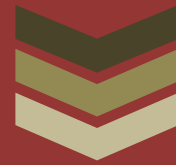


**WEEKLY CURRENT AFFAIRS MAGAZINE for**



# **U.P.S.C. - C.S.E.**

## **FEBRUARY-VOL-I-2022**

1 February to 7 February



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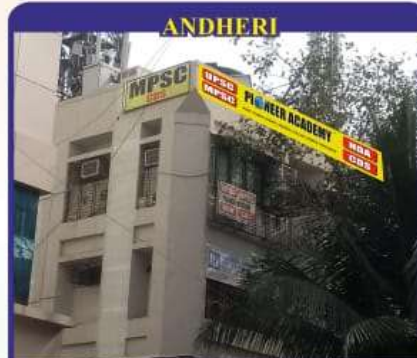
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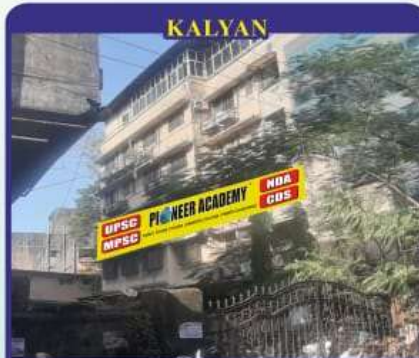
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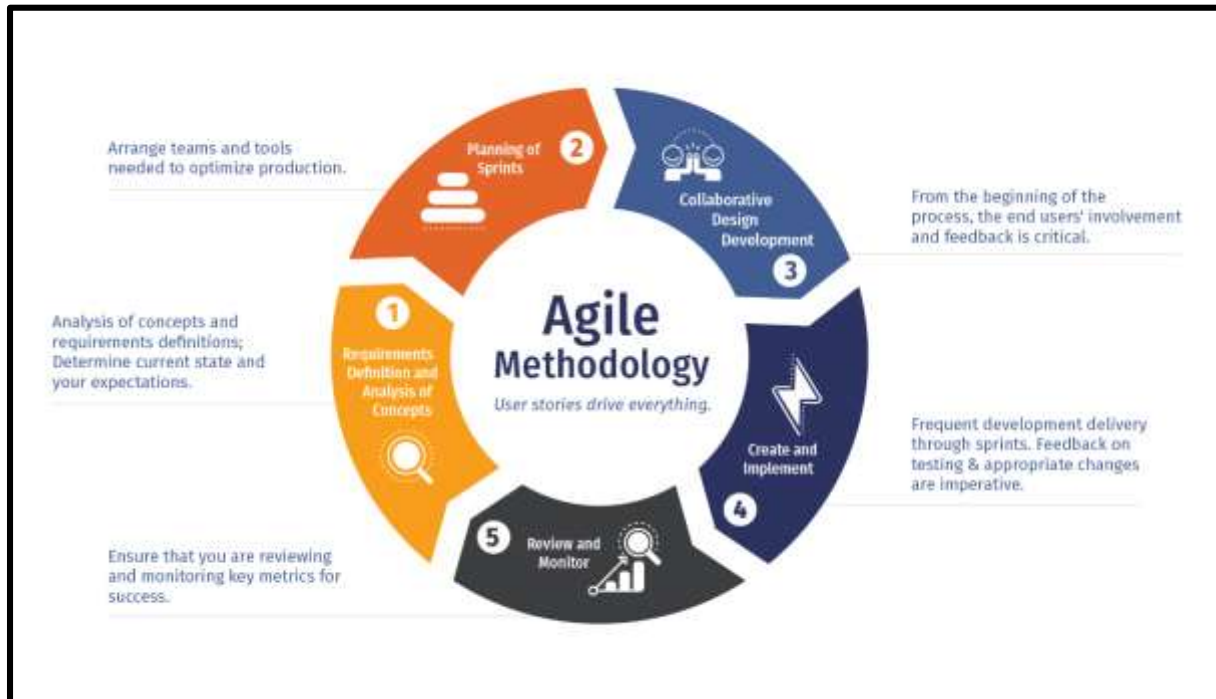
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*Success is born of action...*

## Topic 1. AGILE APPROACH

### *Importance for Prelims: Economy*



**In news:** The central theme of this year's Economic Survey is that the "Agile approach", implemented through India's economic response to the COVID-19 Pandemic shock.

**About:** The preface of Economic Survey states that the "Agile approach" relies on feedback loops, period observance of actual outcomes, flexible responses, safety-net buffers then on.

The Economic Survey 2021-22 argues that the "Agile framework: is especially relevant these days due to the explosion of period knowledge that allows for constant observance.

Such data includes GST collections, digital payments, satellite photographs, electricity production, cargo movements, internal/external trade, infrastructure rollout, delivery of varied schemes, quality indicators etc.

### **What is associate Agile Framework?**

- It could be a framework for project and policy implementation that's considered extremely economical for obtaining work done.

- It was developed in 2001 and relies on 12 principles, that embrace client satisfaction, collaboration, adapting to alter, feed- back loops and breaking project silos.

### **What was the framework that India followed earlier?**

- India and most countries across the world usually follow the water Approach.
- This involves analysis of the problem, detailed designing and meticulous implementation.
- India's earlier five-year plans were supported this.
- Waterfall Framework is linear and is developed consistently from part to part. this approach works best for comes with concrete timelines, well-defined deliveable and tiny uncertainties.

### **Why is that the Agile Framework most well-liked today?**

- Real time availability of information permits constant observance of a policy at a time once there square measure heap of uncertainties helps governments to adopt the Agile Framework.
- The Short term policy responses is tailored to associate evolving situation instead of what a model could have expected.

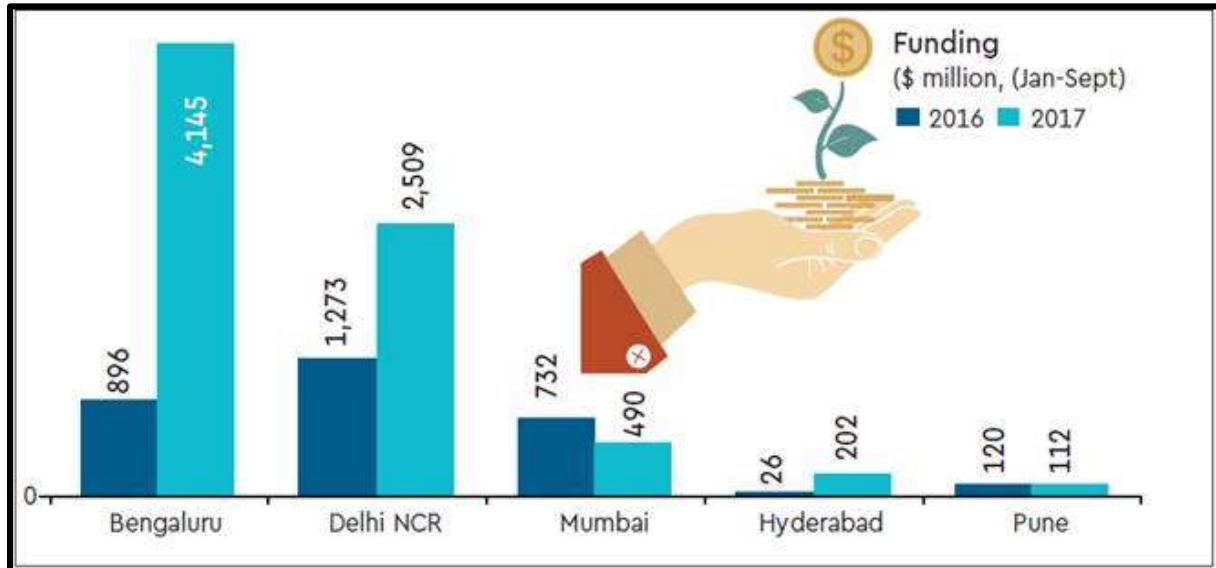
### **Is the Agile Framework economical to implement?**

- According to some studies, comes implemented through Agile Framework are four times cheaper than an identical project enforced through water Strategy.

## Topic 2. MOVE OVER BENGALURU- DELHI IS NOW START-UP

### CAPITAL

*Importance for Prelims: Economy*



**In News:** Delhi has replaced Bangalore because the start-up capital of India, in keeping with the Economic Survey 2021-22.

- The national capital other over 5,000 recognised start-ups compared to the 4,514 start-ups other in India's software package capital between April 2019 and december 2021.
- Maharashtra emerged the State with the very best range of recognised start-ups with 11,308 ventures.
- Gurgaon and Noida are drivers of this trend with their cosmopolitan neighbourhoods, co-working areas, reasonable rentals, and access to the largest urban MRT system within the country.
- Several things have combined to make this momentum in favour of Delhi-NCR.
- The early set of successful internet entrepreneurs from Delhi-NCR sparked loads of enthusiasm and aspiration among younger folks.
- They were then followed by the next wave of success that enclosed Zomato, Policybazaar, PayTM, etc., that have gone all the thanks to IPO.

- Delhi because the start-up capital appeared to rest totally on the quantity of recognised start-ups registered in Delhi over Bengaluru over a 33-month amount.
- The Economic Survey noted that India had a record range of start-ups (44) reach unicorn standing in 2021, and overtook the united kingdom to emerge the No 3 country by range of unicorns once the U.S. and China.
- As of January 14, 2022, India had 83 unicorns with a total valuation of \$277.77 billion.

### **Topic 3. NEW FTAS REVIEW OF EXISTING AGREEMENTS CAN PUSH EXPORTS**

#### ***Importance for Prelims: Economy***

**In News:** Over the last 25 years, the country has considerably diversified its export destinations, however more than 40 per cent of India's exports is still accounted for by released seven countries, according to the Economic Survey discharged by the Finance Ministry.

- India has been negotiating free trade agreements (FTAs) with many partners – each bilateral and regional – over the past a few years with a read to promote India's exports.
- A additional push during this direction would facilitate give the institutional arrangements to diversify each products and destinations.
- India's exports in April-December 2021 announce a 49.7 per cent growth (year-onyear) to \$301.4 billion, however imports grew at a sharpie rate of 68.9 % to \$443.8 billion throughout the amount, over doubling the trade deficit to \$142.4 billion.
- This could be a cause for concern and underlines the requirement for bigger efforts to spice up exports.
- The US remained the top export destination for India in April-November 2021, followed by United Arab Emirates and China. However, China's share in India's total imports reduced to 15.5 per cent from 17.7 per cent in corresponding amount a year earlier, reflecting inflated diversification of India's import sources.
- Belgium replaced Malaysia and entered into the top-10 leading export destinations throughout April-November 2021, with over \$1 billion value of pearls, precious and semi-precious stones, and iron and steel shipped to the country.
- Other countries among India's prime 10 export destinations embrace

Bangladesh, Hong Kong, Singapore, the netherlands, the united kingdom and Germany.



## Topic 4. GOVT SWAPS ₹1.2-LAKH-CR G-SECS OIL BONDS

*Importance for Prelims: Economy*

**Switching on the Rally**

Govt bonds maturing between 2026 & 2032 yielded **8-10 bps** lower

Overnight WAR in TREP dropped by **26 bps**

Swap rates too came off by 3-4 basis points

**FY23: ₹3.13 L cr** worth of gsecs supposed to mature

Govt bought back **₹63,648 cr** worth of bonds maturing in FY23 via switch

North Block issued longer duration bonds maturing **BCCL** between 2028 & 2030

**In News:** within the run-up to the allow FY23, the Union government did a conversion dealing for G-Secs and oil bonds with run on January 28 for ₹1,19,701 crore.

- The dealing concerned shopping for back securities maturing in FY2022-23, FY2023-24 and FY2024-25 from the run and supplying recent securities for equivalent market value, to form the dealing cash-neutral. Conversion of G-Secs maturing within the next 3-3 years into new G-Secs maturing at a later date can ease the redemption pressure on the government.
- Of the six G-Secs (aggregating ₹63,648 crore) maturing in 2022, three each were converted into G-Secs maturing in 2028 and 2029, severally.

- The GoI Floating Rate Bond maturing in 2024 (aggregating ₹27,330 crore) has been converted into a G-Sec maturing in 2035.
- Oil bonds Six oil bonds maturing between 2023 and 2025, were born-again into G-Secs maturing in 2030 The oil bonds were issued by the previous UPA regime as compensation to grease selling companies in lieu of cash subsidies.
- Bidding within the auction for conversion implies that the market participants comply with sell the supply security/ies to the government and at the same time comply with buy the destination security from the government.

## Topic 5. CLEAN ENERGY STORAGE ‘KEY TO NET ZERO PLAN’

### *Importance for Prelims: Economy*



**In News:** The government's move to make sure a committed offer of raw material, especially for renewable energy (RE) and e- quality sectors.

- The recent surge in costs of natural gas in Europe because of high energy demand, in addition to cold spells across the region and slower winds to run wind turbines, have resulted in lower electricity output.
- The energy crisis being intimate with by Europe brings to the fore the need to own a varied mixture of sources of energy, with fossil fuels as an integral part.
- India is working on acquiring mines of strategic minerals like metal and cobalt in manufacturing countries like Australia and metal Triangle ( Argentina, Bolivia and Chile).
- As India prepares a roadmap for net zero carbon emissions by 2070, the

transformation is “mineral-intensive” and it's “pertinent” that government policy addresses the problem of offer of metals used for making star PV modules and storage batteries, Economic Survey same.

- The world bank, in its report ‘Minerals for Climate Action’, has mentioned that the transition from standard fossil fuel-based energy to scrub energy further as battery storage are a lot of mineral-intensive.
- Minerals and metals like copper, aluminium, iron, manganese, nickel, etc are vital for developing clean energy sources like star photo- voltaic (PV), wind, nuclear, while minerals like metal and graphite ar necessary for energy storage.
- The dead offer of minerals is already increasing the costs of minerals that are possible to increase within the future.
- The Survey additionally recommended encouraging R&D to make sure easy switch to renewable sources of energy, which can additionally include focus on developing technology that recycles, re- uses and repurposes minerals.

## **Topic 6. RENEWABLE ENERGY CAPACITY GREW 2.9 TIMES; SOLAR OVER 18 TIMES IN SEVEN-AND-AHALF YEARS**

### ***Importance for Prelims: Economy***

**In News:** India witnessed the highest growth in renewable energy (RE) capability addition among all international economies within the last seven and half years, with RE capability growing by 2.9 times, whereas solar power surged by quite eighteen times, the Survey aforementioned.

- Renewable energy (excluding large hydro) constitutes over 24.71 per cent of the country's put in power capability and around ten.7 per cent of the electrical energy generation for 2020-21.
- As of Oct 2021, India's total RE put in capability (excluding hydro power higher than 25 MW) has reached over 103.05 giga watts (GW), it added.
- During the last 7.5 years, if massive hydro is enclosed, the share of RE in electrical put in capability is calculable to be concerning 38.27 per cent (as of Oct 2021)
- To boost the utilization of RE and to facilitate its evacuation and reshaping the grid for future necessities, the government initiates the green Energy corridor (GEC) comes.
- This is aimed at synchronising electricity created from renewable sources with standard power stations within the grid.
- The initial part of the theme, inter-State GEC with target capability of 3200 circuit kilometer (ckm) transmission lines and 17,000 MVA capability substations, was completed in March 2020.
- The second part —intra-State GEC with a target capability of 9700 ckm transmission lines and 22,600 MVA capability substations is predicted to be completed by June 2022, as per economic survey.
- PM-KUSUM theme under the Pradhan Mantri Kisan Urja Suraksha

evamUtthaanMahabhiyan (PM- KUSUM) theme, over 77,000 complete solar pumps, 25.25 MW capability alternative energy plants and over one,026 pumps were solarised as of December, 2021.

- Under the event of solar parks and extremist mega alternative energy comes programme, with a target capability of 40 GW by March 2024, 50 solar parks are sanctioned with a combined capability of 33.82 GW in 14 states.
- Solar power comes of an combination capability of around 9.2 Besides, the government the government the offshore Wind Energy Policy to harness the potential of offshore wind energy on India's coastline.
- The Ministry of latest and Renewable Energy is developing a method and roadmap for installation of offshore wind comes off the coast of Gujarat and Tamil Nadu.
- As of December 2021, capability of around 4.25 GW of wind-solar hybrids are commissioned.

## Topic 7. EXTERNAL SECTORS (ECONOMIC SURVEY)

*Importance for Prelims: Economy*

### EXTERNAL VULNERABILITY INDICATORS FOR INDIA

Indicator	Global financial crisis (FY09)	Taper tantrum (FY14)	H1: FY22
External debt (\$ bn)	224.5	446.2	593.1
Forex reserves (\$ bn)	252	304.2	633.6
External debt to GDP ratio	20.7	23.9	20.1
Short-term debt to total debt	38.8	39.7	43.2
Reservers cover of imports (mths)	9.8	7.8	14.6
Net IIP/GDP ratio*	-5.8	-18.2	-11.3

\*IIP: International Investment Position

Source: Economic Survey 2021-22

**In News:** The Union Minister for Finance Nirmala Sitharaman presented the Economic Survey 2021-22 in Parliament.

- India's merchandise exports and imports rebounded powerfully and surpassed preCOVID levels throughout this financial year.
- Net capital flows were higher at US\$ 65.6 billion at intervals the half of 2021-22, on account of continuing flow of foreign investment, revival in web external business borrowings, higher banking capital and additional special drawing rights (SDR) allocation.
- India's external debt rose to US \$ 593.1 billion at end-September 2021, from US \$ 556.8 billion a year earlier, reflective more SDR allocation by IMF, additionally to higher business borrowings.
- Foreign Exchange Reserves crossed US \$ 600 billion at intervals the primary half 2021-22 and touched US \$ 633.6 billion as of December 31, 2021.
- As of end-November 2021, India was the 4th largest forex reserves holder within the world after China, Japan and Switzerland.

## Topic 8. NON-FARMING BUSINESSES

### *Importance for Prelims: Agriculture*

**Animal husbandry:** Animal husbandry refers to livestock raising and selective breeding.

- It is that the management and care of animals in which the genetic qualities and behavior of animals are additional developed for profit.
- A large number of farmers depend upon animal husbandry for his or her sustenance.
- It supports the sustenance of just about 55th of the rural population.
- India is that the highest livestock owner of the world.
- As per the 20th livestock Census, the whole eutherian mammal population is 535.78 million within the country showing a rise of 4.6% over livestock Census-2012.
- Animal rearing has multidimensional potential.
- For instance, Operation Flood, launched in 1970, helped farm farmers direct their own development, redoubled milk production (“a flood of milk”), increased rural incomes and ensured cheap costs for consumers.
- **Dairy sector:** With the assistance of White Revolution, India has transitioned from a milk-deficient country to the most important producer of milk globally.
- The Anand model (Amul), that has been replicated across the country, boosted milk production.
- Harvesting animals for dairy and animal-based products is crucial for food security, poverty alleviation and alternative social needs.
- Harvesting animals for dairy and animal-based products in India may be a major supply of sustenance for 150 million dairy farmers.
- The farm sector accounts for four.2% of the national gross domestic product.



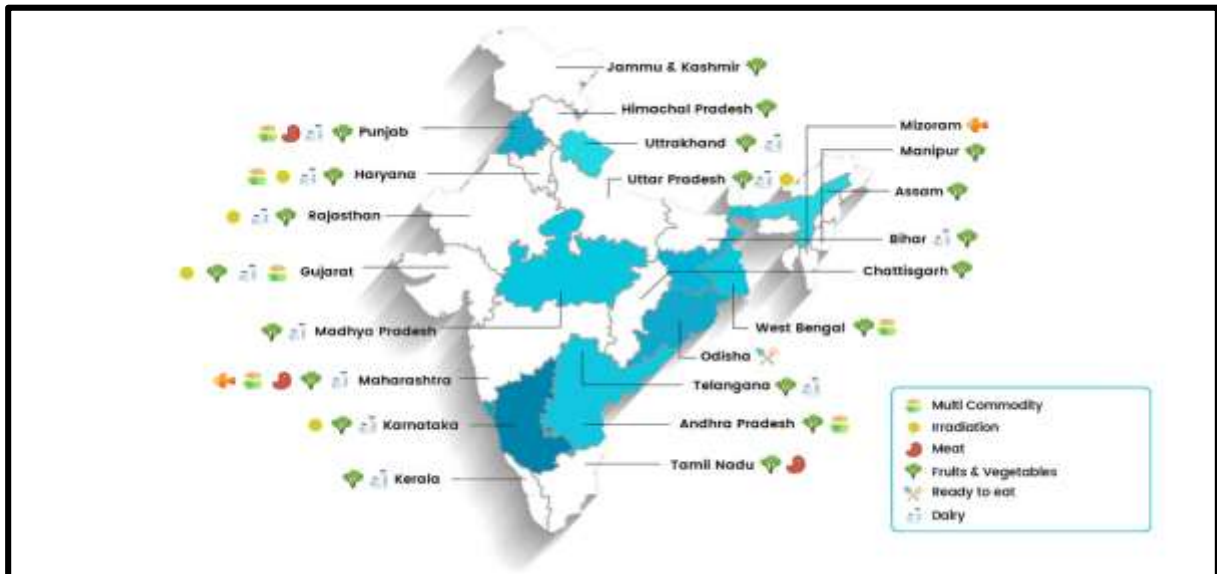
- Dairy sector is that the second-largest employment sector once agriculture in India.
- **Fisheries:** Fisheries and cultivation are a crucial supply of food production, nutritional security, employment, and financial gain in India.
- The fisheries sector may be a direct supply of livelihoods for over 20 million fishers and fish farmers; contributes federal agency 1.75 trillion annually to the gross worth further to India's economy; and may be a major export jobholder, with fish being one among the foremost vital agricultural commodities to be exported from India.
- Blue Revolution, the neel Kranti Mission has the vision to realize economic prosperity of the country and also the fishers and fish farmers yet as contribute towards food and biological process security through full potential utilization of water resources for fisheries development during a sustainable manner, keeping in sight the bio-security and environmental considerations.
- **Status of Indian fisheries:** Fisheries are the first supply of livelihood for many communities.
- India is that the world's second-largest fish producer with exports value over Rs 47,000 crore.
- Fisheries are the country's single-largest agriculture export, with a rate of 6 to ten per cent within the past 5 years.
- Its significance is underscored by the actual fact that the expansion rate of the farm sector within the same amount is around 2.5 per cent.
- It includes a marine fisher population of 5 million; 10.5 million people are engaged in interior fishery and fish farming.
- The investment of Rs 3,000 crore within the Blue Revolution is being supplemented through the Rs 7,523-crore Fisheries and cultivation Infrastructure Development Fund. This can meet the capital investment

demand of this sector.

- The productivity of freshwater fish farms has gone up to over 3 metric tonnes per hectare from the 2.5 tonnes per hectare.
- Productivity of briny water coastal cultivation has touched 10 to 12 metric tonnes per hectare — a pointy increase from the previous 2 to four tonnes per hectare.
- The marine piscary potential within the Indian waters are calculable at 31 MMT constituting regarding 43.3% demersal, 49.5% pelagic and 4.3% oceanic teams.
- The allocation for the Ministry of Fisheries, animal husbandry and dairying was redoubled by 23 per cent to ₹4,820.82 crore during 2021-22 (BE) from ₹3,918.31 crore during 2020-21 (RE).

## Topic 9. FDI IN FOOD PROCESSING

### *Importance for Prelims: Economy*



FDI in food process surged 86 in April-Sept FY22.

- The food processing sector witnessed a surge in Foreign Direct Investment (FDI) inflows in FY22 once it had recorded a huge dip in inflows within the previous fiscal.
- According to the Survey, FDI within the food process sector in April-September 2021-22 stood at \$410.62 million.
- This was up 86 per cent compared to the corresponding amount within the previous year.
- FDI inflows within the sector within the April-September amount in 2020-21 was at \$220.42 million.
- Overall, in FY21, FDI inflows within the sector had declined by concerning 56 per cent to concerning \$393.4 million from \$904.7 million in FY 2019-20.
- The huge dip was seemingly thanks to the pandemic irruption within the year.
- “The sector has witnessed FDI equity flow of \$4.99 billion throughout the amount April 2014 to September 2021.

- The FDI equity flow in sector throughout April to September 2021 was \$410.62 million as compared to \$220.42 million within the corresponding period last year,” the Survey same.
- The government permits 100 per cent FDI within the food process sector under the automatic route.
- However, just in case of commercialism of food products manufactured or created in India, as well as through e-commerce, 100 per cent FDI is allowed under the government approval route.
- **Food processing:** Food processing sector in Republic of India may be a composite sector comprising 2 broad segments viz. organized and unorganized segments.
- There are an calculable 25-lakh small food process enterprises within the country, that are unorganized and unregistered.
- With 7-membered of investment in plant & machinery, the unorganized enterprises contribute of 74.3% of employment (a third of which are women), 12-tone music of output and 27th valuable addition within the food-processing sector.
- Nearly 66 per cent of those units are placed in rural areas and concerning 80 per cent of them are family-based enterprises.
- The organized sector with nearly 40,000 units accounts for 93 of the plant & machinery within the sector, in worth terms.
- This phase accounts for 26th of employment and contributes around 90th of output and 72 GVA
- **Government initiatives:** the various part schemes under PMKSY being enforced by the Ministry embrace Mega food parks, Integrated cold chain and worth addition Infrastructure for agro-processing clusters, Creation of backward and forward linkages, Creation and expansion of food process Operation Greens and Food Testing Laboratories.

## Topic 10. INDIA RANKS THIRD GLOBALLY IN FOREST AREA GAIN: SURVEY

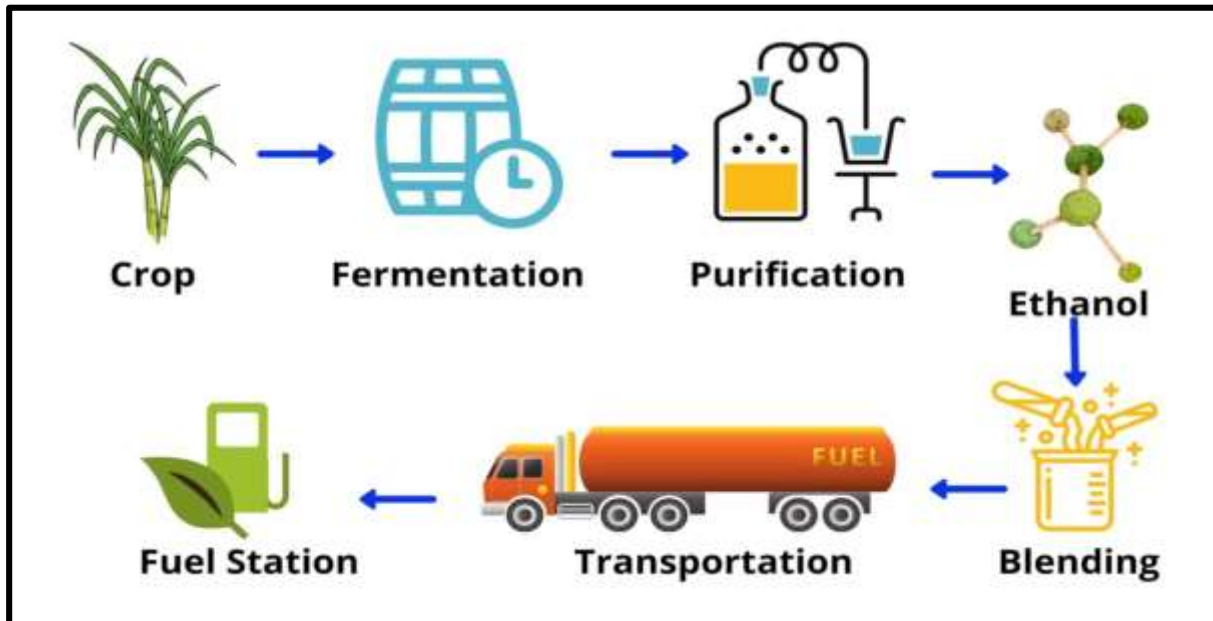
### *Importance for Prelims:Environment*

India has increased its forest area within the past decade and ranks third globally in average India annually supplemental an average 2,66,000 hectares of forest area over the amount.

- Forests lined pure gold of India's geographic area, accounting for two of the world's total forest area in 2020, the department same.
- The prime 10 countries account for 66 of the world's forest area. Brazil (59%), Peru (57%), Democratic Republic of Congo (56%) and Russia (50%) have half or more of their geographical region under forests.
- "Much of India's increase in forest cover from 2011-21 is attributed to enhancement in terribly dense forest cover, that rose by some under," the DEA same. Social forestry might additionally play a major role during this regard," same the report.
- **Social forestry:** Social forestry is that the management and development of forests with conversion on barren lands to achieve environmental profit and rural development.
- The term was initial employed by National Commission on Agriculture, Government of India, in 1976.
- It was then that India embarked upon a social forestry project with the aim of taking the pressure off the forests and creating use of all unused and fallow land. State of forest Report 2021.

## Topic 11. ETHANOL BLENDING

*Importance for Prelims: Environment*



The ethanol provide within the country to enable mixing with petrol is likely to reach 302 crore litres, in keeping with the Economic Survey 2021-2022.

- The Centre has set a target of 200th ethanol mixing with petrol to be achieved by 2025 to cut back the country's crude oil import bill, provides a boost to the agriculture sector and scale back environmental pollution.
- ethanol provide under the ethanol blended petrol (EBP) Programme is expected to exceed 302 crore litres by the tip of Ethanol provide Year (ESY) 2020-2021 (December 1, 2020 -November 30, 2021) to attain around 100% ethanol mixing, the Survey noted.
- This is a rise of 74.5% compared with the previous year.
- The ethanol mixing target for ESY 2021-22 is 100%.
- The government last year notified mass emission standards for E12 (12% ethanol blended with petrol) and E15 (15% ethanol blended with petrol) to modify the automobile business to manufacture E12- and E15-compliant motor vehicles.
- Ethanol blending programme.

## Topic 12. CAPEX

### *Importance for Prelims: Economy*



FM Nirmala Sitharaman plans 25th jump in outlay for cost capital expenditure.5-lakh cr

- The central theme of the Budget 2022-23 was investment in infrastructure, and development.
- Sitharaman proclaimed capital expenditure cost.5-lakh crore.
- That's concerning 2.9 per cent of GDP. at the side of grant-in-aid to States, the effective capital expenditure for 2022-23 is projected to be concerning 4.1 per cent of GDP.

### **The nominal GDP growth assumption of what's Capital Expenditure-?**

- Capital expenditure (Capex) is that the money spent by the govt on the event of machinery, equipment, building, health facilities, education, etc.
- **Capital expenditure includes money spent on the following:** deed fastened and intangible pluss Upgrading associate degree existing plus Repairing an existing asset reimbursement of loan.

### **What is the significance of capital expenditure?**

- **Multiplier effect**– Capex has the maximum multiplier effect (change in rupee worth of output with regard to a change in rupee worth of expenditure).

- This number result works through enlargement of adjuvant industries and services and job creation.
- Labour productivity – On the provision side, Capex will facilitate labour productivity.
- Macroeconomic stabilizer– cost is a good tool for countercyclical fiscal policy and acts as a macroeconomic device.
- Revenue generation – capital expenditure ends up in the creation of assets ar longterm in nature and permit the economy to generate revenue for several years and boost operational potency.
- Liability reduction – together with the creation of assets, reimbursement of loan is additionally cost because it reduces liability.
- Economic growth – Government capex catalyses non-public investment, will increase production capability thereby rushing up economic growth that in turn creates a great deal a lot of jobs.
- Crowding-in of investment: it's a development that happens once higher government spending ends up in a rise in economic growth and thus encourages corporations to take a position thanks to the presence of a lot of profitable investment opportunities.
- The crowding-in result is discovered once there's a rise in private investment thanks to accrued public investment, as an example, through the development or improvement of physical infrastructures like roads, highways, water and sanitation, ports, airports, railways, etc.

### **What is the the status of Government spending capital expenditure?**

- The outlay for cost within the Union Budget is being stepped up sharply by 35.4 per cent from Rs 5.54 lakh crore within the current year to Rs 7.50 lakh crore in 2022-23.
- The States cumulatively pay more on capex than the Centre.
- But, the money spent by states isn't uniform throughout the year



however is clustered up and spent within the half-moon of the business.

- Both the Centre and the the } States ought to also focus on the standard of capex.
- It is important if India must escape its current moderate pace of economic enlargement and post strong double digit GDP growth in an exceedingly sustained manner within the future.

## **Topic 13. 5G TECHNOLOGY**

### ***Importance for Prelims: Science & Technology***

The auctions for the 5G spectrum and also the consequent rollout of the technology is likely to happen within the forthcoming fiscal year same minister in Budget 2022-23.

- Of the 8 per cent adjusted gross revenue owed by personal medium service suppliers and different medium licence holders, 5 per cent goes into the USOF, whereas the remainder goes into the central exchequer.
- Further, 5 per cent of the annual assortment from the universal service obligation fund (USOF) would be allotted to change broadband and mobile service proliferation in rural areas.
- The government, however, also pushed the point for completion of BharatNet by close to 2 years to 2025.
- Optical fibres all told villages together with remote areas are going to be awarded under the Bharat- net Project through PPP.
- BHARATNET The initial aim of BharatNet, that was started as NOFN, was to attach 2.5 lakh gram panchayats (GPs) with high speed broadband internet by 2014.
- Republic of IndiaNet could be a flagship mission enforced by Bharat Broadband Network Ltd. (BBNL).
- It could be a Special Purpose Vehicle (SPV) set up by the government of India under the businesses Act, 1956. Currently, it's being enforced by the Department of Telecommunication under the Ministry of Communications.
- National optical fibre network (NOFN) was launched in October 2011 and was renamed as Bharat Net Project in 2015.
- National optical fibre Network was envisaged as an web through the creation of a strong middle-mile infrastructure for reaching broadband

property to Gram Panchayats.

- The entire project is being funded by the Universal Service Obligation Fund (USOF), that was set up for rising medium services in rural and remote areas of the country.
- Universal Service Obligation Fund (USOF) USOF ensures that there's universal non-discriminatory access to quality ICT (Information and Communications Technology) services at economically economical prices to people in rural and remote areas.
- It was created under the Ministry of Communications in 2002.
- It could be a non-lapsable fund, i.e., the unexpended quantity underneath a targeted year doesn't lapse and is accrued for next years' spending.
- All credits to the present fund need parliamentary approval and it's statutory support under Indian Telegraph (Amendment) Act, 2003.

## Topic 14. INCLUSIVE GROWTH

*Importance for Prelims: Economy*



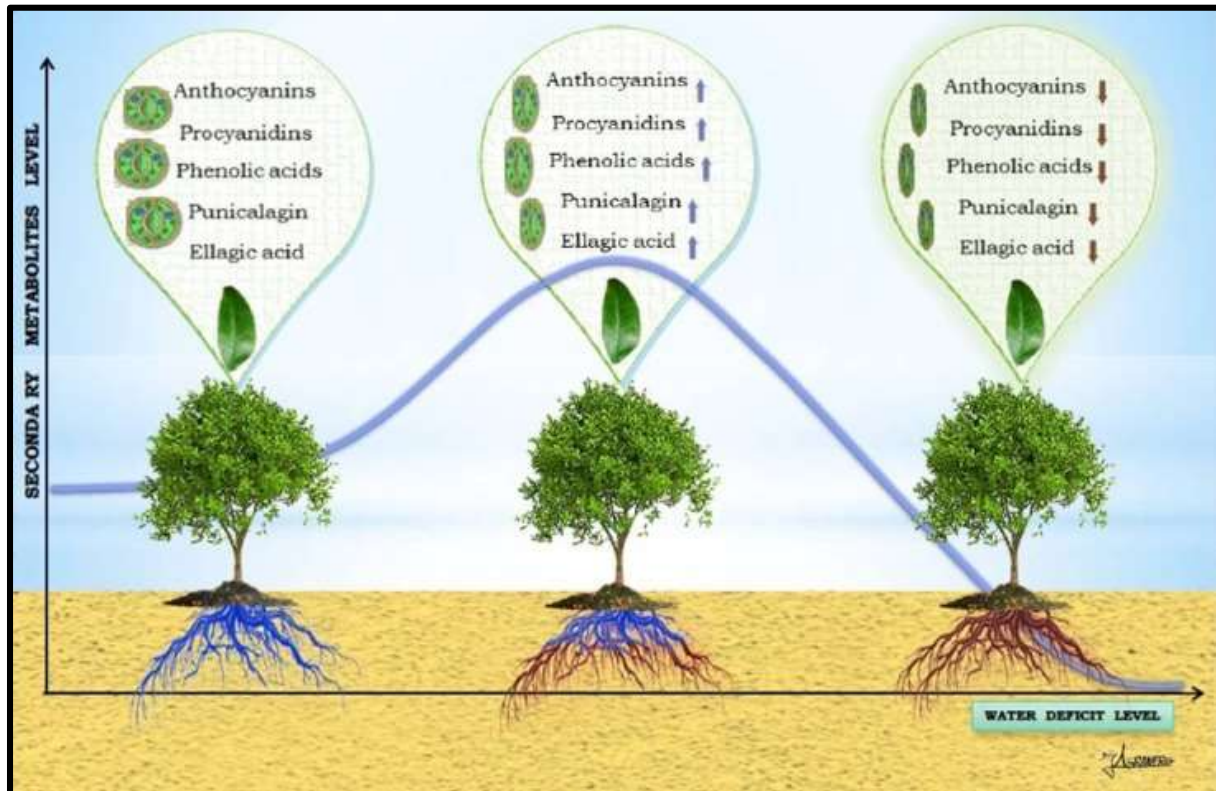
The government enunciated in its Budget a blueprint for Amritkaal, hinged on futuristic and comprehensive economic growth.

- Inclusive growth suggests that economic growth that produces employment opportunities and helps in reducing poverty.
- It suggests that having access to essential services in health and education by the poor.

- It includes providing equality of chance, empowering individuals through education and skill development.
- It additionally encompasses a growth methodology that is surroundings friendly growth, aims permanently governance and helps in creation of a gender sensitive society.
- As per OECD (Organisation for Economic Co-operation and Development), comprehensive growth is economic growth that is distributed fairly across society and creates opportunities for all.
- Components of economic growth.

## Topic 15. DEFICIT CROPS

### Importance for Prelims: Agriculture



There is emphasis within the Budget on diversification towards high price agriculture, as also deficitagri-commodities. Stepping of the Budget into smart agriculture is more galvanised by supplementing production technology with digital technology.

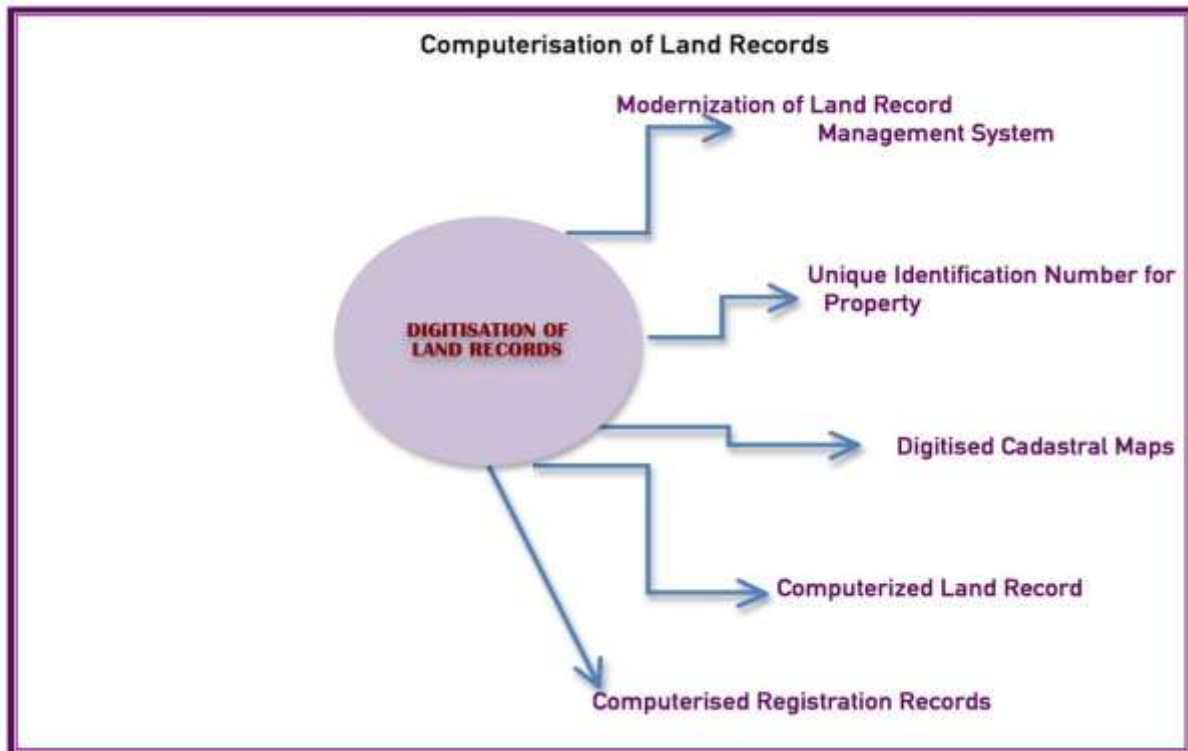
- ‘Kisan Drones’ can beware of the plurality of problems right along the worth chain.
- Dryland Agriculture in India: India has 143 million ha of its geographical area under cropping, out of that 113 m ha has the potential to be irrigated, thus, 30 m ha are rainfed agriculture, even though the total potential of irrigation has been used.
- Presently, India has 93 m ha (recent knowledge = 100 m ha) under irrigation.
- Thus, 43 m ha are under rainfed conditions.
- Dryland agriculture (Deficit Cropping) refers to the region or the sort of farming that is operated in sub wet to arid conditions with inefficient hydrology, lack of irrigation facilities, complete dependency on monsoon downfall and reflective a typical cropping pattern of coarse grains millets and oilseeds, pulses, cotton etc.
- Difference between Rainfed and Dryland agriculture would like for Deficit Crops in India .India has 1/3rd of its geographical area is under

wet conditions, whereas 2/3rd is sub wet or arid conditions.

- Thus, deficit crops occupies larger land than the wet agriculture.
- It supports 400th of the population and occupies 66 of land.
- The ratio must be corrected, by increasing the productivity of those region.
- Dryland agriculture is predicated on the industrial crops e.g. cotton, groundnut, oilseeds, pulses, tobacco.
- For development of agro process industries and to form Indian Agriculture more export- homeward-bound, greater emphasis on deficit crops is inevitable.
- Hardy and alimentary cropseg. Jowar, bajra, ragi, pulses, oilseeds, cottonseeds, sunflower, safflower.
- Thus, the nutrition / malnutrition issues in poor areas may be fought with the assistance of dryland agriculture.
- It involves cash cropping, E.g. Jatropha cultivation will cut back the magnitude of crude crisis since liquid created by it may be further to petroleum products while not reducing the potency.
- Deficit crops have the potential to provide fodder and bovine feed. Thus, it will help in white revolution.
- Also, here the pasture lands are additional intensive and cattle breeds have larger per-capital yield.
- Some different methods to scale back water usage in Agriculture System of Rice Intensification (SRI) has been adopted by many farmers particularly in Bihar and Andhra Pradesh as a water-conserving method of paddy cultivation.
- The technique wants a much bigger push from the Centre to form it a universal concept. Conservation techniques like zero-tillage, raised-bed planting, exactness farming and drip or sprinkler irrigation have shown smart ends up in soil and water conservation however wants more improvement in technology for wider acceptance.
- **Organic and nature based mostly farming:** Studies have shown that organic farming conserves water by requiring less water in irrigation and also helps in up water-storage capability of soil by up its health.

## Topic 16. DIGITISATION OF LAND RECORDS

*Importance for Prelims: Government schemes*



**In news:** The Centre has focused on digitisation of land records through its scheme Digital India Land Record Modernisation Programme (DILRMP).

- According to the Department of Land Records, over 90 per cent of land records are digitised across 24 states.
- The linkage of National Generic Document Registration System (NGDRS) with the 'One-Nation One-Registration Software' are going to be promoted as an choice for uniform registration method and "anywhere registration of deeds & documents".
- States are going to be inspired to adopt unique Land Parcel identification number to facilitate IT-based management of records.
- The facility for transliteration of land records across any of the Schedule VIII languages also will be unrolled.
- **About:** For modernization of land records system within the country, a changed programme, , the National Land Records Modernization Programme (NLRMP), now renamed as Digital India Land Records Modernization Programme (DILRMP), has been developed
- Two Centrally sponsored schemes of computerization of Land Records (CLR) and Strengthening of Revenue Administration and change of Land Records (SRA&ULR) were merged.



## Topic 17. CHEMICAL-FREE NATURAL FARMING

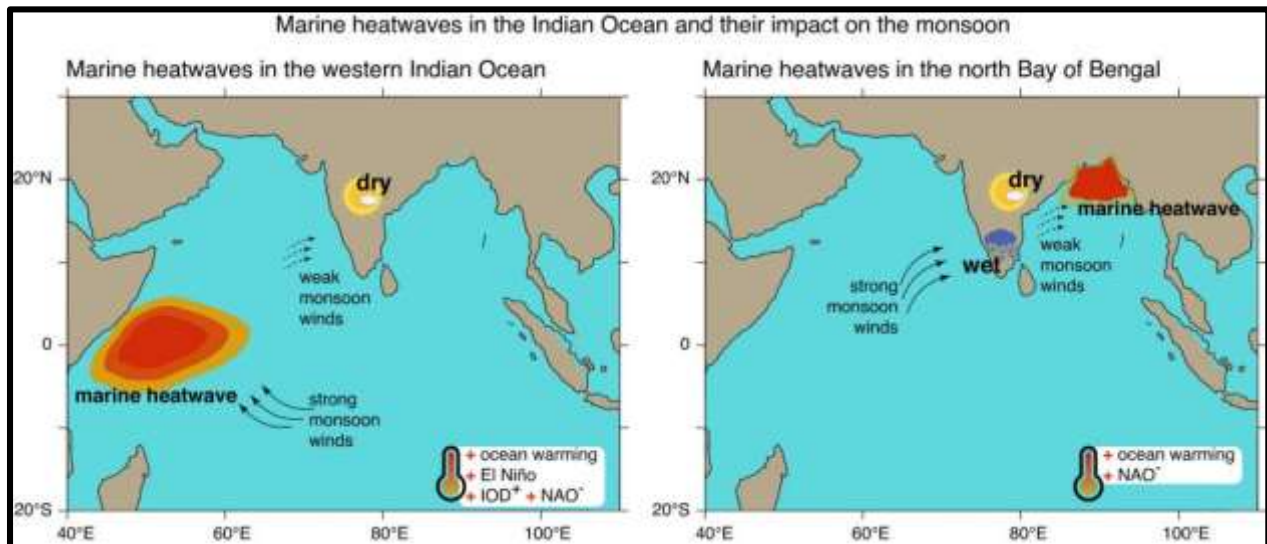
### *Importance for Prelims: Polity*

In her budget speech, FM said that chemical-free farming are going to be promoted throughout the country, beginning with fields within a 5-km wide passageway on the Ganga watercourse.

- Natural vs Organic Farming Natural Farming Organic Framing In natural farming, neither chemical nor organic fertilizers are added to the soil.
- In fact, no external fertilizers are added to soil or given to plants some In organic farming, organic fertilizers and manures like compost, vermicomposting, rubbish manure, etc. are used and added to farmlands from external sources
- In natural farming, decomposition of organic matter by microbes and earthworms is inspired right the soil surface itself, that gradually adds nutrition within the soil, over the amount.
- n natural farming there no plowing, no tilting of soil and no fertilizers, and no weeding is completed simply the method it'd be in natural scheme Organic farming still needs basic agro practices like plowing, tilting, mixing of manures, weeding, etc. to be performed blessings of Natural Farming shield soil and environmental quality.
- Natural farming has a smaller carbon footprint.
- Conserves and builds soil health. Replenishes natural ecosystems for cleaner water and air, all without harmful chemical residues.
- Advantages of organic farming Reduces chemical and chemical residues in soil. economical use of resources.
- Minimizes the external value of farming.
- More nutritional price compared to conventionally grown products.
- Tastes higher than non-organic food.
- Healthier animals Safe guard's natural flora, fauna and natural surroundings.
- Soil and also the atmosphere may be a public good

## Topic 18. FREQUENT MARINE HEAT WAVES IN INDIAN OCEAN DISRUPT INDIA'S MONSOON PATTERNS

*Importance for Prelims:Environment*



Marine heat waves (MHW) within the Indian Ocean region have raised significantly within the past few decades, consistent with a new study revealed within the journal JGR Oceans showed.

- Marine heat waves (MHW) Marine heat waves (MHW) are periods of increased temperatures over seas and oceans.
- Such heat waves are caused by a rise within the heat content of oceans, particularly within the higher Worldwide, they're one in all the main results of human-induced warming.
- During an MHW, the common temperatures of the ocean surface (up to a depth of 300 feet) goes 5-7 degrees astronomer on top of traditional.
- **Marine Heat Waves in Indian Ocean:** the amount of MHWs within the West Indian ocean raised by around 1.5 events per decade between 1982 and 2018.
- The occurrences went up by around 0.5 events per decade in North Bay of geographical region within the same amount.
- There were a complete of 66 events in West Indian Ocean and 94 in

North Bay of Bengal within the 36 years.

- Link between marine heatwaves and atmospheric circulation and Monsoon rainfall Around 90 per cent of the warming caused by greenhouse gas emissions is absorbed by the oceans.
- The increase in marine heat waves was because of fast warming within the Indian Ocean and strong El Nino events.
- El Nino is one part of the El Nino Southern Oscillation (ENSO) development that has a usually warming impact on the world's ocean and land surfaces.
- The marine heat waves within the Indian Ocean also are majorly impacting the southwest monsoon — the most rain-bearing system over the Indian subcontinent.
- The MHWs in the 2 worst-hit regions reduce monsoon precipitation over central Asian nation, the study established.
- The incidence of MHW in North Bay of Bengal will increase rainfall over the southern peninsular area.
- Impacts of Marine Heat waves Impacts on climate round the world.
- Habitat destruction because of coral bleaching, seaweed destruction and loss of kelp forests, touching the fisheries sector adversely.
- Case Study An underwater survey showed 85 per cent of corals within the Gulf of Mannar close to the province coast got bleached when the marine heatwave in may 2020.

## Topic 19. LORD NATRAJA

*Importance for Prelims: Art & Culture*



A police team nabbed some suspects and located that a gang had planned to export the idols, including those of Nataraja, Kali, Murugan, Vinayagar and Nagadevathai.

- Lord Nataraja Nataraja (Lord of the Dance), the Hindu god Shiva in his form because the cosmic dancer, is diagrammatical in metal or stone in several Shaivite temples, significantly in South India.
- It is a very important piece of Chola sculpture.
- **Features of the Nataraja sculpture:** The upper right-hand holds the

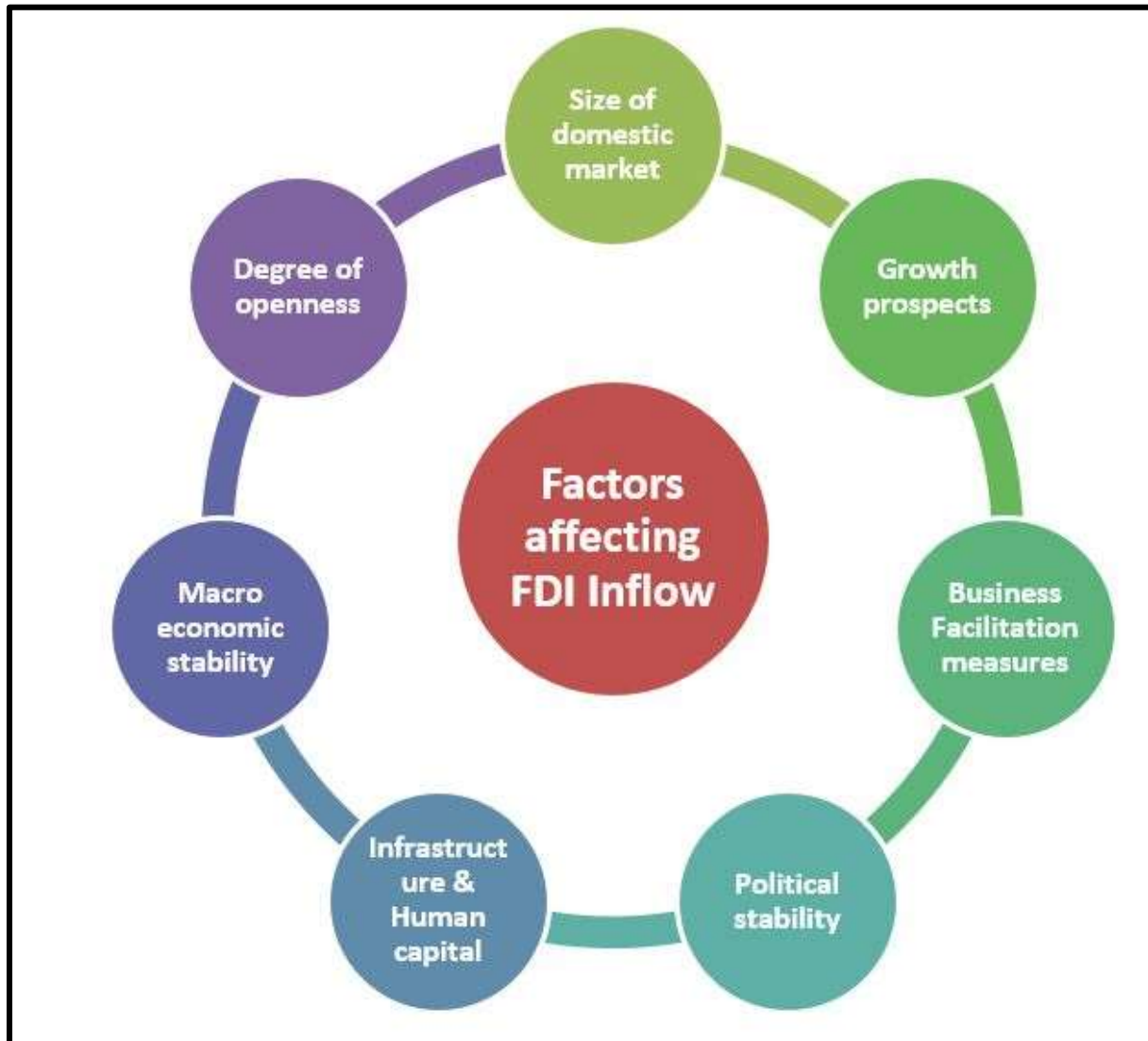
drum, that signifies the sound of creation.

- All creations spring from the nice sound of the damru.
- The upper left-hand holds the eternal fire, that represents the destruction.
- Destruction is that the precursor and inevitable counterpart of creation.
- The lower right hand is raised within the gesture of Abhay mudra signifying benediction and reassuring the follower to not be afraid.
- The lower left-hand points towards the raised foot and indicates the trail of salvation.
- Shiva is diversion on the figure of a small dwarf.
- The dwarf symbolises ignorance and also the ego of a private.
- The matted and flowing locks of Shiva represent the flow of river ganges.
- In ornamentation, one ear of Shiva features a male jewellery whereas the opposite has female.
- This represents the fusion of male and female and is commonly remarked as Ardhanarishvara.
- A snake is twisted around the arm of Shiva.
- The snake symbolises the kundalini power, that resides within the human spine within the dormant stage.
- If aroused, one will attain true consciousness.

The Nataraja is encircled by a nimbus of glowing lights that symbolises the immense unending cycles of time.

## Topic 20. FDI POLICY

*Importance for Prelims: Economy*



The DPIIT is within the last phase of its interministerial discussion on creating changes to the Foreign Direct Investment (FDI) policy to permit disinvestment in life assurance Corporation.

**Foreign Direct Investment:** FDI is that the method whereby residents of 1 country (the home country) acquire ownership of assets for the aim of dominant the production, distribution and alternative activities of a firm in another country (the host country).

- It is different from Foreign Portfolio Investment wherever the

foreign entity just buys stocks and bonds of an organization.

- FPI doesn't offer the capitalist with control over the business.
- It is run by the Department for Promotion of industry and Internal Trade (DPIIT), Ministry of Commerce and industry

### Components:

1. **Equity capital:** it's the foreign direct investor's purchase of shares of an enterprise during a country aside from its own.
2. **Reinvested earnings:** It includes the direct investors' share of earnings not distributed as dividends by affiliates, or earnings not remitted to the direct capitalist. Such preserved profits by affiliates square measure reinvested.
3. **Intra-company loans:** These consult with short- or long borrowing and loaning of funds between direct investors (or enterprises) and affiliate enterprises.

### Routes through that India gets FDI:

1. **Automatic Route:** during this, the foreign entity doesn't need the previous approval of the government or the RBI (Reserve Bank of India).
  1. The Foreign Investment Facilitation Portal (FIFP) facilitates the one window clearance of applications that are through approval route.
  2. **Government Route:** during this, the foreign entity must take the approval of the government.

## Topic 21. ASSAM-ARUNACHAL PRADESH BORDER DISPUTE

*Importance for Prelims: Internal Security*



Arunachal Pradesh, that was earlier a part of province, shares a boundary of roughly 800 km with the state—with frequent flare-ups reported on the border since the 1990s.

- **Bone of contention:** 1951 The dispute dates back to colonial times, once the british in 1873 proclaimed the “inner line” regulation, demarcating an imaginary boundary between plains and the frontier hills, that were later designated because the North East Frontier Tracts in 1915.
- The latter corresponds to the area that creates up current Arunachal Pradesh.
- After Independence, the assam government assumed body jurisdiction over the North East Frontier Tracts, that later became the North East Frontier Agency (NEFA) in 1954, and finally, the Union Territory (UT) of Arunachal Pradesh in 1972.
- It gained statehood in 1987.



- However, before it was carved out of province, a sub-committee headed by then province chief minister GopinathBordoloi created some recommendations in relevance the administration of NEFA (under Assam) and submitted a report in 1951. supported the Bordoloi committee report, around 3,648 sq km of the “plain” area of Balipara and Sadiya foothills was transferred from Arunachal Pradesh (then NEFA) to Assam’s then Darrang and Lakhimpurdistricts.
- This remains the bone of contention between the 2 states.
- The border problems came to the fore when Arunachal Pradesh became a UT in 1972.

## Topic 22. KISAN DRONES

*Importance for Prelims: Agriculture*



**In news:** Union finance minister Nirmala Sitharaman proclaimed the Centre can promote ‘Kisan Drones’ to help farmers assess crops, digitize land records also as spray pesticides and nutrients.

- Drone services is an rising market that finds application in agriculture, construction, search and rescue, package delivery, industrial inspection, insurance and videography.
- In 2021, the Union Ministry of Agriculture and Farmers Welfare brought out a regular operating procedure for spraying pesticides and nutrients through drones.
- The finance minister has proclaimed the employment of ‘kisan drones’ for crop assessment, medical care of land records and spraying agri-

nutrients like fertilisers and pesticides.

- The plan behind using drones can be to reduce human exposure to toxic chemicals.
- Crop assessment using drones can facilitate crop insurance corporations.
- This can provides a fillip to increasing the yield of the tiny and marginal farmers in India.
- The Centre had earlier visualised using drones to digitize land records.
- These flying objects can survey the land, the government projected, and officers will use the info } to match with recorded information, consistent with the set up.
- The digitised data can be accustomed build Agristak, a collection of technologybased interventions in agriculture proposed by the Centre.
- The government can support these industries in building domestic capacities also as promoting analysis and development.
- This initiative would bring academia, industry and public institutions along.

## **Topic 23. BEIJING WINTER OLYMPICS**

### ***Importance for Prelims: International Relations***

India has announced a diplomatic boycott of the Beijing Winter Olympics.

- Other countries which announced boycott include the USA , United Kingdom, Australia, New Zealand, Canada, Japan, New Zealand and the Netherlands.

#### **What is a diplomatic boycott?**

- It simply means these countries will not send official government delegations to Beijing during the Games.
- These officials are often labeled as the ‘VIP visitors’

#### **. Does a diplomatic boycott affect athletes’ participation?**

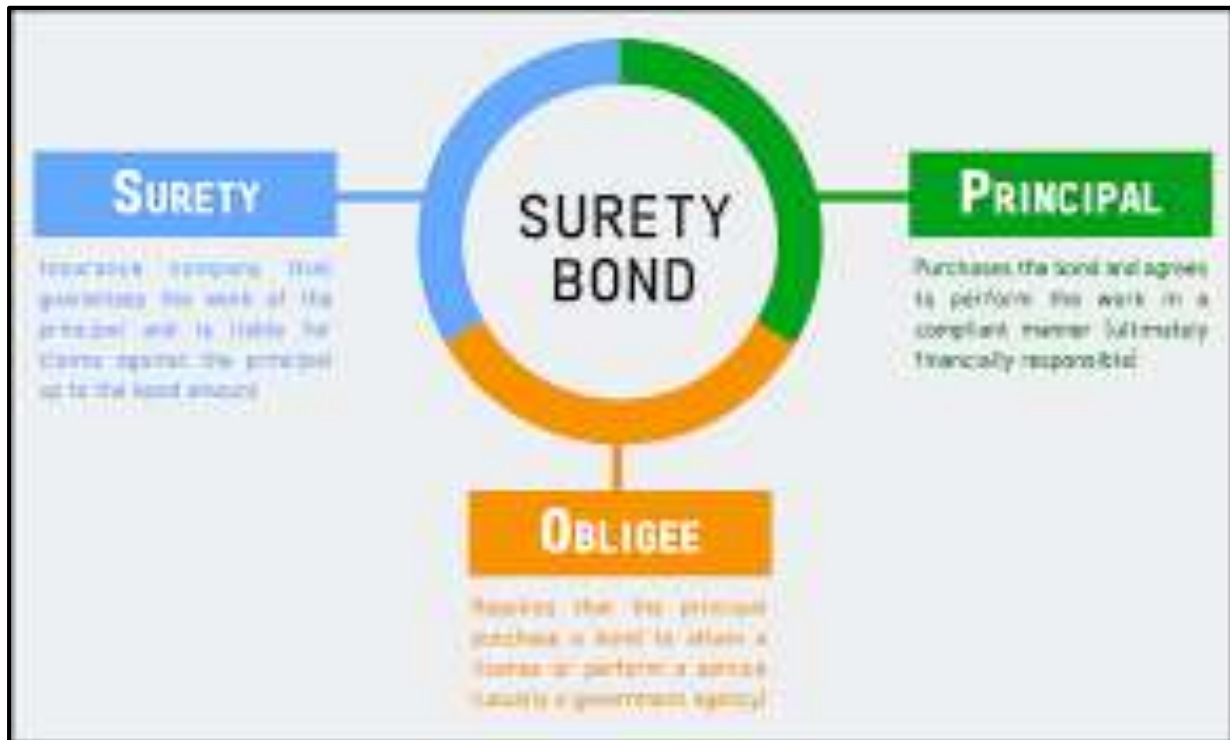
- It doesn’t.
- A diplomatic boycott is a token protest that has no impact on the sporting spectacle.
- However the Olympics are now are a billion-dollar enterprise and a complete boycott could cost athletes, broadcasters and the organisers a fortune.

#### **Why have the Beijing Winter Games been so controversial?**

- In India’s case, the boycott was announced after a Chinese soldier involved in the Galwan incident was made an Olympic torchbearer.
- The Western countries, led by the US, made the diplomatic snub over China’s alleged treatment of the Uyghur Muslims and human rights issues.
- Some countries like Austria, New Zealand, Slovenia, Sweden and the Netherlands have cited pandemic-related risks for not sending government officials.

## Topic 24. SURETY BONDS

### *Importance for Prelims: Economy*



The government has allowed the use of surety insurance bonds as a substitute for bank guarantees for infrastructure development.

### **What is Surety Bond?**

- Surety Bond could be a three-party agreement that de jure binds along a principal who wants the bond, an obligee UN agency needs the bond and a surety company that sells the bond.
- Surety bonds offer financial guarantee that contracts are going to be completed in keeping with predefined and mutual terms.
- Surety bond is provided by the insurer on behalf of the contractor to the entity that is subsidisation the project.
- When a principal breaks a bond's terms, the harmed party will build a claim on the bond to recover losses.
- It will effectively replace the system of bank guarantee issued by banks

for comes and help scale back risks because of cost, project delays and poor contract performance Surety bonds square measure chiefly aimed toward infrastructure development, chiefly to scale back indirect value for suppliers and work-contractors thereby diversifying their choices and acting as a substitute for bank guarantee.

- Currently, surety bond for contractors isn't being offered by insurance corporations within the market to ensure satisfactory completion of a project by a contractor and supply performance security to varied government agencies
- **IRDAI pointers for surety bonds:** The premium charged for all surety insurance policies under written during a financial year, together with all instalments due in ulterior years for those policies, shouldn't exceed ten per cent of the whole gross written premium of that year, subject to a most of Rs 500 large integer.
- The limit of guarantee should not exceed 30 per cent of the contract price.
- Surety Insurance contracts should be issued only to specific comes and not clubbed for multiple projects.

## Topic 25. INTERNATIONAL SPACE STATION

### *Importance for Prelims: Science & Tech*

NASA has aforementioned the International space station stop operations in 2031.

- **International space Station:**
- The ISS may be a manmade space station or equipment that's inhabitable for humans in house.
- It is within the low-earth orbit and there are astronauts living aboard the space station conducting experiments on natural science, biology, biotechnology, astronomy, microgravity, meteorology, physics, etc.
- The International space station was the space station of former US President brainchild, who in 1984 planned building a for good inhabited spacecraft in cooperation with many alternative countries.
- The ISS was developed and designed by 5 space agencies particularly, NASA (USA), Roscosmos (Russia), European space Agency (ESA-Europe), JAXA (Japan) and therefore the Canadian house Agency (CSA-Canada).
- **The station is split into 2 sections:** the Russian Orbital phase (ROS) is operated by Russia, whereas the united states Orbital segment (USOS) is go by the united states further as several alternative nations.

### **How can the ISS retire?**

- According to NASA, the ISS' re-entry into the Earth's atmosphere can come about in January 2031.
- Mission control can 1st lower its altitude then descent into the Pacific Ocean Oceanic uninhabited area (SPOUA), in a locality referred to as point Nemo.
- Point Nemo may be a type of space burial site, wherever decommissioned space detritus are typically dropped at rest.

- It is found at a distance of 2,700 kilometre from any land.
- The place has been named when a personality in Jules Verne’s novel “Twenty Thousand Leagues under the sea.

**What’s next for the ISS?**

- According to independent agency, once it retires, the ISS are replaced by “one or a lot of commercially-owned and -operated” space platforms.



## Topic 26. TAX ON DIGITAL ASSETS UNDER INCOME TAX ACT

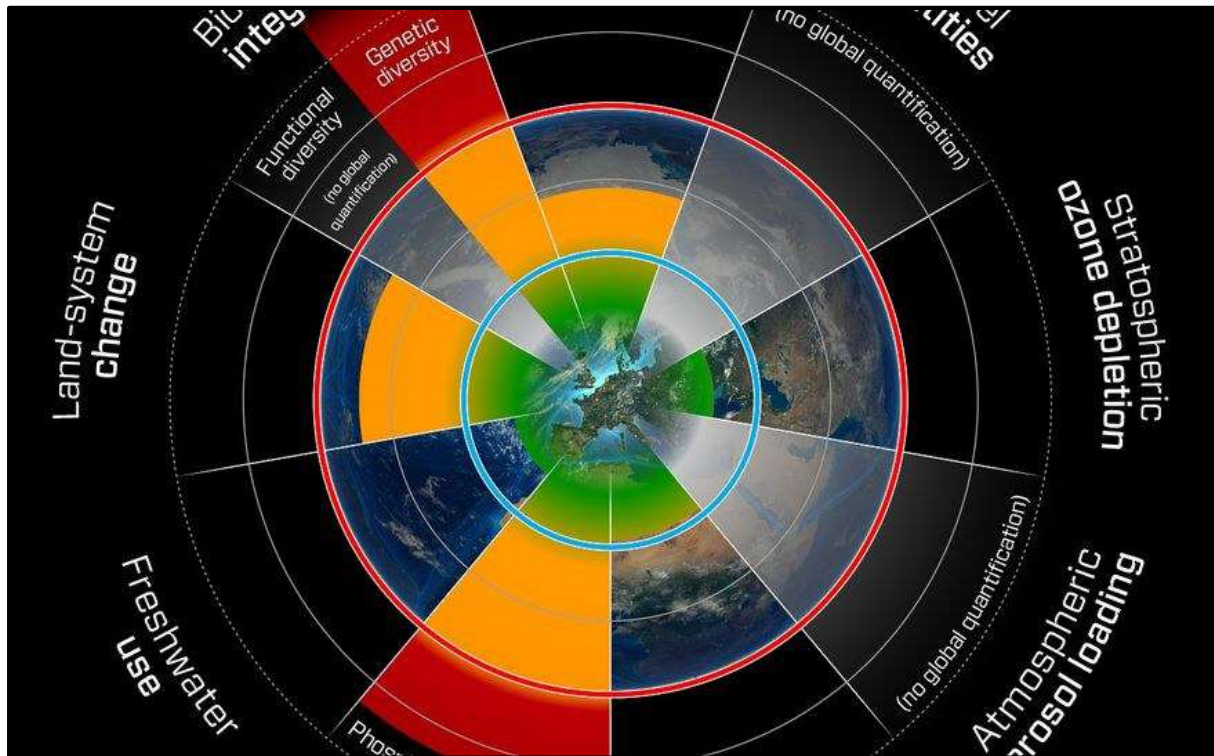
### *Importance for Prelims: Economy*

Finance Minister Nirmala Sitharaman has proposed to tax all profits from transactions in such assets at 30 minutes together with the applicable surcharge and cess, and a 10th tax to be subtracted by buyers whereas trading in any virtual digital quality beyond a threshold.

- Finance Minister introduced 30 minutes income tax on returns of virtual and digital currencies.
- Also introduced I Chronicles TDS on digital assets.
- Taxation of Virtual Digital Assets is being processed by inserting Section 115 BBH within the tax Act. income from sale of virtual digital quality like cryptocurrency, NFT etc would be taxed at base rate of 30 %.
- Capital Gains this gain or profit comes under the class of ‘income’.
- Hence, the capital gain tax are needed to be procured that quantity within the year in which the transfer of the capital quality takes place.
- This is termed the capital gains tax, which may be each short and long.
- **Long-term Capital Gains Tax:** it's a levy on the profits from the sale of assets command for quite a year.
- The rates are 0.33, 15%, or 20%, betting on the income tax bracket.
- **Short-term Capital Gains Tax:** It applies to assets command for a year or less and is taxed as standard financial gain.
- Capital gains will be reduced by deducting the capital losses that occur once a subject asset is sold for fewer than the initial damage.
- The total of capital gains minus any capital losses is thought because the “net capital gains”.
- Capital assets are significant pieces of property like homes, cars, investment properties, stocks, bonds, and even collectibles, digital assets or art.

## Topic 27. PLANETARY BOUNDARIES

*Importance for Prelims:Environment*



The concept of planetary boundaries was initially projected by a team of international scientists in 2009 to articulate key natural processes that, once kept in balance, support diverseness.

- Nine planetary boundaries beyond that we have a tendency to can't push Earth Systems while not putting our societies at risk: climate change, diverseness loss, ocean action, ozone depletion, region aerosol pollution, freshwater use, biogeochemical flows of N and phosphorus, land-system amendment, and unleash of novel chemicals.
- Humanity already exists outside the safe operative house for a minimum of four of the 9 boundaries: climate change, diverseness, land-system change, and biogeochemical flows (nitrogen and phosphorus imbalance).
- The best thanks to prevent overshoot, researchers say, is to revamp our energy and food systems.
- The 9 planetary boundaries, counter right-handed from top: climate

change, part integrity (functional and genetic), land-system amendment, fresh use, biogeochemical flows (nitrogen and phosphorus), ocean action, region aerosol pollution, stratospheric ozone depletion, and unleash of novel chemicals (including serious metals, hot materials, plastics, and more).

- **Earth Trajectories:** consider the Earth's climate taking different trajectories through time — pathways weaving between different climate states.
- Different methods through all the attainable climates are often influenced by distinct tipping points.
- Self-reinforcing feedback processes will lock the earth into a selected trajectory for centuries or millennia.
- There is not any proof that fashionable societies will exist, not to mention thrive, in conditions substantially different from the holocene.

## Topic 28. BPA

### *Importance for Prelims: Environment*

Bisphenol A (BPA) is a matter and one amongst the best and best known bisphenols.

- It is made by the condensation of phenol and resorcinol, with a calculable four million tonnes of made worldwide in 2015.
- It could be a colourless solid that is soluble in organic solvents, however poorly soluble in water (0.344 wt to try 83 °C).
- Bisphenol A (BPA) could be a chemical made in massive quantities for use primarily within the production of polycarbonate plastics.
- It is found in numerous products as well as shatterproof windows, eyewear, water bottles, and epoxy resins that coat some metal food cans, bottle tops, and water pipes.
- The primary supply of exposure to BPA for many individuals is through the air, dust, and water are different attainable sources of exposure, BPA in food and beverages accounts for the bulk of daily human exposure.
- Bisphenol A will leach into food from the protective internal epoxy resin coatings of canned foods and from consumer products like polycarbonate ware, food storage containers, water bottles, and baby bottles.
- The degree to which BPA leaches from polycarbonate bottles into liquid might depend additionally on the temperature of the liquid or bottle, than the age of the instrumentality.
- BPA may also be found in breast milk.
- BPA could be a legendary endocrine disruptor. Generally, BPA acts on secretion level by distorting secretion balance and causing estrogenic effects through binding with estrogen-related receptors (ERR).

- The resultant effects are various of that secretion connected abnormalities are largely reported.

## Topic 29. WETLANDS

### *Importance for Prelims:Environment*

The Ramsar Convention on Wetlands has designated Khijadiya building near Jamnagar in Gujarat and Bakhira life Sanctuary in Uttar Pradesh as wetlands of international importance.

- With the addition of those 2 wetlands, the amount of Ramsar Sites in India has gone up to 49, the highest for any country in South Asia.
- Definitions of wetlands The Ramsar Convention on Wetlands defines wetlands as “areas of marsh, fen, vegetable matter land or water, whether natural or artificial, permanent or temporary, with water that's static or flowing, fresh, brackish or salt, together with areas of marine water the depth of which at low water doesn't exceed six meters.”
- However, the Indian government’s definition of land excludes stream channels, paddy fields and different areas wherever endeavour takes place.
- The Wetlands (Conservation and Management) Rules, 2017 notified by the Union Ministry of environment, Forest and climate change outline wetlands as “area of marsh, fen, peatland or water; whether or not natural or artificial, permanent or temporary, with water that's static or flowing, fresh, salt or salt, together with areas of marine water the depth of that at low water doesn't exceed six meters, but doesn't embody river channels, paddy fields, human-made water bodies/ tanks specifically made for drinking water functions and structures specifically made for aquaculture, salt production, recreation and irrigation functions.”
- Not each Ramsar web site is a notified protected area under the wildlife (Protection) Act, 1972.
- Wetlands cowl Globally, wetlands cover 4 per cent of the region of the world.

- In India, according to the National land Inventory and Assessment compiled by the Indian space analysis Organisation (ISRO), wetlands are cover 1,52,600 sq. kilometres (sq km) that is 63 per cent of the full region of the country.
- Of the 1,52,600sq km, inland-natural wetlands account for 43.4% and coastal-natural wetlands 24.3%. In state-wise distribution of wetlands, Gujarat is at the highest with 17.56 % of total region of the state), or 22.7 % of total wetlands areas of the country because of a protracted lineation followed by province, Uttar Pradesh, and province.
- Global leaders The countries with the foremost Ramsar Sites are the united kingdom (175) and Mexico (142), as per the Ramsar List.
- Bolivia has the most important area with 148,000 sq km under the Convention protection.

## Topic 30. FAST TRACKING VANDE BHARAT

*Importance for Prelims: Economy*



# THE NEW VANDE BHARAT EXPRESS

India's second indigenously built engine-less train will ply between Delhi and Katra

### Key Features

-  **Engine-less** self-propelled train
-  **All air-conditioned** chair car service; 16 coaches
-  **Stone-pelting protection** on windows
-  **CCTV surveillance;** GPS based information system; WiFi

### Vande Bharat VS Shatabdi



<b>130 kmph</b> Speed of Shatabdi Express	<b>160 kmph</b> Potential speed of Vande Bharat
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The Budget has announced 400 more of these semi-high-speed trains in the next 3 years.



- What's Vande Bharat The Train18, later named Vande Bharat may be a semi-high speed trainset, every of 16 coaches, and self-propelled — they are doing not need an engine.
- This is named a distributed traction installation, that is progressively turning into the norm the planet over for traveler operations.
- Distributed power offers the train higher acceleration and swiftness compared to loco-hauled trains, that take a far longer time to succeed in prime speed or to gradually return to a halt.
- The current Vande Bharat trains have seating only in 2 categories — chair car and government chair car.
- Railways is already within the method of creating 102 new VandeBharats, which is able to be an upgrade from the present 2 Vande Bharat train sets.
- Railways is watching creating many of those trainsets with aluminium rather than steel.
- An aluminium body can make every train set around 40-80 tonnes lighter than a current Vande Bharat.

## Topic 31. GOLDEN LANGUR

### *Importance for Prelims: Environment*

Neighbours of a golden langur habitat in western Assam's Bongaigaon district have opposed a move by the regime to upgrade it to a life sanctuary.

- Kakoijana Reserve Forest is one of the known homes of the golden langur (*Trachypithecus geei*) found only in province and Bhutan and a Schedule-I species under the life Protection Act of 1972.
- It is listed as among the world's 25 most endangered primates.
- **Declaration of the Protected space by the regime:** Initial notification: The State government might, by notification, declare its intention to represent any area inside or outside any reserve forest as a sanctuary/national park if it considers that such space is of adequate ecological, faunal, floral, geomorphological, natural, or zoological significance, for the aim of protective, propagating or developing life or its surroundings.
- **Final notification:** once the initial notification has been issued and therefore the amount for preferring claims has move on, the regime might issue a notification specifying the boundaries of the area which may be comprised inside the sanctuary and declare the aforesaid area shall be a sanctuary/national park from such date as is also laid out in the notification.
- **Declaration by the Central government:** The Central Government might declare a region to be a sanctuary/national park if it's glad that the world is of adequate ecological, faunal, floral, morphologic, natural, or zoological significance, for the aim of protective, propagating or developing life or its surroundings
- **About Golden Langur:** Golden langurs is most simply recognized by the colour of their fur, once that they're named.

- It is endemic to western province, India, and southern bhutan.
- Their environs is restricted to the region enclosed by **four geographical landmarks**: the foothills of Bhutan (North), Manas river (East), Sankosh river (West), and Brahmaputra River (South).
- **Protection Status**: IUCN List of vulnerable Species: vulnerable  
Convention on International exchange endangered species of wild Fauna and Flora (CITES) : Appendix I  
life Protection Act, 1972 : Schedule I

## Topic 32. PRIVATE MEMBER BILL

### *Importance for Prelims: Polity*

- Private Member Bill introduced in Rajya Sabha to repeal four labour codes.
- Concept Private Member's Bill: Any Member of Parliament (MP) who is not a minister is alleged as a private member.
- the aim of personal member's bill is to draw the government's attention to what individual MPs see as issues and gaps among the prevailing legal framework, that require legislative intervention.
- Thus it reflects the stand of the opposition party on public matters.
- Its drafting is that the responsibility of the member concerned.
- Its introduction among the House needs one month's notice.
- The government bills is introduced and mentioned on any day, personal member's bills is introduced and mentioned solely on Fridays.
- Its rejection by the House has no implication on the parliamentary confidence among the government or its resignation.
- The last time a non-public member's bill was nonchurchgoing every homes was in 1970.
- It was the Supreme Court (Enlargement of Criminal appellant Jurisdiction) Bill, 1968.
- **14 personal member's bills** — five of that were introduced in Rajya Sabha — became law to this purpose. another personal member bills that became laws embody
  1. Proceedings of legislature (Protection of Publication) Bill, 1956, among the Lok Sabha;
  2. The Salaries and Allowances of Members of Parliament(Amendment) Bill, 1964, introduced by among the Lok Sabha and
  3. The Indian Penal Code Bill, 1967 introduced among the Rajya Sabha.

### Topic 33. ICRISAT

*Importance for Prelims: Agriculture*



**In news:** Prime Minister Narendra Modi can commence the Golden February celebrations of the International Crops analysis Institute for Semi-Arid Tropics (ICRISAT) on february 5.

- The International Crops analysis Institute for the Semi-Arid Tropics (ICRISAT) is an international organization that conducts agricultural analysis for rural development, headquartered in Patancheru (Hyderabad, Telangana, India) with many regional centers (Bamako (Mali), Nairobi (Kenya) and analysis stations (Niamey (Niger), Kano (Nigeria), Lilongwe (Malawi), addis ababa (Ethiopia), Bulawayo (Zimbabwe).
- It was based in 1972 by a pool of organisations convened by the Ford and therefore the Rockefeller foundations.
- Its charter was signed by the FAO and therefore the UNDP. Since its beginning, host country India has granted a special standing to ICRISAT as a UN Organization operative within the Indian territory creating it eligible for special immunities and tax privileges.

- ICRISAT is managed by a full-time Director General functioning below the general steering of an international board.
- ICRISAT adopts Integrated genetic and natural resources management as its overarching analysis strategy.
- The aim is to mix tested methods of crop artifact analysis with well-established practices in analysis in natural resources management.
- The original goal was to use crop improvement analysis because the basis to enhance food handiness in drought-prone areas of the tropics.
- **ICRISAT conducts its analysis below four themes:** Agro-ecosystems development, Harnessing plant biotechnology and bioinformatics, Crop improvement and management, and institutions, Markets, policy and Impacts.
- **The Semi-Arid Tropics:** The semi-arid tropics (SAT) region is characterized by extremely variable, low-to-medium rainfall and poor soils, additional characterized by lack of irrigation.
- In general, the historical average annual rainfall within the weekday is below 700 mm.
- In agricultural policy terms, this region is considered to be a less favoured area (LFA).

## Topic 34. ANTARCTIC MICROBES MAY HELP IN PLASTIC CLEAN

### UP

#### *Importance for Prelims: Environment*

A team of Argentine scientists is exploitation microorganisms native to Antarctica to explore the thought of cleansing up pollution from fuels and, probably, plastics within the pristine expanses of the white continent.

- The tiny microbes munch through the waste, making a present cleansing system for pollution caused by diesel that's used as a supply of electricity and heat for analysis bases within the frozen Antarctic.
- The continent is protected by a 1961 Madrid Protocol that stipulates it should be kept during a pristine state.
- **Bioremediation:** It is outlined as any method that uses microorganisms or their enzymes to get rid of and or neutralize contaminants inside the environment to their original condition.
- It uses present bacterium and fungi or plants to degrade or detoxify substances dangerous to human health and/or the surroundings.
- In the marine ecosystem, microbial consortium plays a vital role in breaking down oil within the event of a spill.
- The microorganisms may be native to a contaminated space or they'll be isolated from elsewhere and delivered to the contaminated website.
- Bioremediation is effective consortium wherever environmental conditions allow microbic growth and activity.

#### **Advantages:**

1. Less only.
2. Environmental friendly.
3. These microbes are effective in dominant odour, reducing bod, oil/ grease accumulation in sewage/ polluted water and solids.
4. These microbial consortia exhibit growth at wider temperature range.

5. These strains maintain a satisfactory level of Dissolved oxygen (DO) and thus aerators, that consume high power, is avoided or its use is reduced.

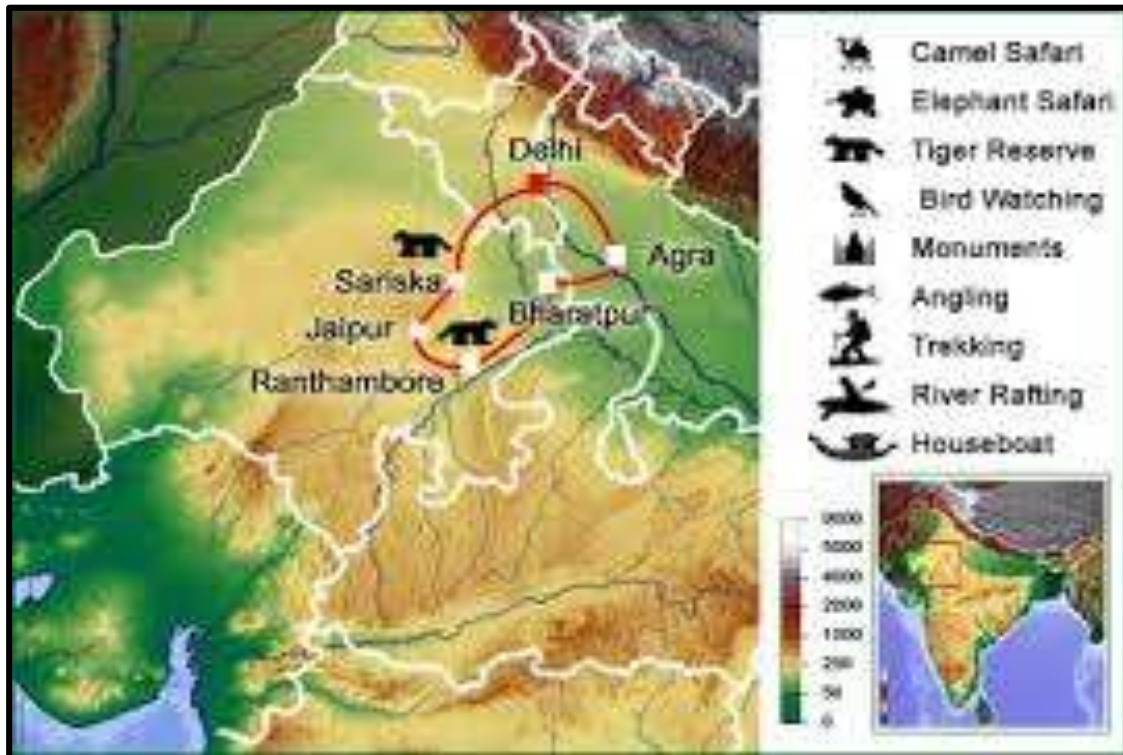
**Disadvantages:**

1. Restricted to those compounds that are biodegradable.
2. There are some apprehensions that the merchandise of biodegradation could also be a lot of lasting or toxic than the parent compound.
3. Takes much more time than other treatment choices, like pyrolysis or incineration.



## Topic 35. SARISKA TIGER RESERVE

### *Importance for Prelims:Environment*



The tiger population in Sariska Tiger Reserve has gone up to 25, while the resources are being provided to make water holes and develop grasslands for ungulates as a prey base.

- Sariska Tiger Reserve Sariska Tiger Reserve is found in Aravali hills and forms a part of the Alwar District of Rajasthan.
- The Reserve is vastly wealthy in flora and fauna, and is known for Royal Bengal tiger.
- The park has populations of leopards, Nilgai, Sambar, chital etc.
- It additionally shelters an outsized population of Indian peafowl, crested serpent eagles, sand grouse, golden backed woodpeckers, nice Indian horned owls, tree pies, vultures, etc.
- Sariska was declared a life sanctuary in 1955 and was declared the tiger reserve later in 1978, creating it a vicinity of India's Project Tiger.

- The Sanctuary houses ruined temples, forts, pavilions and a palace.
- Kankarwadi fort is found at intervals the middle of the Reserve and it's same that Mughal emperor Aurangzeb had confined his brother Dara Shikoh at this fort in struggle for succession to the throne.
- The Reserve additionally homes a famous temple of lord Hanuman at Pandupole related to Pandavas.
- **Project Tiger:** Project Tiger is an ongoing Centrally Sponsored theme of the Ministry of surroundings, Forests and climate change providing central facilitate to the tiger States for tiger conservation in elite tiger reserves.
- The National Tiger Conservation Authority (NTCA) is also a statutory body of the Ministry, with an overarching supervisory/coordination role, activity functions as provided within the wildlife (Protection) Act, 1972.
- The NTCA was launched in 2005, following the recommendations of the Tiger Task Force.
- It was given statutory standing by the 2006 modification of life (Protection) Act, 1972.
- India presently has as several as 2,967 tigers at intervals the wild, with more than half of them in Madhya Pradesh and Karnataka, consistent with the most recent tiger census 2018.
- The population of tigers have inflated by 33rd since the last census in 2014 once the general estimate was 2,226.
- Sariska is that the initial tiger reserve to possess successfully relocated Royal Bengal tigers in India and at now there are around 25 tigers at intervals the reserve.