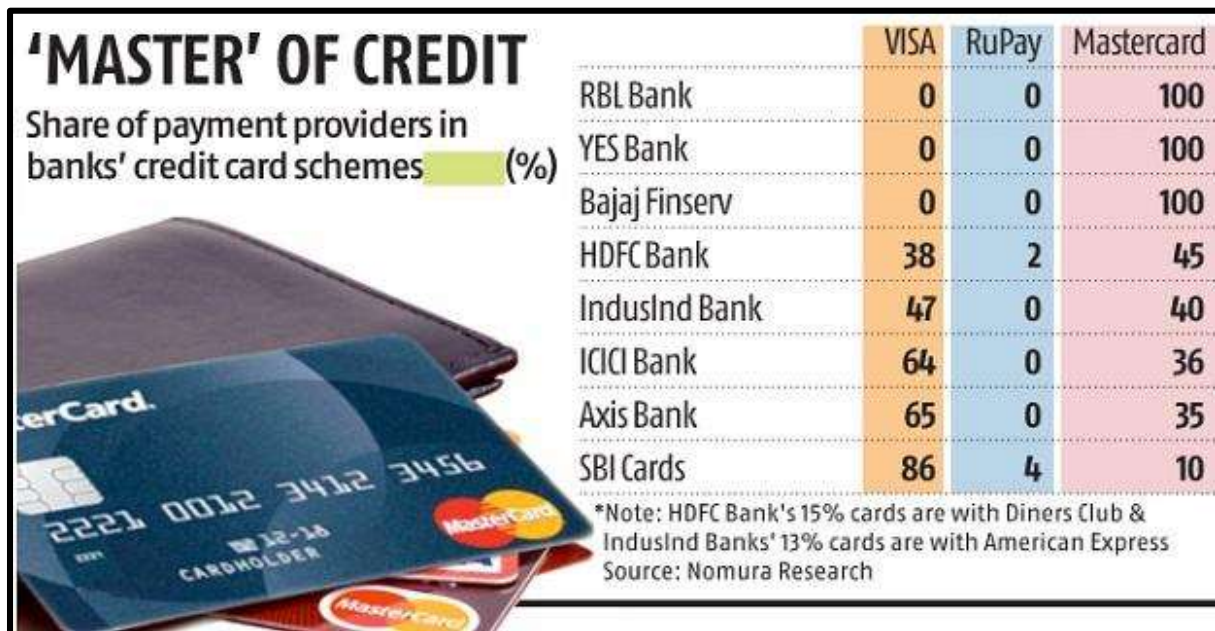
- MedGenome is additionally engaged on genetic sequencing with analysis laboratories connected with the govt of Bharat to assist moitor the evolution of Covid, determine new variants, and facilitate develop effective treatments to contain the malady.
- Gene variants, the company's analysis efforts junction rectifier to a publication that known cistron variants which will influence people's status to Covid-19.
- International Finance Corporation (IFC) The International Finance Corporation could be a sister organization of the globe Bank (IDA + IBRD).
- It is that the largest international development establishment targeted on the personal sector in developing countries.
- It functions because the personal sector arm of the WBG.
- It works for economic development by finance in for-profit and industrial comes for financial condition reduction and augmenting development.
- It additionally engages in mobilizing third-party resources for comes. The

International Finance Corporation works with the personal sector to spice up entrepreneurship and make property businesses.

- The International Finance Corporation provides investment, advice, and plus management offerings.
- It lends to businesses and personal sector comes.

Topic 11. FOREIGN CARD PAYMENT NETWORK

Importance for Prelims: Economy



Reserve Bank of Bharat has to this point barred 3 foreign card payment network firms — MasterCard, yank specific and Diners Club — from taking new customers on board over the problem of storing information in Bharat.

- According to run batted in information, there have been ninety.23 large integer debit cards and vi.23 large integer credit cards in Bharat as of might 2021.
- There were fifty seven,841.30 100000 debit and mastercard transactions valued at Rs twelve.93 100000 large integer
- The run batted in obligatory restrictions on citing non-compliance with pointers for storage of knowledge in Bharat.
- It had given 3 years for MasterCard to accommodates the regulative directions.
- Existing customers employing a mastercard or a charge account credit with the payment network will continue victimisation run batted in pointers stipulate By the run batted in circular on Storage of Payment System information, all system suppliers were directed to confirm that

inside six months the whole information (full end-to-end dealings details, data collected or carried or processed as a part of the message or payment instruction) regarding payment systems operated by them is keep in a very system solely in Bharat.

- They were conjointly needed to report compliance to the run batted in and submit a board approved system audit report conducted by a CERT-In empanelled auditor inside the timelines nominal Conditions Prevailing Credit and card corporations with world operations are resisting the move, citing prices, security risk, lack of clarity, timeline, and therefore the risk of knowledge localisation demand from different countries.
- Payment corporations like Visa and MasterCard, that presently store and method Indian transactions outside the country, the info storage to Bharat can price them numerous greenbacks
- The run batted in is against the suggestion that a replica of knowledge keep outside be dropped at Bharat.
- Role of card networks corporations like MasterCard, Visa and National Payment Corporation of {india|India|Republic of Bharat|Bharat|Asian country|Asian nation} (NPCI) square measure Payment System Operators authorised to control a card network in India underneath the Payment and Settlement Systems (PSS) Act, 2007.
- Under the Act, the run batted in is that the authority for the regulation and superintendence of payment systems in Bharat.
- The RBI's payment system allows payments to be established between a remunerator and a beneficiary and involves the method of clearing, payment or settlement, or all of them.
- Funds transferred victimisation debit or credit cards square measure routed through platforms like Mastercard, Visa and NPCI.
- The run batted in has set to permit non-bank entities — postpaid Payment

Instrument (PPI) issuers, card networks, White Label ATM (WLA) operators, Trade assets Discounting System (TReDS) platforms can become members of the centralised payment system (CPS) and impact fund transfer through RTGS and NEFT.

Topic 12. FINANCIAL HEALTH OF BANK

Importance for Prelims: Economy

The affirmative Bank episode was the newest within the series. The bank's fall is yet one more reminder for purchasers to grasp higher, like not golf stroke all their life's savings in an exceedingly single spot and keeping a watch out on the activities and performance of the establishment unto that they entrust their hard-earned cash.

Gross non-performing assets (NPAs):

- They indicate what quantity of a bank's loans are in peril of not being repaid. If interest isn't received for three months, a loan turns into terrorist organization.
- A terribly high gross terrorist organization magnitude relation suggests that the bank's quality quality is in terribly health problem web NPAs.
- The web terrorist organization is that portion of dangerous loans that has not been provided for within the books.
- Net terrorist organization may be a higher indicator of the health of the bank. Capital adequacy magnitude relation: it's the ratio of a bank's capital in regard to its risk weighted assets and current liabilities.
- This may be a live of a bank's ability to fulfill its obligations.
- A high automobile suggests that the bank will absorb losses while not diluting capital. CASA ratio,
- It is that the proportion of accounting and bank account deposits within the total deposits of the bank.
- A low CASA magnitude relation suggests that the bank depends heavily on costlier wholesale funding, which might hurt its margins Credit-deposit magnitude relation, This shows what quantity a bank lends out of its deposits or what quantity of its core funds are used for disposition.
- A high credit-deposit magnitude relation suggests associate overstretched

record, and should additionally hint at capital adequacy problems.

- Net interest margin, this is often the distinction between interest attained by a bank on loans and therefore the interest it pays on deposits.
- NIM are going to be high for banks with higher low-priced deposits or high disposition rates.
- Low table game and high terrorist organization may be a dangerous combination.
- Return on assets, it shows however profitable a bank's assets are in generating revenue.
- A lower RoA implies that bank isn't ready to use assets expeditiously. Negative RoA implies the bank's assets are yielding negative come. Provisioning coverage magnitude relation.
- Banks typically put aside a little of their profits as a provision against dangerous loans.
- A high PCR magnitude relation (ideally on top of 70%) suggests that most quality quality problems are taken care of and therefore the bank isn't vulnerable.
- A Provisioning Coverage magnitude relation or PCR is that the share of funds that a bank sets aside for losses thanks to dangerous debts.
- A high PCR may be helpful to banks to buffer themselves against losses if the NPAs begin increasing quicker.
- Provision Coverage magnitude relation = Total provisions / Gross NPAs

Topic 13. SESSION OF PARLIAMENT

Importance for Prelims: Polity

The 3 conferences of all parties convened by Vice-President Venkaiah Naidu, Speaker Om Birla and Parliamentary Affairs Minister Pralhad Joshi over the weekend, can set the tone of the Monsoon Session of Parliament starting on Mon.

- The president from time to time summons every House of Parliament to fulfill.
- But, the utmost gap between 2 sessions of Parliament can't be over six months.
- In alternative words, the Parliament ought to meet a minimum of double a year.
- There are usually 3 sessions during a year, viz,
 1. the Budget Session (February to May);
 2. the Monsoon Session (July to September); and
 3. The Winter Session (November to December).
- Article eighty five The President shall from time to time summon every House of Parliament to fulfill at such time and place as he thinks work, however six months shall not intervene between its last sitting in one session and therefore the date appointed for its 1st sitting within the next session.
- The President could from time to time prorogue the houses or either House; dissolve the House of the folks

Topic 14. GeM

Importance for Prelims: Economy

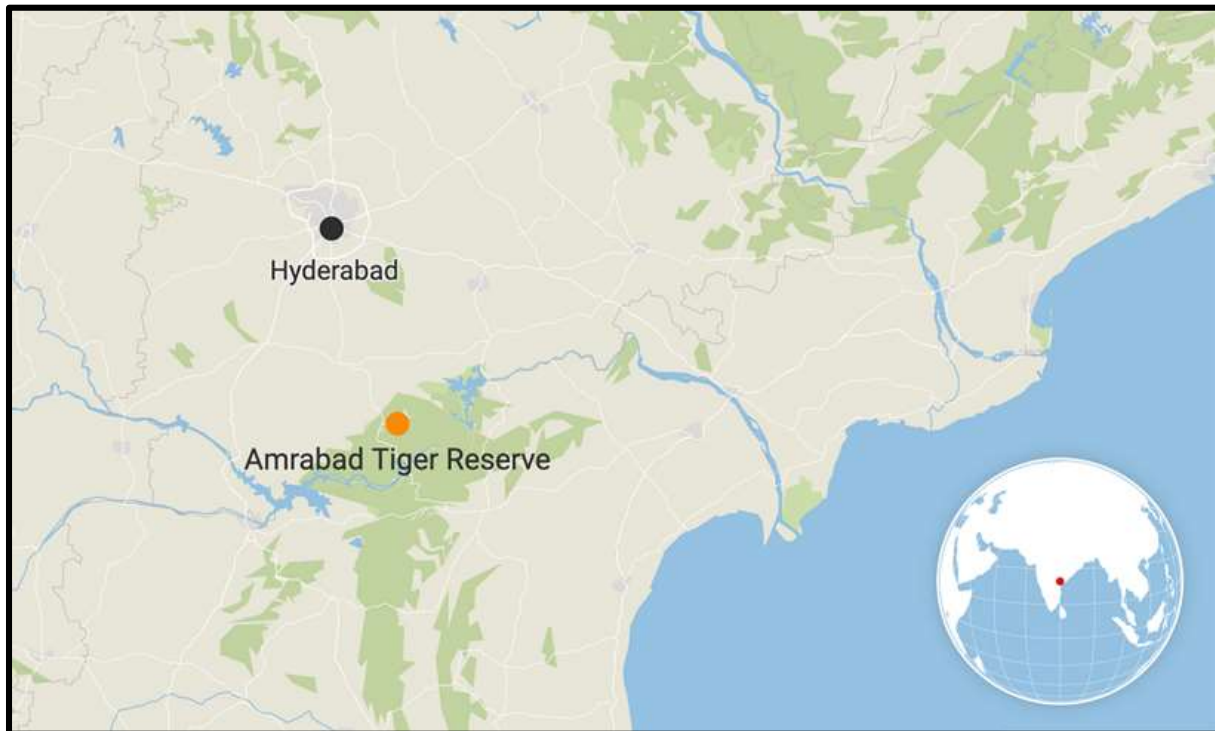
The Department of Public Enterprises (DPE) has written to Central Ministries and departments to induce their Central Public Sector Enterprises (CPSE) registered in Government e-Marketplace (GeM).

- The GeM would be the national public procural portal and can be registered as Section eight Company for providing procural of products and services needed by central and government organizations.
- It can offer Associate in Nursing end-to-end on-line marketplace for central and government ministries and departments for procural of common use product & services in an exceedingly clear and economical manner.
- It provides the tools of e-bidding, reverse e-auction and demand aggregation to facilitate the govt. users bring home the bacon the simplest worth for his or her cash.
- All the executive Ministries/ Departments have educated their CPSEs having any product or service which can be purchased by any department, to register themselves and their authorised resellers on GeM portal as sellers for such products/services, several of the CPSEs are still not registered on GeM as sellers.
- Procurement As per General monetary Rules (GFRs), 2017, it's manor sold by Government/PSUs besides reforming DGS&D (Directorate General of provides and Goods).
- The minister of finance in his Budget speech of FY2016-17, proclaimed putting in of a technology driven platform to facilitate procural of products and services by numerous ministries and government agencies.
- Absence of CPSEs on GeM as sellers reduces competition and deprives the govt. consumers the opportunities to induce competitive costs.

- Simultaneously, CPSEs may be losing business opportunities arising from Government consumers.

Topic 15. THE AMRABAD TIGER RESERVE

Importance for Prelims: Geography



The Amrabad Tiger Reserve is currently home to largest population of tigers in Telangana, consistent with Annual Census Report

- The Amrabad Tiger Reserve is currently home to largest population of tigers in Telangana, consistent with Annual Census Report,
- The estimation of prey population density of noticed ruminant, Sambar, Nilgai, wild pigs, four-horned bovid and Chinkara, is completed by Line Transect Estimation. noticed ruminant in conjunction with wild pig occupied the primary place, followed by sambar, Nilagai and customary catarrhine.
- Amrabad Tiger Reserve lies in Nallamala hills of Telangana.
- It is India's second-largest tiger reserve, next solely to Nagarjunasagar Srisailem Tiger Reserve (Andhra Pradesh and Telangana).
- It encompasses a giant presence of the Chenchu Water-hole census The waterhole census technique is taken into account a lot of an instantaneous

census survey, there's no estimation during this technique.

- We count the quantity of animals and their sort that visit every waterhole. every animal must consume water a minimum of once in a very 24-hour amount.
- Hence, all the life within the space are going to be coated through this activity.
- It can facilitate confirm the concentration of life species within the specific space

Topic 16. BANK OF MAHARASHTRA (BOM) MEMORANDUM OF UNDERSTANDING (MOU)

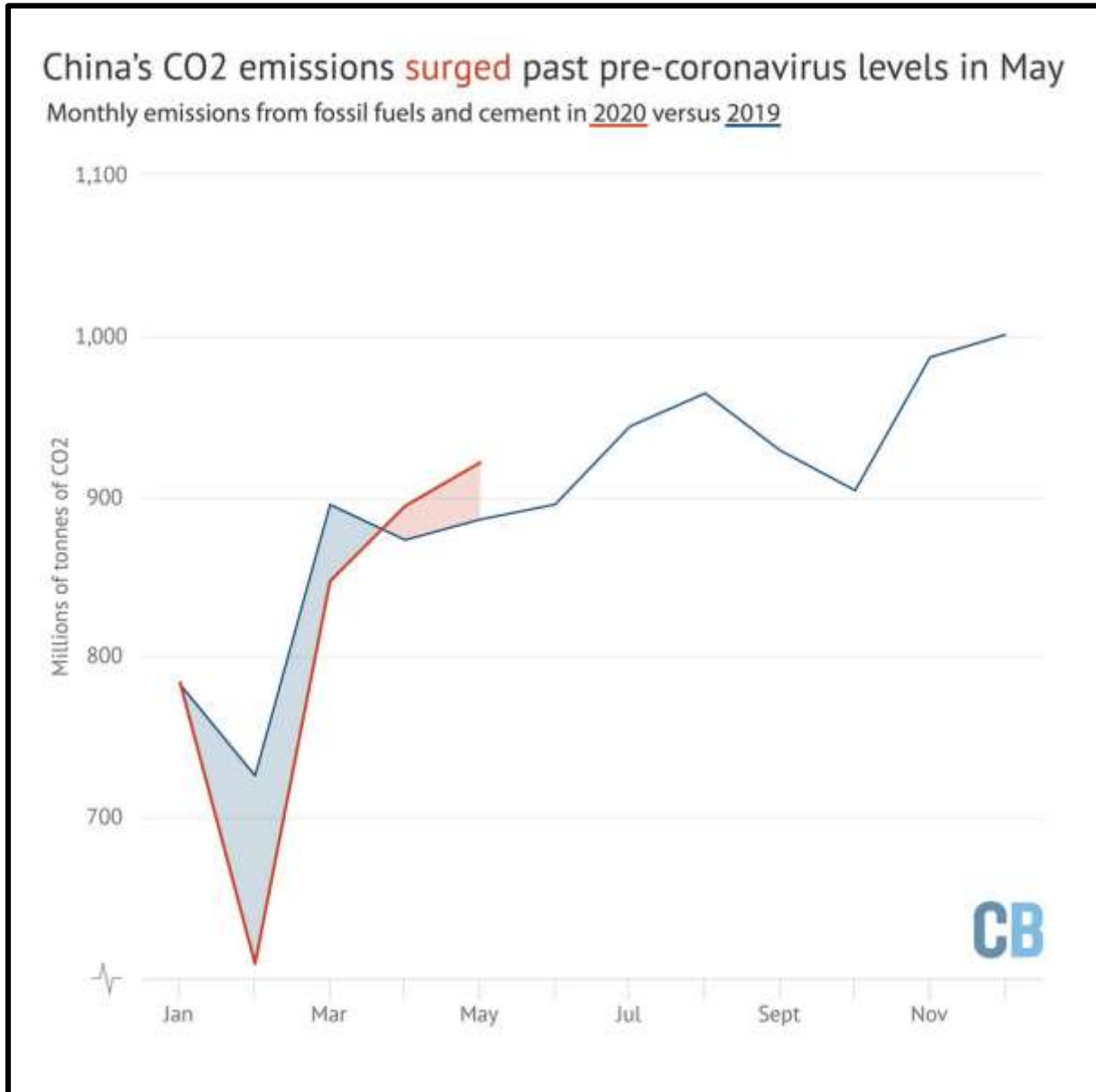
Importance for Prelims: Economy

Bank of geographic region (BoM) has signed a note of understanding (MoU) with full service bank for Agriculture & Rural Development (Nabard) to spice up current biological process initiatives coupled to priority sector loaning in geographic region

- The MoU envisages joint initiatives, the advantages of farmers, farmer producer organisations, joint liability teams, assist teams, rural artisans, weavers, agripreneurs, agri start-ups, micro, tiny and medium enterprises within the State, BoM and Nabard can work along towards overall development of rural areas in geographic region.
- Bankers' Committee BoM is that the caller of State Level Bankers' Committee (SLBC) for geographic region.
- Each State/Union Territory encompasses a Bankers' Committee, that is AN apex inter-institutional forum to form adequate coordination machinery during a State for its development.
- SLBC members SLBC is chaired by the chairman/managing director/executive director of the convenor bank.
- It contains representatives of Banks, RBI, Nabard, heads of state departments, among others.
- They close and type out coordination issues at the policy implementation level.
- Representatives of varied organisations from completely different sectors of the economy like business bodies, retail traders, exporters, and farmers' unions, as special invitees within the SLBC conferences

Topic 17. CHINA STARTS LONG-AWAITED CARBON TRADING SCHEME

Importance for Prelims: Environment / IR



China has introduced the emissions commercialism system.

- The much-awaited theme would act as a key tool in its quest to drive down climate change-causing greenhouse gases and go carbon neutral by 2060.
- China has hailed it because the foundations for what would become the

world's biggest carbon commercialism market, forcing thousands of Chinese corporations to chop their pollution or face deep economic hits.

- The theme can set pollution caps for big-power businesses for the primary time, and permits corporations to shop for the proper to dirty from others with a lower carbon footprint.
- Additional info China is that the world's biggest carbon electrode and seeking to require a worldwide leadership role on the climate crisis.
- China's coal, cement and production have all gone up because the government pours in billions of bucks to energy-intensive sectors to spice up growth when the pandemic.
- However, analysts say it's not a fast climate fix and will take years before China changes course.

Topic 18. ADJOURNMENT MOTION IN THE LOK SABHA TO SEEK REPEALING OF THREE FARM LAWS

Importance for Prelims: Polity

Recently, the Shiromani Akali dekaliter general secretary has same that as their party would be moving adjournment motion within the Lok Sabha to hunt repealing of 3 farm laws.

- Adjournment Motion it's introduced within the Lok Sabha to draw attention of the House to a precise matter of pressing public importance.
- It desires the support of fifty members to be admitted within the Parliament.
- it's considered a rare device as a result of it interrupts the conventional business of the House.
- It involves a part of censure against the govt and therefore Rajya Sabha isn't permissible to create use of this device.
- The right to maneuver a motion for associate degree adjournment of the business of the home is subject to the subsequent restrictions: It ought to raise a matter that is definite, factual, pressing and of public importance; It shouldn't cowl quite one matter; It ought to be restricted to a particular matter of recent prevalence and may not be framed normally terms; It shouldn't raise a matter of privilege; It shouldn't revive discussion on a matter that has been mentioned within the same session; It shouldn't influence any matter that's beneath judgement by court; and It shouldn't raise any question that may be raised on a definite motion.

What are Motions?

- The House expresses its choices or opinions on numerous problems through the adoption or rejection of motions stirred by either ministers or non-public members.
- The motions stirred by the members to boost discussions on numerous

matters fall under 3 principal categories:

- **Substantive Motion:** it's a self-contained freelance proposal coping with a awfully vital matter like instrument of the President or removal of Chief Election Commissioner.
- **Substitute Motion:** it's a motion that's stirred in substitution of an artless motion and proposes an alternate to that.
- **Subsidiary Motion:** it's a motion that, by itself, has no which means and can't state the choice of the House while not respect to the first motion or proceedings of the House.

Types of Motions

- **Closure Motion:** it's a motion stirred by a member to chop short the talk on a matter before the House.
- **Privilege Motion:** it's involved with the breach of parliamentary privileges by a minister.
- It is stirred by a member once he feels that a minister has committed a breach of privilege of the House.
- **Calling Attention Motion:** it's introduced within the Parliament by a member to decision the eye of a minister to a matter of pressing public importance, associate degreed to hunt an authoritative statement from him thereon matter.
- **No-Confidence Motion:** Article seventy five of the Constitution says that the council of ministers shall be conjointly accountable to the Lok Sabha.
- The Lok Sabha will take away the ministry from workplace by passing a no-confidence motion.

Topic 19. AI TOOL DEVELOPED TO STUDY CANCER-CAUSING MUTATIONS

Importance for Prelims: Science & tech

Researchers at IIT Madras have developed associate degree AI tool referred to as NBDriver (neighborhood driver) to be used in analyzing cancer-causing mutations in cells.

- The Indian Institute of Technology (IIT) Madras researchers have developed a synthetic intelligence-based mathematical model.
- The AI algorithmic program can spot cancer-causing changes in cells.
- This algorithmic program studies polymer structures to characterize the genetic changes accountable for cancer progression, that area unit accountable for inflicting cancer.
- Using easy AI techniques, the researchers developed a brand new prediction algorithmic program, NBDriver, and tested its performance on many ASCII text file cancer mutation datasets.
- NBDriver (NEIGHBORHOOD Driver) may be a tool accustomed differentiate between driver and rider mutations exploitation options derived from the neighborhood sequences of corporal mutations.

Topic 20. RARE SIEGE OF ARCTIC LIGHTNING ZAPS ICE NORTH OF ALASKA

Importance for Prelims: Geography

The National Weather Service in Fairbanks, Alaska, confirmed early weekday that a freak Arctic electric storm had occurred weekday evening, manufacturing between a hundred AND two hundred lightning strikes as an exceptional pulse of warmth visited Alaska's North Slope.

- Thunderstorms in American state area unit a comparatively common incidence, flaring up annually over the remote wildness that creates up the North Slope.
- Some manufacture lightning strikes that ignite wildfires and need help flown in from different states.
- What created Monday's storms therefore uncommon, however, is simply however way north the storms ventured — well north of bay, directly over ocean ice. The Weather Service in Fairbanks estimates that thunderstorms like that will develop to this point north just once or doubly each decade.
- Typically, the air over the Arctic Ocean, particularly once the water is roofed with ice, lacks the convective heat required to come up with lightning storms.
- But as temperature change warms the Arctic quicker than the remainder of the globe, that's dynamic , scientists say.
- These electrical storms threaten boreal forests fringing the Arctic, as they spark fires in remote regions already baking beneath the nonstop summer sun.

Topic 21. INDIAN NAVY RECEIVES FIRST TWO 24 MH-60R HELICOPTERS FROM US

Importance for Prelims: Defence

INDIA GETS FIRST 2 MH-60R HELICOPTERS FROM US

In yet another sign of strengthening defence cooperation, the US Navy has handed over the first two MH-60R Multi Role Helicopters (MRH) to the Indian Navy

- The Indian Navy is procuring 24 of these helicopters manufactured by Lockheed Martin under foreign military sales at an estimated cost of **\$2.4bn**
- A ceremony was held at the Naval Air Station North Island San Diego to mark the formal transfer of the helicopters
- The induction of these MRH would enhance Indian Navy's three-dimensional capabilities
- The helicopters would also be modified with several India-unique equipment and weapons
- The MH-60R is an all-weather helicopter designed to support multiple missions with state-of-the-art avionics
- The first batch of the Indian crew is presently undergoing training in the US to exploit these potent helicopters
- The proposed sale will provide India the capability to perform anti-surface and anti-submarine warfare missions along with the ability to perform secondary missions including vertical replenishment, search and rescue, and communications relay

The choppers arrive at the ceremony held at a naval air station in San Diego

The us Navy has bimanual over the primary 2 Igor Ivanovich Sikorsky MH-60R multirole helicopters to the Indian Navy at service base in island, city on Fri.

- The Indian Navy is procuring twenty four MH-60R Multi Role Helicopters (MRH) factory-made by Lockheed Martin below foreign military sales from the U.S. at associate calculable price of \$2.4 billion.
- MH-60 lover helicopters The incoming twenty four multirole MH-60 lover helicopters square measure expected to spice up the Indian Navy's

efforts to expand its role within the ocean Region.

- The MH-60 lover Seahawk, created by Defence large Lockheed Martin, is one among the foremost advanced service helicopters within the world, utilized by the navy among others.
- It is that the most capable and mature Anti-Submarine Warfare (ASW) Anti-Surface Warfare (ASuW) multi-mission chopper obtainable within the world nowadays, the manufacturers say.
- MH-60 lover Seahawks have equipped with anti-submarine Mark fifty four torpedoes and red region air-to-ground missiles, together with precision-kill rockets.
- It conjointly has a complicated system for passive detection, location, and identification of emitters.
- It can't solely track associated hunt ships however is additionally utilized by the navy as an anti-submarine weapon.

Topic 22. LIVE-STREAMING COURT PROCEEDINGS CRUCIAL FOR DISSEMINATION OF INFORMATION: CJI

Importance for Prelims: Governance

Formalising live-streaming of court proceedings is crucial for dissemination of data. The unfold of data is inviolable to free speech, judge of India N.V. Ramana same.

- Background Recently, the Supreme Court has discharged the Draft Model Rules for Live-Streaming and Recording of Court Proceedings.
- The Rules are a part of the National Policy and Action set up for implementation of data and Communication Technology (ICT) within the judiciary.
- The Supreme Court in *Swapnil Tripathi v Supreme Court of India* (2018) had dominated in favour of gap up the apex court through live-streaming.
- It commands that the live streaming proceedings are a part of the proper to access justice beneath Article twenty one Key options of the Draft Rules
- All proceedings in high courts may be telecast apart from cases regarding marital status disputes, gender-based violence, those involving minors.
- The final judgment to permit the Live-streaming of the Proceedings or any portion therefrom are going to be of the Bench.
- Court proceedings may be archived for 6 months.
- The rules additionally compel recording or sharing the telecast on media platforms, as well as social media and electronic messaging platforms, unless authorised by the court.
- Benefits Justice delivery system can become cheap, clear, speedy and responsible by limiting the paper filings.
- It may be time saving Concerns: Lack of technical force in courts and awareness Cyber security threat.
- Issues of privacy could arise.

- Infrastructure, particularly the web property is additionally an enormous challenge

Topic 23. **APEC**

Importance for Prelims: International Affairs



APEC leaders pledge to specialise in COVID-19 vaccines efforts to fight pandemic

- Leaders of the Asia-Pacific trade cluster APEC, have pledged to figure to expand sharing and producing of COVID-19 vaccines to fight the worldwide pandemic.
- They would encourage the voluntary transfer of immunogen production technologies on reciprocally united terms because the region ready for future health shocks.
- New Zealand is that the revolving host of Asia-Pacific Economic Cooperation currently.
- **Asia-Pacific Economic Cooperation (APEC)** may be a regional economic forum established in 1989 to leverage the growing reciprocity of the Asia-Pacific.

- APEC's twenty one members aim to make bigger prosperity for the individuals of the region by promoting balanced, inclusive, property, innovative and secure growth and by fast regional economic integration.
- APEC ensures that product, services, investment and other people move simply across borders.
- Members facilitate this trade through quicker customs procedures at borders; additional favorable business climates behind the border; and orientating laws and standards across the region India|Bharat|Asian country|Asian nation} isn't a Member (Not allowed be part of as India doesn't border the ocean, that all current members do) Asian nation was invited to be associate degree observer for the primary time in Gregorian calendar month 2011.
- **Member Nations:**
Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, Asian country, Malaysia, Mexico, New Zealand, Papua Papua, Peru, Philippines, Russia, Singapore, Chinese national capital, Thailand, Vietnam and also the u. s..
- Its twenty one member economies ar home to around two.8 billion individuals and delineated more or less fifty nine of world value and forty ninth of world interchange 2015.

Topic 24. FOREX RESERVES

Importance for Prelims: Economy

The country's forex reserves jumped well by \$5.942 billion to the touch a life-time high of \$507.644 billion within the week to June twelve, helped by a major jump in foreign currency assets (FCA), the Federal Reserve Bank of Asian country (RBI) information showed.

- The exchange reserves had crossed the half-a-trillion mark for the primary time, when it surged by a colossal \$8.22 billion and reached \$501.703 billion
- The foreign currency assets, a significant element of the reserves, rose by \$5.106 billion to \$468.737 billion. .
- The gold reserves within the news week rose by \$821 million to \$33.173 billion
- The country's reserve position with the IMF additionally rose by \$3 million to \$4.280 billion throughout the news week, the information showed.
- Reason the rise in exchange reserves is because of higher capital inflows and additionally because of the narrowing accounting deficit as trade activities have come back to a standstill because of the disruptions caused by the COVID-19.
- Advantages on rising forex, provides a ton of comfort to the govt and also the run batted in in managing India's external and internal money problems at a time once economic
- It's a giant cushion within the event of any crisis on the economic front and enough to hide the import bill of the country for a year.
- The rising reserves have additionally helped the rupee to strengthen against the greenback.
- Reserves offer tier of confidence to markets that a rustic will meet its

external obligations, demonstrate the backing of domestic currency by external assets, assist the govt in meeting its exchange desires and external debt obligations and maintain a reserve for national disasters or emergencies.

- A ton of strength as they currently cowl one year grievous expenditure.

Topic 25. TIPU SULTAN

Importance for Prelims: History

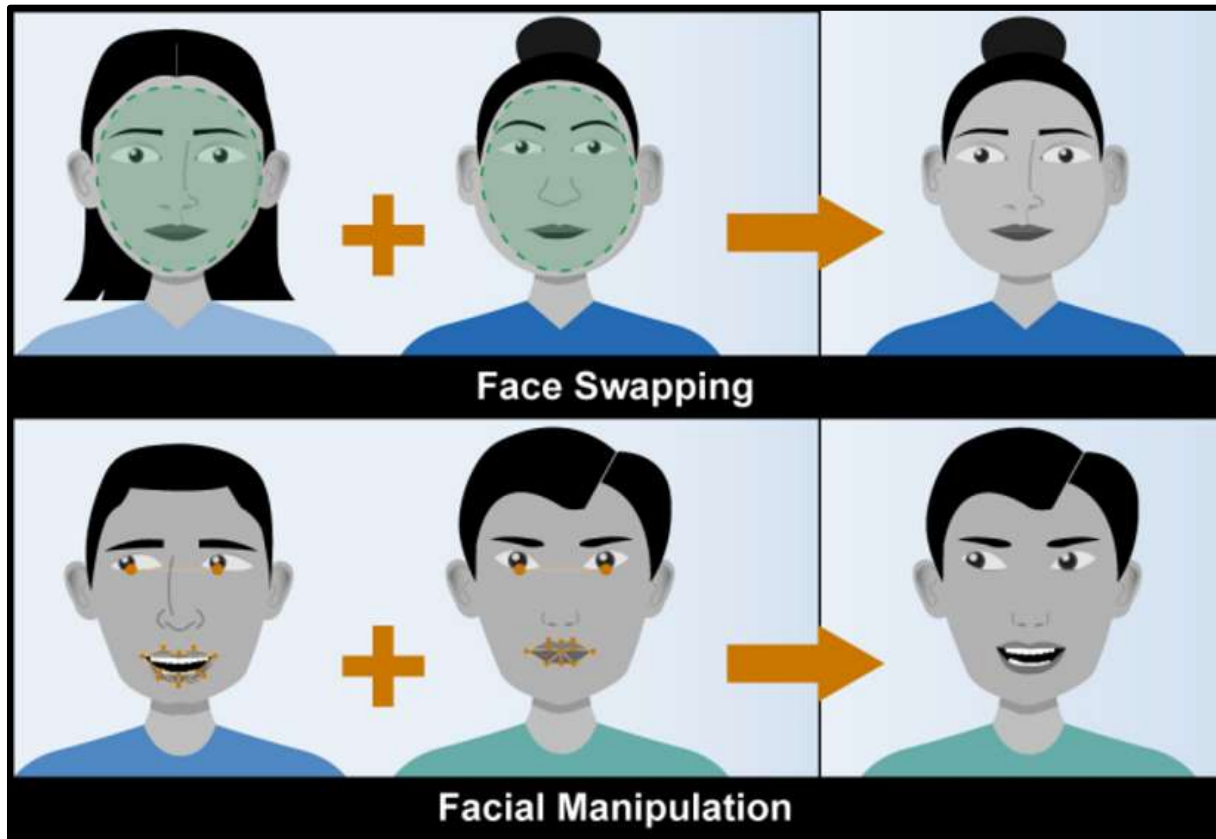
Nearly 1,000 metric linear unit from wherever he once dominated, Mysore King pride of Bolivia grand Turk is at the centre of difference within the Brihanmumbai Municipal Corporation over tries to call a garden once him in Govandi, a residential district in japanese urban center. a glance at the genesis of the difference and additional.

- Tipu grand Turk, the Tiger of Mysore, was the Republic of Indian ruler World Health Organization resisted the Malay Archipelago Company's conquest of southern India.
- He tried to create up associate alliance to drive Brits – 'those oppressors of the human race' – out of Republic of India and intrigued with the French in Paris and Mauritius
- The governor-general, Lord Mornington (later the marquess of Wellesley), launched the fourth Anglo Mysore War.
- Seringapatam (now Srirangapatna), Tippu's capital, was stormed by British-led forces on night four, 1799, and Tippu died leading his troops within the breach **Second Anglo-Mysore War (1780-1784)** Warren Hastings attacked, Haider Ali.
- Tipu grand Turk signed written agreement of Mangalore in March 1784 that finished the second Anglo-Mysore war.
- **Third Anglo-Mysore War (1789-1792)** The third war was fought between pride of Bolivia grand Turk, and British East Indian Company and resulted in Tipu's defeat.
- during this war, Marathas and Nizam power-assisted Brits and First Marquess Cornwallis captured metropolis.
- The war finished by language of written agreement of Seringapatna, pride of Bolivia ceded half his territories and 2 of his son's as a surety of war.

- **Fourth Anglo-Mysore War (1799)** In Fourth War 1799, Brits army junction rectifier by Lord Wellesley attacked and defeated pride of Bolivia grand Turk.

Topic 26. DEEP FAKE

Importance for Prelims: Science and Tech



In a new documentary, Roadrunner, concerning the life and tragic death of Anthony Bourdain, there square measure a couple of lines of dialogue in Bourdain’s voice that he may not have ever aforesaid aloud.

- Deep faux technology will seamlessly sew anyone within the world into a video or photograph they ne'er really participated in.
- Deep faux technologies new automatic computergraphics or machine-learning systems will synthesize pictures and videos rather more quickly.
- Deep faux creating, Deep faux video of somebody, a creator would initial train a neural network on several hours of real video footage of the person to convey it a practical “understanding” of what he or she feels like from several angles and beneath totally different lighting.
- They’d mix the trained network with computer-graphics techniques to

place a duplicate of the person onto a unique actor.

- The addition of AI makes the method quicker than it ever would be before, it still takes time for this method to yield a plausible composite that places someone into a completely fictional scenario AI encoder runs many face shots of 2 persons.
- Then, the encoder learns of similarities within the faces and compresses the photographs.
- The rise of ‘deep-fakes’ and threats to truth because the faces square measure totally different, one AI decoder picks the primary person’s face, and another decoder picks the second person’s face.
- Then, the encoded pictures square measure fed into the “wrong” decoder to perform the face swap.
- This method is finished on each frame to create a convincing video.
- In some alternative cases, the AI is trained to form new pictures and videos from scratch victimisation Generative Adversarial Network (GAN).
- GAN, with the assistance of Machine Learning, makes 2 neural networks to contest against one another in an exceedingly game with a given coaching set.
- This helps generate new knowledge and output associated with the coaching set.
- A category of deep-learning algorithms known as generative adversarial networks (GANs) are the most engine of deep fakes development within the future.
- GAN-generated faces square measure near-impossible to inform from real faces.
- Effects damaging impact on the social cloth, Non-consensual sexy deep fakes alternative problematic forms.
- Deep fakes could change bullying

Topic 27. PEGASUS SPYWARE

Importance for Prelims: Science and Technology

One of the worrying aspects of the Pegasus spyware is however it's evolved from its earlier spear-phishing ways victimization text links or messages to 'zero-click' attacks that don't need any action from the phone's user.

- A “zero-day exploit” could be a fully unknown vulnerability, concerning that even the computer code manufacturer isn't aware, and there's, thus, no patch or fix accessible for it.
- In the precise cases of Apple and WhatsApp, therefore, neither company was tuned in to the safety vulnerability, that was wont to exploit the computer code and take over the device.)
- Zero-click attacks operating A zero-click attack helps spyware like Pegasus gain management over a tool while not human interaction or human error.
- So all awareness concerning a way to avoid a phishing attack or that links to not click ar pointless if the target is that the system itself.
- Most of those attacks exploit computer code that receive information even before it will confirm whether or not what's returning in is trustworthy or not, like Associate in Nursing email shopper.
- Google Project Zero security research worker Ian brew showed however attackers take complete management of Associate in Nursing iPhone in radio proximity with none user interaction.
- The exploit targeted the Apple Wireless Device Link (AWDL), that it absolutely was powerful enough to “shut off or resuscitate systems or to corrupt kernel memory”.
- Prevention Zero-click attacks ar exhausting to find given their nature and therefore even more durable to forestall.
- Detection becomes even more durable in encrypted environments

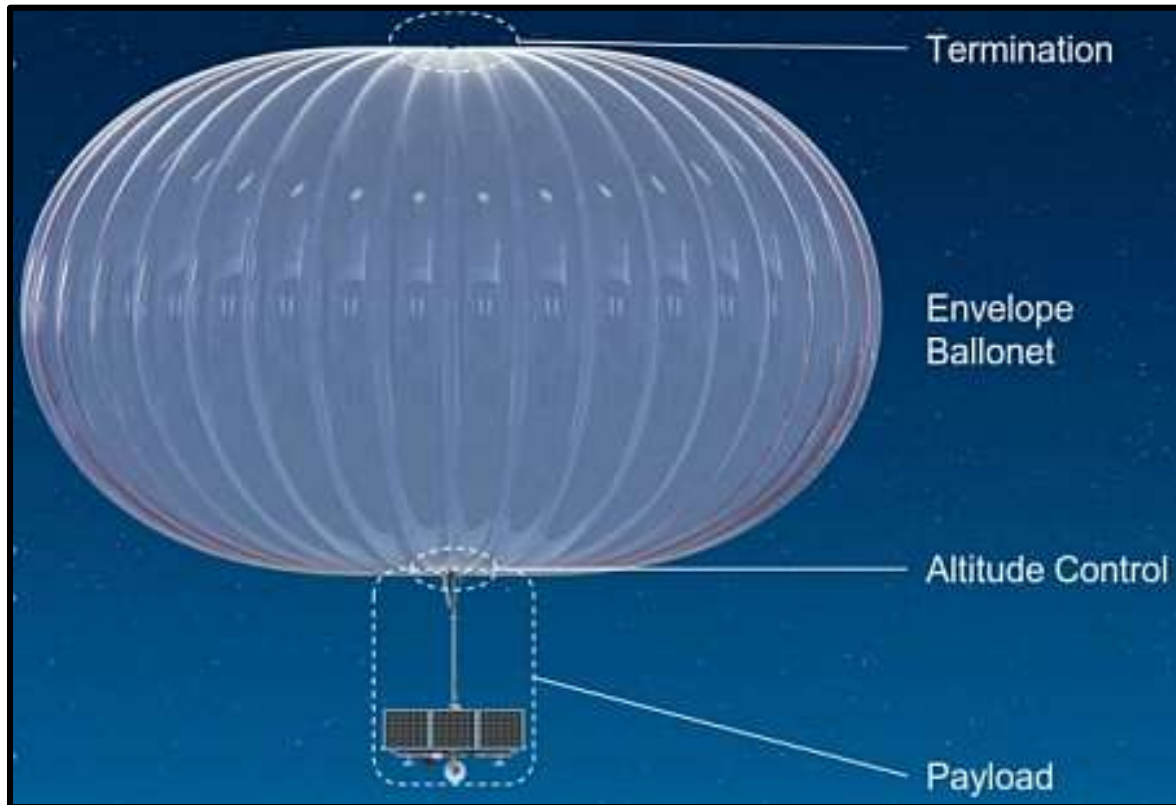
wherever there's no visibility on the information packets being sent or received.

- Ensure all in operation systems and package area unit up thus far so they'd have the patches for a minimum of vulnerabilities that are noticed.
- So, it'd not facet load any app and to transfer solely via Google Play or Apple's App Store.
- One thanks to go is to prevent victimisation apps altogether and switch to the browser for checking mails or social media, even on the phone.
- Pegasus All spyware do what the name suggests — they spy on folks through their phones.
- Pegasus works by causing associate degree exploit link, and if the target user clicks on the link, the malware or the code that permits the police work is put in on the user's phone.
- (A presumptively newer version of the malware doesn't even need a target user to click a link. additional on this below.)
- Once Pegasus is put in, the offender has complete access to the target user's phone.
- Pegasus spyware ,the most powerful spyware out there, tougher and nearly not possible to sight or stop the primary reports on Pegasus's spyware operations emerged in 2016, once Ahmed Mansoor, a personality's rights activist within the UAE, was targeted with associate degree SMS link on his iPhone.
- The Pegasus tool at that point exploited a package chink in Apple's iOS to require over the device.
- Apple responded by pushing out associate degree update to “patch” or fix the difficulty. Pegasus delivers “a chain of zero-day exploits to penetrate safety features on the phone and installs Pegasus while not the user's data or permission”.

- Pegasus spyware's operations were sleep in forty five countries at the time Tools like Pegasus may be used for mass surveillance; it'd appear possible that solely designated people would be targeted.
- **The key options of Pegasus are:** Ability to access password-protected devices; Being whole clear to the target; effort no trace on the device; intense lowest battery, memory and information therefore on not arouse suspicion in additional alert users; A destroy mechanism just in case of risk of exposure; and talent to retrieve any file for deeper analysis.

Topic 28. LOON BALLOONS

Importance for Prelims: Science and Technology



Florida's Republican governor, West Chadic DeSantis, referred to as on on the administration of President Joe Biden to greenlight a concept to transmit the web to folks in Cuba via high-altitude balloons once their government has blocked access.

What is loon?

- Loons ar high altitude balloons that offer web to remote areas.
- It is that the third layer of property system to assist places with minimum reach receives property with the remainder of the globe.
- These balloons that reach the layer and supply web connections to regions that were once thought unservable.
- Loon balloons had been providing service in mountainous areas in Republic of Kenya through a partnership with an area telecommunication.
- The service additionally helped offer wireless communications in Puerto

law within the aftermath of cyclone Maria, that destroyed the island's mobile network.

How Loon balloons works?

- The Loon balloons were effectively cell towers the dimensions of a court.
- They floated sixty,000 to 75,000 feet (18,000- 23,000 meters), on top of the world, well on top of industrial jet plane routes.
- Made of the commonplace plastic synthetic resin, the balloons used star panels for electricity and will deliver service to smartphones in partnership with an area telecommunication.
- Each balloon may serve thousands of individuals.
- But that they had to get replaced each 5 months around due to the tough conditions within the layer.
- And the balloons may well be tough to regulate.
- Navigating balloons through the layer has perpetually been arduous Loon had aforesaid that on the far side the balloons themselves, it required network integration with a telecommunication to supply service and a few instrumentality on the bottom within the region.
- Loon used multiple balloons to increase connections on the far side the mandatory ground link.
- Effectiveness it'd want AN unused band of spectrum, or radio frequencies, to transmit a association to Cuba, and spectrum use is often controlled by national governments.
- Anyone attempting this might got to realize a free block of spectrum that wouldn't be interfered.
- Balloon- or drone-powered networks aren't doubtless to be economical over the future, they're appropriate for bridging communications amid disasters or in war zones, the transmission capabilities of such networks isn't giant.

Topic 29. BLUE ORIGIN

Importance for Prelims: Science and Technology



When Blue Origin launches folks into house for the primary time, founder Jeff Bezos are on board. No check pilots or flight engineers for Tuesday’s debut flight from West TX, just Bezos, his brother, AN 82-year-old aviation pioneer and a adolescent holidaymaker.

- Blue Origin has completed fifteen check flights to house since 2015, carrying up experiments, and Mannequin Skywalker, the company’s traveller equal. The capsules conjointly were recycled.
- Blue Origin is anticipated to open price tag sales before long once Bezos flies.
- New Shepard is supposed to launch folks on transient flights to the sting of house, The mega New cosmonaut are capable of truckage merchandise and eventually crew into orbit from headland, Florida, probably starting late next year.
- New Shepard it's a rocket system meant to require tourists to house with success.

- The system is made by Blue Origin.
- New Shephard has been named once traveller Alan Shephard, the primary yankee to travel to house.
- It offers flights to house over one hundred metric linear unit higher than the planet and accommodation for payloads.
- The system may be a absolutely reusable, vertical take-off and vertical landing spacecraft.
- **Scientific objectives of the mission:** it's a rocket system that has been designed to require astronauts and analysis payloads past the Karman line – the internationally recognized boundary of house.

Topic 30. WILDFIRE

Importance for Prelims: Environment

By nearly each metric, the wildfires within the Western us square measure worsening. they're growing larger, spreading quicker and reaching higher, scaling mountain elevations that antecedently were too wet and funky to possess supported fires this fierce.

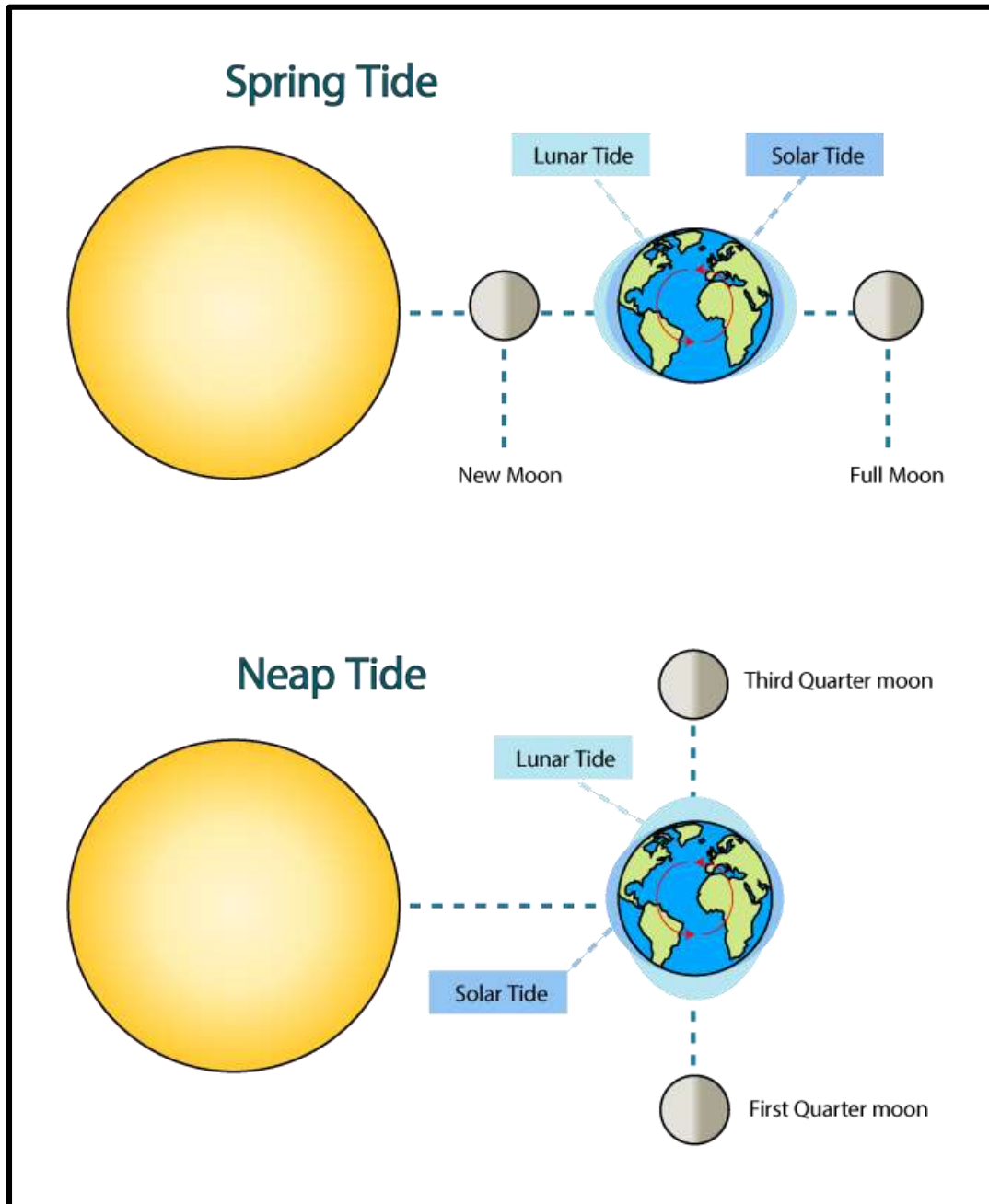
- Wildfires worsening within the forests of the Western us, half wildfires square measure initiated by lightning.
- Human-caused — oftentimes started by power lines, cigarettes, cars, camp fires or combustion.
- In recent years, there's been associate abundance of terribly dry fuel.
- Drought and high heat will kill trees and dry out dead grass, pine needles, and the other material on all-time low of the forest floor that act as kindling once a hearth sweeps through a forest.
- Wildfire specialists see the signature of temperature change within the status, high heat and longer fireplace season that have created these fires additional extreme.
- Forested land within the region burned naturally from lightning instead was deliberately burned by native communities as a sort of forest maintenance.
- Extreme fireplace Wildfires per metrics as well as intensity, rate of unfold, and severity.
- Fire intensity refers to its power, or the energy free from its blaze. Satellites live the energy and temperature of fires, and analysis has shown that the ability of those blazes has been increasing.
- The rate of unfold is one amongst the foremost vital factors, as a result of it suggests that a hearth could also be less certain.
- Though the scale, or acreage, of a hearth is vital, it's additional vital to

observe however quickly it's moving.

- Severity refers to the implications of a hearth, as an example, what number trees are killed.
- If a hearth is tall and burning to the crack of trees and killing them, it might be tougher to manage.
- Effects Like pollution, conflagration smoke — and significantly the concentration of PM a pair of.5, or particles smaller than a pair of.5 microns — will have an effect on the metabolic process and vessel systems, For folks that are healthy, the smoke will cause an inflammatory disease, coughing, shortness of breath or reduced respiratory organ performance.
- Those already plagued by vessel or metabolic process sicknesses are in danger of flare-ups and will take additional precautions even once air quality is taken into account moderate.
- The chemical composition of conflagration smoke, that depends on what's being burned.
- Trees and biomass, as an example, can turn out a mixture of greenhouse gas, methane, and element oxides, whereas burning homes or cars might turn out an entire variety of compounds, together with serious metals.
- Steps suggested Air quality is especially dangerous, keep inside, keep windows and doors closed and use HEPA filters if attainable.
- Have access to a HEPA filter, there's proof that attaching a top quality filter to a box fan is protecting.
- Outdoors wear a form-fitting N95 mask.
- Landscaping changes will build a distinction, too.
- Fire consultants assume in terms of the 0-5 Zone, that refers to the 5-foot perimeter around a house.
- That zone ought to be unbroken beyond trash, firewood, plants or mulch.

Topic 31. MOON WOBBLE

Importance for Prelims: Science and Tech



US coastlines can face increasing flooding within the mid-2030s because of a daily satellite cycle which will enlarge rising ocean levels caused by global climate change, in step with analysis light-emitting diode by independent agency scientists. A key issue known by the scientists could be a regular

“wobble” within the moon’s orbit – initial known within the eighteenth century – that takes eighteen.6 years to finish. The moon’s gravitative pull helps drive Earth’s tides.

What is moon wobble?

- The moon wobble is nothing however a daily swaying within the moon’s orbit. it absolutely was initial documented approach back in great gross.
- This wobble takes over associate eighteen.6-year amount to finish, and continues in a very cyclic fashion.
- Their results underscored a basic truth break away the movement of the moon: Our oceans square measure rising owing to global climate change.

What impact will this wobble wear Earth?

- The moon wobble impacts the gravitative pull of the moon, and thus, indirectly influences the ebb and flow of tides here on the world.
- In fact, as per the independent agency study, every wobble cycle has the facility to amplify and suppress the tides on Earth.
- One half the eighteen.6-year cycle suppresses the tides, which implies that the high tides get lower, whereas the low tides get on top of traditional.
- Once this cycle completes, matters flips—in the next cycle, the tides square measure amplified, with high tides obtaining higher and low tides, lower!
- The satellite cycle is predicted to shift once more by mid-2030, and within the coming back part, the tides can amplify once more.

Moon wobble and climate change:

- A double whammy state of affairs.
- The forthcoming changes within the satellite cycle can cause a significant threat, because the amplified high tides let alone the rising ocean levels can create the chance of flooding way bigger across all coastal regions of

the world.

- The study predicts that the high tide-associated floods—also called nuisance floods or sunny day floods—may occur in clusters that would last for months or maybe for extended periods!
- This surge are going to be closely related to the position of the Moon, Earth and also the Sun.
- A independent agency statement explains: “When the Moon and Earth line up in specific ways that with one another and also the Sun, the ensuing gravitative pull and also the ocean’s corresponding response might leave city-dwellers managing floods daily or 2.”
- As per agency, episodes of such flooding area unit already on the increase, particularly across the U.S. Atlantic and Gulf coasts.
- In 2019, over 600 such floods were rumored from the America. With these grim projections, the flooding state of affairs is probably going to worsen, particularly for individuals living within the low-lying regions of the world.
- Wobble formation High tides on this planet area unit caused largely by the pull of the moon’s gravity on a spinning Earth.
- On most beaches, you'd see 2 high tides each twenty four hours.
- The moon additionally revolves round the Earth regarding once a month, which orbit could be a little tipped.
- To be additional precise, the moon’s plane round the Earth is at associate degree approximate 5-degree incline to the Earth’s plane round the sun.
- Because of that, the trail of the moon’s orbit appears to fluctuate over time, finishing a full cycle generally noted as a nodal cycle — each eighteen.6 years.
- It happens on such a slow scale ‘Precession’ could be a additional specific word than ‘wobble.’

- “At sure points on the cycle, the moon’s gravitative pull comes from such associate degree angle that it yanks one in every of the day’s 2 high tides a bit bit higher, at the expense of the opposite.
- This doesn't mean that the moon itself is unsteady, nor that its gravity is essentially propulsion at our oceans any longer or but usual.
- The stress on the nodal cycle may be a bit totally different from the message we tend to were attempting to convey.
- High-tide flooding associated with global climate change is predicted to interrupt records with increasing frequency over following decade, and folks WHO wish to accurately forecast that risk ought to work with a great deal of noisy knowledge, as well as weather patterns, astronomical events and regional recurrent event variation.
- The moon wobble is a component of that noise, however it's perpetually maintained its own slow, steady rhythm.
- During its most speedy upward section, it acts to reinforce the effective water level, and through its most speedy downward section, like we’re in currently, it acts to suppress the effective water level.
- It isn't a part of water level rise projections as a result of it’s not water level rise; it’s simply associate degree oscillation.
- The impact of wobble The impact of the wobble may cause high water levels at a beach to oscillate by one or two inches over the course of its long cycle.
- That could sound little.
- But in bound things, it will matter quite bit.
- It simply reasonably raises the baseline and therefore the additional your baseline is raised, the smaller weather event you wish to cause a flooding event.
- Understanding that baseline necessary|is vital|is very important} even

after we area unit within the phases of the nodal cycle It's important to comprehend that at the mid-2030s purpose, wherever the switch flips and therefore the natural cycle appears to amplify the speed of water level rise, then we tend to area unit reaching to see a speedy modification.

Topic 32. INFLATION

Importance for Prelims: Economy



While Covid has destroyed our approach of life, few foreseen however international shutdowns of factories, refineries, and mines may impact costs.

- Cost-push inflation happens once overall costs increase (inflation) thanks to will increase within the price of wages and raw materials.
- Higher prices of production will decrease the combination provide (the quantity of total production) within the economy.
- Since the demand for merchandise hasn't modified, the worth will increase from production area unit passed onto customers making cost-push inflation.
- Demand-pull inflation is that the upward pressure on costs that follows a shortage in provide, a condition that economists describe as "too several greenbacks chasing too few merchandise.
- "“When demand surpasses provide, higher costs area unit the result.”
- This is inflation.
- A low percentage is definitely smart generally, however it will cause inflation as a result of additional individuals have additional income.
- Increased government defrayal is nice for the economy, too, however it

will cause scarceness in some merchandise and inflation can follow.

- The main causes of inflation financial Policy: It determines the availability of currency within the market.
- Excess offer of cash results in inflation. therefore decreasing the worth of the currency.
- **Fiscal Policy:** It monitors the borrowing and disbursal of the economy. Higher borrowings (debt), end in hyperbolic taxes and extra currency printing to repay the debt.
- **Demand-pull Inflation:** will increase in costs because of the gap between the demand (higher) and provide (lower).
- **Cost-push Inflation:** Higher costs of products and services because of hyperbolic price of production.
- **Exchange Rates:** Exposure to foreign markets area unit supported the greenback worth.
- Fluctuations within the rate of exchange have a bearing on the speed of inflation. advantages from inflation Inflation being a reason for concern for the economy, doesn't have an effect on everybody during a unhealthy means.
- It could be a boon for a precise set of individuals.
- While shoppers lose a vicinity of their buying power to inflation, investors gain from it.
- Investors investment in assets laid low with inflation, if survived for a protracted time will definitely take pleasure in it.
- For example, a rise in housing costs may have an effect on shoppers. However, people who have already bought a house can take pleasure in capital appreciation.
- stop inflation to forestall inflation, the first strategy is to vary the financial policy by adjusting the interest rates.

- Higher interest rates decrease the demand within the economy.
- This leads to lower economic process and thus, lower inflation.
- **Other ways that to forestall inflation are:** dominant the money offer also can facilitate in preventing inflation.
- Higher revenue enhancement rate will cut back the disbursal, and therefore leading to lesser demand and inflationary pressures.
- Introducing policies to extend the potency and fight of the economy helps in reducing the long run prices.
- The effects of an increase within the rate of inflation an increase in Associate in Nursing rate of inflation will cause quite a fall in purchase power.
- Inflation could lead on to economic process because it is a symbol of rising demand.
- Inflation may more cause a rise in prices because of staff demand to extend wages to satisfy inflation.
- This may increase state as firms can need to lay off staff to stay up with the prices.
- Domestic merchandise may diminish competitive if inflation at intervals the country is higher. It will weaken the currency of the country.

Topic 33. CHINA DENIES POLITICS BEHIND UNESCO MOVE ON BARRIER REEF

Importance for Prelims: Environment

A high Chinese official aforementioned on Sunday that political tensions between Beijing and Australia weren't behind a UN agency recommendation to put the good coral reef on its vulnerable list.

About nice Barrier Reef:

- It is that the world's most in depth and spectacular reef scheme composed of over two,900 individual reefs and 900 islands.
- The reef is found within the Coral ocean (North-East Coast), off the coast of Queensland, Australia.
- It may be seen from location and is that the world's biggest single structure created by living organisms.
- This reef structure consists of and engineered by billions of small organisms, called coral polyps.
- They ar created from genetically identical organisms known as polyps, that ar little, soft-bodied organisms.
- At their base could be a laborious, protecting sedimentary rock skeleton known as a calicle,

which forms the structure of coral reefs?

- These polyps have microscopic alga known as zooxanthellae living among their tissues.
- The corals and alga have a mutualistic (symbiotic) relationship.
- It was selected as a World Heritage web site in 1981.
- List of World Heritage in peril the List of World Heritage in peril is compiled by UN agency.
- The list is meant to extend international awareness of the threats and to encourage antidotal measures.

- Two UN agency world heritage sites in Republic of India that were earlier enclosed in the World Heritage in peril list however currently are delisted include: cluster of Monuments at Hampi Manas life sanctuary, Assam United Nations {educational Scientific and Cultural Organization/ **UNESCO** /**United Nations agency**/UN agency} World Heritage Site: may be a landmark or space that is chosen by the international organisation Educational, Scientific and Cultural Organization (UNESCO) as having cultural, historical, scientific or alternative type of significance, and is de jure protected by international treaties transfer from collective ray.
- It came by Convention regarding the Protection of the planet Cultural and Natural Heritage signed by UNESCO members.
- It establish World Heritage Committee includes of fifteen State parties to convention.
- Procedure each State Party to the present Convention shall, in thus far as attainable, withstand the planet Heritage Committee a list of property forming a part of the cultural and natural heritage, settled in its territory
- A country should initial list its important cultural and natural sites; the result's known as the Tentative List. Next, it will place sites selected from that list into a Nomination File.
- The Nomination File is evaluated by the International council on monuments and sites and therefore the World Conservation Union.
- These bodies then create their recommendations to the planet Heritage Committee.
- The Committee meets once each year to work out whether or not or to not inscribe every appointed property on the planet Heritage List and typically defers or refers the choice to request a lot of data from the country that appointed the location.

Topic 34. DRAFT TRAFFICKING RULES 2021

Importance for Prelims: Legislations

The Trafficking in Persons (Prevention, Care and Rehabilitation) Bill, 2021, is probably going to be tabled within the current monsoon session of Parliament.

Highlights of the Bill:

- The bill proposes rigorous punishments for offenders, together with hefty fines and seizing of their properties.
- The Bill additionally extends on the far side the protection of ladies and kids as victims to currently embrace transgenders additionally as a person UN agency could also be a victim of trafficking.
- The draft additionally will away with the availability that a victim essentially must be transported from one place to a different to be outlined as a victim.
- Exploitation has been outlined to incorporate, at a minimum, the exploitation of the vice crime of differentials or other styles of sexual exploitation together with porno, any act of physical exploitation, forced labour or services, slavery or practices just like slavery, slavery or forced removal of organs etc.

Applicability:

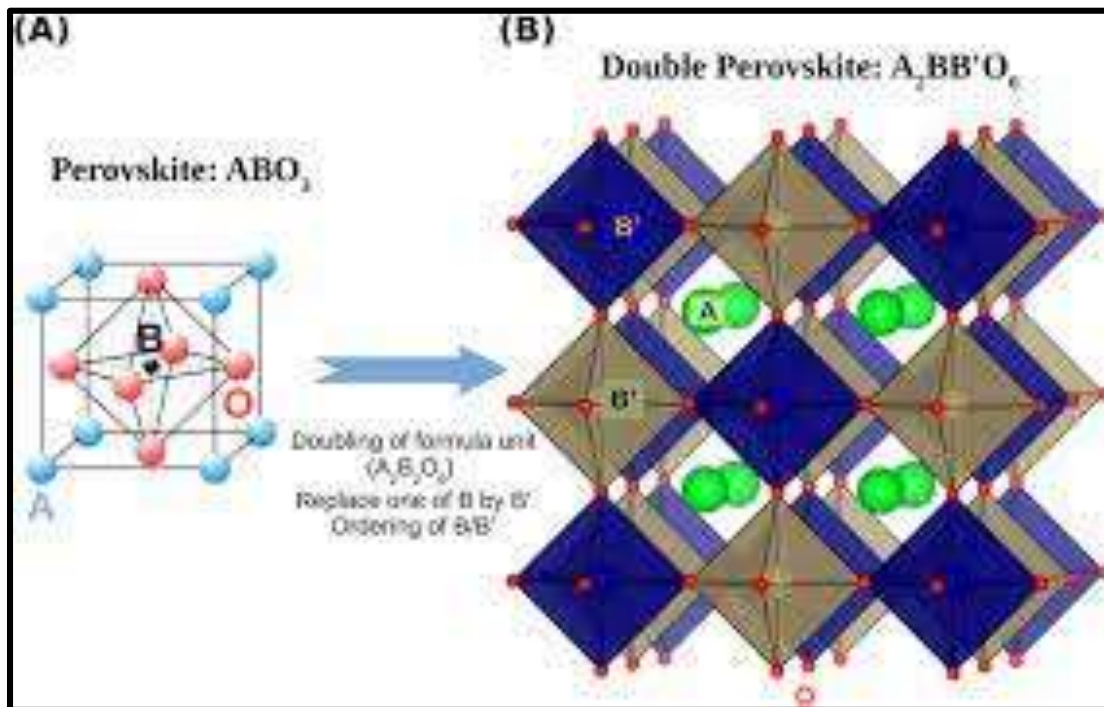
- All voters within additionally as outside Asian nation. Persons on any ship or craft registered in Asian nation where it should be or carrying Indian voters where they will be.
- A foreign national or a displaced person UN agency has his or her residence in Asian nation at the time of commission of offence beneath this Act.
- Every offence of trafficking in persons with cross-border implications. Defence personnel and government servants, doctors and paramedical workers or anyone in a very position of authority.

What are the constitutional & legislative provisions related to Trafficking in India?

- Trafficking in people or Persons is prohibited to a lower place the Constitution of India to a lower place Article twenty 3 (1).
- The Immoral Traffic (Prevention) Act, 1956 (ITPA) is that the premier legislation for bar of trafficking for industrial sexual exploitation.
- Criminal Law (amendment) Act 2013 has get force whereby Section 370 of the Indian code has been substituted with Section 370 and 370A IPC which supply for comprehensive measures to counter the menace of human trafficking.
- Trafficking in Persons report 2021: in line with the Trafficking in Persons report 2021, discharged by the USA State Department, the Covid-19 pandemic has resulted in a very rise in vulnerability to human trafficking and interrupted existing anti-traffic efforts.
- While India did not meet the minimum standards to eliminate trafficking, the government was making important efforts, tho' these were inadequate, significantly once it came to secured labour.

Topic 35. DOUBLE PEROVSKITE

Importance for Prelims: Science and Technology



Scientists at the Indian Institute of Technology, Madras, have crossed a big milestone within the evolution of the ‘solar perovskite cell’ (SPC) specifically, creating it each stable and reducing the downsides that go together with stability.

- Electricity may be a flow of electrons. As per the classical understanding of the atomic structure, electrons keep orbiting the nucleus of the atom.
- They have totally different energy levels.
- Even electrons within the same orbit may have variable energy levels. The energy levels are unit ‘grouped’ into totally different ‘energy bands’.
- The energy band of the electrons that are unit farthest from the nucleus — valence electrons — is referred to as the ‘valence band’.
- To get a flow of electrons going, you would like to ‘nudge’ the electrons within the valence band to go away from the atom.
- The electron ought to be furnished energy from outside, to boost its energy

to the upper 'conduction band'.

- The lepton can then move to ensuing atom. (As electrons jump from atom to atom, their vacant places are unit right away taken by different electrons, even as the house vacated by a drop of water during a stream is straight away taken by another water drop.)
- The distinction between the valence band and conductivity band is named 'band gap' and represents the minimum energy needed to nudge electrons within the outmost orbits to go away the atom.
- In a PV cell, the duty of ejecting electrons is finished by the photons of daylight.
- PV materials that have smaller band gaps convert additional solar power into electricity.
- Perovskite In material science, perovskite refers to a precise arrangement of molecules.
- Materials whose structure resembles that of atomic number 20 titanate (CaTiO_3) are unit referred to as perovskites. Perovskite may be a material that has 2 charged particles (cations) and one charged ion (anion).
- The general formula for such material is ABX_3 .
- The star trade loves perovskites as a result of they milk additional electricity out of daylight than do the traditional crystalline semiconducting material electrical phenomenon cells.
- With the regular PVs it's exhausting to convert over twenty two per cent of daylight into electricity; it's typically believed that perovskites will do far better.
- A regular crystalline semiconducting material PV cell will continue for over twenty five years, perovskites last a couple of year.
- The combination of stability and energy potency has been elusive despite

long years of effort by scientists the planet over.

Topic 36. CLIMATE CHANGE HAS ADDED OVER 1000 LAKES IN SWISS ALPS: STUDY

Importance for Prelims: Environment

According to a study revealed by Swiss Federal Institute of Aquatic Science and Technology (Eawag), temperature change has dramatically altered Swiss mount landscape.

- Almost 1,200 new lakes have shaped in erst frozen regions of Swiss Alps since the top of the microscopic period around 1850.
- About one hundred eighty are extra within the last decade alone. Glaciers within the Swiss Alps area unit in steady decline, losing a full two of their volume in 2020 alone.
- According to a 2019 study, even though the globe were to completely implement the 2015 Paris Agreement simple fraction of the Alpine glaciers can doubtless be lost.
- **Swiss Alps:** range area unit the best and intensive formation system that lies entirely in Europe.
- **It stretches across eight Alpine countries (from west to east):** France, Swiss Confederation, Monaco, Italy, European country, Austria, Germany, and Slovenija.
- The mountains were shaped because the African and Eurasian tectonic plates collided.
- The Alpine region of Swiss Confederation is conventionally cited because the Swiss Alps.
- The Alps cowl hour of Switzerland's total expanse, creating it one among the foremost alpine countries.

Topic 37. SC RESERVES ORDER ON TELCOS' PLEAS IN AGR CASE

Importance for Prelims: Economy

The Supreme Court has reserved orders on pleas created by telecommunication majors for an opportunity to position their grievances concerning pure mathematics errors within the calculation of Adjusted gross sales (AGR) dues before the Department of telecommunication (DoT).

- The Supreme Court in September 2020 had granted ten years to telecommunication companies for paying the Adjusted gross sales (AGR)-related dues to the DoT with sure conditions.
- The SC asked telcos to pay ten per cent of the AGR-related dues by March thirty one, 2021.

What is Adjusted gross sales (AGR)?

- Telecom operators area unit needed to pay licence fees and spectrum charges within the variety of 'revenue share' to the Centre.
- The revenue quantity accustomed calculate this revenue share is termed the Adjusted gross sales (AGR).
- According to the DoT, the calculations ought to incorporate all revenues attained by a telecommunication company – as well as from non-telecom sources like deposit interests and sale of assets.
- The firms, however, are of the read that AGR ought to comprise the revenues generated from telecommunication services solely and non-telecom revenues ought to be unbroken out of it.
- They had argued that AGR should solely embrace license and spectrum fees.

Topic 38. CONVENE INDIAN LABOUR CONFERENCE

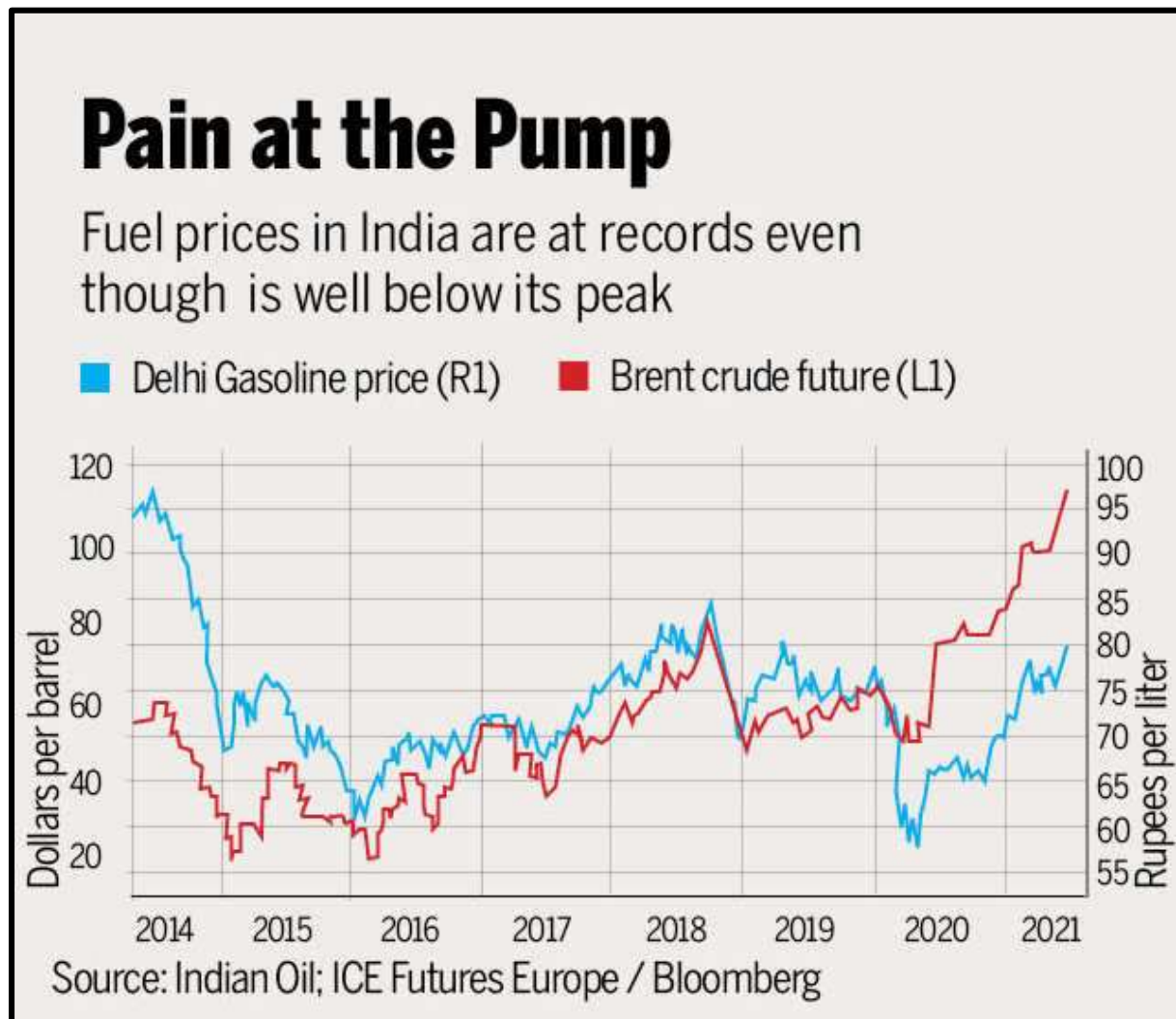
Importance for Prelims: National Organisations

The Bharatiya Mazdoor Sangh on Mon wrote to Prime Minister Narendra Modi asking him to convene the Indian Labour Conference (ILC), the foremost recent session of that was command in 2015, at the earliest.

- The Indian Labour Conference (ILC) is that the apex level triangular consultive committee within the Ministry of Labour & Employment to advise the govt on the problems regarding socio-economic class of the country.
- All the twelve Central organisation Organisations, Central Organisations of employers, all State Governments and Union Territories and Central Ministries/Departments involved with the agenda things, square measure the members of the ILC.
- The initial meeting of the Indian Labour Conference (then known as triangular National Labour Conference) was command in 1942 so way a complete of forty six Sessions are command.
- The forty sixth Session of Indian Labour Conference was survived 20–21 Gregorian calendar month, 2013 at Vigyan Bhavan, New Delhi .
- The agenda of the ILC is finalised by the Standing Labour Committee that is once more a triangular body once elaborated discussions.

Topic 39. PETROL PRICE AND INFLATION

Importance for Prelims: Economy



The government's revenue collections from excise duty on crude merchandise jumped over seventy four per cent year-on-year to Rs three.45 100000 large integer in 2020-21, in step with government information.

- Government revenue and hydrocarbon costs
- The country has seen a twenty one.7 per cent increase within the worth of hydrocarbon and diesel since the start of the year.
- The excise duty collected from crude merchandise fashioned thirty two.07 per cent of the overall revenue enhancement revenue in 2020-21, up from a twenty.7 per cent share in 2019-20.

- The rising fuel costs are feeding into inflation at each wholesale and retail level.
- The government's revenue collections from excise duty on crude merchandise surged seventy four.3 per cent to Rs three.45 100000 large integer in 2020-21. Inflation The rising fuel costs are impacting inflation at each wholesale and retail levels.
- Inflation rates for things like minerals, edible oils, oilseeds, dairy farm and poultry things have gained momentum over the last one year, with the cascading impact of elevated fuel costs clearly visible in segments like factory-made merchandise like rubber, plastic merchandise, piece of furniture and transport and communication.
- The looming concern is that the sharp rise in producers' costs can more and more feed into the ultimate commodity basket, translating into shopper worth inflation with some lag. High state and Central taxes on fuel together with high crude costs have translated into the wholesale inflation for 'crude, crude and natural gas' spiking to fifty five.5 per 7/10 On the retail inflation front, the trend has been reflected with the rate for the 'transport and communication' section

Topic 40. MONKEY B VIRUS

Importance for Prelims: Science and Technology

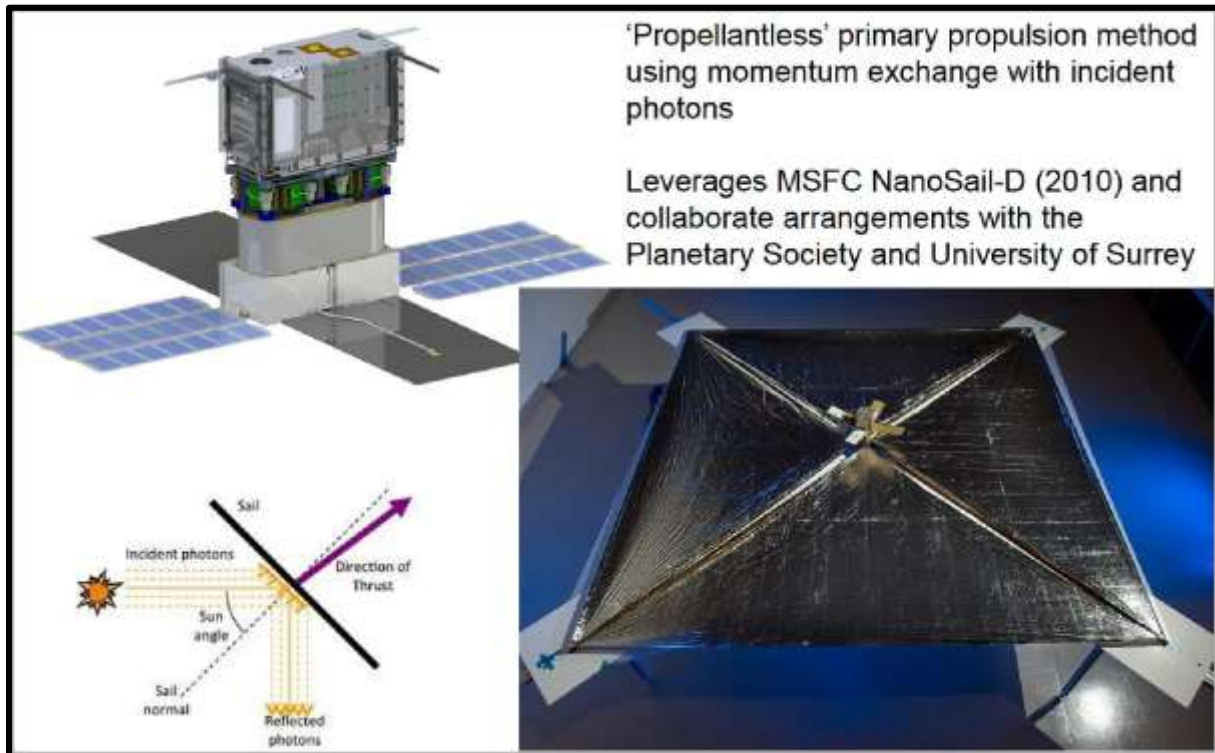
China has reported the primary human infection case with Monkey B virus (BV) once a Beijing-based Dr. was confirmed with a similar a month once he compound 2 dead monkeys in early March, in keeping with China federal agency Weekly.

- The virus, at first isolated in 1932, is Associate in Nursing alphaherpes virus endemic in macaques of the mammal genus.
- B virus is that the solely known old-world-monkey herpes that displays severe pathogenicity in humans.
- Transmission The infection are often transmitted via direct contact and exchange of bodily secretions of monkeys and encompasses a deathrate of seventy per cent to eighty per cent.
- The virus may additionally be found in cells coming back from Associate in Nursing infected monkey during a science laboratory.
- B virus will survive for hours on surfaces, notably once wet. Humans will get infected if they're bitten or scraped by Associate in Nursing infected monkey; get Associate in Nursing infected monkey's tissue or fluid on broken skin or in eyes, nose, or mouth; scratch or cut oneself on a contaminated cage or different sharp-edged surface or get exposed to the brain funiculus, or bone of Associate in Nursing infected monkey.
- Symptoms Symptoms generally begin inside one month of being exposed to B virus, however may seem in as very little as 3 to seven days, the primary indications of B infection ar generally flu-like symptoms like fever and chills, muscle ache, fatigue and headache, following that Associate in Nursing infection person might develop little blisters within the wound or space on the body that came in-tuned with the monkey.
- Shortness of breath, nausea and vomit, abdominal pain and hiccups.

- The virus spreads to and causes inflammation (swelling) of the brain and funiculus, resulting in medical specialty and inflammatory symptoms like pain, numbness, cutaneous sensation close to the wound site; problems with muscle coordination; brain injury and severe injury to the system and in extreme cases, death.
- There aren't any vaccines which will shield against B infection. Risks: The virus would possibly cause a possible threat to laboratory staff, veterinarians, et al WHO is also exposed to monkeys or their specimens.
- One case has been documented of Associate in Nursing infected person spreading B virus to a different person.

Topic 41. NEA SCOUT

Importance for Prelims: Science and Technology



NASA proclaimed that its new orbiter, named NEA Scout, has completed all needed tests and has been safely tucked within the area Launch System (SLS) rocket. NEA Scout is one among many payloads that may hitch a ride on Artemis I, that is anticipated to be launched in Nov.

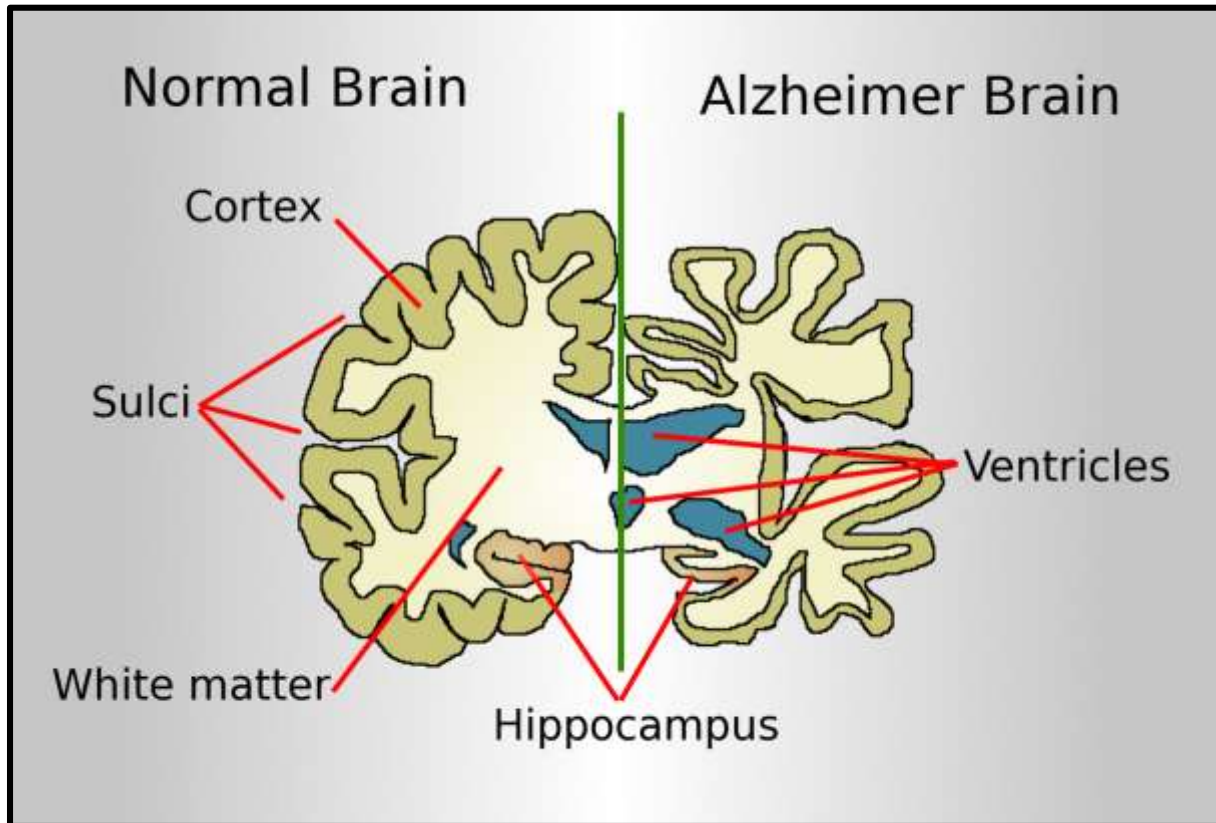
- Artemis i'll be AN unscrewed check flight of the Orion orbiter and SLS rocket.
- Under the Artemis programme, independent agency has aimed to land the primary lady on the Moon in 2024 and additionally establish property satellite exploration programs by 2030.
- NEA Scout Near-Earth Asteroid Scout(or NEA Scout) may be a little orbiter, regarding the scale of a giant shoebox.
- Its main mission is to fly by and collect information from a near-Earth asteroid.
- It will be America's initial heavenly body mission employing a special

star sail propulsion.

- NEA Scout can use stainless-steel alloy booms AND deploy an aluminium-coated sail measurement 925 sq. feet.
- The orbiter can take regarding 2 years to cruise to the asteroid and can be regarding ninety three million miles removed from Earth throughout the asteroid encounter.
- NEA Scout is provided with special cameras and may take footage starting from fifty cm/pixels to ten cm/pixels
- The pictures gathered by NEA Scout can offer crucial info on the asteroid's physical properties like orbit, shape, volume, rotation, the dirt and dust field encompassing it, and its surface properties got to study the asteroid
- Understanding their properties might facilitate North American nation develop ways for reducing the potential harm caused within the event of an effect information to see what's needed to scale back risk, increase effectiveness, and improve the look and operations of robotic and human area exploration,

Topic 42. ALZHEIMER'S DISEASE

Importance for Prelims: Science and Tech



The agency acknowledged there wasn't decent proof that the drug would facilitate patients. Instead, it same it absolutely was inexperienced lighting Aduhelm beneath a program referred to as “accelerated approval.

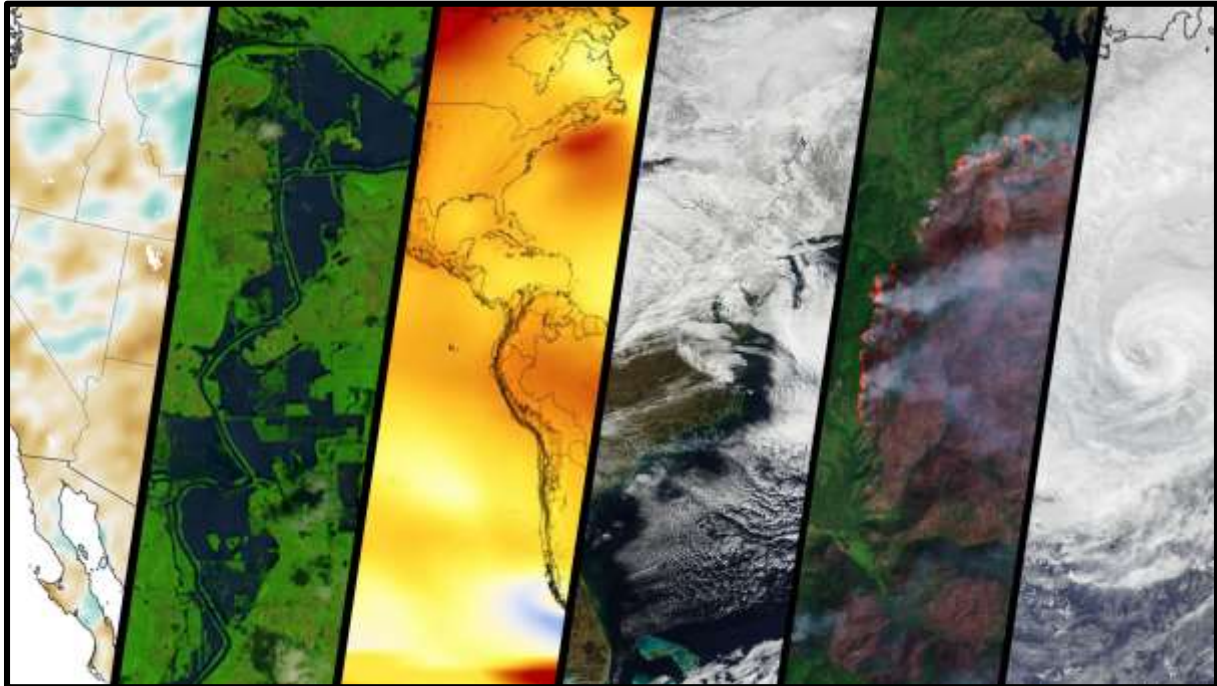
- The Food and Drug Administration’s point to determine whether or not to approve Biogen’s disputable Alzheimer’s drug aducanumab, a council of senior agency officers resoundingly united that there wasn’t enough proof it worked.
- A progressive illness that destroys memory and different vital mental functions. neuron connections and therefore the cells themselves degenerate and die, eventually destroying memory and different vital mental functions.
- No cure exists, however medication and management methods might quickly improve symptoms. Symptoms state of mind is that the key

symptom of Alzheimer's illness.

- Early signs embody issue basic cognitive process recent events or conversations.
- As the illness progresses, memory impairments worsen and different symptoms develop.
- At first, someone with Alzheimer's illness is also conscious of having issue basic cognitive process things and organizing thoughts.
- A friend or friend is also additional seemingly to note however the symptoms worsen.
- Brain changes related to Alzheimer's illness result in hassle.

Topic 43. EXTREME WEATHER EVENTS

Importance for Prelims: Environment



The global climate change remains one in all the most important threats. This year, individuals round the world are doubly hit by the pandemic and extreme weather events that consultants say are fuelled by global climate change.

- The rising temperatures will have sweeping consequences, together with a bearing on food security, health, the atmosphere and property development.
- Increasing temperatures mean a lot of melting ice, higher ocean levels, a lot of heat waves and alternative extreme weather. 2021: A year of maximum weather events
- The extreme weather events across the globe this year ar the new wave that drove temperatures across North American nation and components of the u. s. to a record high, inflicting many deaths between Gregorian calendar month twenty five to 30; The recent floods in Federal Republic of Germany that killed over a hundred and eighty individuals within the country; cyclones Tauktae and Yaas that hit India’s west and east coasts,

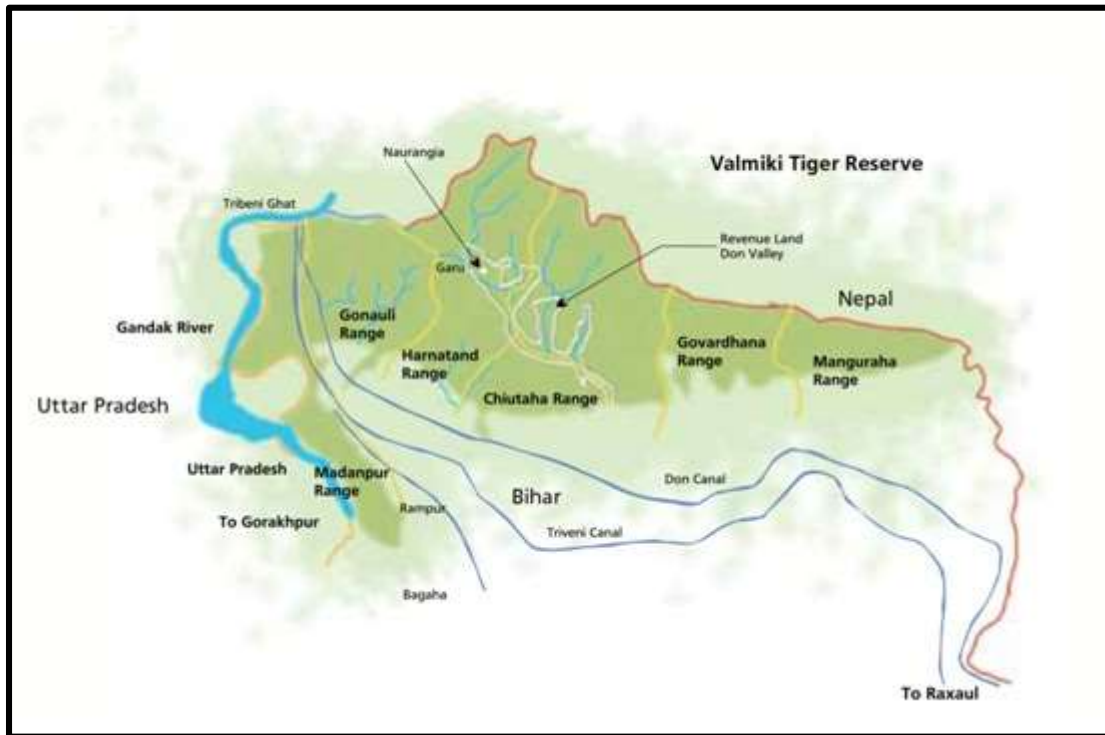
severally, furthermore because the floods in New South Wales in March.

- The frequency and strength of such weather disasters round the world have raised recent issues relating to global climate change, with scientists police work a stronger link between heating and ever-changing weather patterns.
- Reasons the increase in average world temperature is connected with widespread changes in weather patterns.
- Scientific studies indicate that extreme weather events like heat waves and extreme rain ar probably to become a lot of frequent or a lot of intense with rising phylogenesis global climate change.
- Carbon oxide within the atmosphere averaged 419 components per million in might this year.
- According to NOAA’s Climate Extremes Index, there has been a forceful increase within the space within the Southwest that's experiencing extraordinarily high temperatures in summer over the last twenty years, with little or no relief within the last six years.
- According to the Climate Science Special Report, world temperatures ar doubtless to still increase because of the discharge of greenhouse gases.
- Climate scientists have conjointly same that generally, the rising average world temperature is creating serious downfall a lot of doubtless.
- Warmer air carries a lot of wetness, which means that a lot of water are going to be discharged eventually.
- The different vital purpose of concern remains that temperatures at the Earth’s poles ar rising at 2 to 3 times the temperature at the equator.
- According to a report by Reuters, this weakens the airstream of the mid-latitudes, settled over Europe.
- During summer and time of year, the weakening of the airstream incorporates a causative impact leading to slower-moving storms.

- This may result in additional severe and longerlasting storms with hyperbolic intensity.
- A study printed in Naturejournal in 2016 explicit that human-induced warming has contributed to the hyperbolic frequency and intensity of cyclonic storms over the sea.
- The Indian Ocean is heating up at a quicker pace compared to the Pacific or the Atlantic.
- And indeed, the western elements of the Indian Ocean ar warming up even a lot of.
- A rise within the temperature of the ocean surface is said to the changes within the intensity and frequency of cyclones.

Topic 44. VALMIKI TIGER RESERVE

Importance for Prelims: Environment



Hundreds of gharial eggs are destroyed by the whirling waters of the Gandak watercourse in Bihar's Valmiki Tiger Reserve (VTR) once early floods within the state in June, officers same.

- The Bihar government had started a project unitedly with non-profit Wild Trust of Bharat (WTI) to extend the Gandak's gharial population.
- They initial free thirty captive-born gharials into the watercourse in 2014-15.
- They followed this up with protective nests by involving the area people.
- The project was prompted once a survey by WTI in 2010 found solely fifteen gharials within the Gandak.
- The Gandak hosts the second-largest population of gharials in Bharat once the Chambal watercourse.
- It has widespread sandbanks and wealthy wetlands that give a natural parcel for fish, a staple food for gharials.

- The gharial is 'Critically Endangered' consistent with the International Union for Conservation of Species-Species Survival Commission or IUCN-SSC assessment in 2007.
- Its distribution vary has contracted and presently, it occupies solely regarding 2 per cent of its former vary.
- The gharial population has registered a decline of up to ninety eight per cent between 1946 and 2006.
- The adult population has nosedived, with a fifty eight per cent reduction across its place simply 9 years from 1997.
- Valmiki Tiger Reserve Valmiki Tiger Reserve forms the japanese most limit of the chain Terai forests in Bharat, and is that the solely tiger reserve of Bihar. placed within the Gangetic Plains biological science zone of the country, the forest has combination of bhabar and terai tracts.
- Valmiki Tiger Reserve lies within the north-westernmost West Champaran district of Bihar.
- Name of the district has been derived from 2 words Champa and Aranya that means Forest of Champa trees.
- Wild mammals found within the forests of Valmiki Tiger Reserve square measure Tiger, Sloth bear, Leopard, Wild dog, Bison, boar etc. many species of ruminant and antelopes viz muntjac, noticed ruminant, hog deer, deer and nylghai also are found here.
- In Madanpur forest block sizable amount of Indian flying foxes may be sharp-sighted. The Reserve has wealthy avi-fauna diversity.
- Over 250 species of birds are rumored.

Topic 45. PFRDA

Importance for Prelims: Economy



India's pension funds can shortly be allowed to speculate in choose publically listed firms and initial public offerings, the world regulator aforementioned. Pension Fund regulative and Development Authority (PFRDA)

- Currently pension funds will solely invest in firms with market cap quite ₹5,000 large integer that are also within the F&O (futures and options) section of bourses.
- The regulator can so expand the investible universe to the highest two hundred firms.
- The regulator can fix bound criteria for eligible IPOs and similar primary problems presently, NPS subscribers ought to use four-hundredth of their corpus to shop for associate degree regular payment (a fastened pension)

at maturity, at the age of sixty.

- Asystematic withdrawal set up by comparison can offer subscribers the selection of once and the way a lot of to withdraw from their pension corpus once maturity.
- Superannuation funds the govt. is probably going to form PFRDA the regulator for superannuation funds, that presently operate during a regulative vacuum.
- Superannuation funds ar retirement funds pass by corporates.
- They ar given approval by the tax department, and that they ought to abide by the rules from the finance ministry; but, the govt. is in talks with PFRDA, the authority to control these funds.

Topic 46. 97th Constitutional Amendment

Importance for Prelims: Polity

- The Supreme Court, on Tuesday, stricken down elements of a Constitutional change that contracted the exclusive authority of States over its co-operative societies, a sector that's thought of an enormous contributor to the financial system.
- **Issues and Judgment:** Supreme Court upheld the validity of the 97th constitutional change, however stricken down an area associated with the putting in place and functioning of cooperative societies operating inside a state.
- The Supreme Court judgement is predicated on the reasoning that the involved subject material of co-operative fell within the state list and thus it belongs totally and completely to the State legislatures to enact upon and any modification would need the approval by a minimum of common fraction of the state legislatures as per Article 368(2) of the Constitution.
- The judgement control that the 97th constitutional change had a big and substantial impact on the State legislatures' "exclusive legislative power" over its cooperative sector.
- The majority judgment declared that half IXB of the Constitution of Republic of India|Bharat|Asian country|Asian nation} is operative solely in to this point because it issues multi-State co-operative societies each inside the varied States and within the Union Territories of India.
- The dissident choose but control that the belief of severability wouldn't operate to differentiate between single-State cooperatives and MSCS and had argued that the whole half IXB ought to be stricken down on the bottom of absence of approval. Disagreeing with the Central government's argument that the change was geared toward conveyance uniformity within the management of cooperative societies throughout

the country, the Supreme Court instructed that if the Centre wished to attain uniformity then the sole means obtainable was to require the recourse under Article 252 of the Constitution that deals with the facility of Parliament to enact for 2 or a lot of states by consent. Part IXB, introduced into the Constitution through the 97th change of 2012, determined the terms for running co-operative societies.

- The provisions within the change, lapsed the Parliament while not obtaining them sanctioned by State legislatures pro re nata by the Constitution.
- The change visited the extent of determinant the amount of administrators a cooperative society ought to have or their length of tenure and even the {required|the mandatory} experience required to become a member of the society Govt version
- The Centre even they were injecting expertise and autonomy into the functioning of co-operative societies.
- Lack of answerability by the members of those societies has LED to poor services and low productivity.
- Even elections aren't endured time.
- The court command that co-operative societies return below the exclusive legislative power of State legislatures.
- The judgment is also vital within the background of fears voiced by States whether or not the new Central Ministry of Cooperation would disempower them.
- Part IX B of the Constitution, that consists of Articles 243ZH to 243ZT, has “significantly and considerably compact State legislatures’ exclusive legislative power over its co-operative sector below Entry thirty two of the State List to over the cooperative sector.
- I The court known however Article 243ZI builds it clear that a State

could solely make law on the incorporation, regulation and completing of a co-operative society subject to the provisions of part IXB of the 97th Constitutional change Concept: The 97th constitutional change under Article 252 of the Constitution that deals with the facility of Parliament to ordain for 2 or a lot of states by consent. Part IXB, introduced into the Constitution through the 97th modification of 2012, determined the terms for running co-operative societies.

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Topic 47. CROP VARIETIES DEVELOPED IN INDIA

Importance for Prelims: Geography

Horticulture Breakthrough

Key high-yielding varieties identified

1 CAULIFLOWER (PUSA BETAKESARD)

- 1st indigenously bred bio-fortified beta carotene
- Will tackle malnutrition problem in India

3 CUCUMBER (PUSA SEEDLESS CUCUMBER-6)

- Improved seedless variety
- Can be cultivated off-season (Nov-Mar)

2 SARDA MELON (PUSA SARDA)

- Can be grown under net-house in north India
- Fruits ready for harvest in 85-90 days

4 MUSK MELON (PUSA MADHURIMA)

- High yield & increased shelf life
- Ready for harvest in 80 days

5 ROUND MELON (PUSA RAUNAK)

- Early maturing variety for spring, summer
- Flesh white, tender; good cooking quality

Over the last seven years, cereals have accounted for nearly fifty per cent share of all the sector crops developed within the country.

- Pulses and oilseeds accounted for consequent largest share of the crops developed since 2014.
- A total of one,575 types of seventy field crops are developed between 2014 and January 2021.
- These embrace 770 types of cereals, 235 oilseeds, 236 pulses, a hundred and seventy fibre crops, 104 forage crops, fifty two sugarcane and eight different crops, 288 types of farming crops Indian Council of Agricultural analysis (ICAR) is functioning to upgrade technology and supply quality seeds to farmers.
- During this method, the advancements created within the agricultural sciences, each inside Asian country and outdoors, area unit thought-about for his or her replication beneath appropriate farming things.
- The new high yielding and biotic/abiotic stress tolerant varieties and technologies of crops, breeds/strains of eutherian mammal and poultry

developed by the National Agricultural analysis System (NARS) beneath ICAR have contend a polar role in increasing food and nutritional security.

- In eutherian mammal, twelve improved poultry varieties appropriate for grounds poultry rearing, 9 high-producing types of pigs AND an improved sheep selection , twelve cloned buffaloes were conjointly made throughout the last seven years to multiply superior protoplasm were developed.

Topic 48. 'INDIA IS WELCOME TO JOIN CHINA-SOUTH ASIA GROUPING'

Importance for Prelims: International Relations

Bangladesh secretary of state has expressed that Asian country|Bharat|Asian country|Asian nation} is welcome to hitch the Chinaled South Asian initiative for COVID-19 vaccines and poorness alleviation and has denied the allegations that the recently launched China-South Asia grouping was meant to exclude India.

- Subsequent to a gathering of the Foreign Ministers of China, Asian country, Bangladesh, Nepal, Pakistan and Democratic Socialist Republic of Sri Lanka, China-South Asian Countries Emergency provides Reserve, and a poorness Alleviation and Cooperative Development Centre were established in China recently.
- The poorness alleviation centre was visualised to agitate economic problems arising in South Asia thanks to COVID.
- The China-South Asia centre is additionally being established within the Southern Chinese town of city. considerations for Asian country|Bharat|Asian country|Asian nation}: the event had raised considerations in India because the initiative gave the impression to omit solely India, Asian nation and also the Maldives.
- Some consultants have warned that the new initiative may well be aimed toward diluting India's role within the SAARC region by increasing China's strategic influence within the South Asian region through biological process aid.

Topic 49. AQUACULTURE FARMERS TO SELL PRODUCE ON E-SANTA

Importance for Prelims: Governance

Many cultivation farmers in province are aiming to update the small print of their manufacture on-line and market their stocks through e-Santa.

- E-Santa: The term eSaNta depicts Electronic resolution for Augmenting NaCSA Farmers interchange cultivation.
- National Centre for property cultivation (NaCSA) is associate extension arm of the Marine merchandise Export Development Authority (MPEDA), Ministry of Commerce & trade.
- The objectives of NaCSA are to encourage and uplift the tiny and marginal farmers through the organization of clusters and maintaining of best management practices.
- It essentially functions as associate electronic marketplace for marine merchandise.
- It allows wide distributed patrons and farmers to act and execute purchase transactions digitally.
- This initiative by building a bridge between blueness farmers and patrons to act directly and get the manufacture directly from farmers helps eliminate the middlemen fully.

Topic 50. CALL OPTIONS

Importance for Prelims: Economy

The commercialism of decision choices has reached a excitation touching a brand new record on, indicating low risk of a pointy market crash. The pace of commercialism in index choices is seen as a measuring device of stock exchange sentiment.

- Call choices ar monetary contracts that provide the choice vendee the proper, however not the requirement, to shop for a stock, bond, goods or different plus or instrument at a such value at intervals a selected fundamental measure.
- The stock, bond, or goods is named the underlying plus.
- A decision vendee profits once the underlying plus will increase in value.
- A decision choice could also be contrasted with a place, which supplies the holder the proper to sell the underlying plus at a such value on or before expiration.
- A decision is associate degree choice contract giving the owner the proper, however not the requirement, to shop for a such quantity of associate degree underlying security at a such value at intervals a such time.
- The such value is understood because the strike value and also the such time throughout that a purchase is created is its expiration or time to maturity.
- Call choices could also be purchased for speculation, or sold for financial gain functions.
- They may additionally be combined to be used in unfold or combination methods.

Topic 51. PARLIAMENTARY COMMITTEES

Importance for Prelims: Polity

Amid Opposition's demand for a judicial probe into the reports of sound of phones of prime politicians, Army officers, judges and journalists victimisation the Pegasus spyware, a Parliamentary committee, headed by Shashi Tharoor, has determined to look at the matter.

- Parliamentary Committee suggests that a Committee that is appointed or nonappointive by the House or appointed by the Speaker and that works below the direction of the Speaker and presents its report back to the House or to the Speaker and also the Secretariat that is provided by the Lok Sabha Secretariat.
- Nature Parliamentary Committees ar of 2 kinds: Standing Committees Itare permanent ANd regular committees that ar ingrained from time to time in pursuance of the provisions of an Act of Parliament or Rules of Procedure and Conduct of Business in Lok Sabha.
- The work of those Committees is of continuous nature.
- The money Committees, DRSCs and a few different Committees return below the class of Standing Committees.
- Ad hoc Committees they're appointed for a selected purpose and that they stop to exist once they end the task assigned to them and submit a report.
- The principal unintended Committees ar the choose and Joint Committees on Bills. Railway Convention Committee, Joint Committee on Food Management in Parliament House advanced etc conjointly return below the class of unintended Committees.
- The Constitution of Asian country makes a mention of those committees at completely different places, however while not creating any specific provisions relating to their composition, tenure, functions, etc.
- All these matters square measure dealt by the foundations of 2 homes.

- Accordingly, a parliamentary committee means that a committee that: Is appointed or elective by the House or appointive by the Speaker / Chairman Works below the direction of the Speaker / Chairman Presents its report back to the House or to the Speaker / Chairman contains a secretariat provided by the Lok Sabha / Rajya Sabha
- The introduction of seventeen department-related standing committees (DRSCs) on March thirty one, 1993 was a major innovation that accumulated parliamentary scrutiny and gave MPs a bigger role in examining legislation and necessary selections of the day.
- There square measure twenty four DRSCs — sixteen from Lok Sabha and eight from Rajya Sabha. every committee has twenty one MPs from Lok Sabha and ten from Rajya Sabha. The role: Given the quantity of legislative business and therefore the time constraints it's impractical for MPs to debate and scrutinise all bills within the House. Parliamentary committees, either shaped for a particular bill (select committee) or permanent (standing committees that square measure reconstituted associatenually) leave a scrutiny with the likelihood of sound subject specialists from outside and different stakeholders in an setting wherever MPs aren't sure by party positions or whips.

Topic 52. COMMERCIAL PAPER

Importance for Prelims: Economy

Commercial paper provision is learning steam among Indian corporates and a growing range of domestic companies are turning towards these short debt instruments to fulfill their assets desires whilst riskaverse banks still sit on a large liquidity.

- According to run information, the monthly recent provision of business papers (CP) jumped over thirty seven per cent year on-year to ₹1.71-lakh large integer in June 2021 cash equivalent cash equivalent is associate degree unsecured kind of note that pays a set rate of interest.
- it's usually issued by massive banks or companies to hide short assets and meet short monetary obligations, like funding for a brand new project.
- As with the other style of bond or certificate of indebtedness, the issue entity offers the paper assumptive that it'll be in a very position to pay each interest and principal by maturity.
- It is rarely used as a funding vehicle for longer-term obligations as a result of alternative alternatives are higher fitted to that purpose.
- The cash equivalent provides a convenient funding methodology as a result of it permits issuers to avoid the hurdles and expense of applying for and securing continuous business loans, and also the Securities and Exchange Commission (SEC) doesn't need securities that interchange the money market to be registered.
- It is sometimes offered at a reduction with maturities which will vary from one to 270 days, though most problems mature in one to 6 months.

Topic 53. LA NIÑA

Importance for Prelims: Geography



Global climate models suspect that the ‘neutral’ conditions (neither El Nino nor La Nina) within the Equatorial Pacific would possibly subside to a come of los angeles Nina conditions into the time of year and winter whilst the annual monsoon in Asian nation, a famous La Nina beneficiary, readies to cross the half-way stage

- The neutral introduce the neutral state (neither El Niño nor La Niña) trade winds blow east to west across the surface of the tropical Pacific Ocean, transportation heat damp air and hotter surface waters towards the western Pacific and keeping the central Pacific Ocean comparatively cool.
- The thermocline is deeper within the west than the east.

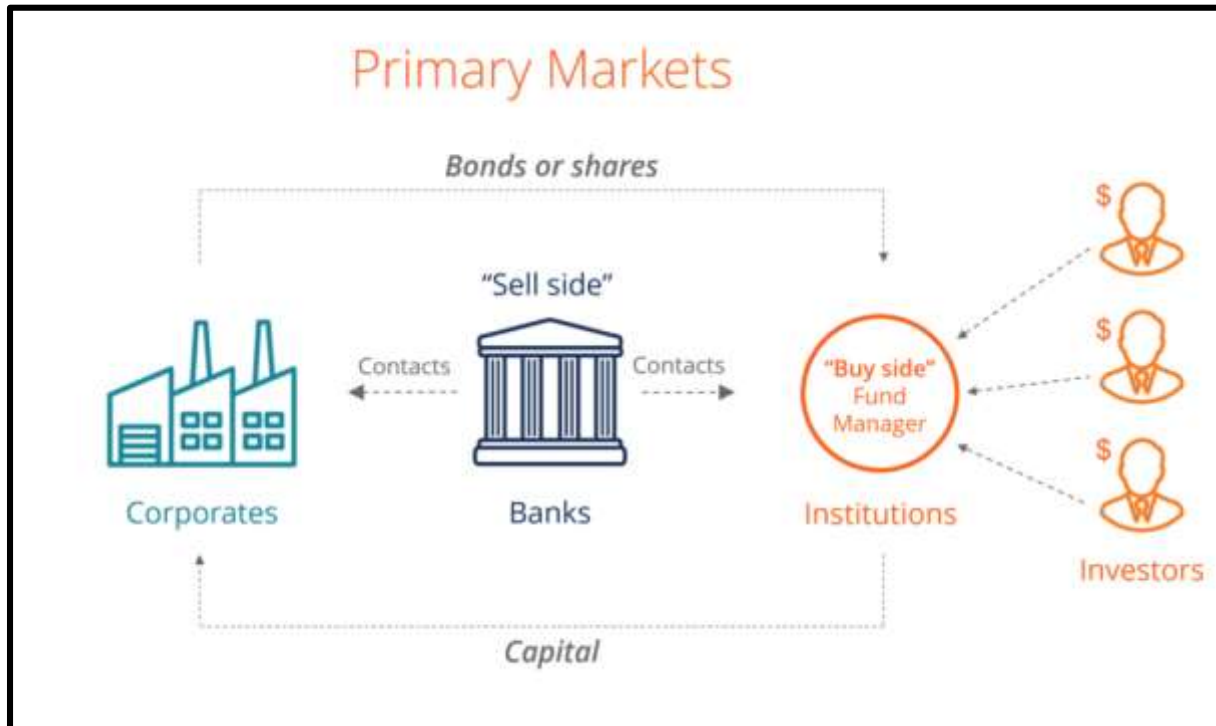
- Warm ocean surface temperatures within the western Pacific pump heat and wetness into the atmosphere higher than.
- In an exceedingly method called atmospheric convection, this heat air rises high into the atmosphere and, if the air is damp enough, causes eminent thundercloud clouds and rain.
- This now-drier air then travels east before declivitous over the cooler jap tropical Pacific.
- The pattern of air rising within the west and falling within the east with westward moving air at the surface is named because the Walker Circulation. La Nina it's a weather pattern that may occur within the Pacific Ocean each few years.
- In a standard year, winds on the equator push heat water westward. heat water at the surface of the ocean blows from South America to Dutch East Indies.
- As the nice and cozy water moves west, cold water from the deep rises up to the surface.
- This cold water finishes up on the coast of South America.
- In the winter of a La Nina year, these winds area unit abundant stronger than usual.
- This makes the water within the Pacific close to the equator a number of degrees colder than it always is.
- Even this chickenfeed within the ocean's temperature will have an effect on weather everywhere the planet. Rain clouds commonly type over heat ocean water.
- La Nina blows all of this heat water to the western Pacific.
- This implies that places like land and Australia will get way more rain than usual.
- However, the cold water within the jap Pacific causes less rain clouds to

make there. So, places just like the southwestern us will be abundant drier than usual.

- The 2020-2021 La Nina event has all over and neutral conditions (neither El Niño nor La Niña) area unit currently possible to prevail over the tropical Pacific within the next few months, aforesaid the planet meteorologic Organization (WMO) Weather Changes thanks to La Nina: The Horn of Africa and central Asia can see below average downfall thanks to La Nina.
- East Africa is forecast to ascertain drier-than-usual conditions, that at the side of the prevailing impacts of the desert locust invasion, could raise regional food insecurity.
- It might additionally result in multiplied downfall in southern Africa. It might additionally have an effect on the South American Ocean Tropical Cyclone season, reducing the intensity.
- Southeast Asia, some Pacific Islands and therefore the northern region of South America area unit expected to receive above-average downfall.
- In India, La Nina means that the country can receive a lot of downfall than traditional, resulting in floods.

Topic 54. PRIMARY MARKET

Importance for Prelims: Economy



The floodgates for primary market issuances square measure currently open in GIFT town with the International money Services Centres Authority (IFSCA) starting with a comprehensive listing framework that may alter Indian and foreign issuers to issue and list securities on GIFT IFSC platform.

- A primary market could be a supply of recent securities. typically on AN exchange, it's wherever firms, governments, and different teams visit acquire finance through debt-based or equity-based securities.
- Primary markets square measure expedited by underwriting teams consisting of investment banks that set a starting worth vary for a given security and administer its sale to investors.
- Once the initial sale is complete, any commercialism is conducted on the secondary market, wherever the majority of exchange commercialism happens daily.
- In the first market, new stocks and bonds square measure sold to the

general public for the primary time.

- In a primary market, investors square measure ready to purchase securities directly from the institution.
- Types of primary market problems embrace AN initial public giving (IPO), a personal placement, a rights offering, and a most well-liked allotment.
- Stock exchanges instead represent secondary markets, wherever investors purchase and sell from each other.
- After they've been issued on the first market, securities square measure listed between investors on what's known as the secondary market—essentially, the acquainted stock exchanges.
- Initial Public giving IPO is that the commerce of securities to the general public within the primary market.
- Primary market deals with new securities being issued for the primary time.
- It is additionally called the new problems market.
- It is totally different from secondary market wherever existing securities square measure bought and sold .
- It is additionally called the exchange or securities market.
- It is once AN unlisted company makes either a contemporary issue of securities or a proposal purchasable of its existing securities or each for the primary time to the general public.
- Unlisted firms square measure firms that aren't listed on the securities market.
- It is usually employed by new and medium-sized companies that square measure searching for funds to grow and expand their business.

Topic 55. INFOSAN

Importance for Prelims: International Organisations

The Food Safety and Standards Authority of Asian nation (FSSAI) has flagged safety considerations in dried oregano product foreign by Keya Foods

- The International Food Safety Authorities Network (INFOSAN) may be a world network of national food safety authorities, managed conjointly by United Nations agency and United Nations agency with the secretariat in United Nations agency.
- INFOSAN may be a key part of FAO's Emergency hindrance Programme on Food Safety (EMPRES Food Safety) to exchange info touching on food safety with member states United Nations agency area unit every country designates one INFOSAN Emergency Contact purpose and one or a lot of INFOSAN Focal Point(s).
- Membership is restricted to government authorities liable for national food safety.
- INFOSAN aims to: Promote the fast exchange {of info|of data|of knowledge} throughout food safety connected events Share information on vital food safety connected problems with world interest Promote partnerships and collaboration between countries, and between networks facilitate countries strengthen their capability to manage food safety emergencies
- Activities: Monitor a range of knowledge sources to notice food safety events Assess and verify events together with network members Facilitate military operation and dissemination for food safety events Share alerts on imperative problems
- In collaboration with United Nations agency and United Nations agency emergency operation groups, give technical help upon request to reply to food safety emergencie Develop steerage and coaching tools associated

with food safety emergency management and international coverage Link INFOSAN outputs and proposals with semipermanent capability building activities conducted by United Nations agency and United Nations agency INFOSAN may be a key part of FAO's Emergency hindrance Programme on Food Safety (EMPRES Food Safety) to exchange info touching on food safety with member states United Nations agency area unit.

Topic 56. PM eVIDYA

Importance for Prelims: Government Schemes

On Sunday Nirmala Sitharaman the government minister has declared the PM eVIDYA program for college kids. This program is declared for the highest one hundred universities of the country and for colleges conjointly.

- PM eVidya could be a distinctive and innovative venture by the Ministry of Education, Government of Bharat to facilitate multi-mode access to digital/online teaching-learning contents of varied sorts among students and lecturers.
- The singularity of the PM e-Vidya lies with its comprehensive accessibility for all because it caters the education content to any or all with its multi-mode set-up of remote learning platforms together with net, radio, community radio, podcast, and TV.
- Major initiatives of PM eVidya is DIKSHA (one nation, one digital platform) is that the nation's digital infrastructure for providing quality e-content for varsity education in states/UTs and QR coded Energized Textbooks for all grades are obtainable on that.
- One earmarked SwayamPrabha television channel per category from one to twelve (one category, one channel).
- Extensive use of Radio, Community radio and CBSE Podcast- Shiksha Vani.
- Special e-content for visually and hearing impaired developed on Digitally Accessible data system (DAISY) and in signing on NIOS website/ YouTube.

Topic 57. LIGHTWEIGHT ANTI-TANK MISSILE TESTED BY DRDO

Importance for Prelims: Defence

A new generation of Akash guided missile associated indigenously developed Anti-Tank Missiles were with success flight-tested by the DRDO from an integrated range off the Odisha coast.

- Akash missile: Akash could be a medium-range mobile guided missile system developed by the Defence analysis and Development Organisation and created by Republic of India Dynamics restricted.
- The new variant of the Akash missile (Akash-NG) encompasses a slightly higher vary compared to the first version which will strike targets at a distance of around twenty five klick.
- **This can facilitate boost the air defence capabilities of the IAF. Anti-Tank missile:** The MPATGM, or Man transportable Anti-Tank missile, is associate Indian third generation fire-and-forget anti-tank missile derived from Nag ATGM.
- it's been indigenously developed.
- The portable missile is launched employing a stand is intended for a most vary of two.5 klick with a launch weight of but fifteen kilo.

Topic 58. INDIA SIGNED 26 PACTS TO FIGHT DRUG MENACE

Importance for Prelims: Governance / IR

Ministry of Home Affairs (MHA) reply within the Lok Sabha on the measures taken to combat narcotraffic in Asian country.

- Efforts taken by {india|India|Republic of Asian country|Bharat|Asian country|Asian nation} to curb drug menace International level: India could be a someone to the global organization Single Convention on Narcotics medication 1961, the Convention on mind-altering Substances, 1971 and also the Convention on Illicit Traffic in Narcotic medication and mind-altering Substances, 1988 that order numerous types of management aimed to attain the twin objective of limiting the utilization of narcotics medication and mind-altering substances for medical and scientific functions furthermore as preventing the abuse of an equivalent. Asian country has signed twenty six bilateral pacts, fifteen memoranda of understanding and 2 agreements on security cooperation with completely different countries for combating illicit trafficking of narcotics, drugs, mind-altering substances and even their chemical precursors.
- The Narcotics management Bureau (NCB) has been coordinating with numerous international organisations for sharing data and intelligence on multinational narcotraffic. Domestic level: the fundamental legislative instrument during this regard is that the Narcotics medication and mind-altering Substances (NDPS) Act, 1985.
- For higher coordination among numerous Central and State agencies, the Narco Coordination Centre (NCORD) mechanism was came upon. The NCORD system has been more extended into a four-tier theme up to the district level for higher coordination.
- This has ensured more practical drug enforcement.
- A Joint Coordination Committee was came upon to watch the

investigation into cases involving massive seizures.

- The MHA has launched associate e-portal known as ‘SIMS’ (Seizure data Management System) for conversion of pan-India drug seizure knowledge.

Topic 59. NATIONAL GALLERY OF MODERN ART (NGMA) GOING TO BEBE RENOVATED

Importance for Prelims: National organisations

Union Culture Minister aforementioned the National Gallery of contemporary Art (NGMA) here would be restored and organized as a neighborhood of the commemoration of the seventy fifth legal holiday next year.

- The National Gallery of contemporary Art (NGMA) is that the premier picture gallery that aims to amass and preserve works of contemporary art from decennium onward.
- It is run and administered as a subordinate workplace to the Ministry of Culture, Government of Bharat.
- Its assortment includes works by artists like Thomas Daniell, Raja Ravi Verma, Abanindranath Tagore, Rabindranath Tagore, Gaganendranath Tagore, Nandalal Bose, Jamini Roy, Amrita Sher-Gil additionally as foreign artists.
- The main repository in {new delhi|New Delhi|Indian capital|capital of Bharat|national capital} was established in 1954 by the govt of India, with resulting branches at city and city.

Topic 60. GWALIOR AND ORCHHA CITIES HAVE BEEN SELECTED BY UNESCO UNDER ‘HISTORIC URBAN LANDSCAPE PROJECT’

Importance for Prelims: Culture

In Madhya Pradesh, Gwalior and Orchha cities are designated by United Nations Educational Scientific and Cultural Organization underneath ‘Historic Urban Landscape Project’, that was started within the year 2011, for the comprehensive and well-planned development of aggressive historical cities whereas protective the culture and heritage.

- Chief Minister Shivraj Singh Chouhan just about launched UNESCO’s ‘Historic Urban Landscape’ project for Gwalior and Orchha cities of the state through video conferencing. Six cities of South Asia, as well as Ajmer and Varanasi in Republic of India square measure already concerned during this project.
- Orchha and Gwalior are enclosed because the seventh and eighth cities.
- The cities are conjointly developed by United Nations Educational Scientific and Cultural Organization, Government of Republic of India and Madhya Pradesh by specializing in their historical and cultural improvement.
- This project can facilitate MP commercial enterprise get a brand new dimension.
- Additional employment opportunities also will be created at the side of the event of commercial enterprise.