

WEEKLY CURRENT AFFAIRS MAGAZINE for



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

SEPTEMBER-VOL-IV-2021

23 September to 30 September



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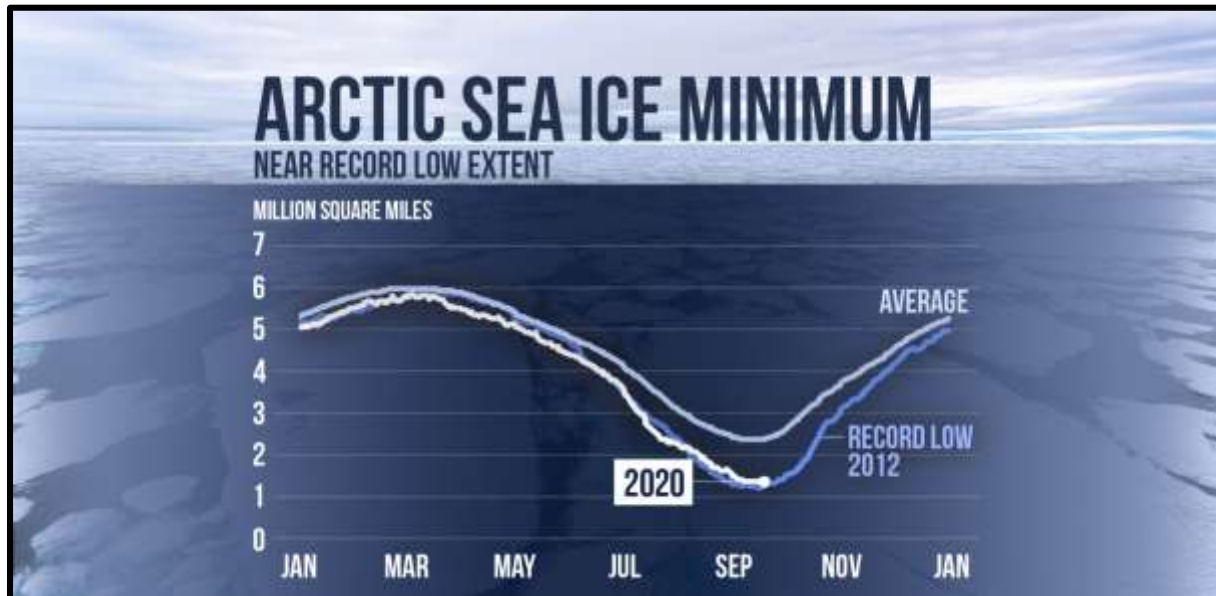
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Success is born of action...

Topic 1. ARCTIC SEA ICE MINIMUM

Importance for Prelims: Environment



Arctic sea ice hits its minimum extent for the year — 2 nasa scientists justify what's driving the general decline

- September marks the top of the summer ocean ice soften season and therefore the Arctic sea ice minimum, once sea change the hemisphere Ocean reaches its lowest extent of the year.
- For ship captains hoping to navigate across the Arctic, this can be usually their best likelihood to try and do it, particularly in additional recent years.
- Sea ice cowl there has born by roughly half since the Eighties as an immediate results of multiplied carbonic acid gas from human activities.
- In 2021, the Arctic's sea ice cowl reached its minimum extent on September 16, 2021, the 12th lowest on record.
- In recent years, Arctic sea ice levels are at their lowest since a minimum of 1850 for the annual mean and in a minimum of 1,000 years for late summer, in step with the most recent climate assessment from the UN's Intergovernmental Panel on global climate change.
- The IPCC ended that "the Arctic is probably going to be much ocean ice free in September a minimum of once before 2050."

- As the Arctic's bright ice is replaced by a darker open ocean surface, less of the sun's radiation is mirrored back to house, driving extra heating and ice loss.
- This ratio electric circuit is simply one in all many reasons why the Arctic is warming concerning 3 times quicker than the world as an entire.
- Sea ice in 2021 The stage for this year's ocean ice minimum was set last winter.
- The Arctic practised an abnormal high system and robust clockwise winds, driving the thickest, oldest sea ice of the Central Arctic into the Beaufort Sea, north of AK.
- 2021 melt season was, despite all the stops and starts, pretty typical for our new Arctic, with the Sept minimum ending up slightly above what we would have expected from the semipermanent downward trend.
- But various new record lows were set in alternative months and regions of the Arctic. The additional heat the ocean gains throughout summer, the additional heat has to be lost before ice will begin to create once more.
- Because of this, a number of the most important warming signals are literally ascertained in fall, despite all the eye given to summer ice losses. Weather events also can trigger native feedback loops.
- A freak wave, as an example, will trigger ice soften and additional warming. Winds and ocean currents additionally slice and unfold ice out across the ocean, wherever it is additional vulnerable to melt.
- Thickness times space equals volume.
- Like area, ocean ice thickness is thought to possess halved since the Eighties, that means today's Arctic ice pack simply| a couple of quarter of the degree it absolutely was just a few decades ago.
- Sea ice thickness is far more durable to live consistently from space.

- However, new technologies, like ICESat-2, are providing key breakthroughs.

Topic 2. WHO GLOBAL AIR QUALITY NORMS

Importance for Prelims: Environment

Pollutant	Averaging time	2005 AQGs	2021 AQG level
PM _{2.5} , µg/m ³	Annual	10	5
	24-hour ^a	25	15
PM ₁₀ , µg/m ³	Annual	20	15
	24-hour ^a	50	45
O ₃ , µg/m ³	Peak season ^b	—	60
	8-hour ^a	100	100
NO ₂ , µg/m ³	Annual	40	10
	24-hour ^a	—	25
SO ₂ , µg/m ³	24-hour ^a	20	40
CO, mg/m ³	24-hour ^a	—	4

WHO raises the bar on clean air

- The World Health Organization (WHO) has raised the bar additional to safeguard public health even before the global community might comply with this benchmarks for clean air.
- The WHO's new air quality guidelines — global Air Quality guidelines (AQGs) — discharged September 22, 2021, has redefined the edge of safe air.
- This is that the initial revision once the last updation in 2005 — regarding 15 years ago.
- Currently, 90 per cent of the worldwide population and nearly everybody in India are respiratory air that defies this guidelines of the who.
- The primary focus is on important adjustment of the guidelines for material, that is liable for the very best variety of pollution connected deaths worldwide — nearly seven million.
- The tips for key gases have additionally been revised. WHO's new guidelines suggest air quality levels for 6 pollutants, wherever proof has advanced the most on health effects from exposure.
- When action is taken on these supposed classical pollutants – particulate matter (PM), ozone (O₃), nitrogen dioxide (NO₂) sulfur dioxide (SO₂) and CO (CO), additionally has a control on different damaging pollutants. It is, however, not clear why the annual normal for sulphur dioxide (SO₂)

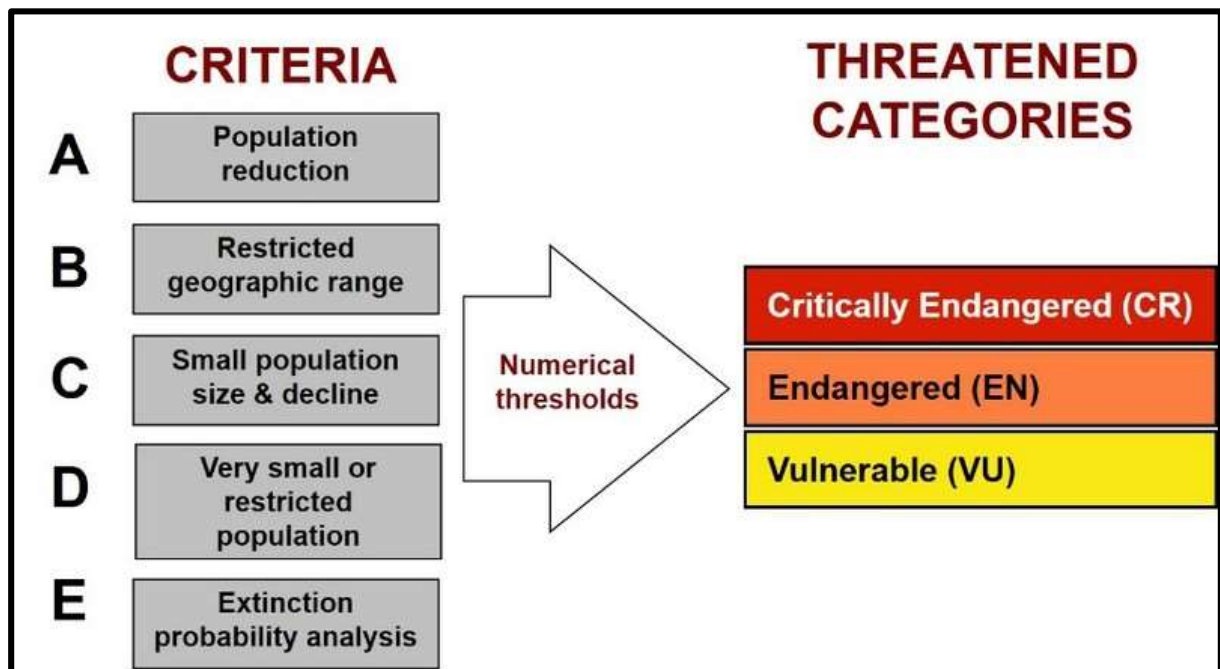
is missing and also the 24-hour guideline has been created a lot of lax at 40 40 / M3, from 20 20 / M3 — two times more lenient.

- This can not be explained as SO₂ is directly connected with the utilization of sulphur-rich fuels that has coal and different dirtier industrial fuels that are wide used across the developing world.
- Moreover, SO₂ additionally contributes to the formation of secondary particulate or sulphates.
- This time, the WHO has additionally enclosed different fractions of material (ie black carbon / elemental carbon, ultrafine particles and particles originating from sand and mud storms).
- Numerical AQG levels couldn't be established for them and thus, a best observe approach is needed for mitigation.
- But the latest State of world Air Report 2020 has expressed that there has been very little or no progress in improving air quality in several components of the planet throughout 2019.
- Dangerous levels continue low- and middle-income countries. Impact on India— The move doesn't have a right away result in India because the National close Air Quality Standards (NAAQS) don't meet the WHO's existing standards.
- The government incorporates a dedicated National Clean Air Programme that aims for a 200th to 30 minutes reduction in material concentrations by 2024 in 122 cities, keeping 2017 because the base year for the comparison of concentration.
- These are cities that don't meet the NAAQS once calculated from 2011 to 2015. India's NAAQs — last revised in 2009 — specify an annual limit of sixty mcg per metric capacity unit for PM₁₀ and 100 for a 24-hour amount.

- Similarly it's 40 for PM 2.5 annually and 60 on a 24-hour amount.]There also are standards for a number of chemical pollutants as well as pollutant, lead and gas.
- National ambient Air Quality Standards (NAAQS) Air (Prevention and control of Pollution) Act empowers Central Pollution control board (CPCB) to line standards for the quality of air.
- Current NAAQS were notified by CPCB within the year 2009. Pollutants coated under NAAQS are sulphur dioxide (SO₂), gas (NO₂), material (PM 10, PM 2.5), Ozone (O₃), Lead (Pb), carbon monoxide (CO), Ammonia (NH₃), benzene (C₆H₆), Benzo(a)Pyrene (BaP), Arsenic(As), Nickel (Ni). National Clean Air Programme A long, time-bound, national level strategy to tackle the pollution downside across the country in an exceedingly comprehensive manner with targets to realize 200th to 30 minutes reduction in material concentrations by 2024 keeping 2017 because the base year for the comparison of concentration.
- Under NCAP, 122 non-attainment cities have been known across the country supported the Air Quality knowledge from 2014-2018.
- Non-attainment cities: These square measure people who have fallen wanting the National ambient Air Quality Standards (NAAQS) for over 5 years. the city specific action plans are ready that, inter-alia, embody measures for strengthening the watching network, reducing vehicular/industrial emissions, increasing public awareness etc.
- Implementation of the city specific action plans square measure often monitored by Committees at Central and State level specifically steering committee, monitoring Committee and Implementation Committee.

Topic 3. 'POSSIBLY EXTINCT' IN IUCN'S RED LIST OF THREATENED SPECIES

Importance for Prelims: Environment



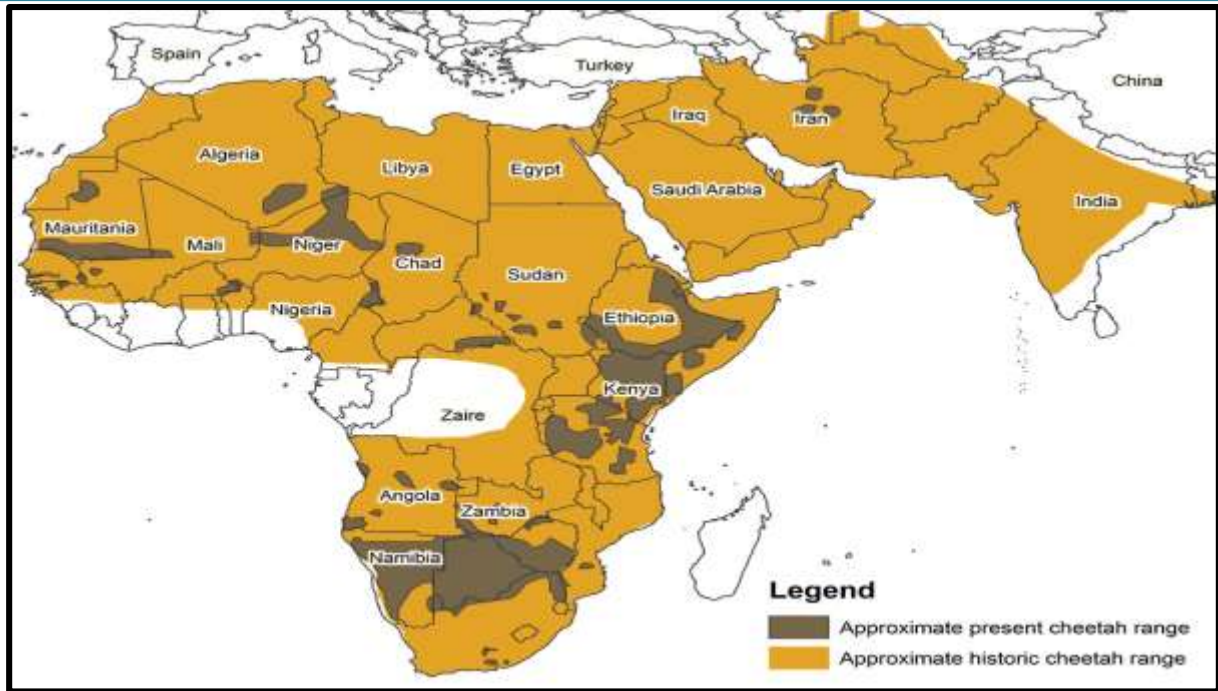
These animals and plants of India might become 'possibly extinct': IUCN

- The latest edition of the Red List was released at the recently-concluded World Conservation Congress organized by the IUCN at Marseille, France.
- Among animals, there's the coconut crab, the biggest terrestrial invertebrate within the world.
- There also are fish species like bovany barb, native to the Cauvery river system.
- Other fish that are declared as presumably extinct embrace the Deolali minnow, the Deccan barb and therefore the Nilgiri mystus, all of that are found within the Deccan.
- Birds embrace the Pink-headed duck, that has been feared to be extinct since the Fifties, the Siberian crane, that when famously drew crowds to Keoladeo park likewise because the Buffy fish-owl or Malay owl.
- The process stingray, a sort of ray and therefore the Dwarf ray are two alternative animal species that are feared to be presumably extinct.

- The Millepora boschmai or fireplace coral is additionally possibly extinct.
- There also are species that are marked as 'Extinct Post-1500'.
- Those marked 'Extinct Post-1500' embrace Pavo muticus, Cheetah, Hairynosed Otter, Banteng, a bovid found these days in Southeast Asia, the Sumatran and Javan rhino and therefore the Osteobrama belangeri, a fish species endemic to province. Plants that are possibly extinct include: monocot genus taliera, a species of palm monocot genus minutum, a species of aquatic plant ilex gardneriana, that's found within the Nilgiris Vachellia bolei, a coastal stenoendemic legume of southern india euphorbia mayurnathanii that's endemic to the Palghat Gap. Hopea shingkeng, that's endemic to the eastern himalayas and waterwheel plant or the waterwheel plant are classified as 'Extinct Post-1500'.
- Species whose statuses were modified enclosed the Albacore Tuna that was enraptured from close to vulnerable to least concern.
- The Thunnus albacares was moved from close to vulnerable to least concern.
- The Yeracud Day gecko was moved from least concern to vulnerable.
- The Satara gecko was moved from susceptible to critically vulnerable whereas the Yellow Monitor was moved from least concern to vulnerable.

Topic 4. CHEETAH

Importance for Prelims: Environment



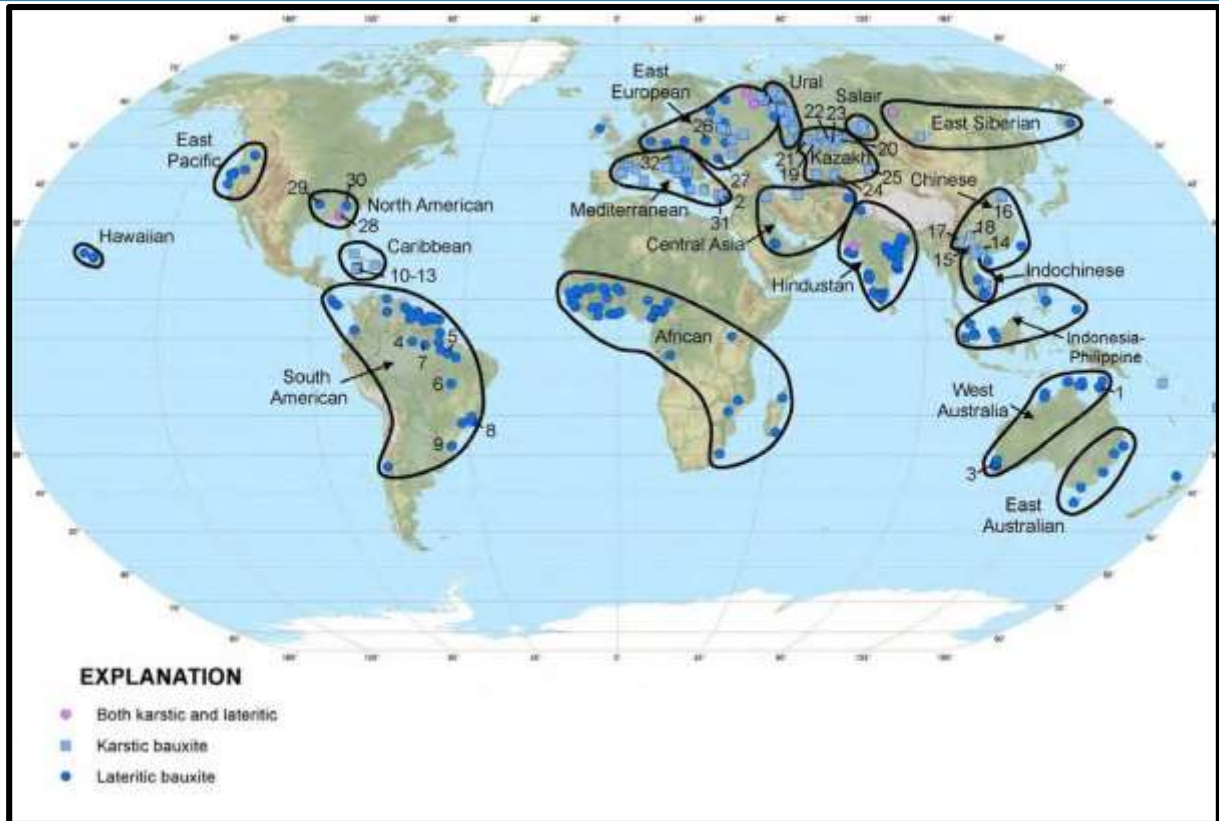
Kuno not prepared ecologically at the instant to accept cheetahs: Faiyaz Khudsar

- India has been in talks to induce 8-12 cheetahs from south africa within the November of november.
- The arrange is to introduce them to the Kuno parkland in Madhya Pradesh.
- The National Tiger Conservation Authority has been asked to supervise this method shocking several.
- The chetah was declared extinct in India in 1952. Since then, the grasslands of the country, of that the cheetah was the keystone species, have additionally disappeared.
- The cheetah is additionally the world's fastest land vertebrate.
- It is listed as vulnerable in IUCN red listed species. (Note – A club is any cluster of species that exploit an equivalent resources, or that exploit totally different resources in connected ways.)
- Kuno national park Kuno is a national park in Madhya Pradesh, India.
- It was established, in 1981, as a life sanctuary within the Sheopur and Morena districts.

- It was additionally referred to as Kuno-Palpur and Palpur-Kuno life Sanctuary. In 2018, it absolutely was given the standing of a national park.
- It is a component of the Khathiar-Gir dry deciduous forests Eco region.
- The protected area is largely dry, deciduous forest.

Topic 5. BAUXITE

Importance for Prelims: Geography



Won't permit bauxite mining on Mali Hill: Agitators ransack meeting in Koraput village

- Adivasis shouted slogans and ransacked the venue of a public meeting known as to discuss a proposed bauxite mining project in Odisha's Koraput district September 22, 2021.
- The Mali and forest space square measure home to large numbers of Kondha, Paraja and Gadaba tribespeople, who are spread across 44 villages.
- Mali hill was the supply of 36 perennial streams that fed the waters of the Kolab river.
- Tribals irrigated their land with the water of the Kolab.
- **About bauxite** – bauxite is a crucial ore that's used for creating aluminium.
- It is an compound of aluminium.

- It isn't a selected mineral however a rock consisting primarily of hydrated aluminium oxides.
- The deposits of mineral are primarily related to laterites and occur as capping on hills and plateaus, except in coastal areas of Gujarat and Goa.
- Production of metal from Bauxite: This business is split into two segments.
- The plants for getting alumina from mineral ore, such plants square measure situated close to mineral mines and plants for reduction of alumina into metal, such plants square measure situated close to a budget supply of electricity.
- Bauxite is primarily accustomed manufacture alumina through the painkiller method.
- Like several metals, world demand for aluminium, and so mineral, has grownup considerably over the past 10 years in response to economic growth in rising Asian economies.
- Distribution of bauxite within the world the world bauxite reserves are calculable at twenty eight billion tonnes and are situated primarily in Guinea (26%), Australia (22%), Brazil (9%), Vietnam (8%), Jamaica (7%), country (4%), guyana & China (3% each). Australia continues to be the key producer of bauxite and accounts for regarding 30 minutes share in total world production, followed by China (25%), Brazil (14%), India (8%) and Guinea (7%).
- Deposits of bauxite in India There are well endowed bauxite reserves within the country.
- However since they're situated in heavily forested areas, inhabited by indigenous people; mining has been unable to begin in these regions.
- By States, Odisha alone accounts for 53 of country's resources of bauxite.

- The ranking of states in terms of bauxite resources is as following Odisha (53%) Andhra Pradesh (16%) Gujarat (8%) Jharkhand (5%) Madhya Pradesh, Maharashtra and Chhattisgarh (4% each).

Topic 6. RARE SPECIES OF SUNDARBANS

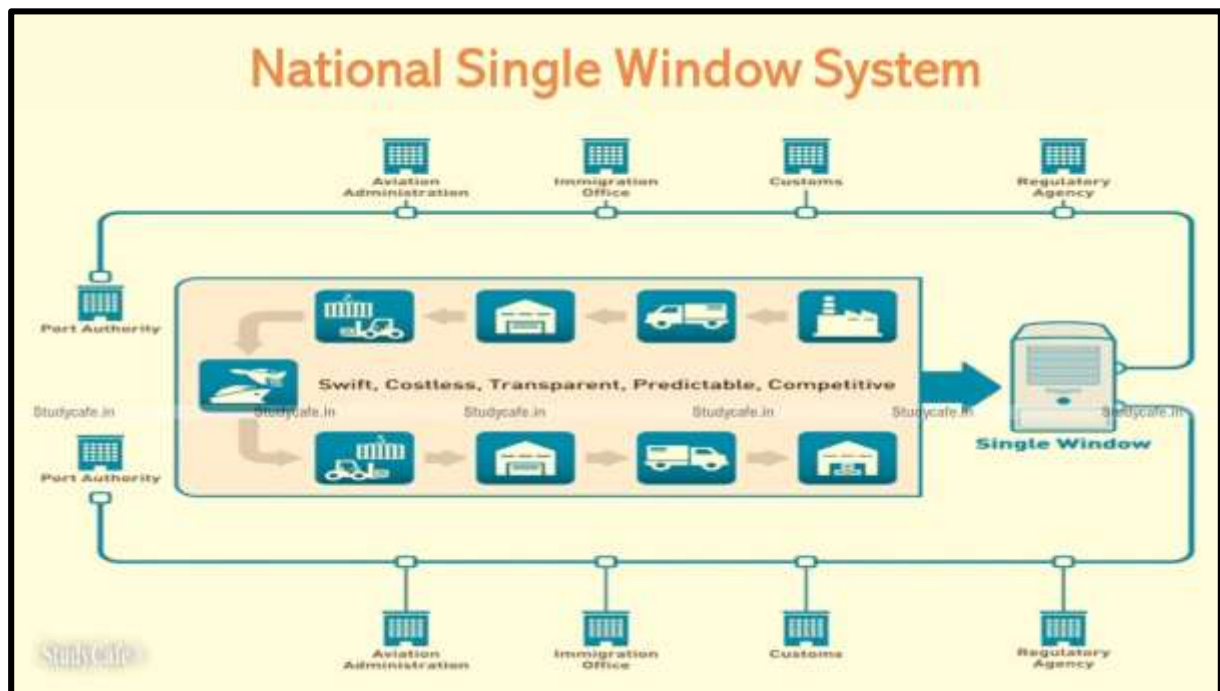
Importance for Prelims: Environment

rare species of Sundarbans are vulnerable by human activities

- Our world recently completed the ‘United Nations Decade on biodiversity (2011- 2020)’.
- Small patches of mangroves are being lost gradually and quietly because of their indiscriminate destruction for either coastal development or short gains Coastal mangrove habitats across the globe are the popular hub of coastal fisheries, cultivation, pisciculture, shrimp farming, crab farming, all providing livelihoods to native people. In Indian Sundarbans, conversion of boundary mangroves to shrimp farms and different pisciculture farms is extremely popular and it's the most supply of financial gain for the native people.
- Extensive surveys for the previous couple of years (2014-2021) by our cluster determined that loss of those mangrove habitats conjointly results in loss of species that belong to IUCN’s near-threatened or vulnerable category.
- These settlement mangroves wont to be safe havens of numerous molluscs and crustaceans, however these also are disappearing because of the contaminated discharges from shrimp ponds, harming the native habitat and breeding activities of those species.
- One such crustacean may be a sesarmid mangrove tree-climbing crab referred to as Episesarma mederi, seldom reported from Sundarban settlement mangroves.
- The accreting mudflat may be a favoured habitat for mangrove-dependent fish species, that enter the mudflat with the tidal flow however are trapped in these nets throughout the ebb current of the tides.

Topic 7. SINGLE-WINDOW PORTAL FOR INVESTORS LAUNCHED

Importance for Prelims: Economy



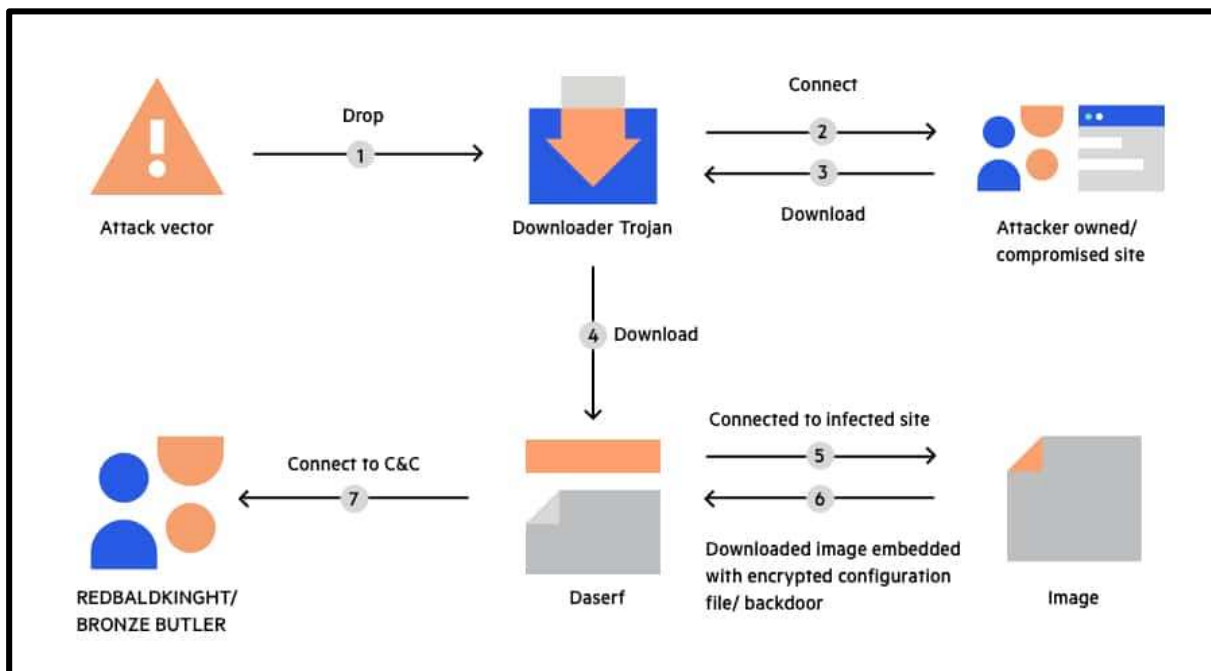
Piyush Goyal, Commerce and industry Minister, on wednesday launched the single-window portal for investors and businesses.

- Piyush Goyal, Commerce and industry Minister, on wednesday launched the single-window portal for investors and businesses.
- The portal can function a one stop-shop for investors for approvals and clearances.
- The National Single Window System (NSWS) can begin a modification from the inheritance of running to government offices and can promote the benefit of doing business.
- The portal, as of these days, hosts approvals across eighteen Central Departments and 9 States, and another fourteen Central Departments and 5 States are going to be additional by December 2021.
- NSWS can give end-to-end facilitation and support to investors, facilitate clearances at the Centre and State levels, give pre-investment advisory to new businesses, and share information associated with land banks.

- It seeks to address information spatiality, duplication of knowledge submitted across platforms and authorities, and inefficient trailing of approvals and registration two-faced by investors.
- All solutions for businesses are going to be provided at the clicking of the mouse through 'end-to-end' facilitation and data required are going to be out there on a single dashboard, transfer transparency, responsibility and responsiveness within the scheme.
- The dashboard are often wont to place in applications and additionally track and reply to queries.
- The services out there embody apprehend Your Approval (KYA), common registration and State registration forms, document repository, and ecommunication.

Topic 8. TROJAN MALWARE

Importance for Prelims: Security



Beware of trojan malware attack, MeitY warns customers of 27 major banks

- A trojan horse or Trojan may be a sort of malware that's usually disguised as legitimate software.
- Trojans are often used by cyber-thieves and hackers attempting to achieve access to users' systems.
- Users are generally tricked by some sort of social engineering into loading and execution Trojans on their systems.
- Once activated, Trojans will alter cyber-criminals to spy on you, steal your sensitive information, and gain backdoor access to your system.
- The term "Trojan" derives from the ancient Greek story regarding the deceptive trojan horse that led to the fall of the city of Troy.
- When it involves your pc, a Trojan virus operates equally – it hides at intervals seemingly harmless programs or tries to trick you into downloading it.

- The name was coined during a US Air Force report in 1974, that speculated on theoretic ways that computers can be compromised. in contrast to viruses, Trojans don't self-replicate.
- Instead, a bug spreads by pretence to be helpful software or content whereas secretly containing malicious directions.

Topic 9. FINAL BOUND TOTAL AGGREGATE MEASUREMENT OF SUPPORT (FBTAMS)

Importance for Prelims: Agriculture

‘Rich nations should end subsidy entitlements’

- India has submitted a recent paper at the on-going wto negotiations on agriculture rigorous that special grant entitlements enjoyed by thirty two developed countries should be eliminated 1st before the other country takes on any commitments.
- The special entitlements, referred to as the final bound Total aggregate measurement of Support (FBTAMS), permits most developed nations, and a very small range of developing countries, flexibilities to breach prescribed domestic grant levels (fixed at five per cent important of turn out for made countries) and conjointly concentrate the support in exactly a couple of product.
- A country’s FBTAMS springs from the amount of support provided throughout throughout, with a couple of exceptions for countries that joined the WTO when 1995.
- The G-33 cluster (a group of developing and least-developed members) and the ACP cluster (members from African, Caribbean and Pacific regions), too, stressed that eliminating FBTAMS is their 1st priority in domestic support negotiations.

Topic 10. GIG WORKERS

Importance for Prelims: Economy

HOW THE GIG ECONOMY WORKS

- ✓

Individual gigs make up a worker's income
- ✓

Workers and employers usually find each other with technology
- ✓

Gig workers are independent contractors
- ✓

Freelancers pay their own taxes and benefits



Gig workers' body files PIL for social security • Filed on September 20, the PIL declared that the denial of social security to gig employees or platform employees has led to their exploitation, in violation of Article 21 (Right to Life), Article fourteen (equality before law) and Article twenty three (prohibition of traffic in mortals and compelled labour), of the Constitution.

- By labelling gig employees as freelance contractors, platform corporations like Uber, Ola, Swiggy, and Zomato are able to deny them fixed remuneration and alternative social security edges.
- A recent judgment of the united kingdom Supreme Court had also recognised Uber drivers as workers and not independent contractors.

Topic 11. EARLY HARVEST DEAL

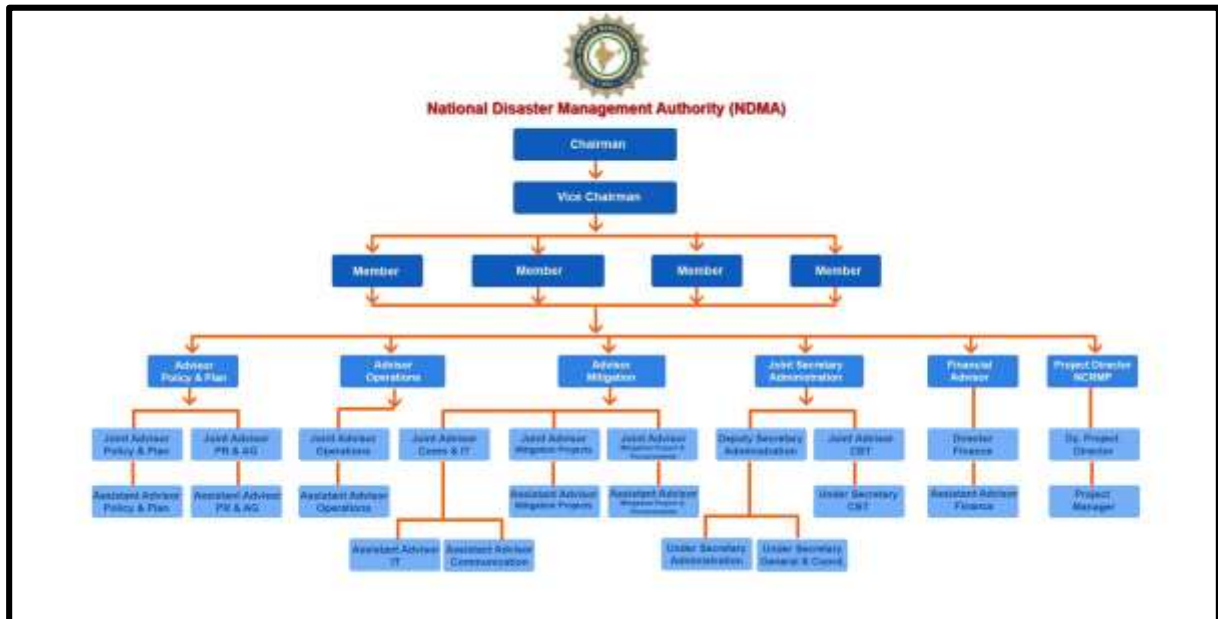
Importance for Prelims: IR

India, UAE look to sign 'early harvest deal' by begin of 2022

- Early harvest agreements are accustomed liberalise tariffs on the trade of sure product between 2 countries or commerce blocs before a comprehensive free trade Agreement (FTA) is ended. Early harvest theme could be a precursor to a free trade agreement (FTA) between 2 trading partners.
- This is to assist the 2 trading countries to spot sure merchandise for tariff relaxation unfinished the conclusion of FTA negotiation. it's primarily a confidence building live between 2 commerce partners.
- An Early Harvest theme (EHS) is an agreement between 2 states (or regional trading blocs) that liberalizes tariffs on sure product preceding the conclusion of a trade Agreement (FTA).

Topic 12. NATIONAL DISASTER MANAGEMENT AUTHORITY

Importance for Prelims: Disaster Management



The Ministry of Home Affairs informed the Supreme Court that the National Disaster Management Authority (NDMA) has suggested the payment of ₹50,000 every as optional help to consecutive of kin of these WHO died of COVID-19.

- The Ministry of Home Affairs on Wednesday informed the Supreme Court that the National Disaster Management Authority (NDMA) has suggested the payment of ₹50,000 every as optional help to consecutive of kin of these World Health Organization died of COVID-19, together with those that succumbed to the virus whereas concerned in relief operations and state activities.
- The assistance would be given, given that the explanation for death is certified as COVID-19.
- The cash would be provided by the States from the State Disaster Response Fund (SDRF).
- The disbursement of the amounts would be carried out by the District Disaster Management Authority/district administration involved to the families.

- In case of grievances relating to certification of death as prescribed by the Health Ministry and therefore the Indian Council of Medical research (ICMR), district-level committees comprising extra District Collector, Chief medic of Health (CMOH), extra CMOH/Principal or head medication of a medical college (if one exists within the district) and a subject matter professional would propose the required remedial measures, together with issue of amended instrument for COVID-19 death when confirmatory facts in accordance with the Health Ministry and ICMR guidelines.
- The Supreme Court, in a very judgment on June 30 supported a plea filed by advocate Gaurav Bansal, had directed the NDMA to advocate guidelines for giving optional help to the families of persons UN agency died of COVID-19 as mandated under Section 12 (iii) of the Disaster Management Act of 2005.

Topic 13. ARJUN MK-1A TANKS

Importance for Prelims: Security

₹7,523 cr. order for Arjun Mk 1A tanks

- The Defence Ministry on Thursday placed an order with the heavy Vehicles factory (HVF), Avadi, for the provision of 118 indigenous Arjun Mk-1A main battle tanks for the army at a cost of ₹7,523 crore.
- The state-of-the-art MBT Mk-1A may be a new variant of Arjun tank designed to enhance fire power, quality and survivability.
- Infused with seventy two new options and a lot of autochthonic content from the Mk-1 variant, the tank would guarantee easy quality all told terrains, besides precise target engagement throughout day and night.
- The MBT Arjun Mk-1A was designed and developed by the Combat Vehicles analysis and Development institution (CVRDE), beside the other laboratories of the Defence research and Development Organisation (DRDO).
- The development of autochthonic Main Battle Tank Arjun was started by the Defence analysis and Development Organisation (DRDO) within the late Eighties primarily to augment the predominantly Russian-made armoured fleet.
- The Army has 2 regiments of Arjun Mk1 tanks in service inducted between 2005 and 2010.
- The Arjun Mk-1A has 14 major upgrades over the Mk1 variant, that were developed and approved in October 2018.
- The Mk1A are going to be while not missile firing capability and can be incorporated as and once the event is complete.
- An Arjun hub has been set up in Jaisalmer wherever 248 rotables are deposited to ensure fast support and maintenance for the fleet.

Topic 14. RBI'S GOVERNMENT SECURITIES ACQUISITION PROGRAMME (G-SAP)

Importance for Prelims: Economy

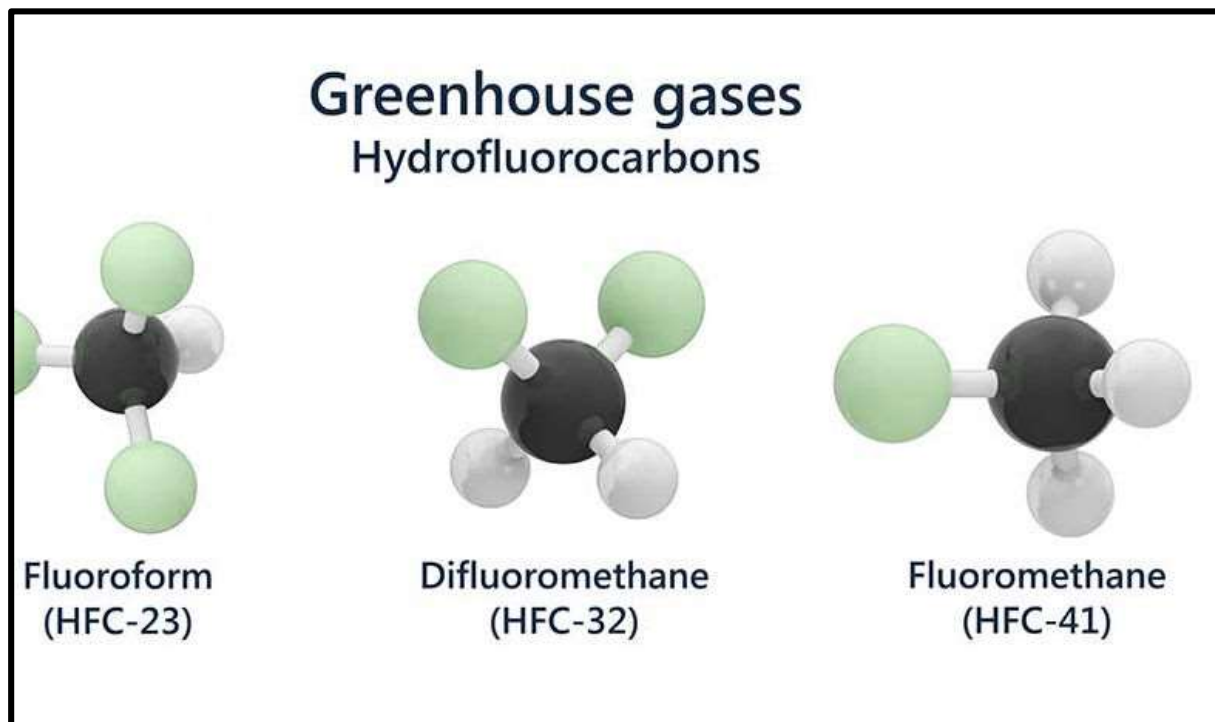
RBI's G-SAP 2.0 could hinder banks' credit off take

- Under the G-SAP a pair of.0 programme, the tally can conduct open market purchases of government securities worth worth.2 lakh crore across banking system maturity spectrum.
- The programme aims to confirm the orderly evolution of the yield curve specified all segments of the yield curve stay liquid. G-SAP 2.0 is that the Indian version of quantitative easing, that has been the go-to financial policy to drag economies out of recession once the world monetary crisis.
- In quantitative easing, central banks pump money into the economy through the banking system, with the implied belief that the banks can expire that liquidity to the remainder of the economy within the sort of credit, therefore support the productive activity within the economy.
- The current annual credit and deposit growth rates for the scheduled industrial banks are ten per cent and vi per cent, respectively, raising serious issues regarding the pass-through.
- The possession pattern of state securities reveals that the commercial banks hold around 40 per cent of government securities.
- The large quantitative easing programme under G-SAP could flatten the yield curve and inflate the costs of government securities held by the banks, inflicting a rise within the banks' equity.
- The reserve bank of India (RBI) has given a twist to its Operation Twist exercise, subsuming purchase of longer tenor Government Securities (G-Secs) beneath the GSec Acquisition Programme (G-SAP) 2.0 and simultaneously selling short GSecs beneath open market operation (OMO).

- Under special OMOs (operation twists) that the tally sometimes conducts, the notified amounts for the acquisition and sale legs are equal and, therefore, supposed to be liquidity neutral.
- These are geared toward lowering longer term interest rates, thereby reducing the term premium.

Topic 15. HYDRO FLUOROCARBONS

Importance for Prelims: Environment



EPA rule sharply limits HFCs, gases used as refrigerants

- Environmental Protection Agency is sharply limiting domestic production and use of hydro fluorocarbons, extremely potent greenhouse gases normally utilized in refrigerators and air conditioners.
- The new rule declared is meant to decrease U.S. production and use of HFCs by 85th over successive 15 years, a part of a worldwide phase-out designed to slow global warming.
- The administration is also taking steps to restrain on imports of HFCs, greenhouse gases that are thousands of times additional powerful than carbon dioxide.
- They often leak through pipes or appliances that use compressed refrigerants and are thought of a serious driver of world warming. President Joe Biden has pledged to embrace a 2016 global agreement to greatly reduce HFCs by 2036.

- The rule, set to require result in late October, is predicted to reduce harmful emissions by the equivalent of 4.5 billion metric loads of carbon dioxide by 2050.

Topic 16. RBI RETAIL DIRECT PLATFORM FOR GOVERNMENT SECURITIES (G-SECS)

Importance for Prelims: Economy



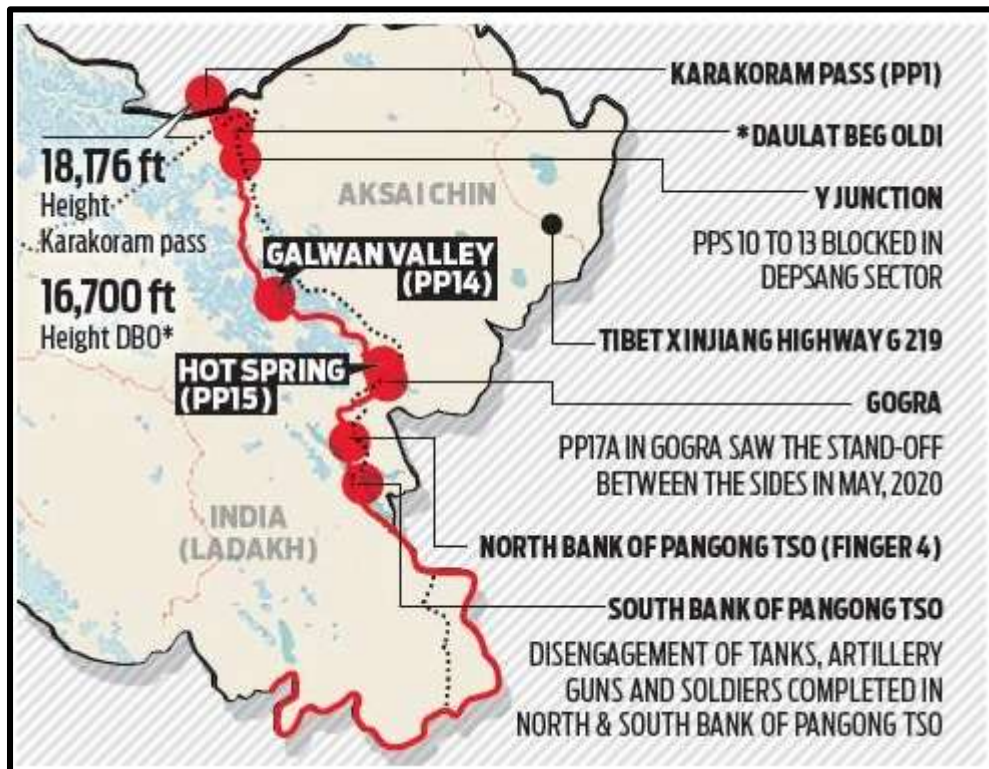
G-Sec Retail Direct: Mkt players look for simple KYC, interoperability

- For effective implementation of the rbi Retail Direct platform for government Securities (G-secs), market participants are pushing for tweaks within the rules, seeking relaxation in KYC norms, ability for consumers and a clarity on whether bonds bought through the retail direct platform should be command in demat form.
- Investments done directly by retail investors in G-sec may not replicate within the single record of all money assets, as being envisaged under the account someone guidelines.

- The reserve bank of Bharat in July disclosed a theme permitting retail investors to directly participate within the G-sec market.
- They will open and maintain a 'Retail Direct Gilt Account' (RDG Account) with the rbi through a portal, which can additionally give access to primary issuing of G-Secs and also the secondary market further. G-Secs command in demat mode are mirrored within the CSDL or Constituent Subsidiary ledger (SGL) account of the depositories.
- In 2005, rbi created its on-line platform, Negotiated Dealing System (NDS-OM), operated by the Clearing Corporation and Indian Ltd (CCIL), for issue of G-Secs.
- At present, the RBI's Core Banking solution (E-Kuber), commerce platform (NDSOM), depository system (PDO/SGL) and clearing and settlement by CCIL, along give a comprehensive, seamless and end-to-end platform for commerce and settlement of G-Secs for banks and choose institutional investors on T+1 basis with settlement guarantee.
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- As rbi isn't a money information supplier under its Account someone Directions, the investment command during this account won't replicate within the single record of all financial assets.
- The theme is additionally silent on whether G-Secs command during this retail account in SGL mode are often demated.

Topic 17. GOGRA MAPPING

Importance for Prelims: Geography



Gogra grazing areas off-limits

- Villagers have lost access to a huge grazing area close to Gogra in eastern Ladakh due to growing Chinese presence within the area. Gogra is one the many friction points in eastern Ladakh wherever Indian and Chinese troops are engaged in a stand-off since April-May 2020.
- The troops have disengaged from the north and south banks of the Pangong Tso and Gogra sector, making “no zones” in areas on the undemarcated Line of Actual control (LAC) that was often patrolled by Indian troops before April 2020.
- The Army had stopped the villagers’ access to the Kiu La pass that was until a number of years past frequented by the villagers of Lukung, Phobrang and Yourgo for cattlegrazing.

- Location of Hot Springs and Gogra Post: Hot Springs is simply north of the river Chenmo river and Gogra Post is east of the purpose wherever the river takes a hairpin bend coming back southeast from Galwan valley and turning southwest.
- The area is north of the karakoram range of mountains, that lies north of the Pangong Tso lake, and south east of Galwan valley.

Topic 18. SERVICE EXPORTS FROM INDIA SCHEME (SEIS)

Importance for Prelims: Economy

Govt. notifies SEIS rates for 2019 20, sets ceiling

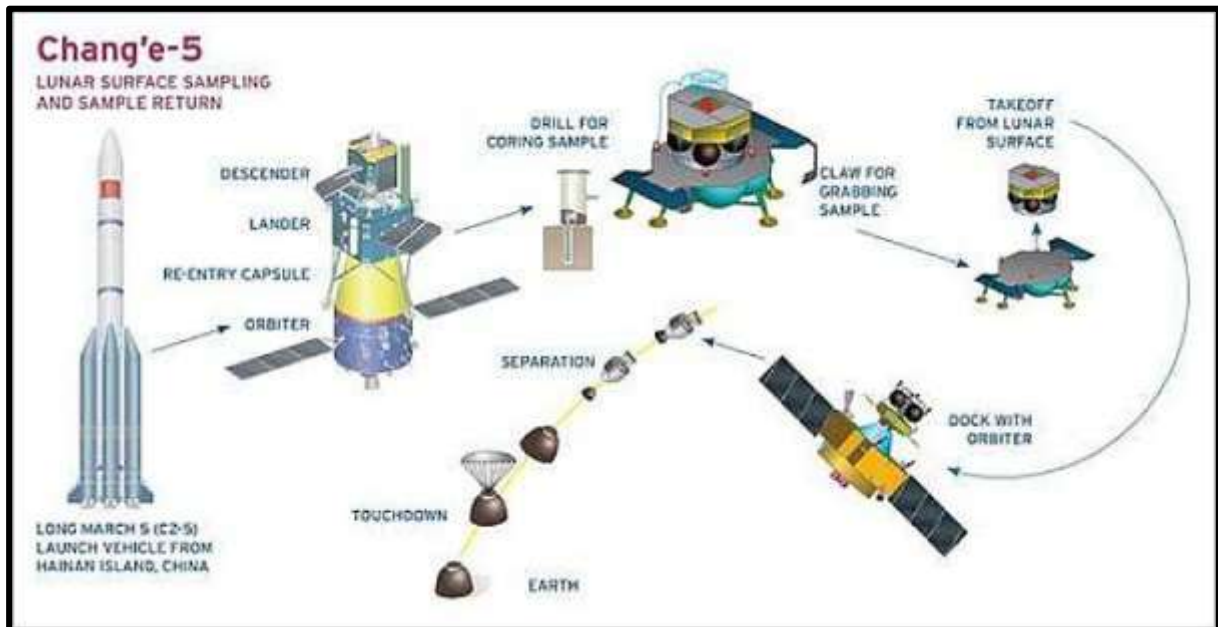
- Service Exports from India|Bharat|Asian country|Asian nation} scheme (SEIS) aims to push export of services from India by providing duty certificate credit for eligible exports.
- A Duty Credit scrip is sort of a credit certificate issued by the Director General of Foreign Trade (DGFT) and might be wont to pay varied duties/taxes to the Central Govt.
- Under the scheme, service suppliers, set in india, would be rewarded beneath the SEIS theme, for all eligible export of services from India. SEIS was earlier termed as Served from India theme (SFIS).
- The theme is enforced and administrated by the Government's Ministry of Commerce and trade, in association with the board of directors General of Foreign Trade (DGFT).
- Eligibility Service suppliers of notified services, set in India| area unit eligible for the Service Exports from India theme. To be eligible, a service supplier (Company / LLP / Partnership Firm) ought to have minimum internet free foreign exchange earnings of USD 15000 within the preceding fiscal year to be eligible for duty credit scrips.
- For proprietorships or individual service suppliers, minimum internet foreign exchange earnings of USD10, 000 within the preceding financial year is needed to be eligible for the theme.
- Also, so as to say reward under the SEIS theme, the service supplier shall have to have a full of life Import Export Code (IE Code) at the time of rendering such services that rewards area unit claimed. Merchandise

Exports from Republic of India theme (MEIS) MEIS was launched with associate degree objective to reinforce the export of notified merchandise factory-made in an exceedingly country.

- This theme came into result on one April 2015 through the Foreign trade policy and was in existence until 2020.
- It supposed to incentivize exports of products factory-made in India or created in India.
- The incentives were for goods wide exported from India, industries manufacturing or producing such merchandise with a read to creating Indian exports competitive.
- The MEIS lined virtually 5000 goods notified for the purpose of the theme.

Topic 19. CHINA'S CHANG'E-5 LUNAR MISSION

Importance for Prelims: Science and Tech



On December 16, 2020, China's Chang'e-5 lunar mission delivered to Earth nearly 2 kilogram of rocky fragments and dirt from the Moon.

- On december 16, 2020, China's Chang'e-5 satellite mission delivered to Earth nearly 2 kilogram of rocky fragments and dust from the Moon. Chang'e-5 landed on a locality of the Moon (the 'far side') not sampled by the yankee or Soviet missions nearly 50 years past, and therefore retrieved fragments of the youngest satellite rocks ever brought back for analysis in laboratories on Earth.
- The rocks are totally different to those came decades past.
- The Findings – 90th of the materials collected by Chang'e-5 seemingly derive from the landing website and its immediate surroundings, that are of a sort termed 'mare basalts'.
- These volcanic rocks ar visible because the darker gray areas that spilled over abundant of the side of the Moon as ancient eruptions of lava.

- Yet 100 percent of the fragments have clearly totally different, ‘exotic’ chemical compositions.
- The distinct 100% fragments might preserve records of different components of the satellite surface additionally as hints of the categories of area rocks that have wedged the Moon’s surface.
- Researchers have checked out the potential sources of beads of rapidly cooled glassy material.
- They have derived these glassy droplets to extinct volcanic vents called ‘Rima Mairan’ and ‘Rima Sharp’.
- These fragments may offer insights into past episodes of energetic, fountainlike volcanic activity on the Moon.
- The young earth science age of the rocks at the landing website narrows the search, as only craters with ages but 2 billion years may be accountable, and these are comparatively rare on the facet of the Moon that faces Earth.
- The team has modelled the potential contributions from specific craters: Aristarchus, Kepler, Copernicus, Harding, and Harpalus.
- Findings show that Harpalus may be an important contributor of the many exotic fragments among Chang’e-5’s sample haul, and these items of rock may provide some way to deal with persisting uncertainty regarding this crater’s age.

Topic 20. ARTIFICIAL INTELLIGENCE'S RELIGIOUS BIASES

Importance for Prelims: Science and Tech

Artificial Intelligence (AI) has taken over our lives much ahead of the futurist moving picture Minority Report had predicted.

- In a paper printed in Nature Machine Intelligence, Abid and his fellow researchers found that the AI system GPT-3 (an computer science system that generates text), disproportionately associates Muslims with violence.
- Other spiritual teams are mapped to problematic nouns additionally, for instance, “Jewish” is mapped to “money” 5-hitter of the time. Of the six spiritual teams — Muslim, Christian, Sikh, Jewish, Buddhist and Atheist — thought-about throughout the analysis, none is mapped to a single conventional noun at an equivalent frequency that ‘Muslim’ is mapped to ‘terrorist’.
- Although AI bias associated with race and gender is practically known , much less attention has been paid to religious bias.
- GPT-3, created by the research lab OpenAI, already powers many applications that are used for copywriting, marketing, and more, and hence, any bias in it'll get amplified a a hundred times in downstream uses.

Topic 21. BLUE FOODS HAVE POTENTIAL TO BECOME MORE SUSTAINABLE

Importance for Prelims: Environment

Aquatic or blue foods may be created a lot of environmentally property than they're now, according to a recently discharged paper.

- The report, titled Environmental performance of blue foods, was one in every of 5 initial scientific papers revealed as part of the Blue Food Assessment (BFA).
- The BFA may be a collaboration between Sweden-based Stockholm Resilience Centre, United States-based stanford university and therefore the non-profit EAT.
- The paper noted that seaweeds and farmed bivalves, like mussels and oysters, generated the fewest greenhouse gas and nutrient emissions and used the least land and water.
- Capture fisheries additionally resulted in few nutrient emissions and use restricted land and water, per the paper.
- Capture fisheries refers to any or all sorts of harvest home of present living resources in each marine and fresh environments.
- The paper added that greenhouse gas emissions in such fisheries ranged from comparatively low, like for sardines and cod, to comparatively high for flatfish and lobsters, compared to farmed fish.
- Capture fisheries had the potential to scale back greenhouse gas emissions through improved management and optimising gear sorts, per the paper.
- Many subsectors among blue foods like carp and milkfish additionally had the potential to boost their environmental performance through improved farm management, reduced feed conversion ratios and innovative technological interventions.

Topic 22. SYMPHONY

Importance for Prelims: Art and Culture



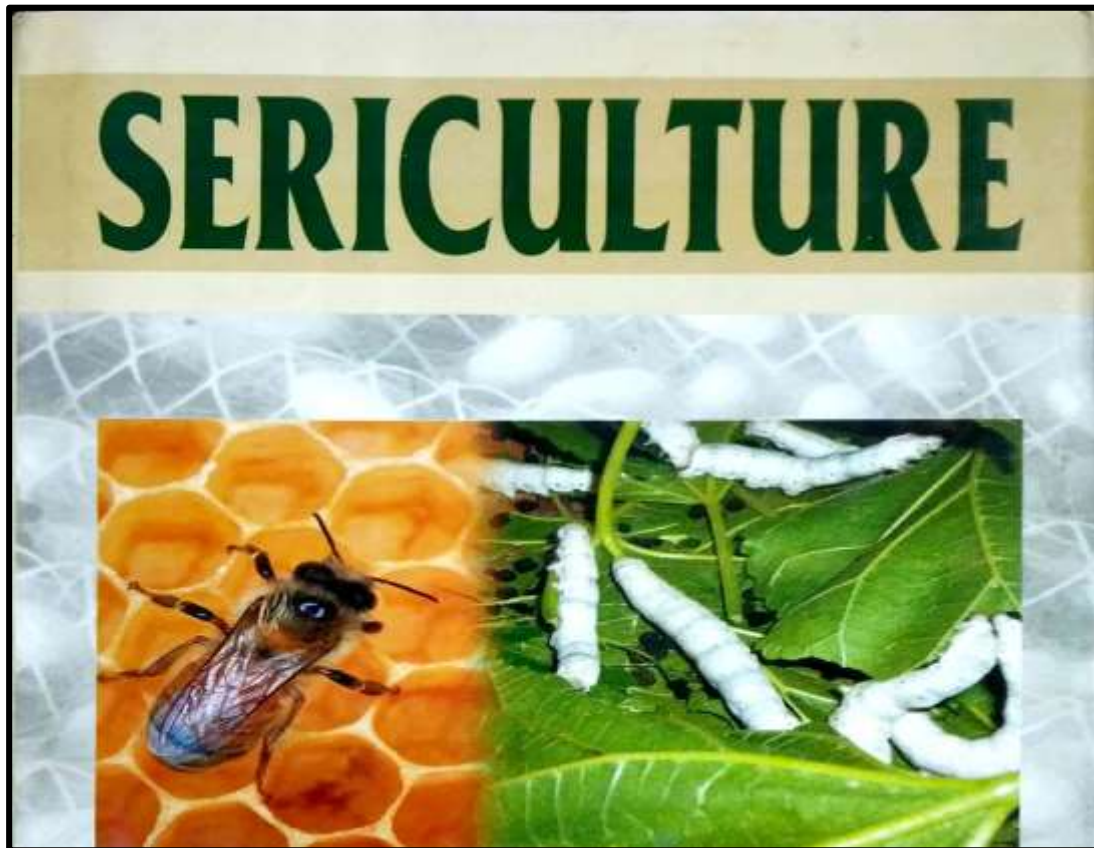
A team of musicologists and computer scientists completed Beethoven's unfinished 10th Symphony

- A symphony is an extended musical composition in Western classical music, written by composers, most frequently for orchestra.
- Written for an orchestra, symphonies usually contain four movements: the primary is performed at a quick tempo, the second at a slower one, the third at a medium or quick tempo and therefore the last at a quick tempo.
- Symphonies are nearly always scored for AN orchestra consisting of a section (violin, viola, cello, and double bass), brass, woodwind, and percussion instruments that altogether range regarding 30 to 100 musicians.
- Symphonies ar notated in an exceedingly score, that contains all the instrument components. musical organisation musicians play from components that contain simply the notated music for his or her own instrument. Some symphonies conjointly contain vocal components (e.g., Beethoven's Ninth Symphony).

- Ludwig van Beethoven He was a German musician and pianist. Beethoven remains one among the foremost admired composers within the history of Western music; His works rank amongst the most performed of the classical music repertoire and span the transition from the Classical amount to the Romantic era in musical style.

Topic 23. SERICULTURE

Importance for Prelims: Agriculture



‘Cocoon production in Karnataka down by 50%’

- Sericulture is the cultivation of silk rearing of silkworms. It is an agro-based industry.
- It involves the raising of food plants for silkworm, rearing of silkworm for production of cocoons, reeling and spinning of cocoon for production of yarn, etc. for valueadded benefits such as processing and weaving.
- Silk is known as the queen of textile and “BIOSTEEL” because of its strength.
- India is the second largest producer of silk in the world after China (China is said to be the origin of sericulture).
- India has the distinction of producing all the four types of silk i.e.
- Mulberry silk (91.7%);
- Tasar silk (1.4%);

- Eri silk (6.4%); and
 - Muga silk (.5%)
- a) which are produced by different species of silkworms. Mulberry silk is produced extensively in the states of Karnataka, West Bengal and Jammu & Kashmir.
- b) Similarly, Tasar silk worms are reared traditionally by the tribes of Madhya Pradesh, Bihar, Orissa and Jharkhand; Muga and Eri silk are produced exclusively in Assam.
- c) The food plant of silkworms is Mulberry for producing Mulberry silk.
- d) Except for mulberry, other non-mulberry varieties of silks are wild silks, known as vanya silks.
- e) South India is the leading silk producing area of the country and is also known for its famous silk weaving enclaves like Kancheepuram, Dharmavaram, Arni, etc.
- f) Central Silk Board Central Silk Board is a statutory body established under the Central Silk Board Act, 1948.
- g) It functions under the aegis of Union Ministry of Textile.
- h) It is a national organization for overall development of silk sector in India.

Topic 24. MEDICAL DEVICES PARK SCHEME

Importance for Prelims: Governance

New India's Push to Medical Devices Sector

Promotion of Medical Device Parks Scheme

- Economies of scale and easy access to testing facilities
- Access to world-class common infrastructure facilities
- Grant-in-aid of INR 100 Cr each to 4 parks
- Minimum 50% of land area to be given to eligible manufacturing units

Centre notifies medical device parks' theme

- The Union government notified a theme to push medical device parks at a financial outlay of ₹400 crore till financial year 2024-2025.
- The theme aims to confirm easy accessibility to testing and infrastructure facilities.
- It is predicted that this can bring down the price of production of medical devices, thereby creating them more affordable for domestic consumption, the Department of pharmaceuticals said during a statement.
- The money help for a specific medical device park would be ninetyth of the project value of common infrastructure facilities for the north-eastern and rough States.
- For the remainder, it might be seventieth. However, a most help under the theme for one such park are going to be are going to be Medical Devices – The medical device business may be a distinctive mix of engineering and medication.
- It involves the creation of machines that 70th wont to support life at intervals the material body.

- Medical devices embrace Surgical instrumentality, Diagnostic instrumentality like viscus imaging, CT scans, X-ray, Molecular Imaging, MRI and Ultrasound-imaging as well as hand – command devices; Life Support instrumentality like ventilator, etc. moreover as Implants and Disposables.
- Medical Devices Sector in India: Medical devices sector in India is extremely little in size as compared to the remainder of the producing business, although India is one amongst the highest twenty markets for medical devices within the world and is that the 4th largest market in Asia when Japan, China, and South Korea India presently imports 80-90% of medical devices of the USD15 billion market.
- The US, Germany, China, Japan, and Singapore represent the 5 largest exporters of technology medical instrumentality to India.

Topic 25.UNITES NATIONS

Importance for Prelims: IR



United Nations

India is that the mother of all democracies, PM says at UNGA

- The term United Nations was initial coined by the U.S. President Franklin D. Roosevelt and was initial used as a collective pledge of representatives of 26 nations on the 1st january, 1942, as a commitment to still fight against the Axis Powers.
- On October 24th, 1945, as several as 51 countries signed the United Nations Charter in South Africa.
- The central role of the United Nations was the promotion of peace and security, development and human rights.
- Bodies and mandate The United Nations consists of six main organs – the final Assembly, the protection Council, the Economic and Social Council, the International Court of Justice, the Secretariat and therefore the trusteeship council.
- Second, there ar variety of United Nations programmes and funds like the United Nations Children’s Fund (UNICEF), UN Development Programme (UNDP), and United Nations environment Programme (UNEP) etc.
- These programmes and funds fall into the Economic and Social Council of the United Nations however also are according to the final Assembly.

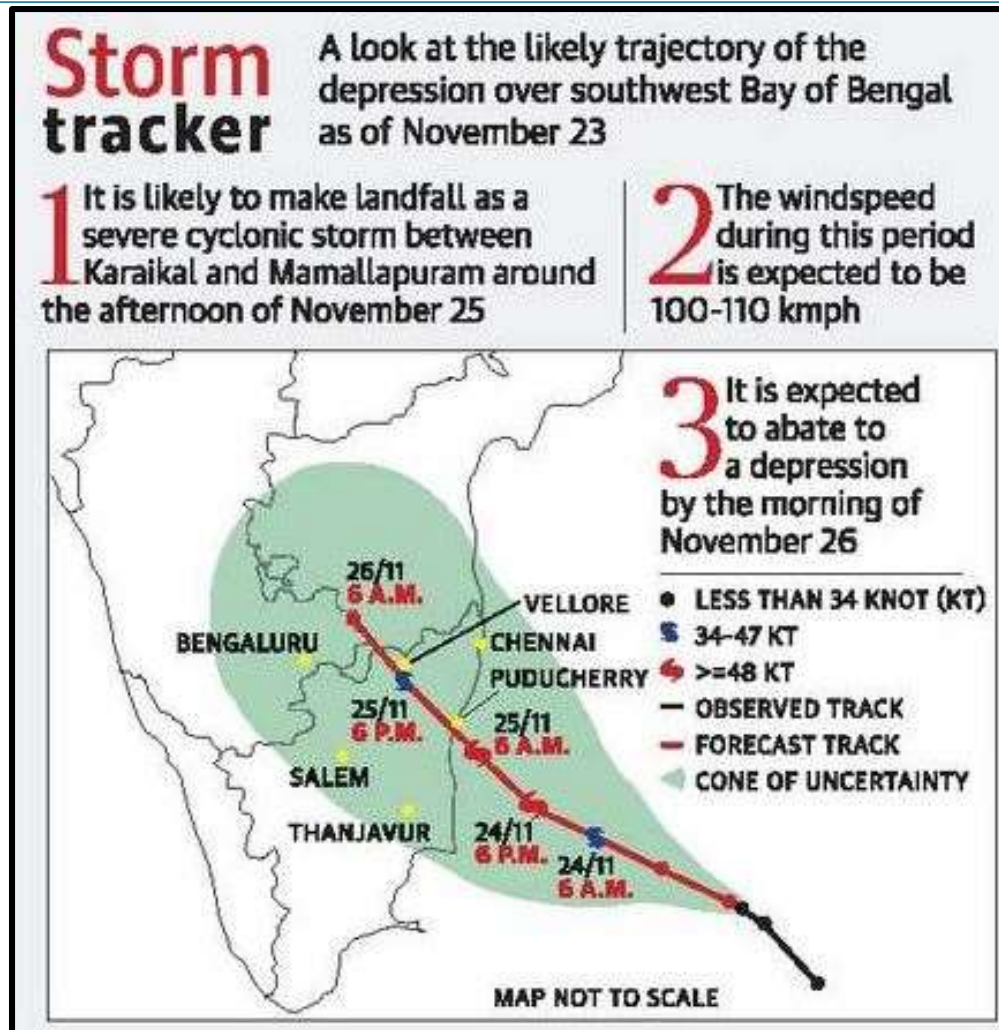
- The third set of actors inside the United Nations is that the specialised agencies and analogous bodies operating in numerous areas like agriculture, health, labour and meteorology.
- Well known among these bodies are United Nations agency, ILO, Food and Agriculture Organization of the United Nations and therefore the IBRD set of establishments Main organs
- **The General Assembly:** it's the mainstay of the UN. it's the sole forum wherever all countries sit down along and discuss their pressing issues.
- Moreover, all nation states have equal ballot rights no matter their economic standing.
- The vote of the final Assembly represents at one level world opinion.
- The selections of the final Assembly, however, don't seem to be lawfully binding on the Member States and solely represent, at best, the ethical authority of the community of countries.
- **Security Council:** the protection Council is that the United Nations organ that is accountable of security and international peace and deals with crises as they arise.
- Under the United Nations Charter, the protection Council's selections are legally binding and therefore the Member States are obligated to hold them out.
- At present, the protection Council is formed from 15 members out of whom 5 members are permanent.
- The 10 non-permanent members are sporadically nonappointive for a two year term.
- The permanent members have the veto power, i.e. they will block a proposal by casting a negative vote.

- Economic and Social Council: The Economic and Social Council (ECOSOC) is that the central UN forum with relation to international economic and social problems.
- It has 54 members United Nations agency are nonappointive by the final Assembly for a 3 year term.
- ECOSOC plays a central role in strengthening the regional cooperation for development yet as setting priorities in terms of economic and social work.
- Most of the United Nations programmes and funds and purposeful commissions as well as environmental ones like the Commission on sustainable Development (CSD) fall into the orbit of Economic and Social Council.
- It therefore coordinates the work of the United Nations specialised agencies, programmes and funds and undertakes follow-up action in terms of major UN conferences.
- This role has become all the additional vital within the context of globalization and with relation to problems like property development.
- Environmental considerations fall into the jurisdiction of Economic and Social Council.
- **Secretariat:** The UN Secretariat includes numerous UN departments and is therefore the backbone of the United Nations system. International Court of Justice: The International Court of Justice arbitrates on disputes between nation-state it had been established in June 1945 by the Charter of the global organization and started add April 1946.
- The ICJ is that the successor of the Permanent Court of International Justice (PCIJ), that was established by the League of countries in 1920.
- **United Nations territorial dominion Council:** it's established to make sure that trust territories were administered within the best interests of their inhabitants and of international peace and security.

- The trust territories—most of them former mandates of the League of countries or territories taken from nations defeated at the top of warfare II—have all currently earned self-determination or independence, either as separate nations or by connexion near freelance countries.
- The last was Palau, formerly a part of the dominion of the Pacific Islands, that became a member state of the global organization in December 1994.

Topic 26. CYCLONE LANDFALL

Importance for Prelims: Geography



According to the India meteorological Department (IMD) Cyclone Gulab, the primary cyclone post-monsoon, formed within the Bay of Bengal on the evening of September 25, 2021. it's going to create landfall on the south Odisha and northern province coasts by tomorrow evening.

What is landfall?

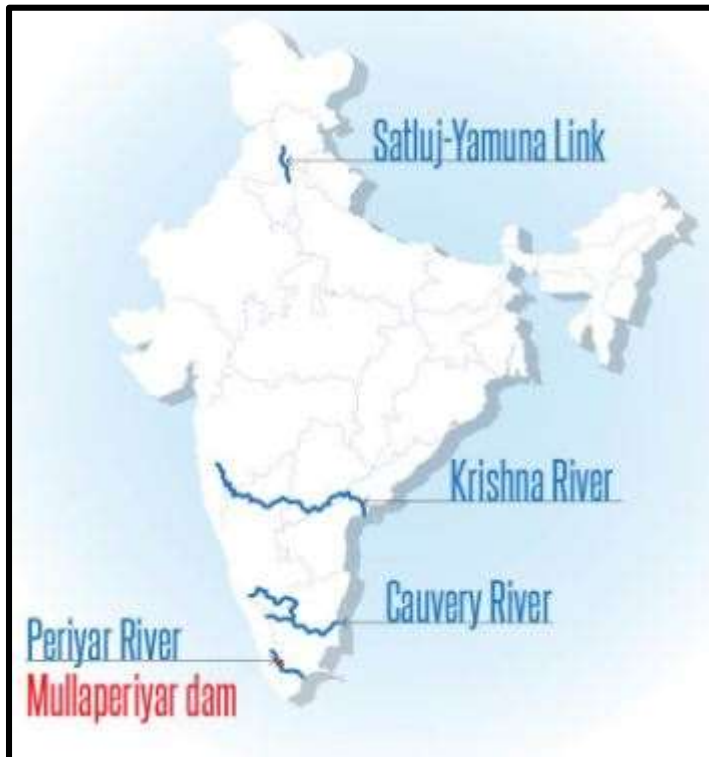
- A landfall, in easy words, is that the storm moving over the land once its intensification within the ocean (heat source).
- Therefore, a cyclone is alleged to form landfall once the centre of the storm (eye) moves across the coast.
- As per the United States National hurricane Centre definition, it's 'the intersection of the surface centre of a tropical cyclone with a coastline.'
- Tropical cyclones are sometimes fashioned in warmer seas.

- The strongest winds of the cyclone don't seem to be at the centre, however at the immediate surroundings of the attention of the storm—usually stronger on one facet of the centre.
- Therefore, terribly high wind speed may be old over the expanse once the cyclone is close to the land, even once it's yet to form landfall. It may be the other way around too, wherever the cyclone will create landfall however leave the strongest wind over the ocean.
- The landfall sometimes brings with it high-speed winds, severe storm surge and torrential waterspout, all of which may have a severe impact on the region.
- The storm sometimes weakens speedily once landfall because the ocean heat and wet that fuels the storm isn't any longer available.
- Conditions Favourable for Tropical Cyclone Formation large sea surface with temperature higher than 27°C.
- Presence of the force enough to make a cyclonic vortex. tiny variations within the vertical wind speed.
- A pre-existing weak unaggressive area or low-level-cyclonic circulation.
- Upper divergence above the sea level system.
- Favorite Grounds for Tropical Cyclones South-east Caribbean region wherever they're known as hurricanes.
- Philippines islands, jap China and Japan wherever they're known as typhoons. Bay of Bengal and sea wherever they're known as cyclones.
- Around south-east African coast and Madagascar-Mauritius islands. North-west Australia.
- Nomenclature of Tropical Cyclones The naming of tropical cyclones could be a recent development.

- The method of naming cyclones involves many countries within the region and is completed beneath the aegis of the world meteorological Organization (WMO).
- For the Indian Ocean region, a formula for naming cyclones was given in 2004.
- Eight countries within the region – Bangladesh, India, Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand – all contributed a collection of names that are allotted consecutive whenever a cyclonic storm develops.
- Hudhud, Titli, Phethai, Fani, Vayu , Amphan and Nivar are among the names of cyclones within the Indian Ocean region.
- Worldwide word of Tropical Cyclones they're given several names in several regions of the world – eg. they're called Typhoons within the China sea and Pacific Ocean; Hurricanes within the West Indian islands within the Caribbean and Atlantic Ocean; Tornados within the Guinea lands of West Africa and southern USA.; Willy-willies in north-western Australia and Tropical Cyclones within the Indian Ocean.

Topic 27. PERIYAR RIVER

Importance for Prelims: Geography



Kayaking, stand up paddling on Periyar river on Sunday

- Periyar is that the longest river and therefore the watercourse with the largest discharge potential within the Indian state of Kerala.
- It is one among the few perennial rivers within the region and provides drinking water for many major towns.
- It generates a major proportion of Kerala's wattage via the Idukki Dam and flows on a region of industrial and commercial activity.
- Due to those reasons, the watercourse has been named the "Lifeline of Kerala".
- Kochi town, within the vicinity of the watercourse mouth attracts its facility from Aluva, an upstream web site sufficiently free of seawater intrusion.

- Twenty 5 p.c of Kerala's industries are on the banks of river Periyar. Periyar river originates from Sivagiri hills of Western Ghats and flows through the Periyar national park.
- It flows into Vembanad Lake and at last into Arabian Sea.
- The main tributaries of Periyar are Muthirapuzha, Mullayar, Cheruthoni, Perinjankutti.

Topic 28. REGISTRATION OF POLITICAL PARTY

Importance for Prelims: Polity

EC mulls deregistering inactive political parties

How does a political party get set up?

- The law (The representation of the people Act 1951 Section 29A) sets down sure conditions for a political party to create and find registered by the election commission of India (ECI): It should consist only of Indian citizens
- It should decision itself a political party established for the aim of contesting elections to the Parliament and State Legislatures and for no different purpose.
- It should have a minimum of 100 registered electors as its members.
- An application for registration (along with all supporting documents) is to be submitted to the Secretary of the ECI within the prescribed format.
- Also, once a political party has been registered by the ECI, it's its legal duty to keep the ECI punctually hip to of any modification in its name, head office, office-bearers, address, or in the other material matters, like its constitution.
- Currently, there's no categorical provision for internal democratic regulation of political parties in India the sole (limited) provision within the law needs a definite endeavor pledging true religion and allegiance to the Constitution of India and also the principles enshrined in it.

Can political parties be de-registered by the Election Commission?

- The ECI isn't authorized to de-register parties on the grounds of violating the Constitution or breaching the undertaking given to that at the time of registration.

- A party will only be de-registered if its registration was obtained by fraud; if it's declared ill-gotten by the Central Government; or if a celebration amends its internal Constitution and notifies the ECI that it will not abide by the Indian Constitution.

How are election symbols chosen and assigned to political parties?

- Election symbols are easy pictures that are simply diagnosable by the final mass of voters. Every image represents a specific political party and helps the voter to spot the party of her alternative whereas casting her vote.
- The ECI decides that party gets that image. Only parties that are recognised by the ECI will reserve symbols for his or her own exclusive use. Unrecognised parties will choose from any unreserved or free symbols.
- The image reserved for a National party are often solely employed by it and its candidates all told states throughout India. State parties, on the opposite hand, have symbols reserved for them solely within the state(s) wherever they're thus recognised.
- The ECI has also stipulated that an emblem reserved for a state party in any state won't be reserved for one more state party in the other state (with impact from Dec, 1997), or be a free image anywhere else.

How are parties recognised as 'regional' and 'national' political parties?

- **Benefits** – the first advantage of being recognised as a National Party or a State Party is that the Party is entitled to use its reserved image for all its candidates contesting elections throughout the country or the State, because the case is also.
- dedicated broadcast slots on public broadcasters, lesser range of proposers needed to file nomination papers, grant of 2 free copies of electoral rolls, nomination of bigger range of leaders/star campaigners for effort (expenditure incurred by them towards travel for propagating the

programme of the organization is exempted from inclusion towards a candidate's total expenditure limits) etc.

- (The illustration of the people Act 1951 Section 77).
- A recognized National or State party will have a most of forty “Star campaigners” and a registered un-recognised party will nominate a most of 20 ‘Star Campaigners’.
- On the most recent list of parties are eight national recognised parties — the Trinamool Congress, the BSP, the BJP, the CPI, the CPI(M), the Congress, the NCP and also the National People's Party — and 54 recognised State parties.
- Membership of MLA, MP and MLC On ten Gregorian calendar month 2013, the Supreme Court of India, in its judgement of the Lily Thomas Union of India case dominated that any Member of Parliament(MP), Member of the legislative assembly (MLA) or Member of a legislative council (MLC) who is guilty of against the law and awarded a minimum of 2 year imprisonment, loses membership of the House with immediate impact.
- This is in distinction to the earlier position, whereby convicted members endured to their seats till they exhausted all judicial remedy in lower, state and supreme court of India.
- Further, Section 8(4) of the illustration of the people Act, that allowed elected representatives 3 months to charm their conviction, was declared unconstitutional.

Topic 29. INTERNATIONAL TAXATION RULES REFORM

Importance for Prelims: Economy

Call for a New Regime

OECD has proposed a new regime to prevent tax evasion by multinationals

The Base Erosion and Profit Shifting (BEPS) Project will be taken up at G-20

IT will prevent MNCs from shifting profits to low/no tax environments

\$100-240 billion estimated annual losses on this account, 4-10% of global corporate income tax revenues

APPROACH TO CHECK EVASION

- Align taxation with the location of economic activity and value creation
- New minimum standards on: country-by-country reporting
- Measures to check treaty shopping
- Automatic exchange of tax rulings
- Prevent taxpayers from using "cash box" entities to shelter profits in low or no-tax jurisdictions
- Redefines the key concept of Permanent Establishment

‘India will not be on the losing side’ – officials at the Finance Ministry

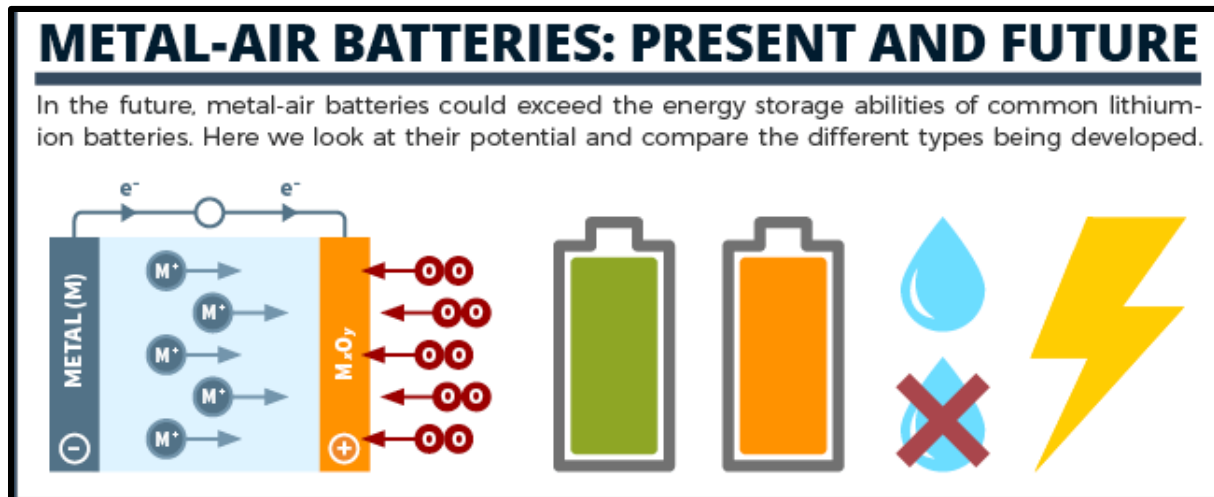
- On July 1, the Organisation for Economic Co-operation and Development (OECD) announced that 130 countries and jurisdictions, together with India, have joined a brand new two-pillar arrange to reform international taxation rules and make sure that transnational enterprises pay a good share of tax where they operate.
- The timeline for the conclusion of the negotiations includes an October 2021 point in time for the remaining technical work on the two-pillar approach, further as a thought for the effective implementation in 2023 Asian nation and also the majority of the members of OECD-G20 inclusive Framework on base Erosion and Profit Shifting (BEPS) joined a brand new two-pillar arrange to reform international taxation rules.
- The two-pillar set up – comprehensive framework tax deal aboard Erosion and Profit Shifting (BEPS)- seeks to reform international tax rules and make sure that transnational enterprises pay their fair share where they operate. The new framework seeks to handle the tax challenges arising from the digitalisation of economies.

- **Two Pillar Plan:**
- **Pillar One:** it'll guarantee a fairer distribution of profits and burdensome rights among countries with regard to the most important MNEs, together with digital firms.
- It would re-allocate some taxing rights over MNEs from their home countries to the markets wherever they need business activities and earn profits, notwithstanding whether or not companies have a physical presence there. consistent with OECD, quite USD a hundred billion of profit are expected to be reallocated to promote jurisdictions every year.
- **Pillar Two:** it's concerning minimum tax and subject-to-tax rules (All sources of financial gain vulnerable to tax while not taking account of tax allowances).
- It seeks to place a minimum normal rate among countries through a worldwide minimum company rate, presently projected at V-J Day. this is often expected to get an extra USD one hundred fifty billion in tax revenues. extra advantages also will arise from the stabilisation of the international legal system and also the augmented tax certainty for taxpayers and tax administrations, said the OECD.
- Equalisation Levy (EL) Introduced in 2016, additionally called 'Google Tax', EL was at the start applicable to payments for digital packaging services received by non-resident firms while not a permanent institution here, if these exceeded ₹1 100000 a year.
- The rate of tax was 2 per cent.
- The firms exploiting these services are needed to withhold the tax quantity. within the 2020-21 Budget, the government widened the reach of the levy by together with e-commerce firms.
- The applicable rate is 2 per cent (plus a surcharge) on quantity of thought received/receivable by an e-commerce operator.

- This came into result from April one this year.

Topic 30.METAL-AIR BATTERIES

Importance for Prelims: Science and Tech



The need for India to grow out of (Chinese-dominated) lithium for energy storage is well recognised.

- Lithium is scarce, less safe, and lithium-ion has energy limitations. Metal-air batteries, that have a metal anode (electron giver) and part oxygen because the cathode (electron acceptor), are attractive as a result of you'll use cheaper and simply on the market metals like sodium, zinc, iron, aluminium, Mg and calcium. Of these, zinc and aluminium are ahead within the race, followed by sodium and iron. For range, calculated in kWhr/kg, metal-air batteries are top quality — they beat lithium-ion (Li-ion) blue (though lithium-air is even better).
- Since the voltage of metal-air batteries is usually but that of Li-ion, you may would like a lot of cells, however the cells weigh much less as a result of they need air for cathode.
- The biggest challenge is over rechargeability.
- The 'parasitic element evolution' at the anode corrodes it and affects the performance of the electrolyte; there's additionally the formation of spikes (dendrites) on the metal anode.

- Among the opposite problems with metal-air is that the reaction of part dioxide with the electrolyte to make carbonates and therefore the erosion of the catalyst coated on the electrodes, however none of those is taken into account insurmountable.
- As such, metal-air batteries are these days possible enough for industry to start out jumping into it.
- To know about Li-ion Batteries, please [click here](#).

Topic 31. CASTE BASED CENSUS IN INDIA

Importance for Prelims: Polity

Several political parties are exacting caste-based census in India.

- The initial Census conducted in 1871 enclosed questions about caste. This information was then used to divide and conquer Asian country.
- It initially privileged Brahmins as interpreters of Indian culture and so targeted them because the root of caste-based oppression and inequality.
- This classification was also a supply of anti-Brahmin movements of 20th century. Each Census in independent India from 1951 to 2011 has printed information on scheduled Castes and scheduled Tribes, however not on alternative castes. Before that, each Census till 1931 had data on caste.
- However, in 1941, caste-based data was collected however not printed. Hence, within the absence of such a census, there's no correct estimate for the population of OBCs.
- The Mandal Commission calculated the OBC population at 52%. Another estimates are supported by National Sample Survey information.
- Difference between Census & SECC: The Census provides a portrait of the Indian population, whereas the SECC could be a tool to spot beneficiaries of state support.
- Since the Census falls under the Census Act of 1948, all information is thought-about confidential, whereas all the personal data given within the SECC is open to be used by Government departments to grant and/or prohibit advantages to households.

Topic 32.GOVERNMENT BORROWINGS

Importance for Prelims: Economy

Govt pegs H2 borrowing at ₹5.03-lakh cr

- The Finance Ministry pegged the government borrowing for the second half of 2021-22 at ₹5.03-lakh crore.
- The buoyancy in tax collections to this point within the current fiscal has compete a key think about ensuring that overall borrowing are going to be lower this year, say economy watchers. For the total fiscal year, the gross market borrowing might not go beyond go beyond.05- lakh crore projected within the Union Budget.

What is government borrowing?

- Borrowing could be a loan taken by the govt and falls below capital receipts within the Budget document.
- Usually, Government borrows through issue of presidency securities referred to as G-secs and Treasury Bills.

How will enlarged government borrowing have an effect on govt finances?

- Bulk of government's fiscal deficit comes from its interest obligation on past debt. If the govt resorts to larger borrowings, quite what it's projected, then its interest prices conjointly go up risking higher fiscal deficit.
- That hurts government's finances.
- Larger borrowing programme implies that the public debt can go up and particularly at a time once the GDP growth is subdued, it'll result in a better debt-to-GDP magnitude relation.

Topic 33.AYUSHMAN BHARAT DIGITAL MISSION

Importance for Prelims: Governance



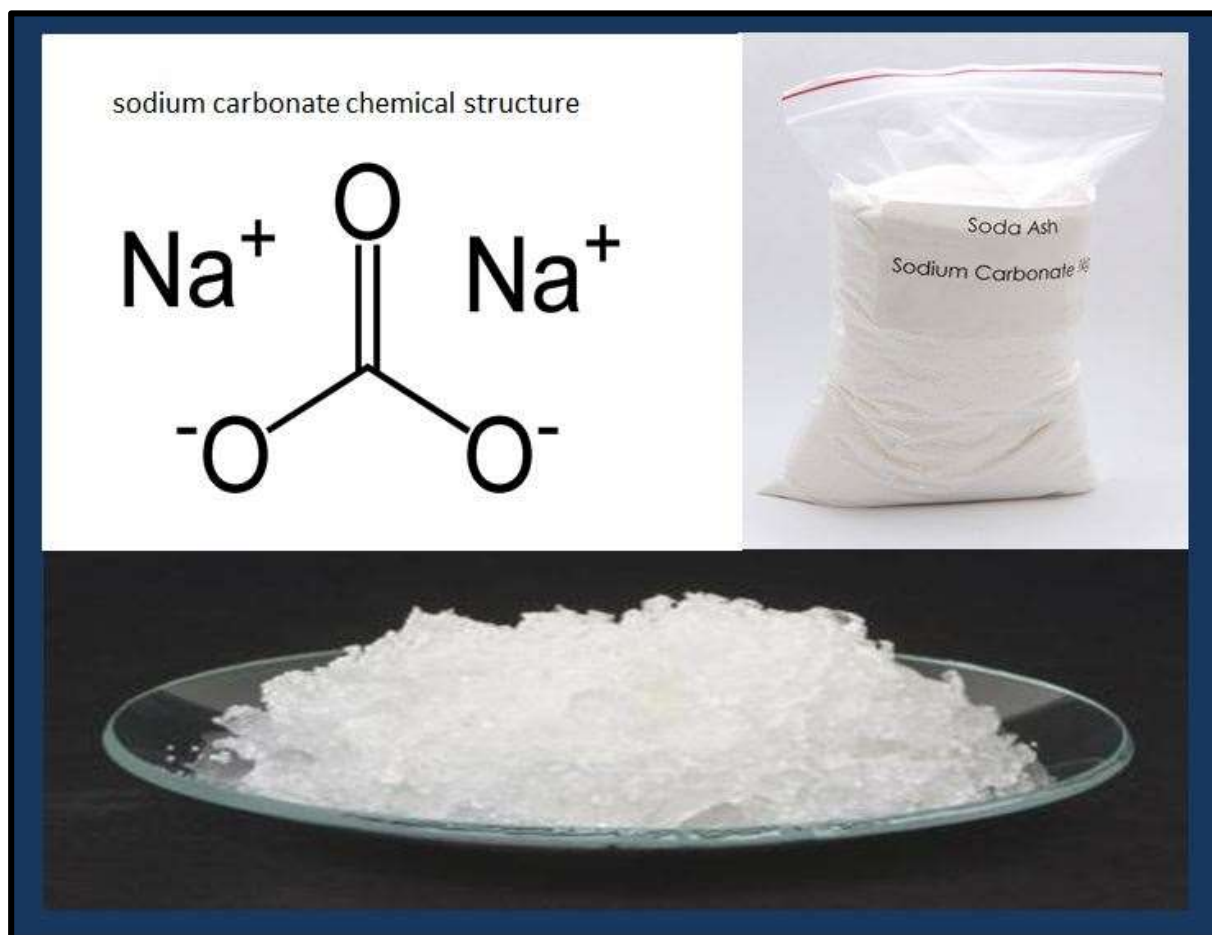
The Ayushman Bharat Digital Mission (ABDM) was launched on Mon by Prime Minister Narendra Modi

- It can offer each Indian a digital health ID. Also, the theme can facilitate connect digital health solutions across the country.
- “Every citizen’s health record are going to be digitally secure,” The ABDM theme can connect the digital health solutions of hospitals, which is able to not only alter the processes however conjointly improve simple living.
- The Health ID are going to be created by using a person’s basic details and mobile number or Aadhaar number.

- The personal health records may be coupled and viewed with the assistance of a mobile application, a registry Professionals registry (HPR), and a care Facilities registry (HFR).
- The key components of the PM-DHM embody a Health ID — distinctive 14-digit health identification number — for each subject that may also work as their health account.
- The health ID can change access and exchange of health records of voters with their consent.

Topic 34. SODA ASH

Importance for Prelims: Science and Tech



‘Focus on renewable energy to drive soda ash demand’

- Soda ash, additionally called sodium carbonate (Na_2CO_3), is an alkali chemical refined from the mineral trona or present sodium carbonate-bearing brines (both observed as natural soda ash), the mineral nahcolite (referred to as natural sodium bicarbonate, from that salt are often produced), or factory-made from one in all many chemical processes (referred to as artificial soda ash).
- All forms are white, odourless, soluble salts that yield moderately alkaline solutions in water.

- Historically, it had been extracted from the ashes of plants growing in sodium-rich soils.
 - Because the ashes of those sodium-rich plants were perceptibly totally different from ashes of wood (once accustomed turn out potash), sodium carbonate became called “soda ash”.
 - It is made in massive quantities from binary compound and limestone by the solvay process.
 - Increased demand for flat glass caused by these drivers is one massive contributory issue towards overall salt demand growth and one in all the explanations for a sustained upward firmness in salt costs
- Applications soda ash (or washing soda) is employed as a cleanser for domestic functions like laundry garments.
- Sodium carbonate could be a part of the many dry soap powders.
 - It is employed for removing temporary and permanent hardness of water.
 - It is employed within the manufacture of glass, soap and paper.
 - It is employed within the manufacture of sodium compounds like borax.

Topic 35. AKASH MISSILE

Importance for Prelims: Defence and Security



DRDO tests Akash Prime missile

- The development of the Akash surface to air missile (SAM) was started by the DRDO within the late 1980s as a part of the Integrated missile Development Programme.
- Named once the first Sanskrit term for sky or area, Akash is primarily a brief vary Surface to Air Missile engineered to produce air defence cowl to the vulnerable areas.
- The Akash weapon will at the same time interact multiple targets in cluster mode or autonomous mode.

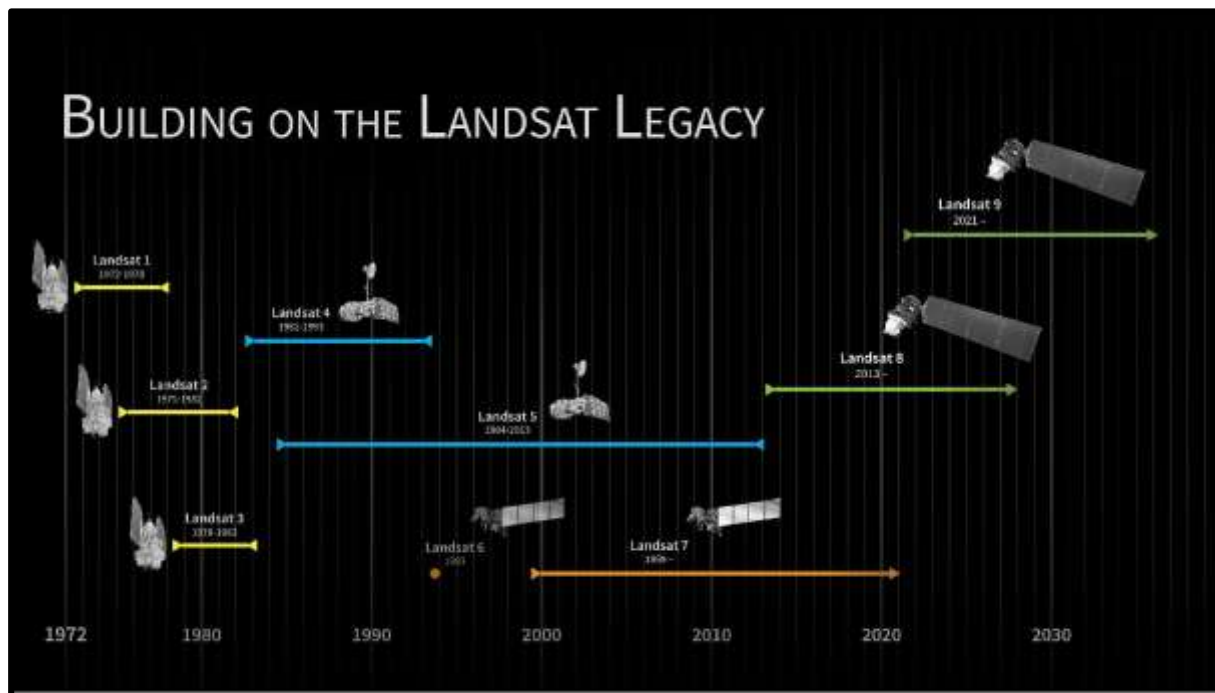
- It has built-in Electronic Counter-Counter Measures (ECCM) options, which suggests that it's mechanisms on-board which will counter the electronic systems that deceive the detection systems.
- The entire weapon system has been organized on a mobile platform.
- A full Akash missile system contains a launcher, set of missiles, a bearing centre, an intrinsic mission guidance system and a C4I (command, control communication and intelligence) centres and supporting ground instrumentality together with a radio detection and ranging named Rajendra that accompanies every of the missile batteries.
- According to the Ministry of Defence, the Akash Missile system is ninety six per cent indigenised, one in all the best proportions of the indigenisation.
- The Akash missiles are developed by DRDO's Defence research and Development Laboratory (DRDL), Hyderabad under the Missiles and Strategic Systems (MSS), in collaboration with many different DRDO facilities within the country together with industry partners.
- The advanced versions of Akash — Akash Prime AND Akash metric weight unit The initial version of the Akash has an operational vary of 27-30 klick and a flight altitude of around 18km.
- The Akash Prime, that underwent its maiden flight check from Integrated test range (ITR), Chandipur, Odisha, has constant vary as that of the sooner version however incorporates a crucial new addition — that of an indigenous active oftenness (RF) seeker for improved accuracy to hit aerial targets.
- Other enhancements within the system ensures additional reliable performance below low temperature environments at higher altitudes.
- Akash-NG Akash-NG could be a new generation sam, primarily designed for the IAF with an aim of intercepting high maneuvering aerial threats

that have low radar Cross Section (RCS), that is that the magnetism signature of the article.

- Along with the enlarged morbidity of hanging threats with considerably small electromagnetic signature, the ng version has an extended vary of up 70 km, is sleeker, lighter and has abundant smaller ground system footprint.
- The RF seeker of the ng version operates within the Microwave Ku-band, the missile incorporates a system of solid-fueled dual-pulse motor. Akash ng is canisterised, which suggests that it's hold on and operated from specially designed compartments.
- In the canister, the within setting is controlled so together with creating its transport and storage easier, the shelf life of weapons additionally improves considerably.

Topic 36. LANDSAT 9

Importance for Prelims: Science and Tech



NASA's 'new eye within the sky' which will facilitate study climate change

- The earth watching satellite, Landsat 9, may be a joint mission of National Aeronautics and Space Administration and therefore the United States geological Survey (USGS).
- The 1st Landsat satellite was launched in 1972 and since then, Landsat satellites have collected pictures of our planet and helped perceive however land usage has modified over the decades.
- In 2008, it had been determined that each one Landsat pictures are going to be free and publically on the market and therefore the policy has helped variant researchers, farmers, policy analysts, glaciologists, and seismologists.

- Landsat pictures are used to study the health of forests, coral reefs, monitor water quality and melting glaciers.
- Landsat satellites build contact with a ground station each few hours and offload its knowledge.

What is new concerning Landsat 9?

- The Landsat 9 joins Landsat 8 that was launched in 2013 and therefore the satellites along can collect pictures of Earth's surface.
- It takes 8 days to capture the total Earth.
- Landsat 9 carries instruments just like the opposite Landsat satellites, however it's the foremost technologically advanced satellite of its generation.
- It will see a lot of color shades with bigger depths than the previous satellites, serving to scientists capture a lot of details concerning our dynamical planet.
- The instruments aboard Landsat 9 are the Operational Land Imager 2 (OLI-2) and therefore the Thermal Infrared device a pair of (TIRS-2).
- They can live completely different wavelengths of sunshine mirrored off the Earth's surface. OLI-2 will see the sunshine that we have a tendency to can't see too.
- It captures sunlight mirrored off Earth's surface and studies the visible, near-infrared, and short wave infrared parts of the spectrum.
- TIRS-2 incorporates a four-element refractive telescope and photosensitive detectors that capture thermal radiation and facilitate study the Earth's surface temperature.
- As the satellite orbits, these instruments can take photos across 185 kilometers and every constituent can represent a region of concerning 30 meter X 30 meter.

Topic 37. AGRICULTURE INFRASTRUCTURE FUND (AIF)

Importance for Prelims: Agriculture



The central government, amid the pandemic has launched this fund.

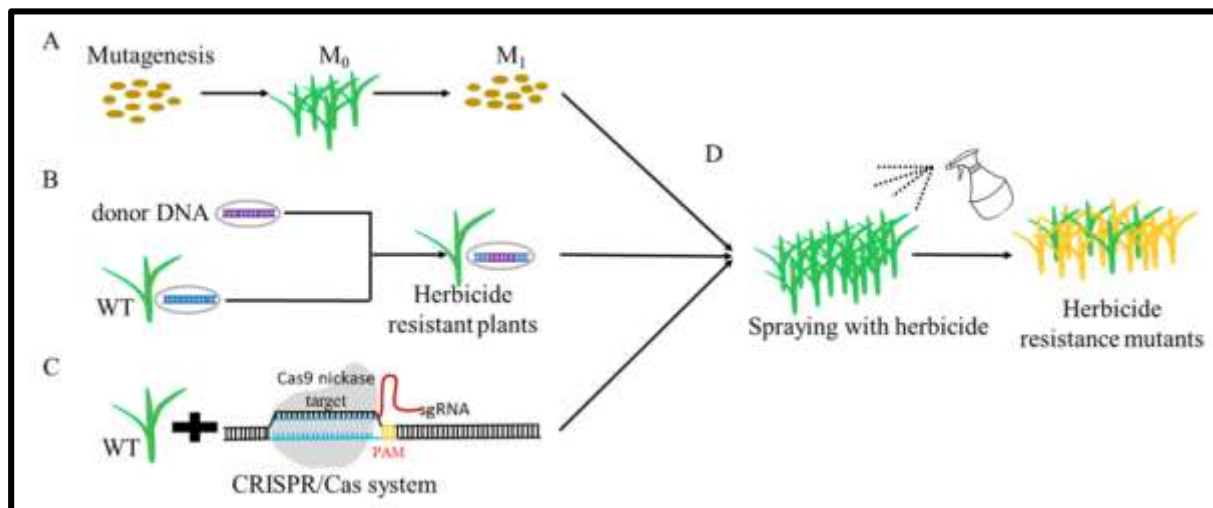
- AIF is aimed at strengthening and increasing the scope of Agricultural produce marketing Committees (APMCs) —where agricultural turn out is listed and a congregation of commission agents, merchants or artiyas, and huge consumers influence auctioning and value discovery.
- This theme will offer support facilities to farmers and worth chain actors for risk-sharing and market access.
- It is envisaged that the creation of storage and market infrastructure in a very project mode through interest subvention of three per cent on

collateral-free loan up to ₹2 large integer for seven years might create (smaller) comes financially viable.

- Specific needs like cluster identification or targeting State-specific APMCs and maintenance of hygienic and phytosanitary standards for organic turn out selling and exports are inherent this theme.
- The theme additional states that district, State or national level observance committees are going to be entrusted with keeping the work time for file process to but 60 days.
- The approved comes for funding the beneficiaries are to be mirrored within the Public Fund Management System and reasons for not funding the project ought to be communicated to take care of visibility and transparency.
- In short, the AIF theme targets the creation of adequate post-harvest infrastructure facilities to mitigate spatial and temporal risks within the agribusiness scheme. .
- This theme is analogous to the Agriculture Technology Infrastructure Fund (ATIF) rolled out in 2014–15 for ‘One Nation-One Market’, that resulted in one,000-odd electronic National Agriculture Markets (eNAMs).
- Also, the AIF is probably going to subsume the non-public Entrepreneurs Guarantee (PEG) theme launched in 2008–09, the rural godown theme of 2001-02 and also the grading and standardisation of agricultural commodities, among others, initiated as capital investment subsidy schemes.

Topic 38. INDIA GETS FIRST HERBICIDE-TOLERANT & NON-GM RICE VARIETIES

Importance for Prelims: Agriculture



The Indian Agricultural research Institute (IARI) has developed the country's first-ever non-GM (genetically modified) herbicide-tolerant rice varieties that may be directly seeded and significantly save water and labour compared to conventional movement.

- The Indian Agricultural research Institute (IARI) has developed the country's first-ever non-GM (genetically modified) herbicide-tolerant rice varieties that may be directly seeded and considerably save water and labour compared to traditional movement.
- The varieties — Pusa Basmati 1979 and Pusa Basmati 1985 — contain a mutated acetolactate synthase (ALS) gene creating it attainable for farmers to spray Imazethapyr, a broad-spectrum herbicide, to regulate weeds.
- This dispenses with the requirement to organize nurseries wherever paddy seeds are first raised into young plants, before being uprooted and replanted 25-35 days later within the main field.

- Paddy transplantation is each labour- and water-intensive.
- The field wherever the seedlings are transplanted must be “puddled” or ploughed in standing water.
- For the primary 3 weeks approximately when movement, the plants are irrigated virtually daily to take care of a water depth of 4-5 cm.
- Farmers continue giving water each two-three days even for the next four-five weeks once the crop is in tillering (stem development) stage.
- Water could be a natural chemical that takes care of weeds within the paddy crop’s early growth amount.
- The new varieties simply replace water with Imazethapyr and there’s no need for nursery, puddling, movement and flooding of fields. you’ll sow paddy directly, similar to wheat.
- Imazethapyr, effective against a variety of broadleaf, grasslike and sedge weeds, can’t be used on traditional paddy, because the chemical doesn’t distinguish between the crop and also the invasive plants.
- The ALS factor in rice codes for an enzyme (protein) that synthesises amino acids for crop growth and development.
- The chemical sprayed on traditional rice plants binds itself to the ALS enzymes, inhibiting their production of amino acids.
- The new basmati varieties contain an ALS factor whose polymer sequence has been altered victimisation alkyl group methanesulfonate, a chemical mutant. As a result, the ALS enzymes do not have binding sites for Imazethapyr and organic compound synthesis isn’t stifled.
- The plants may also currently “tolerate” application of the chemical, and therefore it kills solely the weeds.
- Both Pusa Basmati 1979 and 1985 are bred by crossing existing well-liked varieties — Pusa 1121 and Pusa 1509, severally — with ‘Robin’.

- The latter could be a mutant line derived from Nagina 22, an upland drought-tolerant rice selection.
- Direct seeding of rice (DSR) Farmers in {punjab|Punjab|geographical area|geographic area|geographical region|geographic region} and Haryana are already adopting direct seeding of rice (DSR) in response to labour shortages and depleting water tables. DSR cultivation is presently supported 2 herbicides, Pendimethalin (applied inside 72 hours of sowing) and Bispyribac-sodium (after 18-20 days).
- These are costlier than Imazethapyr (Rs 1,500 versus Rs 300/acre). Imazethapyr, moreover, contains a wider weed-control vary and is safer, because the ALS factor isn't present in humans and mammals.
- Even within the herbicide-tolerant rice, the chemical can target only the weeds. DSR is calculable to want 30 per cent less water, save Rs 3,000 per acre in transplantation labour charges, and additionally 10-15 days' time because of no nursery preparation.
- But DSR's success hinges on a good herbicide answer — like breeding Imazethapyr-tolerant varieties.

Topic 39. FLOODS

Importance for Prelims: Disaster management

Global population exposed to floods grew over 200th in 15 years: Study

- The range of individuals living in floodplains across the globe increased by 58-86 million throughout 2000-2015, in step with a replacement estimate.
- This indicates a 20-24 per cent growth within the amount, the report noted.
- The growth cover 70 countries was targeted in low- and middle-income countries, principally in Asia and geographical area, the report printed within the journal Nature expressed.
- “At least 213 million people were shown to be exposed to flooding in south and Southeast Asia alone.”
- The latest estimates are 10 times more than previous models, the analysis showed.
- “More than 255 million folks were affected a minimum of once by major floods in this amount,” the report aforesaid. Migration and urbanisation are major factors behind this growth.
- Most of these moving to flood-prone areas could also be “the most vulnerable, marginalised populations” who had nowhere else to travel.
- Reclassification of land following major floods and rising ocean levels is another cause for the rise in population in these regions, in step with the authors.
- Flood models supported satellite observations transcend the danger perspective and estimating the impacts of flood risk on populations.

Satellite imagery will facilitate United States perceive things just like the impact on households, income, wealth, and human health once a flood.

- The findings are created accessible at global Flood database by Cloud to Street, a cooperative project dedicated to flood risk assessment and sciencebased action.
- ‘Blue lining’ or the unofficial demarcation of flood-prone areas by financial establishments has LED to “underinvestment overflowing mitigation infrastructure” and increased risks, the report intercalary.
- The term draws from ‘red lining’ that may be a malpractice resulting in racist housing policies towards specific communities in neighbourhoods.

Topic 40. BRIGHT SKIES NAMED COLOUR OF THE YEAR

Importance for Prelims: Science and Tech

Bright skies named colour of the year

- The Sun’s light is created of completely different magnetic attraction waves, and their various wavelengths are related to a special color.
- Shorter waves are seen as blue, slightly longer waves as yellow, and even longer as red.
- When these waves are seen along they appear white.
- But this light should travel through our atmosphere before it gets to our eyes, and part molecules are abundant smaller than the wavelength of the Sun’s light.

- As the light hits these molecules, they scatter it all toward completely different directions. This result is termed Rayleigh scattering.
- In this method, additional of the blue light, that has shorter wavelengths, is scattered, leading to the sky changing into blue where you look.
- Meanwhile, the Sun becomes additional yellow trying since the light from it's currently missing those longer blue wavelengths.
- Mie scattering it's an analogous method as Rayleigh scattering however caused by larger particles (such as vapor or fine pollution particles in very little droplets).
- These forms of particles take away the red, yellow associated degree blue color parts from a white Rayleigh in equal measures and don't alter the color of the light passing through the atmosphere or being scattered back to an observer.
- This ends up in the sky turning whiter additionally to the blue caused by Rayleigh scattering.
- The influence of white inside the blue of the sky becomes stronger towards the horizon wherever the sunshine should labor under rather more atmosphere to gain the observer. the assorted tones and reminder blue discovered become nature's visual image of what the atmosphere is presently composed of.
- The whiter it seems, the additional additional particles square measure present.
- A tool to live simply what percentage particles are suspended within the sky was developed by Horace Bénédict de Saussure, associate degree 18th-century Swiss scientist and alpine somebody.
- Called a cyanometer, it's a color wheel that includes fifty three completely different colors for the observer to check to the sky.

- Ozone blue at twilight If you sky watch at fall, you'll see an excellent show of color that captures intense red tones particularly on the brink of the direction of the setting sun.
- Since the Sun's evening light-weight travels through rather more of our atmosphere than once the Sun is higher within the sky, by the time it reaches United States it's lost abundant of its blue element through rayleigh scattering.
- If aerosols are gift in a higher place within the atmosphere – as an example caused by volcanic eruptions – this will become way more extended and vibrant.
- Once the sun is below the horizon, you may see a robust blue colourise the sky once more. This cannot absolutely be explained by rayleigh or Mie scattering.
- Instead, this is often because of the presence of gas (a colourless or pale blue gas), that doesn't scatter the light however absorbs it and breaks it apart.
- Its impact is barely noticeable once the rays of the sun need to pass through even additional atmosphere to succeed in United States (like once it travels from on the far side the horizon).
- The gas then powerfully absorbs red and orange light-weight, creating the little quantity of sunshine we tend to see within the twilight sky blue.
- Red and blue-green night Venture out at the hours of darkness during a place freed from light-weight pollution and its orange glow and you would possibly notice that, despite the shortage of daylight, the evening time sky isn't black the least bit.
- Instead, we will typically observe what's known as air glow, that is our own atmosphere divergent a faint light-weight.

- This is caused by atoms – primarily oxygen and nitrogen – forming molecules at an altitude of 100km-300km.
- This glow is {usually is often} present however usually too faint to examine.
- But it contributes to the sky turning a really dark red or blue-green color.
- You will capture it with cameras that are additional sensitive than the attention.
- But at low light levels, our eyes lose their color vision and just see a gray blackness.

Topic 41. ARTICLE 30 (2) OF CONSTITUTION

Importance for Prelims: Polity

An institution's right to govt. aid is not a fundamental right: SC

- What is Article thirty of the Indian Constitution? Article 30 of the Indian Constitution states the proper of minorities to ascertain and administer academic establishments. It says:
- “All minorities, whether or not supported faith or language, shall have the proper to ascertain and administer academic establishments of their selection.

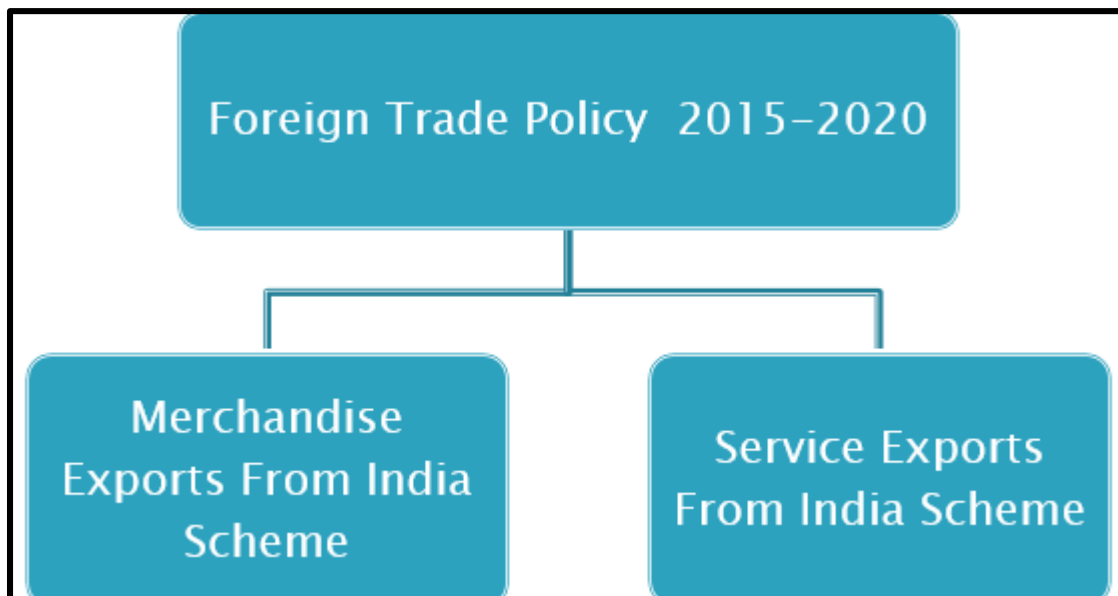
” When was Article 30 adopted?

- Article 30 was adopted on December 8, 1948.
- Features of Article 30 of the Indian Constitution Article 30 of the Indian constitution consists of provisions that safeguard varied rights of the minority community within the country keeping in mind the principle of equality moreover.
- Article 30(1) says that each one minorities, whether or not supported faith or language, shall have the proper to ascertain and administer academic institutions of their selection.
- Article 30(1A) deals with the fixation of the quantity for acquisition of property of any institution established by minority teams.

- Article 30(2) states that the government shouldn't discriminate against any institution on the bottom that it's below the management of a minority, whether or not supported faith or language, whereas giving aid.
- SC recent ruling – the proper of an establishment, whether or not surpass a majority or minority community, to urge government aid isn't a basic right.
- Both ought to equally follow the principles and conditions of the help.
- All that Article 30(2) states is that on the bottom that an establishment is under the management of a minority, whether or not supported faith or language, grant of aid thereto institution can not be discriminated against, if different academic establishments are entitled to receive aid.
- If the govt created a policy decision to withdraw aid, an establishment cannot question the choice as a “matter of right”.
- An establishment is liberal to prefer to accept the grant with the conditions or go its own way.

Topic 42. FOREIGN TRADE POLICY 2015-2020

Importance for Prelims: Economy



Centre to extend foreign trade policy until March '22

- It provided a framework for increasing exports of goods and services in addition as generation of employment and increasing value addition within the country, keep with the “Make in India” vision of Prime Minister.
- The focus of the new policy is to support each the producing and services sectors, with a special stress on rising the ‘ease of doing business’.

- It delineate the market and products strategy and measures needed for trade promotion, infrastructure development and overall improvement of the trade scheme.
- Features of the FTP Goods– Earlier there have been five totally different schemes (Focus Product theme, Market joined Focus Product scheme, Focus Market under, Agri.Infrastructure Incentive scrip, VKGUY) for profitable merchandise exports with totally different varieties of duty scrips with varied conditions connected to their use.
- Duty-free scrips are paper authorisations that enable the holder to import inputs that are accustomed manufacture product that are exported, or to manufacture machinery used for manufacturing such merchandise, while not paying duty akin to the written price of the certificate.
- For instance, a exempt certificate valued at Rupees one lakh permits the holder to import merchandise while not paying duty of up to Rupees 1 lakh on the products. beneath the new Foreign foreign policy, of these themes are incorporated into a single scheme, particularly the Merchandise Export from India scheme (“MEIS”)and there's no state connected to scrips issued under the MEIS. Services– The Served From India scheme has been replaced with the Service Exports from India scheme (“SEIS”).
- SEIS is expressed to use to ‘Service suppliers situated in India’ rather than ‘Indian Service Providers’.
- Therefore, SEIS rewards to any or all service suppliers of notified services, who are providing services from India, no matter the constitution or profile of the service supplier.
- Special Economic Zones – The policy outlines extended incentives for Special Economic Zones in India Export Houses– The language of Export House, Star Export House, mercantilism House, Star trading

House, Premier mercantilism House certificate has been simplified and adjusted to one, Two, Three, Four and 5 Star Export House.

- standing Holders– Business leaders who have excelled in international trade and have with success contributed to India's foreign trade area unit planned to be recognized as Status Holders and given special privileges to facilitate their trade transactions, so as to scale back their dealing prices and time.
- Resolving Complaints –In a trial to resolve quality complaints and trade disputes between exporters and importers, a replacement chapter on Quality Complaints and Trade Disputes has been incorporated into the Foreign trade policy.
- There would be no conditionality attached to any scrips issued beneath these schemes.
- For grant of rewards under MEIS, the countries are classified into three teams, whereas the rates of rewards beneath MEIS vary from a pair of to 5. under SEIS the chosen Services would be rewarded at the rates of three and 5-hitter.
- A new establishment – Centre for analysis in International Trade – is being established not only to strengthen India's analysis capabilities within the area of international trade, however additionally to modify developing countries to articulate their views and issues from a sophisticated position of strength.
- Two institutional mechanisms are being place in situ for normal communication with stake holders- the board of trade and council for trade development (CTD) and promotion.
- While the board of trade can have an advisory role, the CTD would have illustration from states and UT governments.

Topic 43.ZOJILA TUNNEL

Importance for Prelims: Geography



KEY FEATURES

- The longest bi-directional single tube road tunnel in Asia
- **Length:** 14.15 km
- Open all days
- All-weather accessibility
- To be built at Zojila pass on Srinagar-Kargil-Leh NH-1 situated at an altitude of 11,578 feet
- **Cost:** ₹6,809 crore
- Will reduce time taken to cross Zojila pass from three hours and 30 minutes to 15 minutes
- **Expected time of completion:** 5 years

Gadkari reviews Zojila tunnel work

- The 13.5 km tunnel are going to be Asia's longest bi-directional tunnel and can permit allweather property between Ladakh and Srinagar, that is disrupted throughout the winter months.

- It is found at 11,578 feet higher than sea level. It takes 3.5 hours to travel between Srinagar and Ladakh.
- The tunnel can reduce the travel time to 15 minutes.
- It is probably going to be prepared by September 2026. A connecting tunnel from Z-Morh on NH1 to the Zojila tunnel are going to be in-built the Zojila Ghats between Sonmarg and Kargil.
- The Z-Morh tunnel — being developed at Sonmarg — can offer it all-weather connectivity with Srinagar permitting it to remain open to tourists all year round.

Topic 44.ELECTRONIC GOLD RECEIPTS (EGRS)

Importance for Prelims: Economy

HOW IT WORKS

- Investors can buy **electronic receipts** for gold kept in vaults
- These e-receipts could be **traded on exchanges**
- These could also be **exchanged for physical gold** at authorised vaults
- Govt has also allowed fund houses to launch **silver ETFs**



SEBI clears norms for gold exchanges

- The Securities and Exchange Board of India (SEBI), approved the framework for a gold exchange also as for vault managers, facilitating mercantilism in securities tied to the brass.
- The markets regulator's approval for the proposals created within the Union Budget paves the method for gold exchanges to be found out for trading in 'Electronic Gold Receipts' (EGRs) like within the case of alternative securities.
- Existing stock exchanges are going to be allowed to produce the platform for trading of EGRs.

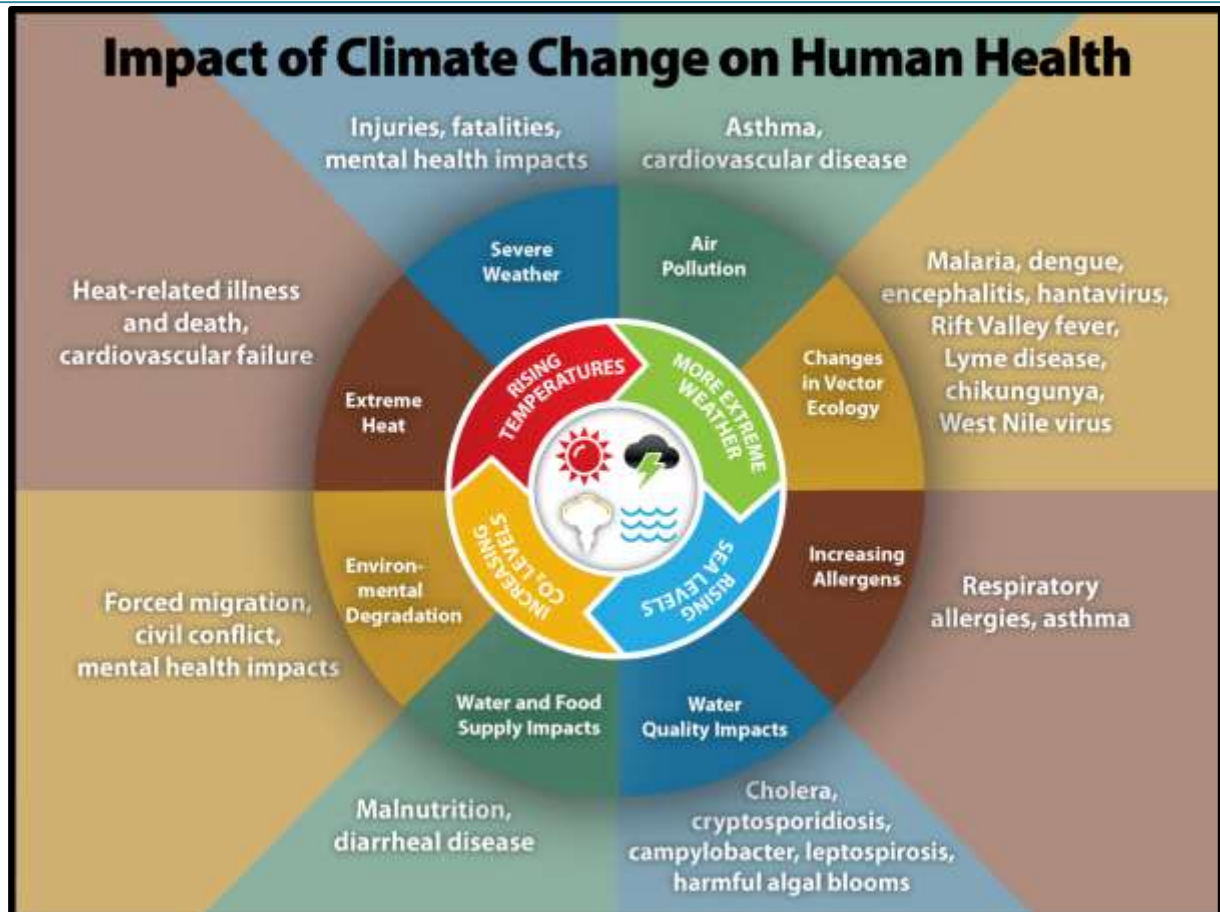
What is EGR?

- SEBI proposes supplying an electronic gold receipt in exchange of physical gold (similar to equity shares), deposited with a vault manager (like a depository participant) and this receipt will then be listed.
- The government desires India's oversize influence within the physical marketplace for gold to be visible within the money marketplace for gold also.
- The denomination for trading the EGRs and conversion of EGRs into gold would be determined by the exchanges with the approval of SEBI.
- The clearing corporation would settle the trades dead on the exchanges by method of transferring EGRs and funds to the client and seller, severally.
- EGR holders, at their discretion, may withdraw the underlying gold from the vaults when surrendering the EGRs.
- SEBI-accredited vault managers would be chargeable for the storage and guardianship of gold deposits, creation of EGRs, withdrawal of gold, grievance redressal and periodic reconciliation of physical gold with the records of installation.

- The vault manager would have to have a net price of at least a minimum of. Exchanges would change transparent worth discovery, investment liquidity and assurance within the quality of gold.

Topic 45. THE BURDEN OF CLIMATE CHANGE ON CHILDREN BORN TODAY

Importance for Prelims: Environment



In a study printed within the journal Science, researchers have found that children born today are hit a lot of more durable by extreme climate events than today's adults.

- In a study printed within the journal Science, researchers have found that children born nowadays are hit a lot of more durable by extreme climate events than today's adults.
- During his or her lifespan, a toddler born in 2021 is probably going to expertise on the average doubly as several wildfires, two to three times additional droughts, nearly three times additional watercourse floods and crop failures and concerning seven times additional heat waves compared to an individual who is, say, 60 years previous nowadays.
- The study is predicated on knowledge from the Inter-sectoral Impact Model Intercomparison Project (ISIMIP).

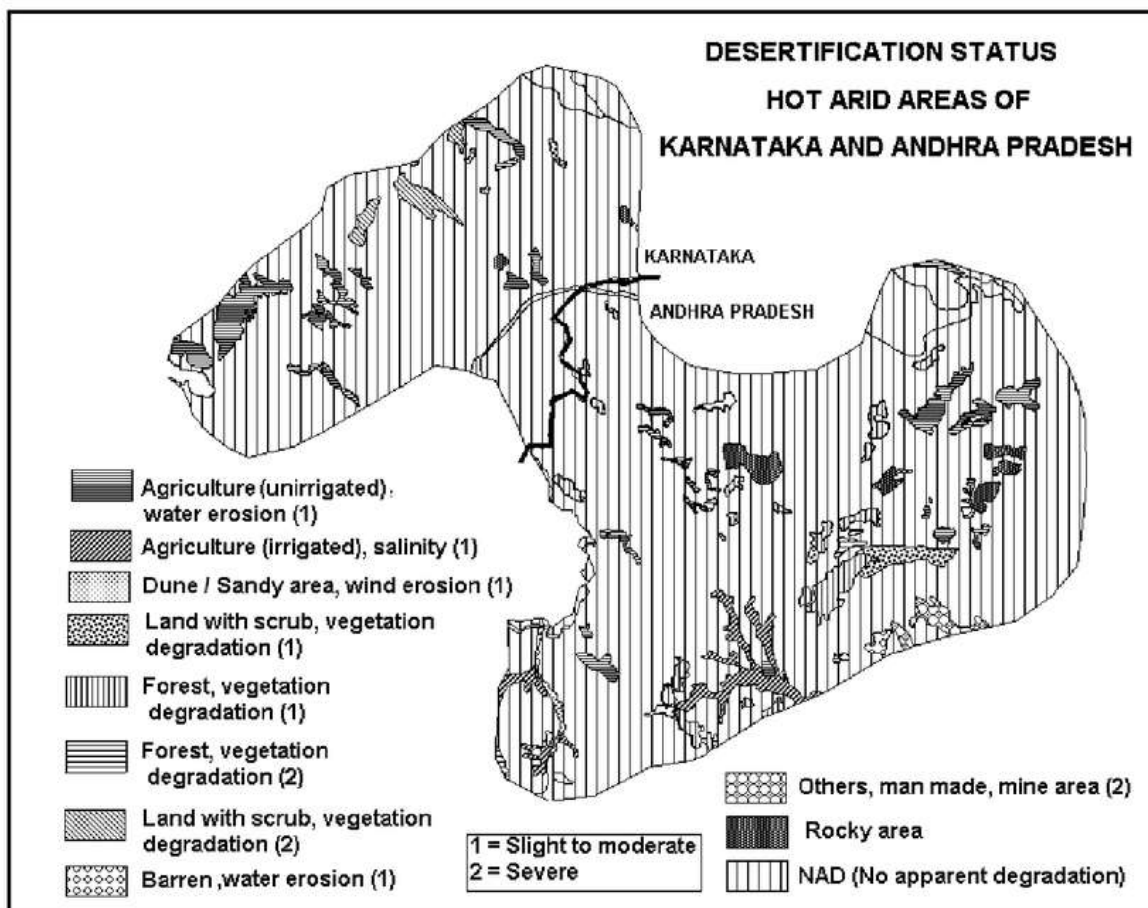
- Inter-sectoral Impact Model Intercomparison Project (ISIMIP) this can be a community-driven climate-impacts modelling initiative that assess the differential impacts of temperature change.

What must be done?

- Limit warming to 1.5 degrees Celsius by phasing out fossil fuel use.
- If countries are able to follow through with their climate policies as set under the Paris Climate Agreement, this result may be restricted to 22nd, that is simply seven percentage points over the global average that's affected today.

Topic 46. PUNJAB'S DESERTIFICATION

Importance for Prelims: Environment



Two reports, a pair of decades apart, predicted Punjab's desertification in 25 years

- The Punjab Vidhan Sabha committee, set up to check formation depletion, has recently aforementioned that the state can become a desert within the next 25 years if the current trend of drawing water from underground aquifers continues.
- This may be a prediction that has been created before – over two decades ago, a study on formation depletion in Punjab had projected nearly constant time-frame of 25 years, saying aquifers in Punjab may well be depleted by 2025.
- According to Central ground water Board (CGWB) officials, the study was titled 'The State of the world Report, 1998', printed by Washington-based World Watch Institute (WWI).
- It aforementioned Punjab's aquifers may well be depleted by 2025.

Why can the land of 5 rivers (now 2.5 rivers once the Partition of Punjab) become a desert?

- Out of 138 blocks in Punjab, 109 have already gone into the ‘dark’ or over-exploited zone, which suggests groundwater extraction is over 100 per cent here.
- Two represent ‘dark/critical’ zone (groundwater extraction is ninety to 100 per cent), whereas 5 are under semi-critical (groundwater extraction 70 to 90 per cent) zone.
- This means around 80 per cent blocks of the state have already dried up and 4 per cent are on the verge of it.
- **Reasons for this scarcity:** a lot of water is being drawn than it's being replenished.
- The rate of water extraction in Punjab is 1.66 times against the speed of replacement.
- Because of the adoption of a faulty cropping pattern. Paddy crop hampers water recharging due to the puddling technique used to prepare fields for transplanting.

Topic 47. SORGHUM

Importance for Prelims: Agriculture

Gene study shows a way to get additional out of sorghum while not affecting natural resources

- Genes which will increase the grain size of sorghum, a flexible grain crop used for human consumption, fodder and bioenergy generation, are discovered, in keeping with a new report. bigger grain size will improve the usage value of the crop.
- The sort of the crop found in India is termed jowar. it's said to own its origin within the country and is one among its most vital food and fodder crops.
- Jowar incorporates a dedicated All-India Coordinated research since 1969. Sorghum plants are terribly hardy and may face up to high temperature and drought conditions.
- Larger grains build it additional digestible for each individuals and animals and improves process potency.
- About 80 per cent of the crop's grain size characteristics rely upon genes, and may so be inherited.
- The quality of the yield is improved while not a lot of alterations to environmental resources, like water or nitrogen.
- The grain is fashionable across the globe as a result of it's a low glycaemic index, is gluten-free and wholesome.
- The lower the glycemic index of a cereal, the lower is that the relative rise in blood glucose level once 2 hours of consuming it.

Topic 48.ADVOCATE GENERAL OF THE STATE

Importance for Prelims: Polity

Deol's appointment as Punjab Advocate General has raised eyebrows

- The Constitution (Article 165) has provided for the office of the advocate general for the states.
- He is that the highest law officer within the state.
- Thus he corresponds to the professional General of india.
- The advocate general is appointed by the governor.
- He should be an individual who is qualified to be appointed a decide of a tribunal.
- In alternative words, he should be a subject of india associate degreed should have command a judicial workplace for 10 years or been an advocate of a tribunal for 10 years.
- The term of office of the advocate general isn't mounted by the Constitution.
- Further, the Constitution doesn't contain the procedure and grounds for his removal.
- He holds office throughout the pleasure of the governor.
- This means he is also removed by the governor at any time.
- He can also quit his workplace by submitting his resignation to the governor. Conventionally, he resigns once the government (council of ministers) resigns or is replaced, as he's appointed on its advice.
- The remuneration of the advocate general isn't mounted by the Constitution. He receives such remuneration because the governor could verify.
- Duties and Functions because the chief law officer of the government within the state, the duties of the advocate general embrace the following:
one. to give recommendation to the govt. of the state upon such legal matters that are named him by the governor.

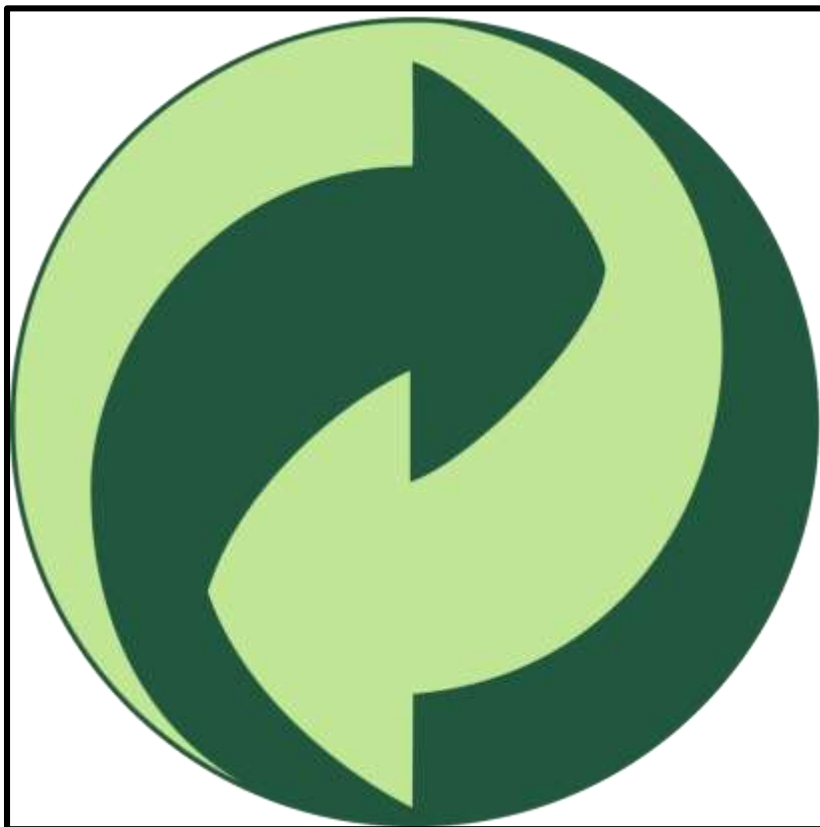
1. To perform such alternative duties of a legal character that's appointed to him by the governor.

2. To discharge the functions presented on him by the Constitution or the other law.

- In the performance of his official duties, the advocate general is entitled to look before any court of law inside the state.
- Further, he has the correct to talk and to require half within the proceedings of each the homes of the state legislative assembly or any committee of the state legislature of that he is also named a member, however while not a right to vote.
- He enjoys all the privileges and immunities that area unit accessible to a member of the state legislature.

Topic 49. '+F' LOGO AND GREEN DOT LABEL

Importance for Prelims: Governance



Food Fortification could be a scientifically established, cost-efficient, scalable and property global intervention that addresses the problem of substance deficiencies.

- In October 2016, FSSAI operationalized the Food Safety and Standards (Fortification of Foods) regulations, 2016 for invigorating staples specifically wheat flour and Rice (with Iron, vitamin b12 and Folic Acid), Milk and Edible Oil (with Vitamins A and D) and Double Fortified Salt (with Iodine and Iron) to scale back the high burden of substance malnutrition in India.
- The '+F' logo has been notified malnutrition fortified foods.
- India's Food Safety and Standards (Packaging and Labelling) regulations, 2011, need packages of feeder Food involved a symbol consisting of a green circle within a green square.

Topic 50. PULSES IMPORT CURBS

Importance for Prelims: Agriculture

US asks India to line a point for ending pulses import curbs

- The United States has demanded that India should directly offer a date for permanent termination of the quantitative restrictions on imports of pulses, particularly yellow peas.
- It has also wanted all information on public stockholding that WTO is however to suffer the WTO.
- Russia, Canada, the EU, Australia and land, too, questioned India on the quantitative restrictions on pulses and its public stockpiling, at a recent meeting of the Committee on Agriculture in Geneva.
- The countries had earlier asked India to elucidate however import restrictions were per WTO rules because the multilateral body failed to permit quantitative restrictions on exports and imports except under exceptional circumstances.
- India's quantitative restrictions on import of pulses, introduced in 2017 and 2018, were to expire on March 31, 2020, however India then indicated these "temporary" measures, would be extended for 2021-22, as per a illustration created by mercantilism nations at the WTO earlier this year Indian capital has been pushing for a permanent resolution to the matter of public stockholding at the WTO as under the current rules its expenditure on its MSP programmes falls under the class of trade distorting WTO to be capped at 10 per cent of total price of production.
- India needs this cover to travel to protect the keep of its farmers and the poor.

Topic 51. PARDONING POWER OF THE PRESIDENT

Importance for Prelims: Polity

High Court rejects Umesh Reddy's plea for commuting death penalty to life term

- Article 72 of the Constitution empowers the President to grant pardons to persons who are tried and convicted of any offence altogether cases wherever the: punishment or sentence is for an offence against a Union Law; punishment or sentence is by a court martial (military court); and Sentence may be a sentence of death.
- The pardoning power of the President is freelance of the Judiciary; it's an executive power.
- But, the President whereas workout this power, doesn't sit as a court of attractiveness.
- The object of conferring this power on the President is two-fold:
- (a) to stay the door open for correcting any judicial errors within the operation of law; and,
- (b) to afford relief from a sentence, that the President regards as unduly harsh.

The pardoning power of the President includes the following:

- 1) Pardon:** It removes each the sentence and also the conviction and fully absolves the convict from all sentences, punishments and disqualifications.
- 2) Commutation:** It denotes the substitution of 1 form of social control for a lighter form. for instance, a death sentence is also commuted to rigorous imprisonment, that successively is also commuted to a simple imprisonment.
- 3) Remission:** It implies reducing the amount of sentence while not changing its character. for instance, a sentence of rigorous imprisonment for 2 years is also remitted to rigorous imprisonment for one year.

4) Respite: It denotes award a lesser sentence in situ of 1 originally awarded thanks to some special reality, like the physical incapacity of a convict or the maternity of a lady bad person.

5) Reprieve: It implies a keep of the execution of a sentence (especially that of death) for a short lived amount. Its purpose is to modify the convict to possess time to hunt pardon or commutation from the President.


- Under Article 161 of the Constitution, the governor of a state conjointly possesses the pardoning power. Hence, the governor may grant pardons, reprieves, respites and remissions of social control or suspend, remit and commute the sentence of somebody condemned of any offence against a state law.

But, the pardoning power of the governor differs from that of the President in following 2 respects:

1. The President will pardon sentences inflicted by court martial (military courts) whereas the governor cannot.
2. The President will pardon death sentence whereas governor cannot. even if a state law prescribes death sentence, the facility to grant pardon lies with the President and not the governor. However, the governor will suspend, remit or commute a death sentence. In alternative words, each the governor and also the President have concurrent power in respect of suspension, remission and commutation of death sentence.

Topic 52. PM POSHAN


Importance for Prelims: Governance




CABINET DECISIONS
29 SEPTEMBER 2021

PM POSHAN-
PM Poshan Shakti Nirman


1/2



National Scheme for Mid Day Meal in Schools' renamed as '**National Scheme for PM POSHAN** in Schools'



11.80 crore children studying in **11.20 lakh schools covered**



24 lakh pre -primary students to urge meals

- The Centre has rebranded the 26-year-old national twelve noon meal theme to give a hot steamed meal to eleven.8 large integer government faculty students from categories 1 to {8|to eight}, with the cupboard approving a proposal to rename it because the PM POSHAN (Poshan shakti Nirman) theme on Wed. From the next year, it'll additionally cowl the 24 lakh children finding out in balvatikas, the pre-primary section of presidency faculties.
- Although this year's allow mid-day meals remains unchanged, a further a further is anticipated to be supplementary because the Central government's share to cater to balvatika students from 2022-23,
- The extension of mid-day meals to pre-primary students, WHO ar to be incorporated into the formal education system, was a key recommendation

of the National Education Policy (NEP), 2020 and also the population of balvatikas — which provide one year of pre-school 24 — is anticipated to rise from the present the cabinet lakh because the policy is enforced The PM POSHAN theme has been approved for the next five-year amount till 2025-26, with a collective outlay of ₹1.31 lakh crore, together with together with,733 crore because the share to be borne by the State governments.

- It can improve nutritional standing, encourage education and learning and increase enrolments in government faculties.
- The rebranded theme aims to focus on “holistic nutrition” goals.