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Success is born of action...

Topic 1. UNSC RESOLUTIONS

Importance for Prelims: IR

UNSC resolution addresses 'key concerns' on Afghanistan: India.

- Joined Nations goals are formal articulations of the assessment or will of United Nations organs.
- A United Nations Security Council goal is a United Nations goal taken on by the fifteen individuals from the Security Council (UNSC).
- The UN Charter indicates (in Article 27) that a draft goal on non-procedural issues is embraced assuming at least nine of the fifteen Council individuals vote in favor of the goal, and in the event that it isn't rejected by any of the five long-lasting individuals.
- Draft goals on "procedural issues" can be taken on based on a positive vote by any nine Council individuals.
- The expression "goal" doesn't show up in the text of the United Nations Charter. Goals by the Security Council are lawfully restricted.
- If the council cannot reach consensus or a passing vote on a resolution, they may choose to produce a non-binding presidential statement instead of a Resolution.
- These are adopted by consensus.
- They are intended to apply political strain an admonition that the Council is focusing on and further activity might follow.
- UN Charter the UN Charter is a multilateral deal.
- It is the established report that disseminates powers and capacities among the different UN organs.
- It authorizes the Security Council to take action on behalf of the members, and to make decisions and recommendations.
- The Charter mentions neither binding nor non-binding resolutions.
- United Nations Security Council (UNSC) Resolution 2593

- The resolution called on the Taliban to keep their commitments on preventing terror groups in Afghanistan and urged them to assist the safe evacuations of all Afghan nationals wishing to leave the country.
- The goal requests that the Afghan region ought not be utilized to undermine or assault any nation or to safe house and train psychological militants and plan or money fear monger assaults.
- In spite of the abstention of two "P5" nations - Russia and China - from the India-drove United Nations Security Council (UNSC) Resolution 2593, the Government of India said it was a "matter of fulfillment" that the goal tended to India's "key worries" on Afghanistan.
- UNSC The United Nations Charter established six main organs of the United Nations, including the Security Council.
- It gives essential obligation regarding keeping up with worldwide harmony and security to the Security Council, which might meet at whatever point harmony is compromised. UNSC has 15 individuals of which 5 are extremely durable and 10 are non-long-lasting individuals.
- Non-permanent members elected for two-year terms by the UN General Assembly.
- Five permanent members are- US, UK, France, Russia, and China.
- It is the only UN body with the authority to issue binding resolutions to member states.

Topic 2. DIFFERENT TYPES OF ECONOMIC RECOVERIES

Importance for Prelims: Economy



The government said the NSO numbers reaffirmed its prediction of an “imminent V- shaped recovery”.

- Financial recuperation can take many structures, which is portrayed utilizing alphabetic documentations. For instance, a Z-molded recuperation, V-formed recuperation, U-formed recuperation, stretched U-formed recuperation, W-formed recuperation, L-molded recuperation, and K-formed recuperation.
- **K-Shaped Recovery:** A K-molded recuperation happens when, following a downturn, various pieces of the economy recuperate at various dates, times, or sizes. This is as opposed to an even, uniform recuperation across areas, ventures, or gatherings of individuals.
- A K-formed recuperation prompts changes in the construction of the economy or the more extensive society as financial results and relations are on a very basic level changed when the downturn.
- **Z-shaped recovery:** It is the most-hopeful situation wherein the

economy rapidly ascends after a financial accident.

- In this economic disruption lasts for a small period wherein more than people's incomes, it is their ability to spend is restricted.
- **V-shaped recovery:** It is the next-best scenario after Z-shaped recovery in which the economy quickly recoups lost ground and gets back to the normal growth trend-line.
- In this, wages and occupations are not forever lost, and the monetary development recuperates strongly and gets back to the way it was following before the interruption.
- **U-shaped recovery:** In this, wages and occupations are not forever lost, and the monetary development recuperates strongly and gets back to the way it was following before the interruption.
- For this situation a few positions are lost and individuals fall upon their investment funds.
- On the off chance that this interaction is more since quite a while ago drawn than it hurls the "lengthened U" shape.
- **W-shaped recovery:** A W-molded recuperation is a risky animal. In this, development falls and rises, yet falls again prior to recuperating, subsequently shaping a W-like graph.
- The double-dip depicted by a W-shaped recovery can be due to the second wave of the pandemic.
- **L-shaped recovery:** In this, the economy fails to regain the level of GDP even after years go by.
- The shape shows that there is a permanent loss to the economy's ability to produce.

Topic 3. BRICS

Importance for Prelims: IR



The 13th BRICS summit is set to be held on September 9 in digital format under India's chairmanship.

- BRICS is an abbreviation for the gathering of the world's driving rising economies, specifically Brazil, Russia, India, China, and South Africa.
- The term BRIC was instituted by Jim O' Neil, the then executive of Goldman Sachs in 2001.
- The first BRIC summit took place in the year 2009 in Yekaterinburg (Russia).
- In 2010, South Africa officially joined the affiliation making it BRICS.
- The BRICS Leaders' Summit is assembled yearly.
- The Chairmanship of the gathering is pivoted yearly among the individuals, as per the abbreviation B-R-I-C-S. Together, BRICS represents around 40% of the total populace and around 30% of the GDP (Gross Domestic Product), making it a basic monetary motor.

- During the Sixth BRICS Summit in Fortaleza (2014) the pioneers consented to the Arrangement building up the New Development Bank (NDB), settled in Shanghai.
- Fortaleza Declaration focused on that the NDB will fortify participation among BRICS and will enhance the endeavors of multilateral and territorial monetary organizations for worldwide advancement consequently adding to economic and adjusted development.
- Considering the expanding examples of worldwide monetary emergency, BRICS countries marked BRICS Contingent Reserve Arrangement (CRA) in 2014 as a component of the Fortaleza Declaration at the Sixth BRICS highest point.
- The BRICS CRA plans to give transient liquidity backing to the individuals through cash trades to help moderate BOP emergency circumstances and further fortify monetary security.
- The underlying complete submitted assets of the CRA will be one hundred billion dollars of the United States of America (USD 100 billion).
- 13 BRICS Summit The chair of BRICS 2021 is India.
- **The theme of the 13th BRICS Summit is, 'BRICS @ 15: Intra-BRICS Cooperation for Continuity, Consolidation and Consensus.'**

Topic 4. SAARC

Importance for Prelims: IR



Concerns over Afghanistan's membership in SAARC arise.

- The South Asian Association for Regional Cooperation (SAARC) is a financial and political association of eight nations in South Asia.
- SAARC was set up with the marking of the SAARC Charter in Dhaka on 8 December 1985.
- **SAARC comprises of eight Member States:** Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka.
- The Secretariat of the Association was set up in Kathmandu on 17 January 1987.
- **Objectives** SAARC aims to promote economic growth, social progress and cultural development within the South Asia region.
- **The objectives of SAARC, as defined in its charter, are as follows:**
Promote the government assistance of the people groups of South Asia and further develop their personal satisfaction Accelerate financial development, social advancement, and social improvement in the district by giving all people the amazing chance to live in pride and understand their maximum capacity Promote and reinforce aggregate independence

among the nations of South Asia Contribute to shared trust, comprehension and enthusiasm for each other's concerns Promote dynamic coordinated effort and common help with the monetary, social, social, specialized and logical fields Strengthen co-activity with other emerging nations Strengthen co-activity among themselves in global discussions on issues of normal interest, and Cooperate with a worldwide and territorial association with comparable points and purposes. Construction and Process Cooperation in SAARC depends on regard for the five standards of sovereign equity, regional respectability, political freedom, non-impedance in inner issues of the Member States, and shared advantage.

- Territorial participation is viewed as a supplement to the two-sided and multilateral relations of SAARC Member States.
- SAARC Summits are held annually and the country hosting the Summit holds the Chair of the Association.
- Decisions are made on an unanimity basis while bilateral and contentious issues are excluded from the deliberations of SAARC.
- In addition to the eight Member States, nine Observer States join SAARC Summits: China, the US, Myanmar, Iran, Japan, South Korea, Australia, Mauritius and the European Union. Areas of Cooperation
- **The Member States agreed on the following areas of cooperation:**
Agriculture and provincial improvement Education and culture Biotechnology Economic, exchange and money Energy Environment Tourism Science and Technology Information, Communication and Media Poverty lightening Security viewpoints People-to-People Contacts funding instrument Social turn of events.

Topic 5. OATH OF SUPREME COURT JUDGES

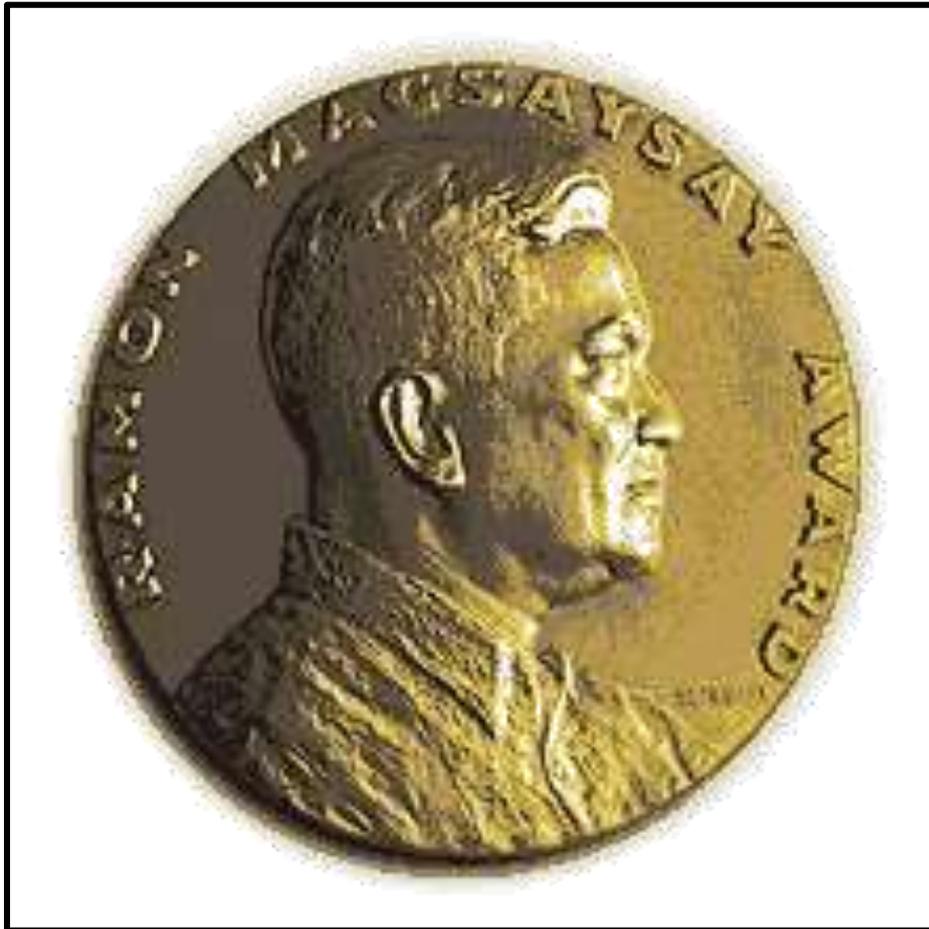
Importance for Prelims: Polity

In a first, nine SC judges take oath in one stroke.

- A person appointed as a judge of the Supreme Court, before entering upon his Office, has to make and subscribe an oath or affirmation before the President, or some person appointed by him for this purpose.
- **In his oath, a judge of the Supreme Court swears:** to bear genuine confidence and faithfulness to the Constitution of India; to maintain the power and trustworthiness of India; to properly and reliably and as well as could be expected, information, and judgment plays out the obligations of the Office without dread or favor, fondness or hostility; and to maintain the Constitution and the laws.

Topic 6. RAMON MAGSAYSAY AWARD

Importance for Prelims: Awards



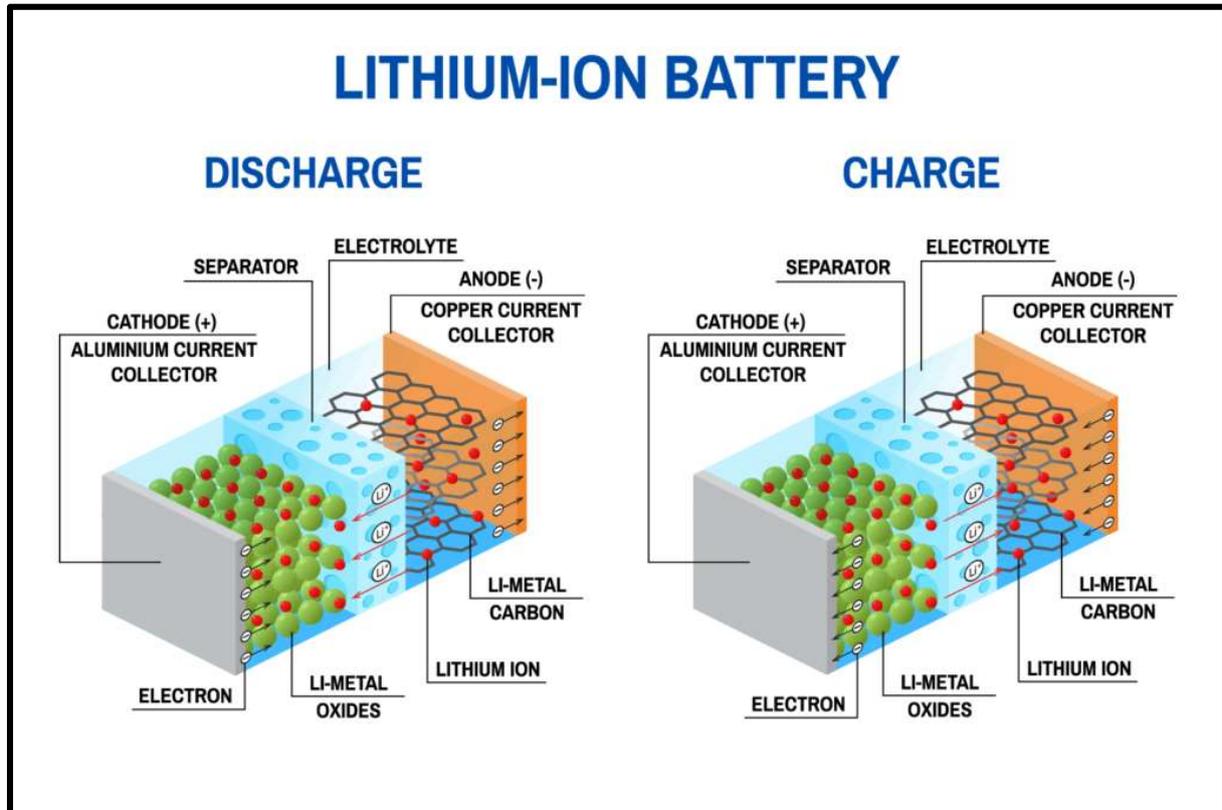
Vaccine pioneer wins Ramon Magsaysay award.

- The Ramon Magsaysay Award was set up in 1957 and is considered Asia's chief prize and most elevated honor.
- It is named after Ramon Magsaysay, the third leader of the Republic of the Philippines.
- **Till 2009 awards have traditionally been given in five categories:** taxpayer-driven organization; public help; local area initiative; reporting, writing, and inventive correspondence expressions; and harmony and global agreement.
- However, post 2009, the Ramon Magsaysay Award Foundation annually selects the awardees for the field of Emergent Leadership.

- Awardees are presented with a certificate, a medallion with an embossed image of Ramon Magsaysay and cash prize.
- The honor is globally perceived as the Nobel Prize partner of Asia and is the most elevated honor given to Asian people and associations.

Topic 7. LI-ION BATTERIES

Importance for Prelims: Science and Tech



Lucas TVS to build Li- ion battery unit for ₹2,500 cr.

- A lithium-ion battery or Li-ion battery is a type of rechargeable battery.
- Li-particle batteries utilize an intercalated (Intercalation is the reversible consideration or addition of an atom into materials with layered designs) lithium compound as one anode material, contrasted with the metallic lithium utilized in a non-battery-powered lithium battery.
- The battery comprises of electrolyte, which takes into account ionic development, and the two anodes are the constituent parts of a lithium-particle battery cell.
- Lithium ions move from the negative electrode to the positive electrode during discharge and back when charging.
- Lithium batteries were proposed by a British scientific expert and co-beneficiary of the 2019 Nobel prize for science M. Stanley Whittingham,

presently at Binghamton University, while working for Exxon during the 1970s.

- Lithium-ion Battery Applications: Electronic gadgets, Telecommunication, Aerospace, Industrial applications.
- Lithium-particle battery innovation has made it the most loved power hotspot for electric and mixture electric vehicles.
- Helps Long life cycle High Voltage High Storage Characteristics High Energy Density Disadvantages of Li-particle Batteries: Long charging times. Well-being issues as occasions of batteries getting fires have been there. Costly to fabricate.
- While the Li-particle batteries are viewed as adequately productive for applications like telephones and workstations, if there should be an occurrence of EVs, these cells actually do not have the reach that would make them a suitable option in contrast to gas-powered motors.

Topic 8. CHINA'S NEW MARITIME RULES

Importance for Prelims: IR

China's new maritime law might spike tensions in South China Sea.

- In a bid to direct unfamiliar boats, China informed new sea rules justifying vessels conveying radioactive materials, mass oil, synthetics, and a large group of different supplies to report the subtleties of the freights upon their entrance into Chinese waters.
- Beijing claims almost all of the 1.3 million square-mile South China Sea as its sovereign territory.
- China has been building army installations on fake islands in the locale additionally guaranteed by Brunei, Malaysia, the Philippines, Taiwan, and Vietnam.
- Administrators of submarines, atomic vessels, ships conveying radioactive materials, and boats conveying mass oil, synthetics, melted gas, and other poisonous and destructive substances are needed to report they're definite data upon their visits to Chinese regional waters.
- Notwithstanding these kinds of vessels, vessels that might jeopardize the oceanic traffic security of China recommended by-laws ought to likewise adhere to the new guideline which will produce results from September 1.
- Those vessels should report the name, call sign, current position, and next port of call and assessed season of appearance.
- The name of ship borne dangerous goods and cargo deadweight are also required in the report. South China Sea
- The South China Sea, which lies between China, Taiwan, the Philippines, Brunei, Malaysia, Indonesia, and Vietnam, is of incredible monetary significance internationally.
- Nearly one-third of the world's shipping passes through its lanes, and the waters house numerous important fisheries.

- The waters around China are hotly contested.
- Under a "nine-dash line" map, China guarantees the vast majority of the South China Sea as its sovereign domain.
- This case is challenged by its neighbors in the area and by the United States, which, however, it has no case in the Sea, moves the more modest countries in the battle against Chinese impropriety.
- For more information on SCS, please refer this. South China Sea and India
- The South China Sea assumes an essential part in working with India's exchange with Japan, South Korea, and ASEAN nations, and aids the productive acquisition of energy supplies.
- Truth be told, the Ministry of External Affairs gauges that over 55% of India's exchange goes through the South China Sea and Malacca Straits.
- India is likewise associated with oil and gas investigation in seaward squares in the edges of the Sea, which has prompted stalemates with Chinese specialists.
- Joined Nations Convention on the Law of the Sea (UNCLOS) Currently, global oceanic exercises are administered by a peaceful accord called the United Nations Convention on the Law of the Sea (UNCLOS) of which China, India, and north of 100 different nations are signatories (the US, essentially, isn't).
- As needs are, states reserve the option to carry out regional privileges up to 12 nautical miles into the ocean.
- The UNCLOS also states that all vessels have the right of "innocent passage" through this region

Topic 9. INDIAN ROYAL JELLY

Importance for Prelims: Agriculture

HOW INDIAN ROYAL JELLY FARES AGAINST ISO STANDARDS		
Parameter (per cent by mass)	ISO permissible limit	Indian Royal Jelly
Moisture	62 to 68.5	64 to 66
10 HDA	1.4	2.02 to 2.31
Protein	11 to 18	11.56 to 12.97
Total sugar	7 to 18	10.02 to 10.39
Glucose	2 to 9	1.96 to 2.54
Total lipid	2 to 8	2.96 to 6.46

For the first time, Indian Royal Jelly has been found to surpass top-quality sellers.

- Interestingly, Indian Royal Jelly has been found to outperform top-quality merchants, incorporating those created in Thailand and Taiwan.
- Known for being a decent cancer prevention agent, and assisting ladies with ripeness issues, among other medical advantages, the Indian Royal Jelly fulfills the ISO-recommended guidelines forced by the Food Safety and Standards Authority of India (FSSAI) in 2019, as indicated by Pune-based specialists.
- It is a pearly white or pale yellow-coloured cohesive mixture of honey and secretions from the hypo pharyngeal and mandibular glands of worker honeybees.
- It contains dampness or water (60-70 percent), lipids (1-10 percent), minerals (0.8 3%), proteins (9-18 percent), sugar (7%), and different components.

- Being exceptionally nutritious, this substance is utilized as food to youthful hatchlings and grown-up sovereign bumble bees.
- Monetarily, imperial jam is created falsely by invigorating honey bee states to deliver sovereign honey bee, become external its regular natural surroundings.
- The larvae in the queen cells are fed with nutritious royal jelly.
- The ideal opportunity to reap regal jam is the point at which the most extreme sum gets gathered upon the hatchling turning 5 days old.
- Illustrious jam should be put away in freezing temperatures following creation, during bundling, and furthermore at the purchaser's end.
- Recommended temperature for fresh royal jelly is below -20 degrees Celsius.
- Freezee drier, a special machine, is needed to remove moisture from the fresh produce.
- As of now, there are three such machines in India, which are imported from Germany.
- In a period of five to a half years, an all-around kept up with hive can deliver an expected 900gms of regal jam.

What is known of Indian Royal Jelly's quality and standards?

- India didn't have norms set for its regal jam before FSSAI forced ISO guidelines in 2019.
- Yet, there was no information accessible on the nature of regal jam delivered in India.
- Principles are set down in light of the convergence of dampness, sugars, protein and, in particular, Hydroxy acids with 10 carbon iotas (10 HDA), which is an unsaturated fat found in the illustrious jam.
- By and by, country-explicit principles of regal jam norms are accessible just in Switzerland, Bulgaria, Brazil and Uruguay though different

nations are currently formulating something very similar with the assistance of International Honey Commission.

- **Recent Findings** – In its recently concluded study, the findings confirm that the royal jelly produced by honeybees that gather pollen from flowers of mustard, coconut and multiflora variants are of top international quality whereas those from maize were not as good. Mustard pollen contains high protein content.
- The quality varied from the plant and their respective pollen. “In fact, Indian royal jelly is better in quality than royal jelly produced in Thailand and China and is almost the same quality as the Italian royal jelly, which is considered the best in the world,”

Who are the global market rulers and consumers of royal jelly?

- During the 1940s, the creation methods of regal jam were first evolved by Japan. However, because of the difficult work engaged with its creation, the Japanese prepared beekeepers and sent them to Taiwan.
- At 600 metric tons/year, China beat the creation diagrams and is trailed by Taiwan (350 metric tons/year).
- Thailand and Italy are among the other top makers on the planet.
- With north of 400 metric tons/year, Japan is the world's biggest shipper followed by Germany, America and a few other European countries.
- For its excellent, Thailand-made new illustrious jam sells at Rs 12,000 for each kg though the powdered variation costs Rs 30,000 for every kg in India.

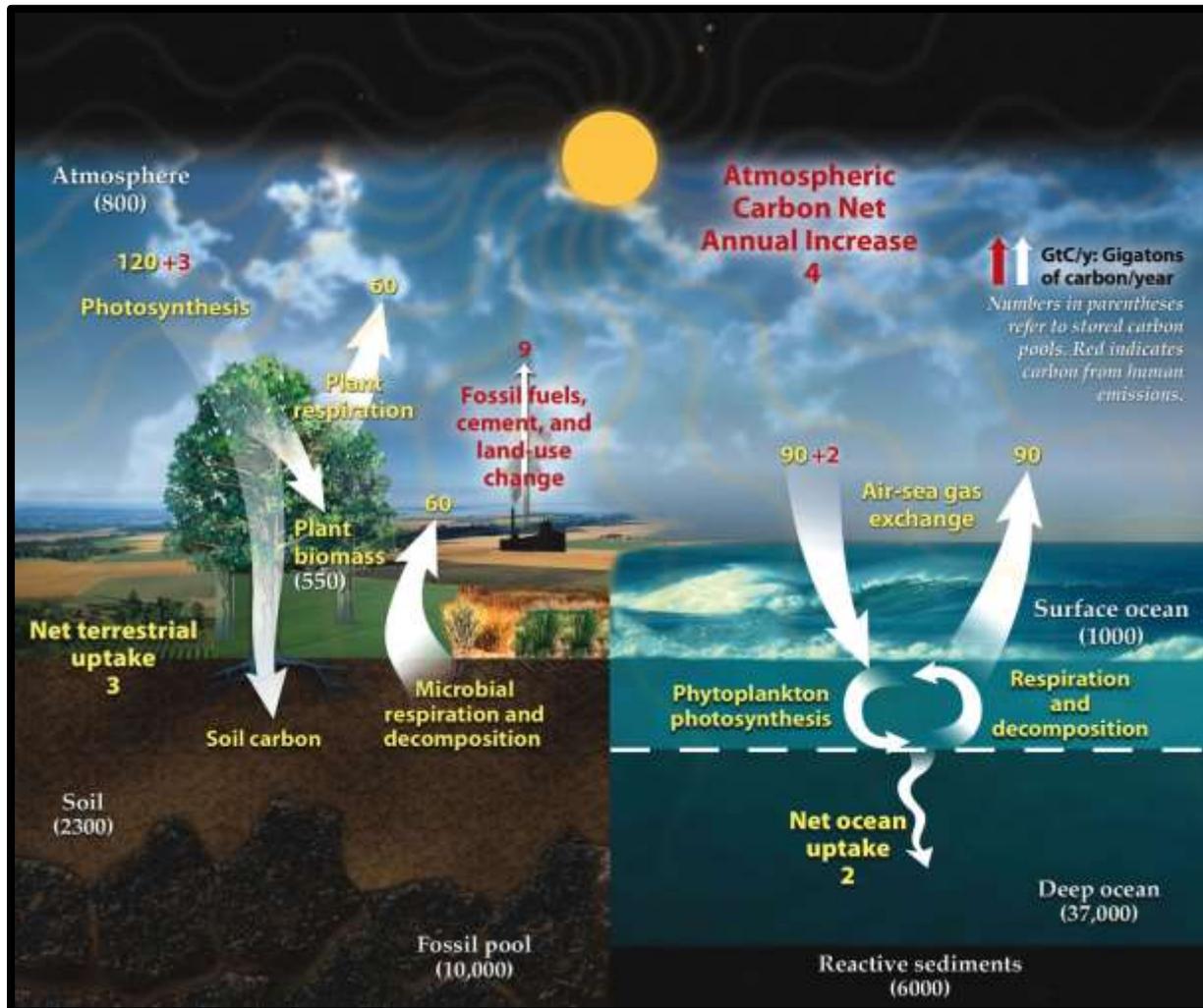
What are the benefits of consuming royal jelly and why is the consumption growing worldwide?

- Royal jelly is no medicine but a nutritious substance.
- An average healthy person needs to consume only about 500 mg (fresh) and 200mg (powder) in a day to get maximum health benefits.

- Imperial jam is known for its cancer prevention agent properties. Plus, it fixes harmed cells in the body and restores them.
- Hence, some cancer patients are advised consumption of royal jelly up to 10mgs.
- Its consumption is suggested to women for improving their fertility.
- It is additionally seen as compelling for ladies experiencing premenstrual and post-menopausal issues.
- Illustrious jam is accepted to chop down body maturing and makes individuals look a lot more youthful than their genuine age, and is in this way famous among big names.
- The Japanese — who are among the oldest living humans crossing the age of 100 — could have some links for their longevity with high consumption of royal jelly, experts said.
- Illustrious jam with higher 10 HDA is generally nutritious.

Topic 10. CARBON SINKS

Importance for Prelims: Environment



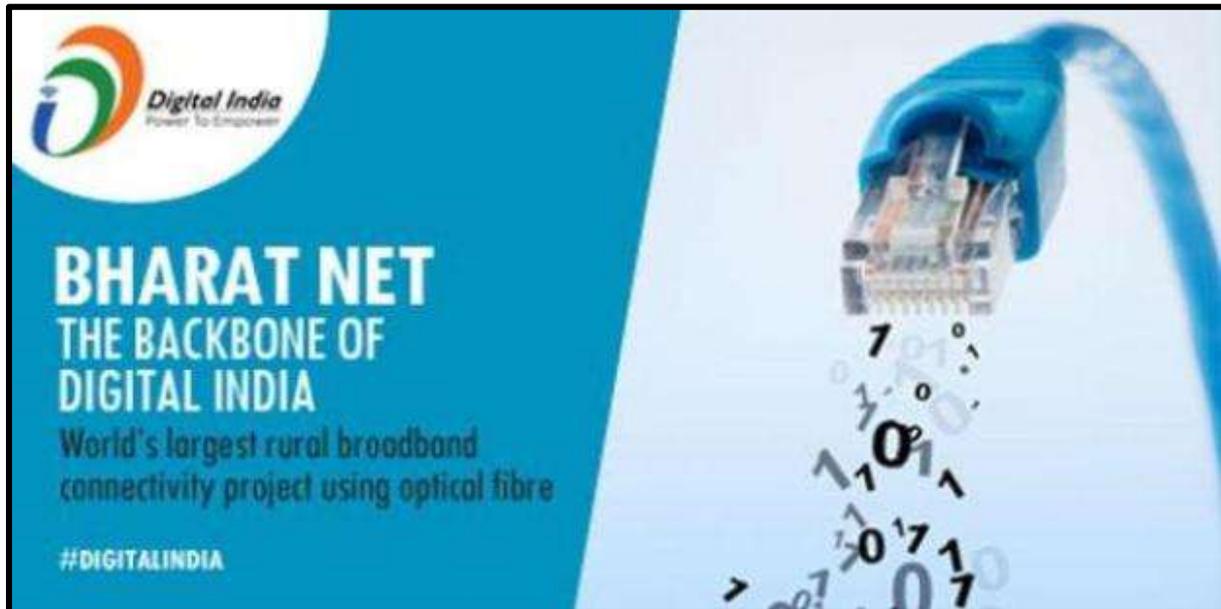
Despite caution from scientists, policymakers and corporates still assume that natural carbon sinks like forests will mop up their fossil fuel emissions.

- A carbon sink is any supply, normal or in any case, that collects and stores some carbon-containing substance compound for an endless period and accordingly brings down the grouping of CO₂ from the environment.
- Globally, the two most important carbon sinks are vegetation and the ocean.
- Public consciousness of the meaning of CO₂ sinks has developed since the section of the Kyoto Protocol, which advances their utilization as a type of carbon offset.

- There are additionally various techniques used to improve this interaction.
- Soil is an important carbon storage medium.
- Much of the organic carbon retained in agricultural areas has been depleted due to intensive farming.
- “Blue carbon” designates carbon that is fixed via the ocean ecosystems.
- Mangroves, salt swamps, and ocean grasses make up a larger part of sea vegetation and store huge amounts of carbon.
- Numerous endeavors are being made to improve normal sequestration in soils and the seas.
- What's more, a scope of fake sequestration drives are in progress, for example, changed structure development materials, carbon catch and capacity, and land sequestration.

Topic 11. BHARATNET PROJECT

Importance for Prelims: Governance



PPP model of BharatNet: DoT starts meets, hopes to float bid by Sept-end.

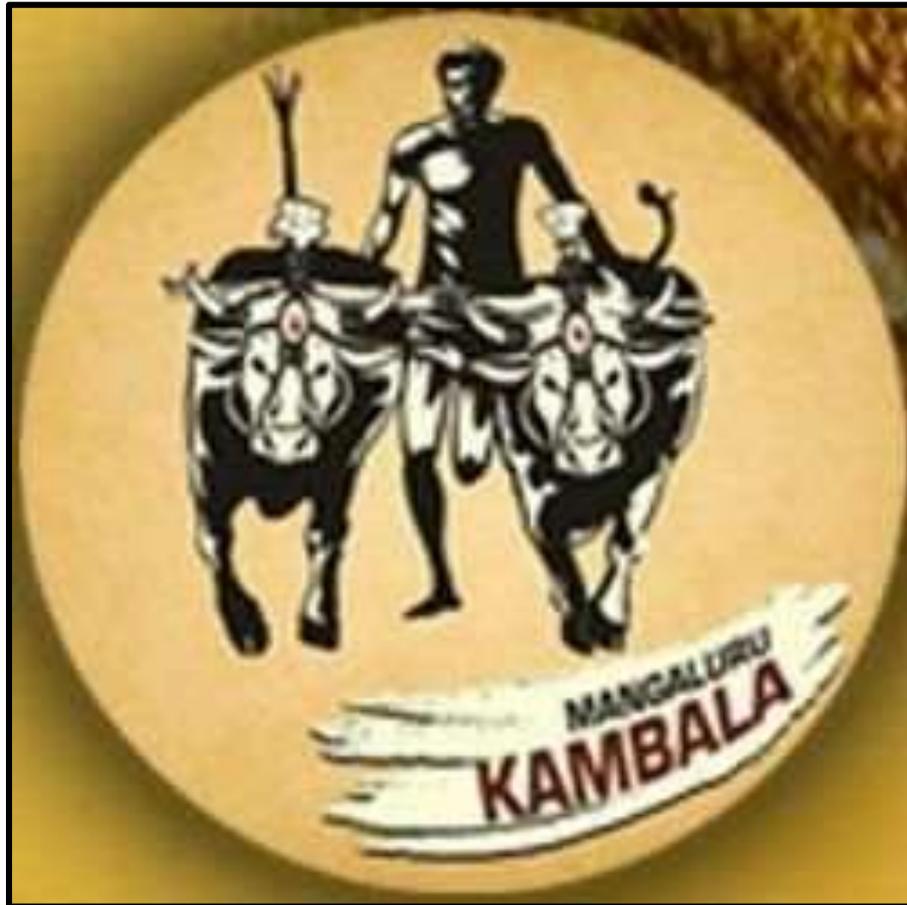
- It is the world's largest rural broadband connectivity programme using Optical fibre.
- And also a flagship mission implemented by Bharat Broadband Network Ltd. (BBNL).
- BBNL is a Special Purpose Vehicle (SPV) set up by the Government of India under the Companies Act, 1956 with an approved capital of Rs 1000 crore.
- It is a profoundly versatile organization foundation open on a non-oppressive premise, to give on-request, reasonable broadband network of 2 Mbps to 20 Mbps for all families and on-request ability to all establishments, to understand the vision of Digital India, in association with States and the private area.
- It is being implemented by the Department of Telecommunication under the Ministry of Communications.
- National Optical Fibre Network (NOFN) which was launched in October

2011 was renamed as Bharat Net Project in 2015.

- NOFN was envisaged as an information superhighway through the creation of a robust middle-mile infrastructure for reaching broadband connectivity to Gram Panchayats.
- In 2019, the Ministry of Communications likewise sent off the 'Public Broadband Mission' to work with all-inclusive and evenhanded admittance to broadband administrations the nation over.
- The entire project is being funded by Universal service Obligation Fund (USOF), which was set up for improving telecom services in rural and remote areas of the country.
- The government will provide Rs 19,041 crore as viability gap funding for the project.
- **The project will be extended to all inhabited villages beyond the gram panchayats in 16 States which are:** Kerala, Karnataka, Rajasthan, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Madhya Pradesh, West Bengal, Assam, Meghalaya, Manipur, Mizoram, Tripura, Nagaland, and Arunachal Pradesh.
- The objective is to facilitate the delivery of e-governance, e-health, e-education, ebanking, Internet and other services to rural India.

Topic 12. KAMBALA

Importance for Prelims: Art and Culture



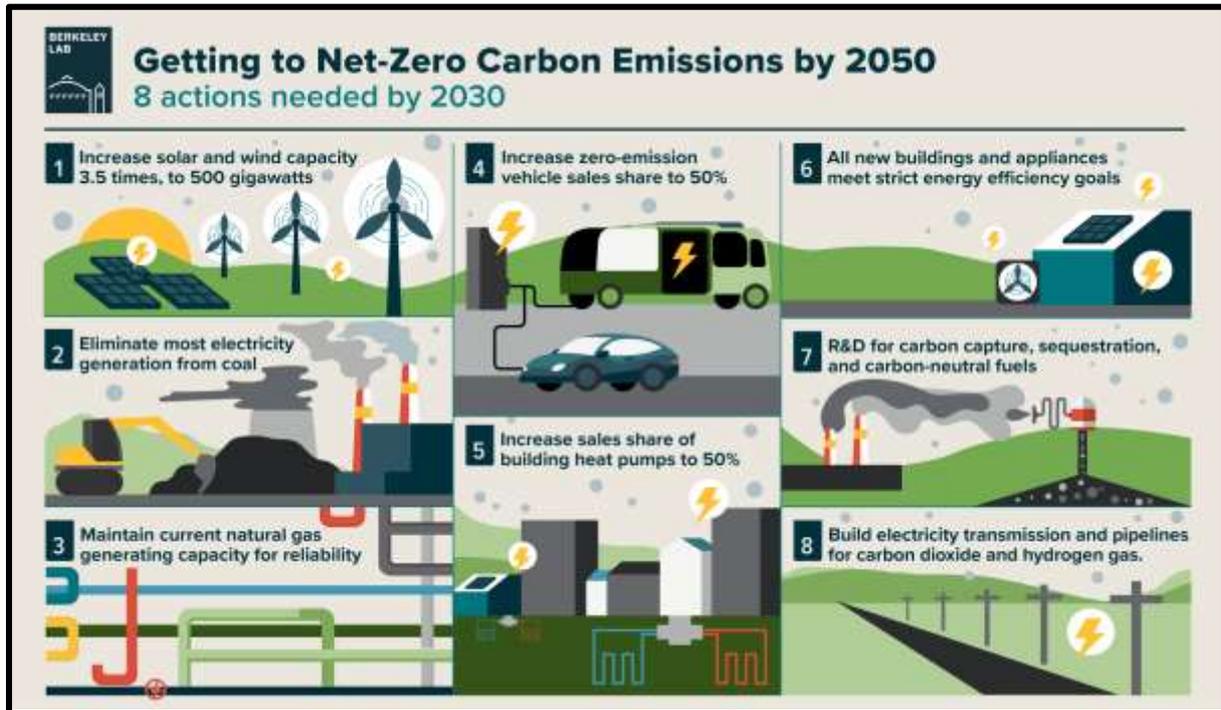
‘Follow SC guidelines on kambala in Maharashtra case’. Karnataka High Court issues direction to State govt.

- Kambala is an annual buffalo race held in the south western Indian state of Karnataka.
- Generally, it is supported by nearby Tuluva property managers and families in the waterfront regions of Dakshina Kannada and Udupi of Karnataka and Kasaragod of Kerala, a locale aggregately known as Tulu Nadu.
- The Kambala season generally starts in November and lasts until March.
- The Kambalas are organized through Kambala samithis (Kambala Associations), of which there are currently 18.

- During the race, the racers attempt to manage the bison by holding their reins tight and whipping them.
- In its conventional structure, Kambala was non-cutthroat and bison sets dashed consistently in paddy fields.
- Slushy/marshy paddy field track is used for Kambala.
- It was also observed as thanksgiving to gods for protecting the animals from diseases.
- Creature activists condemn the game and contend that the Kambala includes demonstrations of savagery on creatures which are not physiologically appropriate for dashing and they run in the race because of dread of being beaten. As indicated by them, it disregards the Prevention of Cruelty to Animals (PCA) Act, 1960.
- The Act forestalls rehearses that include pointless agony to the creature adding up to brutality.
- Earlier, the Supreme Court had banned jallikattu, bullock-cart races, and kambala events in its judgement on May 7, 2014.
- Be that as it may, the Prevention of Cruelty to Animals (Karnataka Amendment) Ordinance, 2017 endorsed the getting sorted out of the Kambala occasion if steps are taken to keep away from remorselessness to the partaking bulls.
- Jallikattu is a traditional bull-taming event that is organised in the Tamil Nadu every year as part of the harvest festival
- It is famous in Madurai, Tiruchirappalli, Theni, Pudukkottai, and Dindigul areas of Tamil Nadu known as the Jallikattu belt.
- It is a violent sport in which contestants try to tame a bull for a prize; if they fail, the bull owner wins the prize.
- The sport requires fighters to pounce on a running bull, try to hold on to its hump and move along with the animal without falling or getting hurt.

Topic 13. NET-ZERO EMISSIONS

Importance for Prelims: Environment



India must commit to net zero emissions. The country will need to take a stand on climate change action or risk being cast globally as an outlier.

- 'Net zero discharges' alludes to accomplishing a general harmony between ozone-depleting substance outflows created and ozone-depleting substance emanations removed from the air.
- Net-zero or carbon nonpartisanship is when more carbon is sucked out from the climate or kept from being produced than what a nation transmits and is basic to guaranteeing that the planet doesn't warm up an extra a large portion of a degree by 2100.
- To reach "zero net discharges" and cutoff an unnatural weather change to 1.5°C, it is important to eliminate and forever store CO₂ from the environment. This is called Carbon Dioxide Removal (CDR).
- As it is the opposite of emissions, these practices or technologies are often described as achieving “negative emissions” or “sinks“.

- **There is a direct link between zero net emissions and CDR:** The previous zero net outflows are accomplished, the less CDR is essential. In this way, the extended measure of required CDR over the 21st century fluctuates from 100 to 1'000 Gt CO₂ .

Bhutan and Suriname are the only carbon neutral countries in the world.

What does net-zero mean?

- Net-zero, which is additionally alluded to as carbon-impartiality, doesn't imply that a nation would cut down its outflows to nothing.
- Gross-zero methods arriving at a state where there are no emanations by any means.
- Along these lines, net-zero is a state wherein a country's emanations are repaid by assimilation and expulsion of ozone harming substances from the air.
- One way by which carbon can be ingested is by making carbon sinks. CDR can be isolated into the three principle gatherings: natural, mechanical, and geochemical processes –
 1. **Biological CDR enlarges natural sinks and includes several measures. Examples are:** Afforestation, e. enormous scope estate of trees, and economical timberland the executives which store carbon in soil and biomass. Adjusted land the executives to increment and for all time fix C from environmental CO₂ in the dirt. One model through the fuse of yield deposits decreased culturing or even is to renature peatlands. Pyrolysis of biomass to frame charcoal (biochar) that saves carbon in the dirt for a long time.
 2. **Examples of technological CDR are:** Removing CO₂ directly from the exhaust gases of industrial processes and storing it elsewhere, e.g. underground (Direct Air Capture with Carbon Storage, “DACCS”). Bioenergy utilization in combination with carbon capture and storage

means burning biomass in power plants, immediately capturing the CO₂ underground (Bio-Energy with Carbon Capture and Storage, "BECCS"). This process combines biological and technological CDR.

- **Geochemical CDR includes measures such as:** Upgraded enduring Increasing sea efficiency. Nations that have reported net-zero Targets (Some Examples): The European Union has an arrangement, called "Fit for 55", to convey the carbon lack of bias objective. China likewise declared that it would become net-zero constantly in 2060 and that it would not permit its discharges to top past what they are in 2030.
- The International Energy Agency (IEA) has delivered its Net Zero Emissions (NZE) Roadmap - named 'Net-Zero by 2050'.
- NGO Oxfam Report NGO Oxfam has said that 'net zero' carbon focuses on what numerous nations have declared might be a "perilous interruption" from the need of cutting fossil fuel byproducts. "Eager for land 'net zero' plans could constrain an 80 percent ascend in worldwide food costs and more appetite while permitting rich countries and corporates to proceed "messy the same old thing," Oxfam has said in another report named "Fixing the Net".
- The report says that assuming the test of progress is handled simply via establishing more trees, then, at that point, around 1.6 billion hectares of new woodlands would be needed to eliminate the world's overabundance of fossil fuel byproducts continuously 2050.
- Further, it says that to restrict an Earth-wide temperature boost beneath 1.5°C and to keep irreversible harm from environmental change, the world necessities to altogether be on target and should plan to cut emanations by 45% by 2030 from 2010 levels, "with the keenest being made by the greatest producers."
- "Oxfam's report shows that assuming the whole energy area whose

discharges keep on taking off, were to set comparative 'net-zero' targets, it would require an area of land almost the size of the Amazon rainforest, identical to 33% of all farmland around the world.

Why does India object to net-zero emissions?

- India is the one opposing this target because it is likely to be the most impacted by it.
- Over the next two to three decades, India's emissions are likely to grow at the fastest pace in the world, as it presses for higher growth to pull hundreds of millions of people out of poverty.
- No amount of afforestation or reforestation would be able to compensate for the increased emissions.
- The net-zero objectives don't figure in the 2015 Paris Agreement, the new worldwide engineering to battle environmental change.
- India has been contending that as opposed to opening up an equal conversation on net-zero focuses outside of the Paris Agreement system, nations should zero in on following through on what they have as of now guaranteed in Paris Agreement.

Topic 14. ZAPAD EXERCISE

Importance for Prelims: Security

200 Army personnel for Zapad exercise.

- It is a global Exercise ZAPAD 2021 being held at Nizhniy, Russia from September 3 to 16.
- ZAPAD 2021 is one of the theater levels activities of the Russian military and will zero in basically on tasks against psychological militants.
- The activity expects to upgrade military and key ties among the partaking countries while they plan and execute this activity.
- Altogether, 17 nations have been welcomed by Russia for the activity.
- Of these nine are Participating countries which include Mongolia, Armenia, Kazakhstan, Tajikistan, Kyrgyzstan, Serbia, Russia, India and Belarus.
- The other eight nations are Observers which incorporate Pakistan, China, Vietnam, Malaysia, Bangladesh, Myanmar, Uzbekistan, and Sri Lanka.

Topic 15. LADAKH ADOPTS STATE ANIMAL AND BIRD

Importance for Prelims: Environment

KNOW YOUR SNOW LEOPARD

The Snow Leopard's long, thick tail aids in balancing on the steep, narrow cliffs of its home range.

RANGE: [Map of Central Asia]

Snow Leopards are native to the rugged, snowy highlands of Central Asia.

Snow Leopard (*Panthera uncia*)
VULNERABLE

1998 2018

Snow Leopard numbers have declined by 20% in the last 20 years due to poaching, habitat loss and unsustainable hunting of its primary prey species.

They are found at altitudes as high as 11,483 ft (3500m) above sea level.

Size Comparison

HUMAN SNOW LEOPARD

Snow Leopard Day - October 23

Ladakh on Wednesday embraced two imperiled species, snow panther and dark necked crane, as the State creature and the State bird, two years after it was cut out as a different Union Territory (UT) from the past State of J&K.

- Ladakh on Wednesday embraced two jeopardized species, snow panther and dark necked crane, as the State creature and the State bird, two years after it was cut out as a different Union Territory (UT) from the past State of J&K.

- Dark Necked Crane the Black-necked Crane (*Grus nigricollis*) is a medium-sized crane in Asia that varieties on the Tibetan Plateau and remote pieces of India and Bhutan.
- The bird is respected by the local area of Monpas (significant Buddhist ethnic gathering of Arunachal Pradesh) as an encapsulation of the 6th Dalai Lama (Tsangyang Gyatso).
- Dark necked cranes are just found in Ladakh's Changthang district. They are portrayed as magnificent birds - around 139 cm long with a 235 cm wingspan and gauging 5-6 kg.
- The bird's locating is considered propitious in Ladakh. Both the genders are near of similar size yet male is somewhat greater than female.
- **IUCN Red List:** Near Threatened CITES: Appendix I Indian Wildlife (Protection) Act, 1972: Schedule I Snow leopard The snow leopard (*Panthera uncia*), also known as the ounce, is a felid in the genus *Panthera* native to the mountain ranges of Central and South Asia.
- It is recorded as Vulnerable on the IUCN Red List on the grounds that the worldwide populace is assessed to number less than 10,000 mature people and is relied upon to decrease around 10% by 2040.
- It is threatened by poaching and habitat destruction following infrastructural developments.
- It inhabits alpine and subalpine zones at elevations from 3,000 to 4,500 m (9,800 to 14,800 ft), ranging from eastern Afghanistan, the Himalayas and the Tibetan Plateau, to southern Siberia, Mongolia and western China.
- In the northern piece of its reach, it additionally inhabits lower rises.

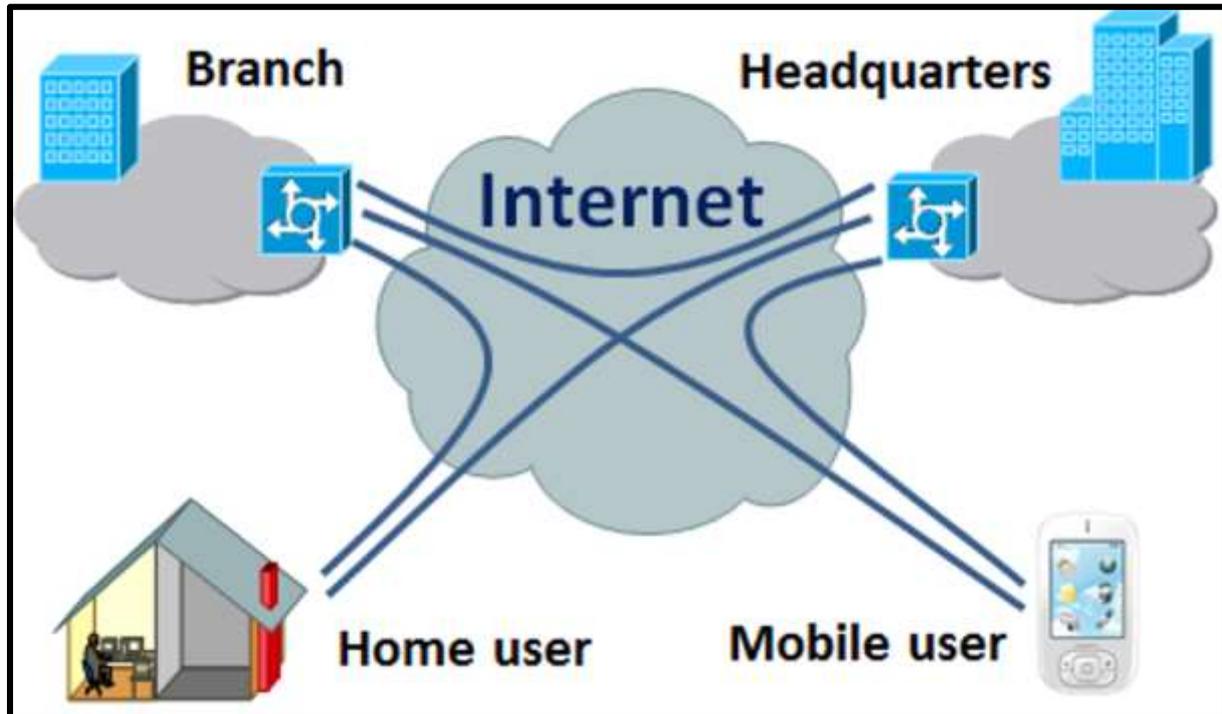
In India, their geographical range encompasses:

- **Western Himalayas:** Jammu and Kashmir, Himachal Pradesh.
- **Eastern Himalayas:** Uttarakhand and Sikkim and Arunachal Pradesh.

- **Snow Leopard capital of the world:** Hemis, Ladakh.
- Hemis National Park is the biggest national park in India and also has a good presence of Snow Leopard.
- It is listed in Schedule I of the Indian Wildlife (Protection) Act 1972.
- It is likewise recorded in the Convention on Migratory Species (CMS), managing the cost of the greatest protection status to the species, both universally and in India.

Topic 16. VIRTUAL PRIVATE NETWORKS (VPNS)

Importance for Prelims: Science and Tech



Proposal to ban VPNs has India Inc worried

- The proposal of the Parliamentary Standing Committee on Home Affairs to block virtual private networks (VPNs) in India has left many multinational and Indian companies in a tizzy.
- Many companies have been using VPN for enabling secure work-from-home during the pandemic.
- While the Committee has looked to boycott VPNs to control cybercrime, Internet strategy specialists and security analysts considered it a "weird and badly judged" thought as this would genuinely affect the information security of MNCs and monetary firms working from a distance

What is a VPN?

- A virtual private network, or VPN, is an encrypted connection over the Internet from a device to a network.
- The encrypted connection helps ensure that sensitive data is safely transmitted.

- It keeps unapproved individuals from snooping on the traffic and permits the client to lead work from a distance.
- VPN technology is widely used in corporate environments.
- As it is totally disconnected from the rest of the web, it is a secure system.
- The network can be used safely by the government, companies, and military to utilise system resources.

How does a virtual private network (VPN) work?

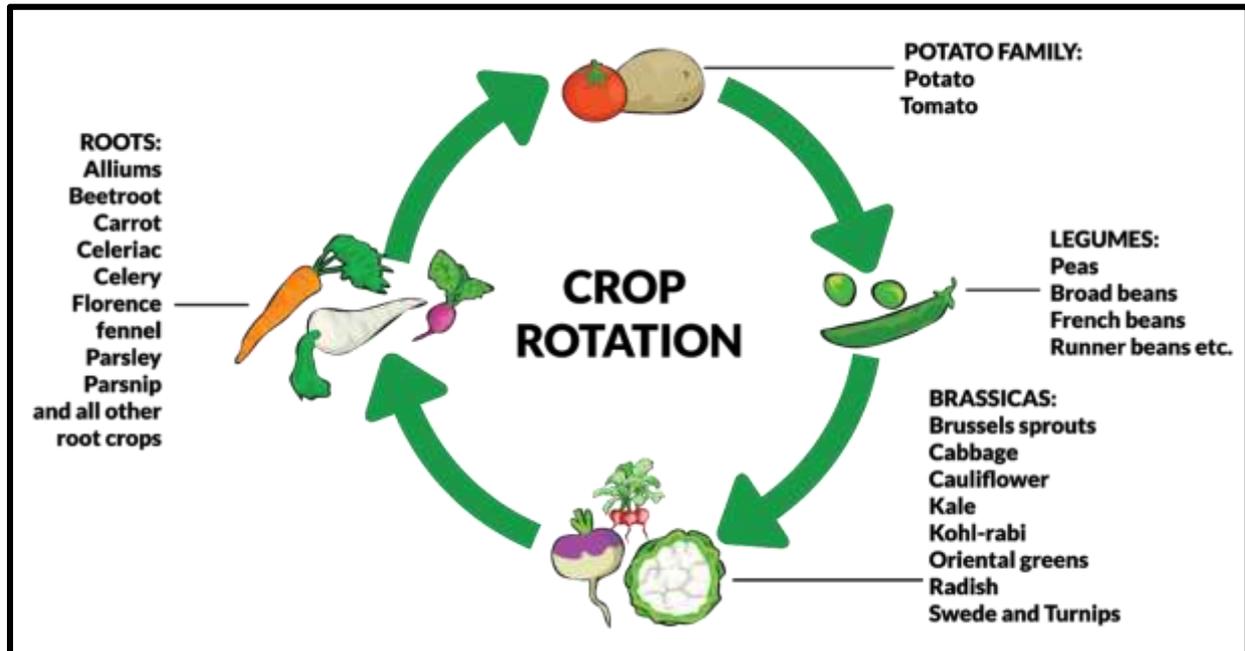
- A VPN extends a corporate network through encrypted connections made over the Internet.
- Because the traffic is encrypted between the device and the network, traffic remains private as it travels.
- An employee can work outside the office and still securely connect to the corporate network.

Even smartphones and tablets can connect through a VPN. Is VPN traffic encrypted?

- Indeed, traffic on the virtual organization is sent safely by building up a scrambled association across the Internet known as a passage.
- VPN traffic from a device such as a computer, tablet, or smartphone is encrypted as it travels through this tunnel.
- Offsite representatives can then utilize the virtual organization to get to the corporate organization.
- Protocols of VPN to build stable networks, there are many distinct VPN protocols are used.
- A few conventions of this sort are recorded beneath IPsec (IP security) PPTP (Point to Point Tunneling Protocol) L2TP (Layer 2 Tunneling Protocol) SSL (Secure Sockets Layer) TLS (Transport Layer Security)

Topic 17. CROP ROTATION

Importance for Prelims: Agriculture



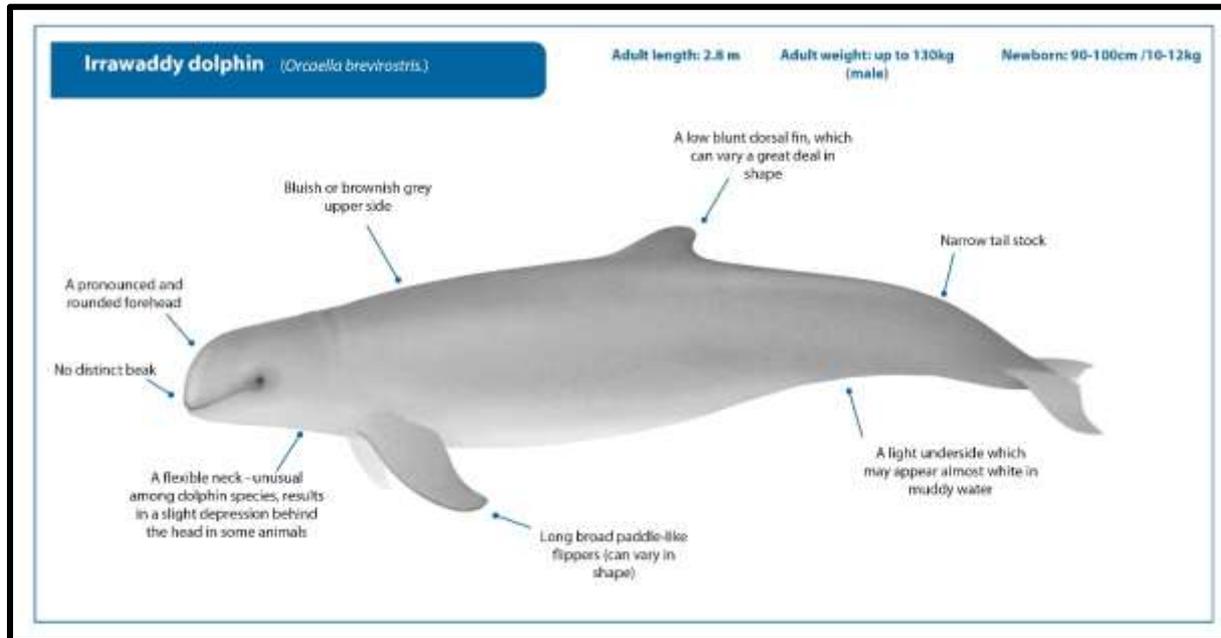
Implement crop rotation. This can to a large extent ease Punjab's agrarian crisis.

- Crop rotation is the practice of growing a series of different types of crops in the same area across a sequence of growing seasons.
- It diminishes dependence on one bunch of supplements, irritation and weed pressure, and the likelihood of creating safe vermin and weeds.
- On the other hand, an all-around planned harvest turn can decrease the requirement for engineered composts and herbicides by better utilizing biological system administrations from a different arrangement of yields.
- Also, crop turns can further develop soil construction and natural matter, which diminishes disintegration and expands ranch framework flexibility.
- Monocropping Growing the same crop in the same place for many years in a row, known as monocropping.
- It step by step exhausts the dirt of specific supplements and chooses for an exceptionally aggressive vermin and weed local area.
- It step by step exhausts the dirt of specific supplements and chooses for

an exceptionally aggressive vermin and weed local area.

Topic 18. IRRAWADDY DOLPHIN

Importance for Prelims: Environment



Irrawaddy dolphin found dead in Chilika

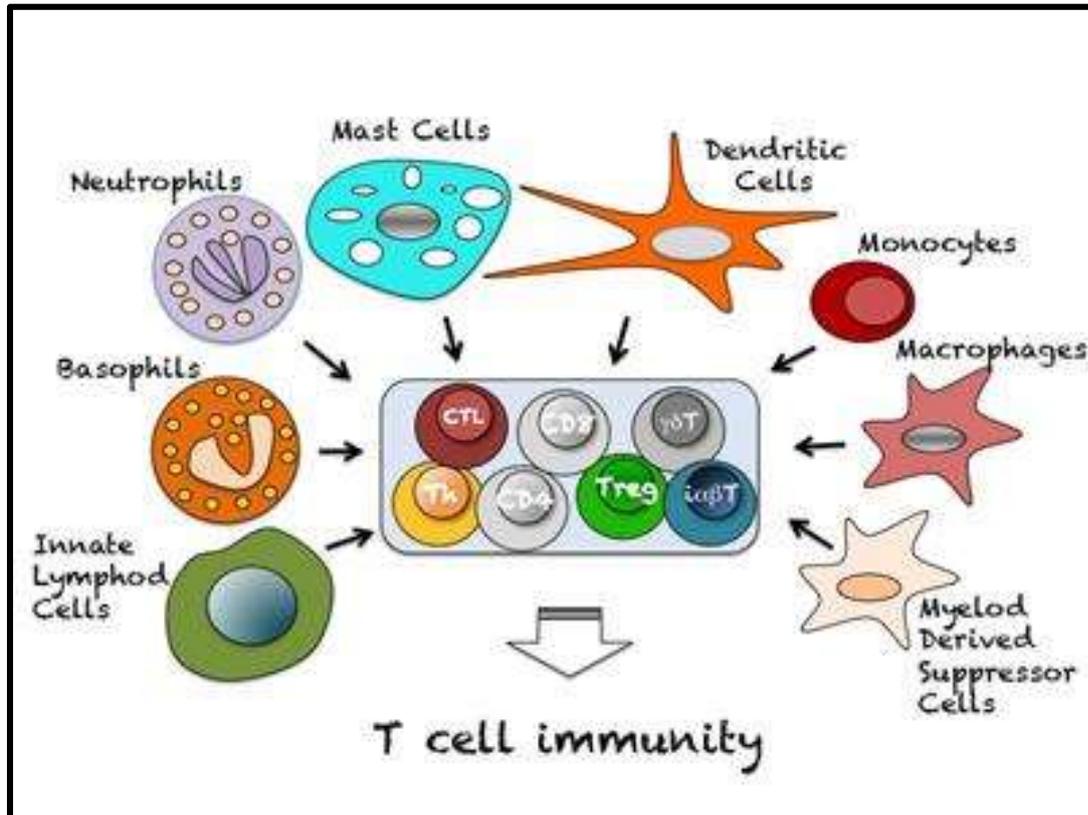
- Irrawaddy dolphins fall under Schedule I of the Indian Wildlife (Protection) Act, 1972 and are referenced in the International Union for the Conservation of Nature (IUCN) Red List of Endangered Species.
- **Irrawaddy dolphins (*Orcaella brevirostris*) are found in coastal areas in South and Southeast Asia, and in three rivers:** the Irrawaddy (Myanmar), the Mahakam (Indonesian Borneo), and the Mekong (China). Dolphin circulation in Chilika is viewed as the most elevated single tidal pond populace.
- Chilika Lake Chilika is Asia's largest and world's second-largest lagoon.
- It lies on the east bank of India in the province of Odisha, isolated from the strong Bay of Bengal by a little piece of sand.
- It is located at the mouth of the Daya River, flowing into the Bay of Bengal,
- It is the biggest wintering ground for transient birds on the Indian

subcontinent and is home to various undermined types of plants and creatures.

- In 1981, Chilika Lake was assigned the principal Indian wetland of worldwide significance under the Ramsar Convention.
- The major attraction at Chilika is Irrawaddy dolphins which are often spotted off Satpada Island.
- The huge Nalabana Island (Forest of Reeds) covering around 16 sq km in the tidal pond region was proclaimed a bird safe-haven in 1987.
- Kalijai Temple is situated on an island in Chilika Lake.
- At present, the Irrawaddy dolphins are only found between Chilika and Indonesia in Asia.

Topic 19. T-CELL IMMUNITY

Importance for Prelims: Science and Tech



COVID-19 vaccines produce T-cell immunity that lasts and works against virus variants

- A T cell is a type of lymphocyte.
- Lymphocytes are one of the significant white platelets of the resistant framework and assume a focal part in the versatile safe reaction.
- Immune system microorganisms can be recognized from different lymphocytes by the presence of a T-cell receptor (TCR) on their cell surface.
- Lymphocytes are brought into the world from hematopoietic undeveloped cells, found in the bone marrow.
- Developing T cells then migrate to the thymus gland to mature.
- White blood cells get their name from this organ where they create (or mature). After relocation to the thymus, the forerunner cells mature into a

few particular kinds of T cells.

- White blood cell separation likewise proceeds after they have left the thymus. Gatherings of explicit, separated T cell subtypes have an assortment of significant capacities in controlling and forming the insusceptible reaction.
- One of these functions is immune-mediated cell death.
- They recognize foreign particles (antigen) by a surface expressed, highly variable, T cell receptor (TCR).
- **There are two major types of T cells:** the helper T cell and the cytotoxic T cell.
- As the names recommend, assistant T cells 'help' different cells of the safe framework, while cytotoxic T cells kill virally tainted cells and cancers.
- The severity of disease can depend on the strength of these T cell responses.

How the immune system works?

- The immune system protects us from various infectious diseases, caused by bacteria, viruses, fungi or parasites.
- To do this, it initially figures out what kind of irresistible specialist, or microbe, is causing the disease.
- Then it mounts an appropriate response.
- Significantly, simultaneously it produces memory cells that can perceive a similar microorganism later on.
- That sets the immune system up to fight potential reinfections.
- Assuming the resistant framework confirms that an antiviral reaction is required, it dispatches a blend of two sorts of insusceptibility.
- One is mediated by antibodies and the other is mediated by T-cells, or cell-mediated.

- The antibodies bind to viruses and neutralise them, preventing them from infecting cells.
- Meanwhile, T-cells kill cells that have already been infected by the virus.
- While both kinds of immunity are important in fighting viruses, cell-mediated immunity is far more effective at eradicating viruses and more durable.
- This is important in the continuing fight against COVID-19.

Topic 20. SPECIAL DRAWING RIGHTS

Importance for Prelims: Economy

IMF allocates 12.57 billion SDRs to India.

- The SDR is a global hold resource, made by the International Monetary Fund (IMF) in 1969 to enhance its part nations' true saves.
- The SDR is neither a currency nor a claim on the IMF.
- Rather, it is a likely case on the unreservedly usable monetary standards of IMF individuals.
- SDRs can be traded for these monetary standards.
- The worth of the SDR is determined from a weighted bushel of significant monetary standards, including the U.S. dollar, the euro, Japanese yen, Chinese yuan, and British pound.
- The interest rate on SDRs or SDRi is the interest paid to members on their SDR holdings.
- Worldwide Monetary Fund IMF is an association attempting to encourage worldwide money related collaboration, secure monetary solidness, work with global exchange, advance high business and practical financial development, and diminish neediness all over the planet.
- Created in 1945, the IMF is governed by and accountable to the 189 countries that make up its near-global membership.
- India Joined on December 27, 1945.
- The IMF's basic role is to guarantee the steadiness of the worldwide money related framework the arrangement of trade rates and global installments that empowers nations (and their residents) to execute with one another.
- The Fund's mandate was updated in 2012 to include all macroeconomic and financial sector issues that bear on global stability.

Topic 21. PANJPIARE

Importance for Prelims: Art and Culture



Former Uttarakhand chief minister Harish Rawat has apologised for comparing Punjab Congress chief Navjot Sidhu and his four advisers to the PanjPiare.

- ‘PanjPiare’ is not just a group of five baptised people but a concept and tradition founded by 10th Sikh Guru Gobind Singh.
- Master Gobind Singh set up the foundation of PanjPiare while establishing the Khalsa upon the arrival of Baisakhi in 1699.
- Addressing a large gathering, he asked for five heads for sacrifice.
- Five men responded to his call and the Guru baptised them and called them PanjPiare.
- From that point forward, each gathering of five sanctified through water Sikhs is called PanjPiare and agreed the regard delighted in by the initial five Sikhs.
- Aside from characterizing the strict and social convention for the Khalsa by directing it to the PanjPiare, Guru Gobind Singh himself got absolved from them at a similar stage to let the Sikhs know that PanjPiaras have more significant position and dynamic power than anybody locally.

- The PanjPiare are also seen as a manifestation of the Guru himself.
- Any baptised Sikh can become a PanjPiare.
- The unanimous decision taken by PanjPiare has to be followed by everyone in the community.

Topic 22. GI PRODUCTS FROM KARNATAKA

Importance for Prelims: Art and Culture



Mysore Silk and other GI products get special covers.

- A geographical sign (GI) is a sign utilized on items that have a particular topographical beginning and have characteristics or a standing that are because of that beginning.
- In order to function as a GI, a sign must identify a product as originating in a given place.
- In addition, the qualities, characteristics or reputation of the product

should be essentially due to the place of origin.

- Since the characteristics rely upon the topographical spot of creation, there is a reasonable connection between the item and its unique spot of creation.
- The tag guarantees that, as a matter of fact, those enlisted as approved clients are permitted to utilize the item name.
- **In News** – To make mindfulness and advance Geographical Indication (GI) label results of Karnataka, Department of Posts, Karnataka Postal Circle, delivered extraordinary covers on such items.
- **The products that are showcased in special covers are:** Mysore Silk, Coorg Arabica Coffee, Chikkamagaluru Arabica Coffee, Bababudangiris Coffee, Devanahalli Pomelo, Bangalore Blue Grapes, Bangalore Rose Onion, Mysore Sandal Soap, Kolhapuri Chappal, and Mysore Agarbathi.
Late GI Products

Topic 23. ARTICLE 93 OF THE CONSTITUTION

Importance for Prelims: Polity

Yet again with the Delhi High Court asking the Union government on Wednesday to clarify its remain on an appeal that said keeping the post of Deputy Speaker of the Lok Sabha empty is an infringement of Article 93 of the Constitution, the issue is at the center of attention.

- Article 93 of the Constitution pertains to Speaker and Deputy Speaker of the House of the People.
- The House of the People will, when might be, pick two individuals from the House to be separately Speaker and Deputy Speaker thereof and, so frequently as the workplace of Speaker or Deputy Speaker becomes empty, the House will pick one more part to be Speaker or Deputy Speaker, all things considered.
- For more information on Deputy Speaker, please click on the below link – Deputy Speaker.

Topic 24. JAYAPRAKASH NARAYAN

Importance for Prelims: History



The Bihar government on Thursday took genuine note of the evacuation of parts on veteran communist pioneers Jayaprakash Narayan and Ram Manohar Lohia from the Post Graduate political theory schedule of the JP University at Chhapra in Saran region.

- Jayaprakash Narayan (11 October 1902 - 8 October 1979), prominently alluded to as JP or Lok Nayak (Hindi for "Individuals' chief"), was an Indian freedom extremist, scholar, communist and political leader.
- He is also known as the “Hero of Quit India Movement” and he is remembered for leading the mid-1970s opposition against Prime Minister
- Indira Gandhi, for whose overthrow he had called for a “total revolution“.

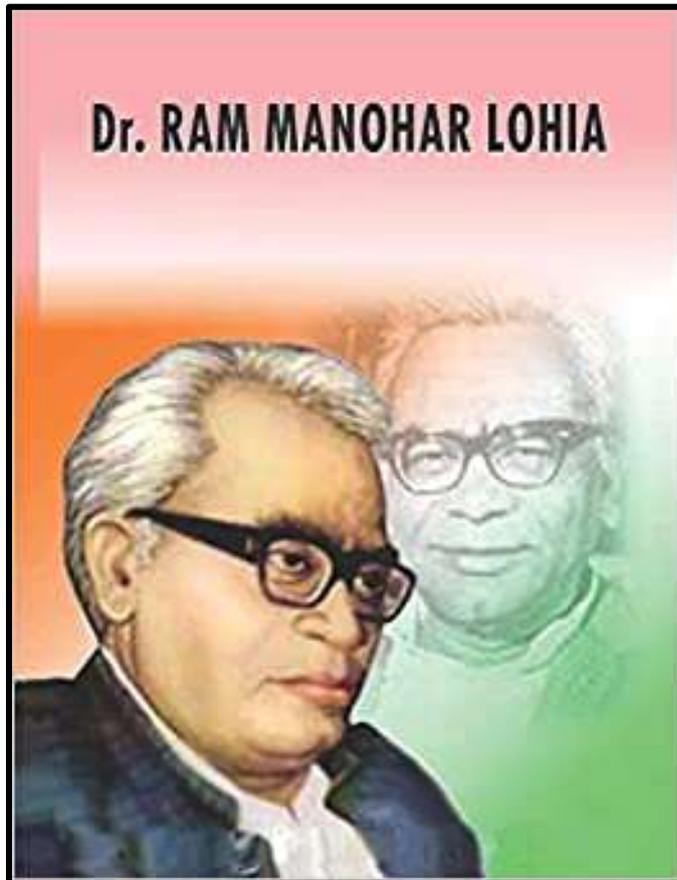
- His memoir, Jayaprakash, was composed by his patriot companion and the essayist of Hindi writing, Rambriksh Benipuri.
- In 1999, he was posthumously awarded the Bharat Ratna, India's highest civilian award, in recognition of his social service.
- Different honors remember the Magsaysay grant for Public Service for 1965. Affected by Marxist thoughts in the USA and Gandhian philosophy.
- In 1929, he joined the Indian National Congress. He played a key role in the formation of the Congress Socialist Party (1934), a left-wing group within the Congress Party.

Post-Independence Role:

- In 1948, he left the Congress Party and initiated an anti-Congress Campaign.
- In 1952, he formed the Praja Socialist Party (PSP).
- In 1954, he devoted his life exclusively to the Bhoodan Yajna Movement, of Vinoba Bhave, which demanded land redistribution to the landless.
- In 1959 he argued for a "reconstruction of Indian polity" by means of a four-tier hierarchy of village, district, state, and union councils (Chaukhamba Raj).
- Total Revolution: Against Indira Gandhi Regime as she was found guilty of violating electoral laws by the Allahabad High Court.
- He supported a program of social change which he named 'Sampoorna Kranti' (all out unrest) in 1974 against defilement in open life.

Topic 25. RAM MANOHAR LOHIA

Importance for Prelims: History



The Bihar government on Thursday took genuine note of the evacuation of sections on veteran communist pioneers Jayaprakash Narayan and Ram Manohar Lohia from the Post Graduate political theory schedule of the JP University at Chhapra in Saran region.

- Slam Manohar Lohia (23 March 1910 - 12 October 1967) was a lobbyist in the Indian freedom development and a communist political leader.
- During the last period of British rule in India, he worked with the Congress Radio which was communicated furtively from different spots in Bombay until 1942.
- In 1934, Lohia turned out to be effectively engaged with the Congress Socialist Party (CSP), a left-wing bunch inside the Indian National Congress; he served on the CSP chief board and altered its week after

week diary.

- He opposed the Indian participation on the side of Great Britain in World War II and was arrested for anti-British remarks in 1939 and 1940.
- Lohia alongside other CSP pioneers assembled help for the Quit India development (a mission started by Mohandas K. Gandhi to encourage the withdrawal of British specialists from India) in 1942.
- He was imprisoned again in 1944-46 for such opposition exercises. Lohia and other CSP individuals left the Congress in 1948.
- He turned into an individual from the Praja Socialist Party upon its arrangement in 1952 and filled in as broad secretary for a concise period, however clashes inside the party prompted his abdication in 1955.
- Later that year Lohia established a new Socialist Party, for which he became chairman as well as the editor of its journal, He advocated for various socio-political reforms in his capacity as party leader, including the abolition of the caste system, the adoption of Hindi as India's national language, and stronger protection of civil liberties.
- Some of his works include: 'Marx, Gandhi and Socialism', 'Guilty Men of India's Partition', etc.

Topic 26. TURTLE CONSERVATION

Importance for Prelims: Environment

Indian biologist wins global award for turtle conservation

- Indian researcher Shailendra Singh has been granted the Behler Turtle Conservation Award for bringing three basically imperiled turtle protection species back from the edge of elimination - red-delegated roofed turtle (Batagurkachuga), northern waterway reptile (Batagurbaska), and dark softshell turtle (Nilssonianigricans).
- The award has been bestowed by several global bodies involved in turtle conservation such as Turtle Survival Alliance, IUCN/SSC Tortoise and Freshwater Turtle Specialist Group, Turtle Conservancy, and the Turtle Conservation Fund. Turtle Survival Alliance
- The Turtle Survival Alliance (TSA) was framed in 2001 as an International Union for Conservation of Nature (IUCN) association for practical hostage the board of freshwater turtles and turtles, and at first assigned a Task Force of the IUCN Tortoise and Freshwater Turtle Specialist Group.
- The TSA arose in response to the rampant and unsustainable harvest of Asian turtle populations to supply Chinese markets, a situation known as the Asian Turtle Crisis.

Topic 27. EDIBLE OIL

Importance for Prelims: Geography / Environment

Edible oil prices likely to ease by December: official

- Current situation India's import bill of edible oils will top ₹1.20-lakh crore this year from ₹75,000 crore last year.
- As indicated by SEA, the nation has 3 lakh hectares of land under oil palm development, creating around 2.80 lakh huge loads of rough palm oil (CPO) a year.
- There is a potential to bring 1.9 million hectares of land.
- It had urged the government to target additional 5 lakh hectares in the next five years India currently depends on imports for nearly two thirds of edible oil used in the country.
- "Palm oil represents almost 55% of eatable oil imported by India National Edible Oil Mission - Oil Palm (NMEO-OP)
- This is a goliath venture for oil palm advancement in the nation and towards 'Atmanirbhar Bharat' in eatable oil Prime Minister Narendra Modi on Monday sent off a ₹11,000 crore National Edible Oil Mission-Oil Palm (NMEO-OP) to make India confident in palatable oils
- The NMEO proposal would aim to reduce import dependence from 60% to 45% by 2024-25, by increasing domestic edible oil production from 10.5 million tonnes to 18 million tonnes, a 70% growth target.
- It projected a 55% growth in oilseed production, to 47.8 million tonnes The government will ensure that farmers get all needed facilities, from quality seeds to technology.
- Along with promoting the cultivation of oil palm, this mission will also expand the cultivation of our other traditional oilseed crops
- The NMEO-OP's predecessor was the National Mission on Oil Seeds and Oil Palm, which was launched at the end of the UPA government's tenure

and later merged with the National Food Security Mission.

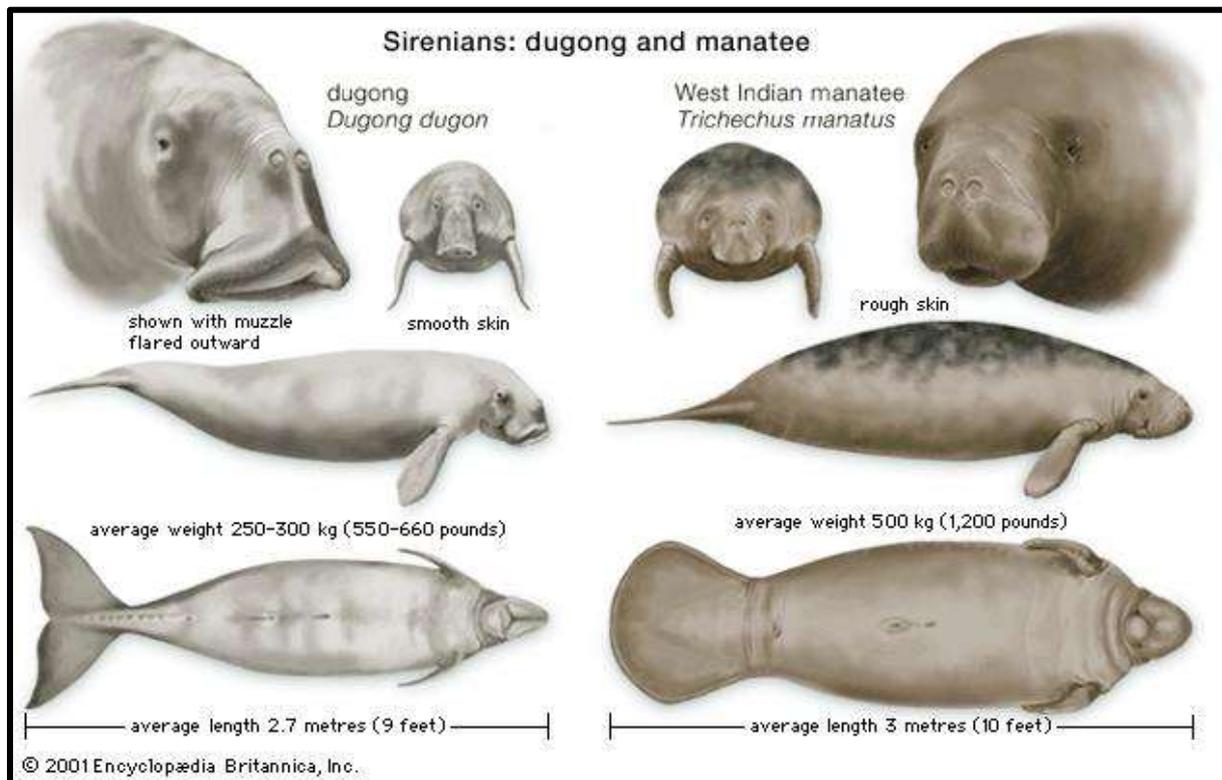
- Laying out its achievements, oilseed production had grown 35% from 27.5 million tonnes in 2014-15 to 37.3 million tonnes by 2020-21.
- Although oilseed acreage rose only 8.6% over that six year period, yields rose more than 20% Oil Seed India is one of the major oilseeds grower and importer of edible oils.
- India's vegetable oil economy is world's fourth largest after USA, China & Brazil.
- The oilseed accounts for 13% of the Gross Cropped Area, 3% of the Gross National Product and 10% value of all agricultural commodities.
- The different agro-environmental conditions in the nation are great for growing 9 yearly oilseed crops, which incorporate 7 eatable oilseeds (groundnut, rapeseed and mustard, soybean, sunflower, sesame, safflower and niger) and two non-palatable oilseeds (castor and linseed).
- Oilseeds cultivation is undertaken across the country in about 27 million hectares mainly on marginal lands, of which 72% is confined to rainfed farming.
- Main oil-seeds produced in India are groundnut, mustard, coconut, sesamum (til), Soyabean, castor seeds, cotton seeds, linseed and sunflower.
- Groundnut is a kharif crop and accounts for about half of the major oilseeds produced in the country.
- Major states Gujrat, Madhya Pradesh, Rajasthan, Gujrat, Maharastra, UP
- The strategy catalyst to oilseed creation in India came without precedent for 1986 when the public authority sent off Technology Mission on Oilseed.
- This was a golden period for oilseed production in India when productivity jumped from 670 kg per hectare in the eighties to 835 kg per

hectare in the nineties.

- To accomplish independence in edible oils creation the public authority has sent off a few approach drives since the mid-1980s.
- They mainly include supply of high yielding oilseed cultivars, extension services and subsidised inputs; offering of minimum support prices (MSP); fixation of price band; import controls via canalisation; and promotion of oil palm cultivation.
- The result of these drives, known as "Yellow Revolution", was profoundly reassuring. Somewhere in the range of 1985 and 1994 the development pace of region, creation and yield of oilseeds expanded fundamentally.
- Thus, the extent of imported consumable oils in all out palatable oil accessibility declined from 26.72 percent in 1985 to 2.17 percent in 1993, along these lines making India practically independent in edible oil creation Oilseed crops are the second most significant determinant of the farming economy, next just to cereals inside the section of field crops.

Topic 28. DUGONG

Importance for Prelims: Environment



TN to set up 500-sq km Dugong reserve in Palk Bay.

- Dugong also called 'Sea Cow' is one of the four surviving species in the Order Sirenia and it is the only existing species of herbivorous mammal that lives exclusively in the sea including in India.
- They are listed as Vulnerable on the IUCN Red List and are protected in India under Schedule I of the Wild (Life) Protection Act, 1972.
- As indicated by a 2013 study report of the Zoological Survey of India (ZSI), there were somewhere around 200 dugongs in the Gulf of Mannar in Tamil Nadu, the Andaman and Nicobar Islands and the Gulf of Kutch in Gujarat.
- Dugongs are an important part of the marine ecosystem and their depletion will have effects all the way up the food chain.
- Proper conservation is the only way to save dugongs from extinction.
- **Threats:** Human exercises, for example, the annihilation and alteration of

territory, contamination, widespread illicit fishing exercises, vessel strikes, impractical hunting or poaching and spontaneous the travel industry are the primary dangers to dugongs.

- The loss of sea grass beds due to ocean floor trawling was the most important factor behind dwindling dugong populations in many parts of the world
- The dugong is the main sirenian in its reach, which traverses the waters of around 40 nations and domains all through the Indo-West Pacific.
- **It survives on sea grass that is found in the area. Steps Taken for Conservation:** In February 2020, India facilitated the thirteenth Conference of Gatherings (CoP) of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), a natural arrangement under the aegis of the United Nations Environment Program (UNEP).
- India has signed non-legally binding Memorandums of Understanding (MoU) with CMS on the conservation and management of Siberian Cranes (1998), Marine Turtles (2007), Dugongs (2008) and Raptors (2016).
- The Ministry of Environment, Forests, and Climate Change established a 'Team for Conservation of Dugongs' to investigate issues connected with preservation of dugongs and execution of the 'UNEP/CMS Dugong MoU' in India.
- It also facilitates India to act as the leading nation in the South Asia Sub-region with respect to dugong conservation.

Topic 29. VANNIYAR MOVEMENT IN TAMIL NADU

Importance for Prelims: Governance

With local body polls round the corner, the DMK government in Tamil Nadu has announced the construction of a memorial in Villupuram to people killed in police firing and clashes in 1987, during a development requesting booking for the Vanniyar people group.

- Vanniyars are one of the largest and most consolidated backward communities in the state.
- They had raised massive protests in the mid-1980s demanding 20% reservation in the state, and 2% in central services.
- Their development was supported by the Justice Party just as the Self-Respect Movement.
- Organised protests began with the formation of Vanniyar Sangam, headed by S Ramadoss, a medical practitioner who later founded the political party PMK.
- The fomentation started in 1986 with activists sending many letters and wires to then Chief Minister M G Ramachandran looking for a crowd of people.
- As there was no reaction from MGR and the then Rajiv Gandhi government, instigators began showings in local area fortifications, then, at that point, continued to barricading rail and street traffic.
- The barricades were powerful on the grounds that local area individuals in every town would obstruct occupied thruway extends on their town borders.
- They would cut revenue trees on either side of the state highway.
- One barricade in May 1986 stopped traffic in the whole state, and thousands were captured.
- A one-day blockade of trains followed in December 1986.

- The peak was in September 1987, when road traffic in northern Tamil Nadu came to a halt for an entire week.
- The 1987 passings The Vanniyars announced a disturbance from September 17 to 23, 1987, which turned fierce.
- At least 21 protesters were killed, mostly in police firing, and also in clashes with members of Scheduled Caste communities.
- While this shook the state foundation, there was no prompt arrangement.
- MGR passed on 90 days after the fact, in December 1987.
- Reservation granted After the DMK government of M Karunanidhi came to power in 1989,
- **the OBC quota was split into two:** Backward Castes and Most Backward Castes.
- Vanniyars were categorised among the MBCs with 107 other communities, with 20% reservation.
- Three decades later, the then AIADMK government passed a Bill, and the current DMK government has implemented it with a Government Order ensuring 10.5% reservation for Vanniyars within the 20% MBC quota.

Topic 30. PELICANS

Importance for Prelims: Environment

Common name

Dalmatian pelican

Scientific name

Pelecanus crispus

Habitat and distribution

Medium-distance migrant, ranging from Europe to the Taiwan Strait

Size

160-180 cm in length; 250-350 cm in wingspan

Weight

10-12 kg

Diet

Mainly fish, including mullet, pike, catfish, eels, carp and perch

Conservation status

Near threatened (IUCN)



Kokkrellur pelicans to be geo tagged.

- Pelicans are a genus of large water birds that make up the family Pelecanidae.
- They are described by a long bill and an enormous throat pocket utilized for getting prey and emptying water out of the gathered up substance prior to gulping.
- They have transcendently pale plumage, aside from the brown and

Peruvian pelicans.

- The bills, pockets, and uncovered facial skin of all pelicans become brilliantly hued before the reproducing season.
- The eight living pelican species have an inconsistent worldwide dissemination, going latitudinally from the jungles to the calm zone, however they are missing from inside South America and from polar locales and the untamed sea.
- The Grey Pelican also called the Spot Billed Pelican is listed in Schedule I of the Wildlife Protection Act and in the Red Data Book.
- It is also considered a “globally threatened species” under the “vulnerable” category.
- The Kollerulake is known to beginner birdwatchers and expert ornithologists as a Pelicanery - an area where the Gray Pelicans, a huge great bird, home and breed.
- Grey pelicans had vanished from the lake in 1973 for nearly 35 years and returned to it to nest again in December 2006.

Topic 31. CHIDAMBARAM PILLAI

Importance for Prelims: History



The Prime Minister, Shri Narendra Modi has remembered freedom fighter V. O. Chidambaram Pillai on his Jayanti.

Who was Chidambaram Pillai?

- Popularly known by his initials, O.C. also known as Kappalottiya Tamizhanor
- “The Tamil Helmsman”, was an Indian freedom fighter and leader of the Indian National Congress.
- VOC entered politics in 1905 following the partition of Bengal.
- Towards the finish of 1905, VOC visited Madras and was moved nearer to the Swadeshi Movement started by Bal Gangadhar Tilak and Lala Lajpat Rai.
- VOC was drawn towards Ramakrishna Mission and came into contact with SubramaniaBharati and the Mandayam family.
- Because of the British India Steam Navigation Company's exchange restraining infrastructure, Chidambaram began an Indian-claimed

delivering organization.

- He registered the Swadeshi Shipping Company in October 1906.
- Chidambaram Pillai set up numerous foundations like Yuvanesh Prachar Sabha, Dharmasanga Nesavu Salai, National Godown, Madras Agro-Industrial Society Ltd and Desabimana Sangam.
- Indeed, even before Gandhiji's Champaran Satyagraha, VOC took up the reason for the common laborers in Tamil Nadu, and along these lines he is a herald to Gandhiji in this regard.
- In 1920, Chidambaram pulled out from the Indian National Congress, referring to philosophical contrasts with Mahatma Gandhi.
- He focused his efforts on establishing labor unions in Madras and writing.
- He rejoined the Congress party in 1927 and directed the third political meeting held at Salem.
- By 1935, he had composed critique on the main book of the Tirukkural (Book of Virtue) and was distributed under an alternate title.

Topic 32. KARBI-ANGLONG PEACE AGREEMENT

Importance for Prelims: International Relations



Within the sight of Union Home Minister, Shri Amit Shah, a memorable Karbi Anglong Agreement to end the many years old emergency guaranteeing Assam's regional honesty was endorsed in New Delhi today.

- This accord is significant because insurgency by Karbi group has a long history in Assam which is marked by killings, ethnic violence, abductions and taxations since 1980s.
- Karbi is a significant ethnic local area in Assam. Around 200 Karbi fear mongers will be available while consenting to the arrangement.
- These 200 Karbi terrorists are part of 1,040 terrorists who surrendered before the Assam government in February 2021.
- The radical gatherings which marked the international agreement incorporate Karbi Longri North Cachar Hills Liberation Front, People's Democratic Council of Karbi Longri, United People's Liberation Army and Karbi People's Liberation Tigers groups.

- The State government would consider well the proposition to advise Karbi as the authority language of KAAC.
- Under the agreement, the hill tribes would be entitled to reservation. Key points of the Karbi-Anglong Peace Agreement Under this historic agreement, 5 militant organizations laid down arms and more than 1000 of their armed cadres have given up violence furthermore joined the standard of society in February 2021.
- A unique improvement bundle of Rs. 1000 crore will be allotted more than five years by the Central Government and the Assam Government to take up extraordinary activities for the improvement of Karbi regions.
- This agreement will transfer as much autonomy as possible in exercising their rights to the Karbi Anglong Autonomous Council, without affecting the territorial and administrative integrity of Assam.
- This arrangement will guarantee the insurance of the way of life, personality, language, and so forth of the Karbi public and all-round advancement of the locale.
- In this understanding the Karbi outfitted gatherings have consented to revoke viciousness and to participate in a tranquil vote based cycle set up by the rule that everyone must follow.
- The Government of Assam will set up a Karbi Welfare Council to zero in on the improvement of the Karbi public living external the Karbi Anglong Autonomous Council region.
- The Consolidated Fund of the State will be corrected to meet the assets of the Karbi Anglong Autonomous Council.
- By and large, the current understanding proposes to give more official, leader, authoritative and monetary powers to the Karbi Anglong Autonomous Council.

Topic 33. SIMBEX

Importance for Prelims: Defence

The 28th edition of Singapore-India Maritime Bilateral Exercise (SIMBEX) was conducted from 02 to 04 Sep 21.

- It was started in 1994, SIMBEX is the Indian Navy's longest continuous reciprocal oceanic exercise with any unfamiliar naval force.
- Supporting the progression of this critical commitment regardless of the difficulties of the continuous pandemic further highlights the strength of respective protection ties between the two nations.
- Notwithstanding these limitations during the arranging stages, the two naval forces could accomplish consistent and safe execution of a few testing developments including live weapon discharging and progressed maritime fighting serials, including hostile to submarine, against air, and against surface fighting drills.
- SIMBEX was planned without any physical interactions as an 'at-sea only' exercise hosted by the RSN in the southern fringes of the South China Sea.
- India-Singapore Defense relations stay an extremely critical part of the generally two-sided relationship and cover an exceptionally wide range of cooperation from regular military-to-military trades to HADR and network protection.

Topic 34. BHITARKANKA NATIONAL PARK

Importance for Prelims: Environment



Odisha's Bhitarkanika National Park, the second-biggest mangrove timberland in India, IS under extreme danger because of the arranged redirection of freshwater from the Brahmani waterway bowl.

- Bhitarkanka National Park Bhitarkanika is an interesting living space of Mangrove Forests jumbled with various springs and mud pads situated in the Kendra Para area of Orissa.
- It is a Ramsar Site under Ramsar Convention on wetlands. Bhitarkanika is situated in the estuary of Brahmani, Baitarani, and Dharma and

Mahanadi River frameworks.

- Bhitarkanika National Park is a prime habitat of leopard cat, fishing cat, jungle cat, hyena, wild boar, spotted deer, sambar, porcupine, dolphin, salt water crocodile including partially white crocodile, python, king cobra, water monitor lizards, terrapin, marine turtle, kingfisher, wood pecker, hornbill, bar headed geese, pintail, white bellied sea eagle, tern, sea gull, waders and a large variety of resident and migratory birds.
- Nutrients from Bhitarkanika are flushed out to the Gahirmatha Marine Sanctuary, which attracts the world's largest population of Olive Ridley sea turtles for congregation and nesting. Almost a large portion of 1,000,000 turtles show up here each colder time of year.

What is the issue?

- The Talcher-Angul coal mines, steel and power-generating units as well as the Kalinga Nagar steel and power hub in Jajpur district were drawing enormous quantities of freshwater from the Brahmani River.
- As per activists the state government had disregarded the need to preserve it for any kind of future family notwithstanding it being a prominent Ramsar Convention wetland Damage to Bhitarkanika According to activists no mangrove biological system could make due without freshwater.
- Freshwater mixed with seawater near the lower end of the Brahmani and Kharasrota rivers to produce brackish water ideal for mangroves.
- Brackish water was also high in nutrients for a variety of life forms like crustaceans, fish, aquatic flora and water birds.
- Bhitarkanika had seven types of kingfishers because of the saltiness angle of water would forsake the region in the event that the water turned totally saline.
- Mangroves that grew in brackish water, were very sensitive to changes in

salinity.

- Saline ingress will cause commercially important species like freshwater shrimp, mullets, mud crabs and bhetki to disappear, leading to a decline in the incomes of thousands of fishermen in Kendrapara district.
- There will be a quantum bounce in human-crocodile struggle since the estuarine crocodiles of the recreation area will leave the center asylum region and relocate upstream once saltiness increments.
- They may climb the waterway to Dhenkanal area.
- Numerous neighborhood individuals are probably going to be assaulted by the saltwater crocodiles while washing in the Brahmani and Kharasrota waterways.
- Without the mangroves, the Gahirmatha Marine Sanctuary will become a marine desert and lose its richness and diversity of marine life.

Topic 35. IUCN “REDLIST” UPDATE

Importance for Prelims International Relation



902 species are formally wiped out as per the most recent Red List brought out by the International Union for Conservation of Nature (IUCN) at the World Conservation Congress in Marseille.

- The Red List additionally shows that 30% of the species (38,543) that it surveyed (138,374) face the danger of annihilation.
- 902 species are formally terminated by the most recent Red List brought out by the International Union for Conservation of Nature (IUCN) at the World Conservation Congress in Marseille Atlantic bluefin fish
- The Atlantic bluefin tuna (*Thunnus thynnus*) moved from endangered to least concern while the Southern bluefin tuna (*Thunnus maccoyii*) moved

from critically endangered to endangered.

- The tuna (*Thunnus alalunga*) and yellowfin fishes (*Thunnus albacares*) both moved from close to steps to least concern.
- Atlantic Bluefin fish, which began in the Mediterranean, had expanded by something like 22% in the course of the most recent forty years.
- Its smaller native western Atlantic population, which spawned in the Gulf of Mexico, had declined by more than half.
- The yellow fin tuna meanwhile continued to be overfished in the Indian Ocean.
- The Pacific Bluefin fish (*Thunnus orientalis*) moved from defenseless against close undermined because of the accessibility of fresher stock appraisal information and models.
- Other tuna species like the bigeye tuna (*Thunnus obesus*) remain vulnerable while the skipjack tuna (*Katsuwonus pelamis*) remains least concern. Shark and ray species
- The update Red List also showed that 37 per cent of the world's shark and ray species were threatened with extinction.
- It added that all of the threatened shark and ray species were overfished, with 31 per cent further affected by loss and degradation of habitat and 10 per cent affected by climate change.
- Komodo mythical beast The world's biggest living reptile, the Komodo winged serpent (*Varanus komodoensis*), has been moved from helpless against imperiled.
- The species is endemic to Indonesia and occurs only in the World Heritage-listed Komodo National Park and neighbouring Flores.
- Rising worldwide temperature and ensuing ocean levels are relied upon to decrease the Komodo mythical beast's reasonable natural surroundings by something like 30% in the following 45 years.

- What's more, Komodo winged serpents living external ensured regions in Flores are compromised by huge living space misfortune because of continuous human exercises

What is a redlist?

- Set up in 1964, the International Union for Conservation of Nature's Red List of Threatened Species has advanced to turn into the world's most exhaustive data source on the worldwide termination hazard status of creature, parasite and plant species.
- The IUCN Red List is a critical indicator of the health of the world's biodiversity.
- The IUCN Red List is utilized by government offices, natural life divisions, protection related non-administrative associations (NGOs), According to the rundown, biodiversity is declining.
- Currently, there are more than 138,300 species on The IUCN Red List, with more than 38,500 species threatened with extinction, including 41% of amphibians, 37% of sharks and rays, 34% of conifers, 33% of reef building corals, 26% of vertebrates and 14% of birds.

Topic 36. DEPARTMENT OF TELECOMMUNICATIONS (DOT)

GUIDELINES TO TELECOM COMPANIES

Importance for Prelims: Economy

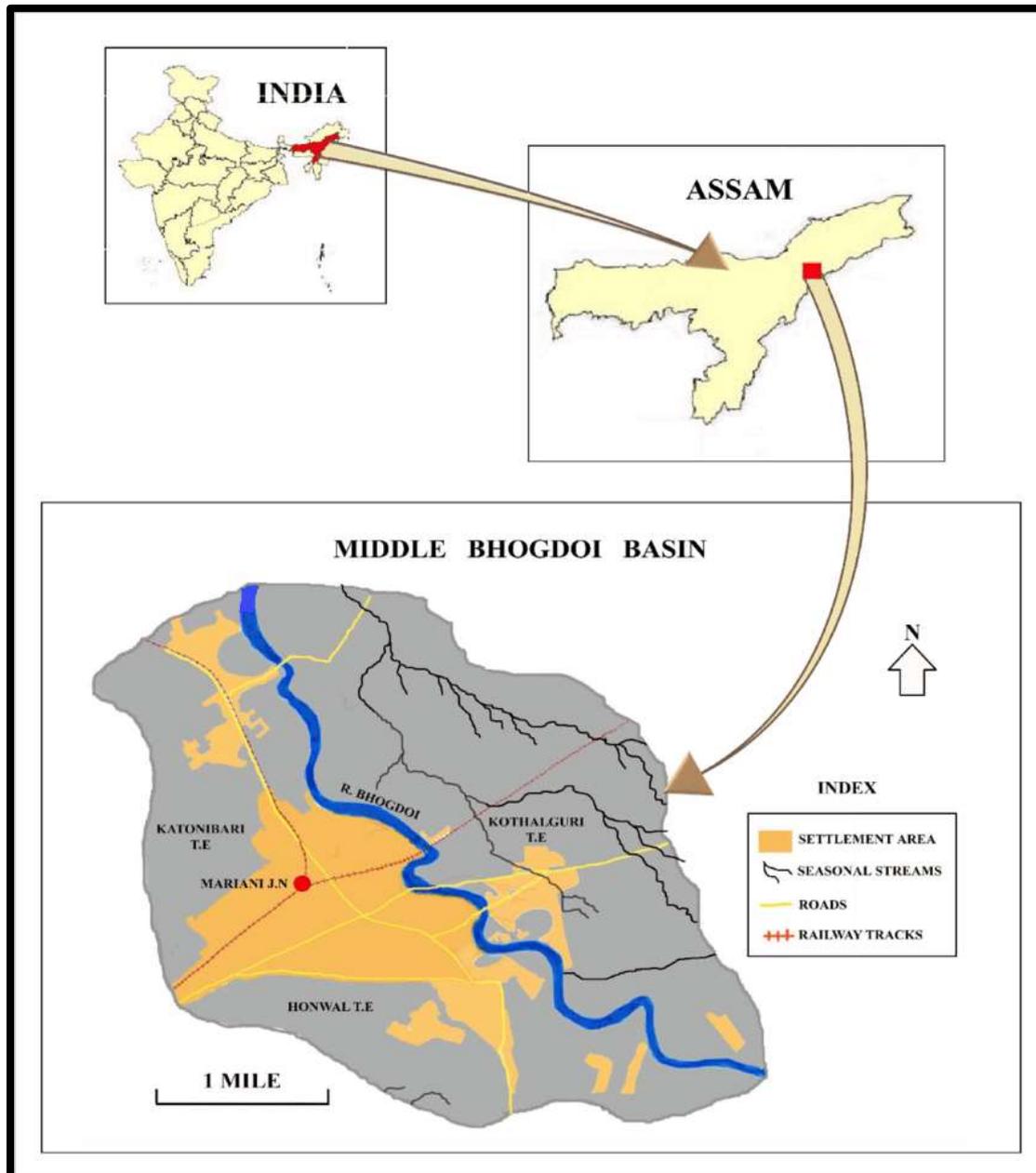
The Department of Telecommunications (DoT) has asked telecom organizations and other telecom permit holders to plan verification of idea and guarantee their frameworks are prepared prior to permitting them to send off self 'know your client' (KYC) process

- The DoT has said that in its correspondence to the licensees for the self KYC cycle to be endorsed, all telecom specialist co-ops' should give clients a choice to sign in with a different one-time-secret word being created for each sign in.
- Apart from this, the telecom service provider have to ensure that the alternate number provided by the customer is an Indian number.
- The DoT has also said that only documents that have been electronically issued and verified by the respective authority on DigiLocker can be used for the self KYC process.
- Reports transferred by the client on DigiLocker won't be utilized for the cycle. DigiLocker is a leader drive of the Ministry of Electronics and IT (MeitY) under the Digital India program. DigiLocker focuses on 'Advanced Empowerment' of residents by giving admittance to credible computerized archives to residents' computerized report wallets.
- The gave archives in the DigiLocker framework are considered to be at standard with unique actual records according to Rule 9A of the Information Technology (Preservation and Retention of Information by Intermediaries Providing Digital Locker Facilities) Rules, 2016 advised on February 8, 2017, vide G.S.R. 711(E).
- Benefits to Citizens Important Documents Anytime, Anywhere!
Authentic Documents, Legally at Par with Originals.

- Computerized Document Exchange with the assent of the resident. Quicker administration Delivery-Government Benefits, Employment, Financial Inclusion, Education, Health.
- Benefits to Agencies Reduced Administrative Overhead: Aimed at the concept of paperless governance.
- It reduces the administrative overhead by minimizing the use of paper and curtailing the verification process.
- **Digital Transformation:** Provides confidence in government records. Government Documents accessible through DigiLocker are brought continuously straightforwardly from the responsible office.
- **Secure Document Gateway:** Acts as a protected archive stage like installment passage between confidence in backer and confidence in Requester/Verifier with the assent of the resident.
- **Real Time Verification:** Provides a confirmation module empowering government organizations to check information straightforwardly from backers subsequent to acquiring client assent.

Topic 37. RIVER BHOGDOI

Importance for Prelims: Environment



The widespread coal mining in Nagaland, combined with squander release from tea domains and infringement have been sounding passing rings for River Bhogdoi in Assam.

- The stream is on the south bank feeders of the strong waterway the Brahmaputra, starts from Mokokchung in Nagaland where it is otherwise called Tsujenyongnullah.

- From its starting point in the Naga Hills, it moves through the City of Jorhat and afterward it converges with another stream and its name becomes Gelabill.
- The previous name of the river was Desoi The total catchment area of the inter-state river (flowing between Assam and Nagaland) is 1,545 square kilometres and travels 160 kilometres prior to joining Dhansiri river close to its conjunction with Brahmaputra.
- Issues Bhogdoi is one of the most polluted rivers in Assam and 351st among the polluted rivers in the country.
- Coal mining in Nagaland introduced high levels of manganese in the river, Locals had also complained of tea brewed from it tasting bitter.
- The drains carry industrial and residential wastes.
- The river has also become heavily silted, reducing its carrying capacity. There have been no orderly examinations done to save the waterway
- The high BOD indicates low water quality and less oxygen for aquatic life.
- The massive encroachments along the river bank have been not only making the river narrower but also increasing the filth and garbage.
- Disposing human excreta and cremating dead bodies along the river bank are gradually contaminating the soil and water of the region.
- This is increasing the threat of water-borne diseases.

Topic 38. INSPIRATION4 MISSION

Importance for Prelims: Science and Technology

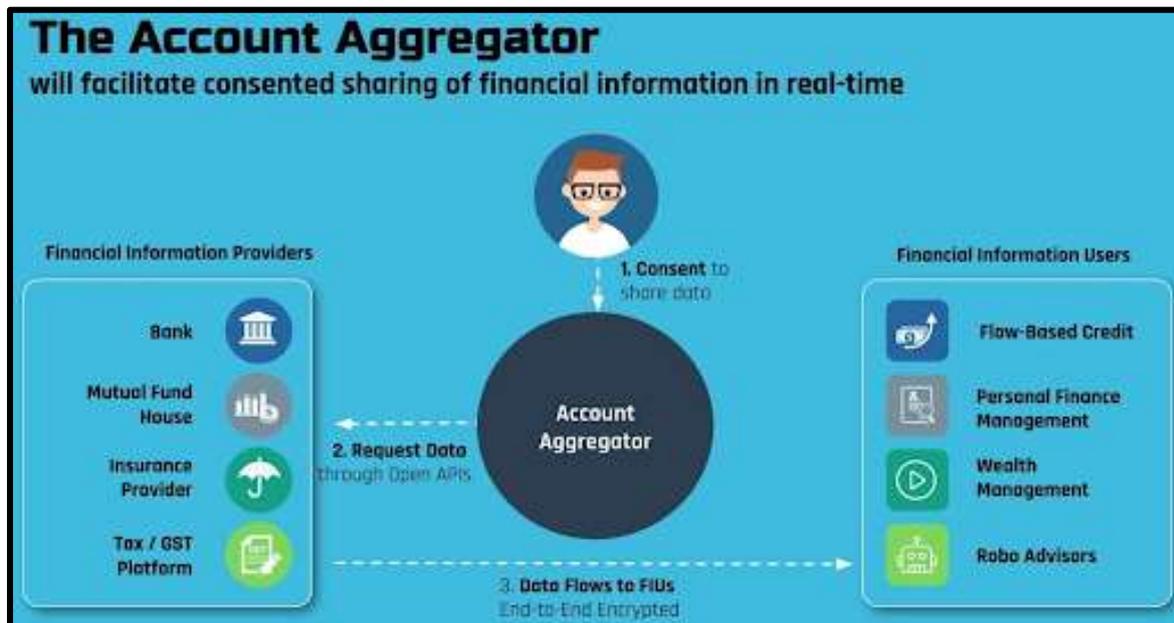
Business person Elon Musk's SpaceX reported Friday that 'Inspiration4', its first all-non military personnel, non-administrative spaceflight, is on target for send off on September 15.

- The Crew Dragon rocket is set to be sent off from NASA's Kennedy Space Center in Florida in the US.
- It will take a gathering of four private residents into space for three days. Inspiration4 mission
- The mission involves circling the Earth for three days, and then splashing down into the Atlantic Ocean.
- Inspiration4 will orbit the Earth at 575km, higher than the International Space Station (408km) and the Hubble space telescope (547km).
- This will be the farthest distance gone by a ran mission starting around 2009, when space explorers last went to fix the Hubble.
- The Dragon module will be usually, the SpaceX module is used for travelling to the ISS, where it has to dock or join the floating laboratory.
- Inspiration4 won't the ISS, the docking port has been taken out and has been supplanted with a vault window all things being equal.
- This vault window will offer amazing perspectives on the Earth for the four voyagers.
- The window has been enlivened by the Cupola, a module on the ISS used to mention observable facts about our planet.
- As indicated by a report, the excursion will introduce a chance for gathering a lot of wellbeing information that will support arranging future maintained space missions.
- According to the report, they will gather information on ECG (electrocardiograph) action, development, rest, pulse, and cadence, blood

oxygen immersion, lodge commotion, and light force, which will help in surveying social and mental changes over the excursion.

Topic 39. ACCOUNT AGGREGATOR

Importance for Prelims: Economy



The eight of India's significant banks - State Bank of India, ICICI Bank, Axis Bank, IDFC First Bank, Kotak Mahindra Bank, HDFC Bank, IndusInd Bank, and Federal Bank joined the Account Aggregator (AA) network that will empower clients to effortlessly access and offer their monetary information

- As per the Reserve Bank of India, an Account Aggregator is a non-banking monetary organization occupied with the matter of giving, under an agreement, the assistance of recovering or gathering monetary data relating to its client.
- It is additionally occupied with solidifying, putting together, and introducing such data to the client or some other monetary data client as might be determined by the bank.
- The AA system was made through a between administrative choice by RBI and different controllers including the Securities and Exchange Board of India, the Insurance Regulatory and Development Authority, and Pension Fund Regulatory and Development Authority (PFRDA) through a drive of the Financial Stability and Development Council

(FSDC). Structure

- **It has a three-tier structure:** Account Aggregator, FIP (Financial Information Provider), and FIU (Financial Information User).
- A FIP is the information guardian, which holds clients' information. It very well may be a bank, NBFC, common asset, protection store, or annuity reserve vault.
- A FIU consumes the information from a FIP to offer different types of assistance to the purchaser.
- An FIU is a lending bank that wants access to the borrower's data to determine if the borrower qualifies for a loan. Banks play a dual role as an FIP and as an FIU.
- An AA ought not help exchanges by clients yet ought to guarantee fitting instruments for legitimate client recognizable proof.
- An AA should share information only with the customer to whom it relates or any other financial information user as authorized by the customer.
- The licence for AAs is issued by the RBI
- The AA system permits clients to benefit different monetary administrations from a large group of suppliers on a solitary entrance in view of an assent technique, under which the shoppers can pick what monetary information to share and with which substance.
- Purpose of AA An Account Aggregator allows a customer to transfer his financial information pertaining to various accounts such as banks deposits, equity, mutual fund and pension funds.
- There are 19 categories of information that fall under 'financial information', besides various other categories relating to banking and investments. For sharing of such information, the FIU is required to initiate a request for consent by way of any platform/app run by the AA.

- Advantages It reduces the need for individuals to wait in long bank queues, use Internet banking portals, share their passwords, or seek out physical notarisation to access and share their financial documents.
- An Account Aggregator is a financial utility for secure flow of data controlled by the individual.
- Account Aggregators are a thrilling expansion to India's computerized framework as it will permit banks to get to agreed information streams and checked information.
- This will assist keeps money with diminishing exchange costs, which will empower us to offer lower ticket size credits and more fitted items and administrations to our clients.
- It will also help us reduce frauds and comply with upcoming privacy laws. Information sent through the AA is encoded.
- AAs are not allowed to store, process and sell the customer's data.
- An AA makes secure, computerized admittance to individual information when Covid-19 has prompted limitations on actual connection.

Topic 40. BUDGET MAKING EXERCISE SET KICK OFF

Importance for Prelims: Polity

- Preparation for the Budget by the Finance Ministry is set in motion with issuance of the Budget circular.
- The Budget Division of Economic Affairs Department issues this circular between the third and fourth week of September or by the first week of October.
- The circular sets the timeline for submission of estimate, pre-Budget consultations with Ministries and other stakeholders and finalisation of revised estimate for the current fiscal and budget estimate for the next fiscal, besides

Why important?

- To contain rising financial shortage is probable that focal services/offices might plague lower overhauled gauges for the current monetary (2021-22) alongside a lower designation for the following financial (2022-23).
- **Concerns:** Lower RE, truncated allocation may leave growth under-fueled. Budgetary Terms Budget Estimates: Amount of money allocated in the Budget to any ministry or scheme for the coming financial year.
- **Revised Estimates:** Revised Estimates are mid-year audit of conceivable consumption, considering the remainder of use, New Services and New instrument of Services and so on.
- Updated Estimates are not casted a ballot by the Parliament, and thus without help from anyone else don't give any power to use.
- Any extra projections made in the Revised Estimates should be approved for use through the Parliament's endorsement or by Re-appointment request.
- **Fiscal deficit:** Total extra borrowings made by the public authority consistently to overcome any barrier between its pay and consumption.

- **Capital and revenue expenditure:** Expenditure that doesn't make any resource, like endowments and interest installments, is income use
- Spending to create assets such as highways, buildings and dams as well as loans given by the centre to the states come under capital expenditure.
- **Revenue Deficit:** The difference between revenue expenditure and revenue receipt is known as revenue deficit.
- It shows the shortfall of government's current receipts over current expenditure.
- **Tax revenue:** The primary source of income for the government.
- The public authority subsidizes its use by either straightforwardly burdening pay of people/organizations or by burdening labor and products consumed by individuals (aberrant duties).
- **Non-tax revenue:** Additional wellsprings of income for the public authority other than charges.
- This incorporates incomes from interest receipts, range closeout, and disinvestment, in addition to other things.
- **Capital Budget:** The Capital Budget comprises of capital receipts and installments.
- It remembers speculations for offers, credits and advances allowed by the focal Government to State Governments, Government organizations, companies, and different gatherings.
- **Revenue Budget:** The revenue budget consists of revenue receipts of the Government and its expenditure.
- Revenue receipts are divided into tax and non-tax revenue.
- Charge incomes establish charges like annual duty, corporate expense, extract, customs, administration and different obligations that the Government demands.
- The non-tax revenue sources include interest on loans, dividend on

investments.

- **Finance Bill:** The Bill produced immediately after the presentation of the Union Budget detailing the Imposition, abolition, alteration or regulation of taxes proposed in the Budget.
- **Vote on Account:** The Vote on Account is an award made ahead of time by the parliament, in regard of the assessed consumption for a piece of new monetary year, forthcoming the finish of strategy connecting with the deciding on the Demand for Grants and the death of the Appropriation Act.
- **Excess Grants:** If the total expenditure under a Grant exceeds the provision allowed through its original Grant and Supplementary Grant, then, the excess requires regularization by obtaining the Excess Award from the Parliament under Article 115 of the Constitution of India.
- It will have to go through the whole process as in the case of the Annual Budget, i.e. through presentation of Demands for Grants and passing of Appropriation Bills.

Topic 41. MEXICO OIL SPILLS

Importance for Prelims: Environment

Divers searching for the origin of a substantial oil spill in the Gulf of Mexico one of several spotted off Louisiana's coast after Hurricane Ida have discovered three damaged pipelines near the leak.

What is an Oil Spill?

- An oil slick alludes to any uncontrolled arrival of raw petroleum, gas, powers, or other oil results into the climate.
- Oil spills can pollute land, air, or water, though it is mostly used for oceanic oil spills.
- They have turned into a significant natural issue, mostly because of escalated oil investigation and creation on mainland racks and the vehicle of a lot of oils in vessels.
- Environmental Impacts Oil on ocean surfaces is harmful to many forms of aquatic life because it prevents sufficient amounts of sunlight from penetrating the surface, and it also reduces the level of dissolved oxygen.
- Unrefined petroleum ruins the protecting and waterproofing properties of plumes and hide of birds, and hence oil-covered birds and marine well evolved creatures might pass on from hypothermia (decline in internal heat level to underneath typical levels).
- Besides, ingested oil can be harmful to impacted creatures, and harm their territory and regenerative rate.
- Saltwater marshes and mangroves frequently suffer from oil spills. Experts say that despite best efforts, generally less than 10% of oil spilled in incidents like these is successfully Different methods of cleaning sea after an oil spill Oil Booms: These are additionally called "Control Booms" which encases the oil to a more modest region and not let it spread further

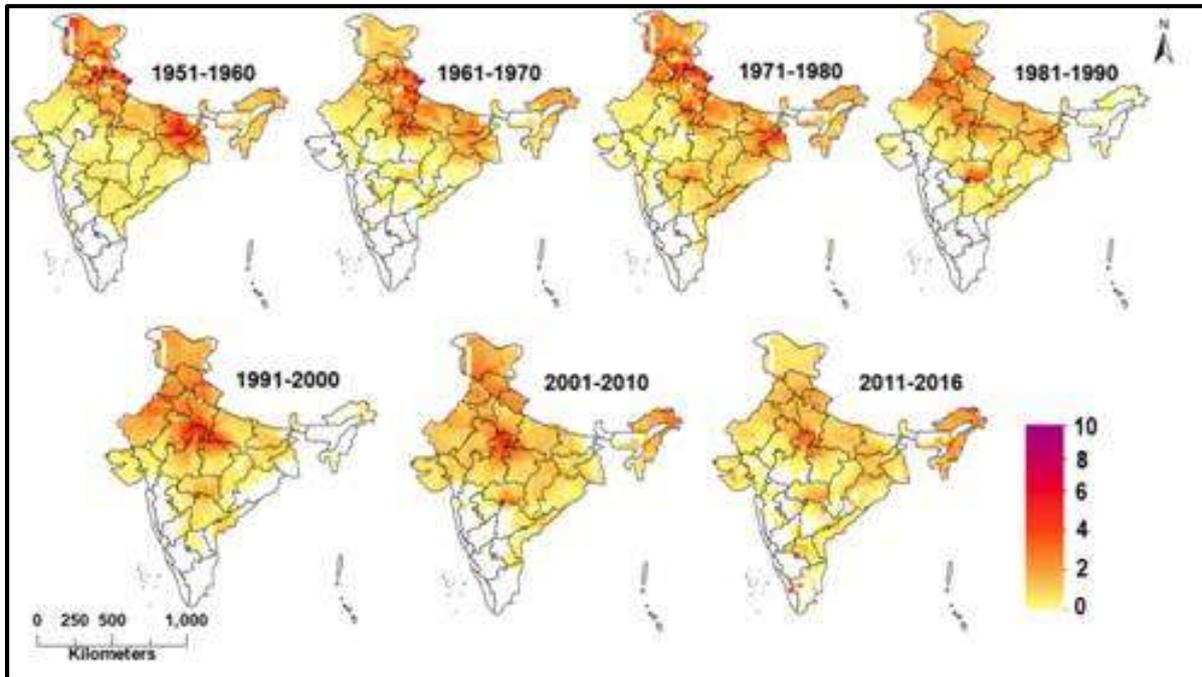
- This technique is utilized when the area of spill is similarly more modest.
- **Skimmers:** Once the oil is limited by oil blasts, it tends to be separated or skimmed effectively with the assistance of skimmers or oil scoops.
- These skimmers are fitted onto boats and eliminate the drifting oil or oily pollutants.
- It is a conservative technique for oil tidy up in light of the fact that the hardware utilized for skimming oil is somewhat less expensive.
- Oil Zapper is a cocktail of bacteria that feed on the oil and degrade the hydrocarbons.
- Newer methods and technologies like Nanosheets that could revolutionize oil spill clean ups and water purification needs to be deployed. Sorbents: The materials which can adsorb or assimilate the fluid are named as sorbents.
- It is an easy process of oil cleanup. Most normal kinds of sorbents we as a whole know about are peat greenery, vermiculite (straw), and feed.
- **Burning:** It is like consuming rice husk subsequent to yielding rice crop
- In this technique, the drifting oil is set to fire by touching off it securely.
- It is the most proficient method of oil clean up as it can efficiently remove 98% of total spilt oil.
- **Dispersants:** When oil cannot be confined with booms then we are left with the last option of oil disintegration.
- Dispersals are the chemicals which are spread over spilt oil to initiate disintegration of oil.
- **Other Methods:** Different Methods: Some different strategies utilized for more secure oil slick clean-ups from the ocean are heated water washing or washing with high-pressure water; difficult work; bioremediation and normal recuperation.
- Gulf of Mexico It is the largest gulf in the world. It is lined by the United

States, Mexico, and the island country of Cuba.

- It has a coastline of about 5,000 km.
- The Gulf dead zone owes its size to the mighty Mississippi River, which collects tons of nutrients from agricultural and urban runoff from cities through its course.
- Dead zone in the Gulf of the Mexico is the world's second largest.
- The world's largest dead zone is in the Baltic Sea. International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (Bunker Convention)
- The Convention was embraced to guarantee that sufficient, brief, and viable remuneration is accessible to people who endure harm brought about by spills of oil when conveyed as fuel in boats' dugouts.
- The Convention applies to harm caused on the domain, including the regional ocean, and in restrictive financial zones of States Parties.
- The bunkers convention provides a free-standing instrument covering pollution damage only.
- In 2015 India ratified the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (Bunker Convention).
- Convention ensures adequate, prompt and effective compensation for damage caused by oil spills.

**Topic 42. THREE NEW HEATWAVE HOTSPOTS IN INDIA PUT
LARGE POPULATION AT IMMEDIATE HEALTH RISK**

Importance for Prelims: Environment



A team of researchers led by Prof. R.K. A group of analysts drove by Prof. R.K. Shopping center and including Saumya Singh and Nidhi Singh from the Department of Science and Technology, Govt. of India-Mahamana Center of Excellence in Climate Change Research (MCECCR) at Banaras Hindu University concentrated on the adjustment of spatial and worldly patterns in Heatwaves (HW) and Severe heatwaves (SHW) throughout recent a very long time in various meteorological developments of India. Features of the concentrate New focal points of extreme heatwave occasions over the past 50 years have arisen There is an increment in destructive Indian hotness waves as of late. These areas of interest are in the North-Western, Central, and further to south-focal locale of India. The concentrate additionally features the requirement for creating compelling hotness activity plans in the three heatwave area of interest locales with an emphasis on various weaknesses among the occupants. The review showed a change in the Spatio-fleeting pattern of HW

occasions from the eastern locale of Gangetic West Bengal and Bihar to North-Western, Central and further toward the south-focal area of India. The examination likewise noticed a disturbing trend toward the south development and a spatial flood in SHW occasions over the most recent couple of many years that might put a more noteworthy populace at extra danger of hotness stress in a locale previously described by low Diurnal temperature range (DTR), or the distinction between the greatest and least temperatures inside one day and high stickiness. Significantly, the HW/SHW occasions were viewed as decidedly related with mortality in Odisha and Andhra Pradesh, featuring that human wellbeing is profoundly helpless to extreme heatwave catastrophes. These hotspots are in the North-Western, Central, and further to south-central region of India. The study also highlights the need for developing effective heat action plans in the three heatwave hotspot regions with a focus on different vulnerabilities among the inhabitants. The study showed a shift in the Spatio-temporal trend of HW events from the eastern region of Gangetic West Bengal and Bihar to North-Western, Central and further to the south-central region of India. The research also observed an alarming southward expansion and a spatial surge in SHW events in the last few decades that may put a greater population at additional risk of heat stress in a region already characterized by low Diurnal temperature range (DTR), or the difference between the maximum and minimum temperatures within one day and high humidity. Importantly, the HW/SHW events were found to be positively correlated with mortality in Odisha and Andhra Pradesh, highlighting that human health is highly susceptible to severe heatwave disasters.

- About heat wave A Heat Wave is a time of unusually high temperatures, more than the ordinary greatest temperature that happens throughout the mid year season in the North-Western pieces of India.
- Heat Waves typically occur between March and June, and in some rare

cases even extend till July.

- Urban heat island effects, deforestation, global warming leading to higher daily peak temperature etc. are major causes of heat waves.
- The outrageous temperatures and resultant barometrical conditions antagonistically influence individuals living in these districts as they cause physiological pressure, parchedness, heat cramps, heat fatigue and additionally heat stroke and in some cases bringing about death.
- Kids, the old and those with prior morbidities are especially defenseless.

IMD defines Heat Waves as:

1. Heat Wave need not be considered till the most extreme temperature of a station comes to at minimum 40°C for Plains and essentially 30°C for Hilly districts
 2. When the ordinary greatest temperature of a station is not exactly or equivalent to 40°C Heat Wave Departure from typical is 5°C to 6°C Severe Heat Wave Departure from typical is 7°C or more
 3. At the point when the ordinary most extreme temperature of a station is more than 40°C Heat Wave Departure from typical is 4°C to 5°C Severe Heat Wave Departure from ordinary is 6°C or more
3. When the real most extreme temperature stays 45°C or all the more regardless of typical greatest temperature, heat waves ought to be pronounced.