



# Current Affairs for Prelims

**December 2021**

For Admission & Enquiry

Call: **8138 000 360**

[1. United Nations Office on Drugs and Crime \(UNODC\)](#)

[Key findings:](#)

[2. Char Dham Highway Project](#)

[3. Global Wealth Migration Review Report](#)

[4. Index of Eight Core Industries](#)

[5. North Atlantic Treaty Organization \(NATO\)](#)

[6. Minsk agreement and Minsk Protocol](#)

[MINSK I:](#)

[MINSK II:](#)

[7. Protection of Children from Sexual Offences \(POCSO\) Act](#)

[8. G20's Troika](#)

[9. Global Gateway by EU](#)

[10. Digiyatra Policy of AAI](#)

[11. Project Elephant](#)

[12. Protection of Plant Varieties and Farmers Rights' Authority \(PPV&FRA\) and PPV&FR Act](#)

[Protection of Plant Varieties](#)

[Farmers Rights' Authority \(PPV&FRA\) and PPV&FR Act](#)

[14. Hallmark Unique Identification \(HUID\)](#)

[15. Immunity Debt](#)

[16. Revenue Neutral Rates \(RNR\)](#)

[17. Pinaka Missile](#)

[18. G7](#)

[19. Herd Immunity](#)

[20. AFSPA](#)



[21. Dhawan I Engine](#)

[22. Hypersonic Technology Demonstrator Vehicle \(HSTDV\) program](#)

[23. Tsirkon Hypersonic Cruise Missile](#)

[24. Sarmat Missile](#)

[25. 21st Annual India-Russia Summit](#)

[26. Physella Acuta](#)

[27. 'India-Russia Special and Privileged Strategic Partnership](#)

[28. Compensatory Afforestation Fund Management and Planning Authority \(CAMPA\)](#)

[29. Compensatory Afforestation Fund \(CAF\)](#)

[30. Facial Recognition Tech and Digi Yatra Initiative](#)

[Facial recognition System](#)

[Digi Yatra Initiative](#)

[31. Combined Antiretroviral Therapy \(cART\) for HIV and Hydrogen Sulphide](#)

[About Hydrogen sulphide](#)

[32. Swachh Bharat Mission \(SBM\) 2.0](#)

[33. Reciprocal Exchange of Logistics Agreement \(RELOS\)](#)

[34. Ken-Betwa river interlinking project](#)

[Ken and Betwa Rivers](#)

[35. Sustainable Alternative Towards Affordable Transportation \(SATAT\) scheme.](#)

[36. Compressed Bio-Gas \(CBG\)](#)

[37. National Calamity Contingent Duty](#)

[38. World Inequality Report](#)

[39. Chaperones Proteins](#)

[40. National Monetisation Pipeline \(NMP\)](#)



- [41. Pradhan Mantri Gati Shakti National Master Plan](#)
- [42. Zero Budget Natural Farming \(ZBNF\)](#)
- [43. European Investment Bank \(EIB\)](#)
- [44. African Continental Free Trade Area \(AfCFTA\)](#)
- [45. Glasgow Leaders' Declaration on Forests and Land Use](#)
- [46. Harnaaz Sandhu](#)  
[Miss Universe](#)
- [47. Meghalaya Living Root Bridges](#)
- [48. India-Central Asian Dialogue](#)
- [49. PANEX 21](#)
- [50. Chillai Kalan](#)
- [51. Troika](#)
- [52. James Webb Space Telescope](#)
- [53. Magnetar](#)
- [54. Retail Direct Gilt Account \(RDG Account\)](#)
- [55. Log4j](#)
- [56. National Technical Advisory Group on Immunisation \(NTAGI\)](#)
- [57. Resolution Frameworks 2.0 RBI](#)
- [58. Nord Stream 2](#)
- [59. Consumer Protection \(Direct Selling\) Rules, 2021](#)
- [60. Konyaks of Nagaland](#)
- [61. Durga Puja Gets Intangible Cultural Heritage Tag](#)
- [62. Semiconductor PLI](#)  
[Semiconductors](#)



**CIVILS360**

## **Current Affairs 2022**

[63. Pradhan Mantri Garib Kalyan Anna Yojana](#)

[64. Biological Diversity Act, 2002](#)

[65. Navy-to-Navy cooperation Memorandum of Understanding \(MoU\) Russia](#)

[66. Donbass](#)

[67. Budha Peacock Butterfly](#)

## 1. United Nations Office on Drugs and Crime (UNODC)

- The United Nations Office on Drugs and Crime is a United Nations office that was **established in 1997** as the **Office for Drug Control and Crime Prevention by combining the United Nations International Drug Control Program (UNDCP) and the Crime Prevention and Criminal Justice Division in the United Nations Office at Vienna**. and was **renamed** the United Nations Office on Drugs and Crime in **2002**.
- The **agency's focus** is the trafficking in and abuse of illicit drugs, crime prevention and criminal justice, international terrorism, and political corruption. It is a member of the United Nations Development Group.
- The **United Nations Crime Prevention and Criminal Justice Programme Network (PNI)** is a network consisting of UNODC as well as many crime-related institutes and other centres around the world. Its aim is to strengthen international co-operation in the areas of crime prevention and criminal justice. The network facilitates the "exchange of information, research, training and public education".
- The United Nations Office on Drugs and Crime (UNODC), in its **World Drug Report 2021**, has highlighted that the lockdown restrictions during Covid-19 have accelerated drug trafficking using the Internet.

### Key findings:

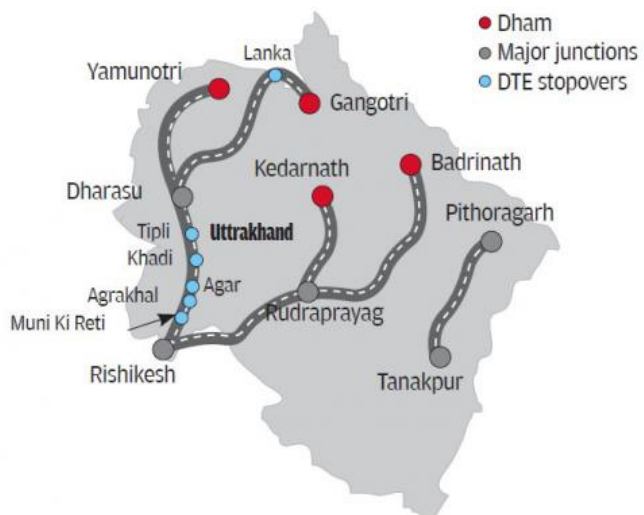
- Between 2010–2019, the number of people using drugs increased by 22%, owing in part to an increase in the global population.
- Around 275 million people used drugs worldwide last year, while over 36 million people suffered from drug use disorders.
- Opioids continue to account for the largest burden of disease attributed to drug use.
- A rise in the non-medical use of pharmaceutical drugs was also observed during the coronavirus pandemic.
- In the last 24 years, cannabis potency had increased as much as four times in some parts, even as the percentage of adolescents who perceived the drug as harmful fell by as much as 40%.

- Access to drugs has also become simpler than ever with online sales, and major drug markets on the dark web are now worth some \$315 million annually.
- In Asia, China and India are mainly linked to shipment of drugs sold on the 19 major darknet markets analysed over 2011-2020.
- **Colombo Declaration**
- In 2016, 18 littoral states adopted a resolution to make the Indian Ocean Region (IOR), a Drug-Free Zone. It was held at a meeting in Colombo, Sri Lanka and the declaration came to be known as the Colombo Declaration.
- The declaration emphasises the need for cooperation amongst the coastal areas more closely in order to share information in narcotic drug trafficking, provide mutual legal assistance and enforce maritime law.

## 2. Char Dham Highway Project

- The Char Dham **highway project** connects the four himalayan shrines of **Gangotri, Yamunotri, Kedarnath and Badrinath in Garhwal Himalayas**.
- It has an 899-km road which the Centre wants to broaden near Dehradun.
- The Char Dham is a set of four **pilgrimage sites** in India.
- It is believed that visiting these sites helps achieve moksha (salvation).
- The four Dhams are **Badrinath, Dwaraka, Puri and Rameswaram**.

### Proposed Char Dham highway



### 3. Global Wealth Migration Review Report

- According to the **AFRASIA Bank Global Wealth Migration Review 2019**, about 5,000 Indian HNWIs, or 2 percent of India's super rich, migrated from the country during 2018.
- Global wealth tripled over the last two decades, with China leading the way and overtaking the U.S. for the top spot worldwide.
- **India** has been among the world's top countries in wealth creation, as per data since 2008. India will be the 4th largest wealth market by 2028, after the US, China and Japan, and ahead of the UK and Germany.
- In the last 10 years, China has been the best performing country in terms of wealth creation, growing by 130%, while India ranked 4th with 96%. Mauritius and Ethiopia sneaked in at nos 2 and 3.
- But, 48% of India's wealth is concentrated in the hands of HNIs, against a global average of 36%.
- The country is also losing **high net worth individuals** (HNI) through migration. In 2018 alone, 5,000 millionaires from India left for foreign shores.
- Global migration of HNIs is a trend that has picked up over the last few years. China, Russia and India rank as the top three countries seeing exodus of HNIs worldwide, followed by the UK and France.
- Australia has emerged as the top destination for global millionaire migrants, followed by the US and Canada. Over 12,000 HNIs moved to Australia since 2008, against 10,000 to the USA and 4000 to Canada.

### 4. Index of Eight Core Industries

- The Eight core sectors are **Coal, crude oil, natural gas, refinery products, fertiliser, steel, cement and electricity.**
- **The compilation and releasing of the index are done by the Office of the Economic Adviser (OEA), Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry.**
- These comprise 40.27% of the weight of items included in the **Index of Industrial Production (IIP).**
- The eight core sector industries in decreasing order of their weightage: Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilisers.



Industry	Weightage Percentage
Refinery Products Industry	28.04 %
Electricity Industry	19.85 %
Steel Industry	17.92 %
Coal Industry	10.33 %
Crude Oil Industry	8.98 %
Natural Gas Industry	6.88 %
Cement Industry	5.37 %
Fertilizers Industry	2.63 %

- 
- The output of Eight Core Industries grew at 3.1 %, the slowest pace in eight months in November, indicating **slowing momentum** in the Indian economy. Barring **crude oil and cement**, all other sectors recorded positive growth

## 5. North Atlantic Treaty Organization (NATO)

- North Atlantic Treaty Organization (NATO) is a **military alliance** established by the North Atlantic Treaty (also called the Washington Treaty) of April, 1949, by the United States, Canada, and several Western European nations to provide collective security against the Soviet Union.
- There are currently 30 member states.
- Its original members were Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States.
- NATO's essential and enduring purpose is to **safeguard the freedom and security of all its members by political and military means**.
- NATO has an integrated military command structure but very few forces or assets are exclusively its own.
- All 30 allies have an equal say, the Alliance's decisions must be unanimous and consensual, and its members must respect the basic values that underpin the Alliance, namely democracy, individual liberty and the rule of law.



- NATO's protection does not extend to members' civil wars or internal coups.
- NATO is funded by its members. The U.S. contributes roughly three-fourths of NATO's budget.

## 6. Minsk agreement and Minsk Protocol

- Minsk Agreements were signed in 2014 and 2015 in the Belarusian capital Minsk.

### MINSK I:

- Ukraine and the Russian-backed separatists agreed a 12-point ceasefire deal in the Belarusian capital in 2014.
- Its provisions included prisoner exchanges, deliveries of humanitarian aid and the withdrawal of heavy weapons.
- The agreement quickly broke down, with violations by both sides.

### MINSK II:

- Representatives of Russia, Ukraine, the Organization for Security and Cooperation in Europe (OSCE) and the leaders of two pro-Russian separatist regions signed a 13-point agreement in 2015.
- It was designed to end the fighting in the rebel regions and hand over the border to Ukraine's national troops.
- The leaders of France, Germany, Russia and Ukraine, gathered in Minsk at the same time issued a declaration of support for the deal.
- It set out military and political steps that remain unimplemented.
- A major blockage has been Russia's insistence that it is not a party to the conflict and therefore is not bound by its terms.
- It calls for the withdrawal of all foreign armed formations and military equipment from the two disputed regions, Donetsk and Luhansk.



## 7. Protection of Children from Sexual Offences (POCSO) Act

- The Act defines a child as any person **below eighteen years of age**.
- It defines different forms of sexual abuse, including penetrative and non-penetrative assault, as well as sexual harassment and pornography.
- It deems a sexual assault to be “aggravated” under certain circumstances, such as when the abused child is mentally ill or when the abuse is committed by a person in a position of trust or authority like a family member, police officer, teacher, or doctor.
- The **Protection of Children from Sexual Offences Act (POCSO Act) 2012** was formulated in order to effectively address sexual abuse and sexual exploitation of children.
- The Protection of Children from Sexual Offences (POCSO) Act was enacted in 2012 especially to protect children (aged less than 18) from sexual assault.
- Section 7 of the POCSO Act, inter alia, says that whoever with sexual intent touches the breast of the child is said to commit sexual assault.
- Whereas Section 8 of the Act provides minimum imprisonment of three years for sexual assault
- Section 354 of the Indian Penal Code (IPC) lays down a minimum of one year imprisonment for outraging the modesty of a woman.

## 8. G20's Troika

- **Troika refers** to the top grouping within the G20 that consists of the current, previous and the incoming presidencies – **Indonesia, Italy and India**.
- India will assume the G20 presidency on December 1, 2022 from Indonesia, and will convene the G20 Leaders' Summit for the first time in India in 2023.
- Italy hosted the G20 summit during October 30-31 that was attended by Prime Minister Narendra Modi where India had raised the issue of Afghanistan's future following the takeover by the Taliban.
- Indonesia took over the G20 presidency on December 2, 2021. Next year's summit will be organised along the overall theme of "Recover Together, Recover Stronger".
- As a Troika member, India will work closely with Indonesia and Italy to ensure consistency and continuity of the G20's agenda.

## 9. Global Gateway by EU

- It is a new European Strategy to boost smart, clean and secure links in digital, energy and transport and strengthen health, education and research systems across the world.
- It is essentially an umbrella strategy to synchronize already existing EU and member states global infrastructure investment programs.
- Global Gateway aims to mobilize 300 billion euros (around \$337 billion) over a five-year period to invest in digital and transport infrastructure, energy generation and transmission, and health projects.
- In addition to smaller EU grants, Global Gateway taps into national and EU resources from financial institutions and development banks, in the hope that institutional spending will unlock significant private capital, too.

## 10. DigiYatra Policy of AAI

- The 'DigiYatra' is an industry-led initiative coordinated by the **Ministry of Civil Aviation to transform** the nation into a digitally empowered society.
- It follows **AirSewa web portal** which was launched to make air travel convenient and hassle-free and brings together all the stakeholders on a common platform for handling customer grievances and disseminating real-time data.

- The Airports Authority of India has engaged NEC Corporation Private Limited for implementing the technology as part of the DigiYatra policy, which seeks to promote paperless air travel and a seamless journey from entering an airport till boarding a plane.
- It will be built on four key pillars: “Connected Passengers, Connected Airports, Connected Flying and Connected Systems”.
- Air passengers can soon use **facial recognition technology** to enter any airport in the country under the Digi Yatra initiative .
- **Facial Recognition Technology:**
  - Facial recognition is a biometric technology that uses distinctive features on the face to identify and distinguish an individual.
  - AFRS works by maintaining a large database with photos and videos of peoples’ faces. Then, a new image of an unidentified person – often taken from CCTV footage – is compared to the existing database to find a match and identify the person.
  - The artificial intelligence technology used for pattern-finding and matching is called “neural networks”.

## 11. Project Elephant

- It is a **centrally sponsored scheme** and was launched in February 1992 for the protection of elephants, their habitats and corridors.
- The **Ministry of Environment, Forest and Climate Change** provides financial and technical support to major elephant range states in the country through the project.
- Even mahouts (people who work with, ride and tend an elephant) and their families play an important part in the welfare of elephants.
- The elephant census is conducted once in 5 years under the aegis of Project elephant.
- **Karnataka** has the highest number of elephants (6,049), followed by **Assam** (5,719) and **Kerala** (5706).

## 12. Protection of Plant Varieties and Farmers

### Rights' Authority (PPV&FRA) and PPV&FR Act

- The Protection of Plant Varieties and Farmers' Rights Act (PPV&FRA), which introduced intellectual property protection in Indian agriculture, faced its biggest test when PepsiCo India initiated legal proceedings against potato farmers of Gujarat for "illegally" growing its potato variety registered under the PPV&FRA.

#### Protection of Plant Varieties

- It refers to the protection granted for plant varieties.
- These rights are given to the farmers & breeders to encourage the development of new varieties of plants.
- Plant variety protection in India is governed by "The Protection of Plant Varieties & Farmers' Rights (PPV&FR) Act, 2001".

### Farmers Rights' Authority (PPV&FRA) and PPV&FR Act

- PPV&FR Act, 2001 has been enacted in India to give effect to the **TRIPS Agreement**.
- The PPV&FR Act retained the main spirit of TRIPS viz., IPRs as an incentive for technological innovation.
- However, the Act also had strong provisions to protect farmers' rights.
- The act allows farmers to plant, grow, exchange & sell patent-protected crops, including seeds, & only bars them from selling it as "branded seed".
- It recognised three roles for the farmer: **cultivator, breeder & conserver**.
- As cultivators, farmers were entitled to plant-back rights.
- As breeders, farmers were held equivalent to plant breeders.
- As conservers, farmers were entitled to rewards from a **National Gene Fund**.

## 13. International Union for Protection of New Plant Varieties (UPOV Convention)

- The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization with headquarters in Geneva (Switzerland).



- UPOV was established by the International Convention for the Protection of New Varieties of Plants. The Convention was adopted in Paris in 1961 and it was revised in 1972, 1978 and 1991.
- UPOV's mission is to provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society.
- The UPOV Convention provides the basis for members to encourage plant breeding by granting breeders of new plant varieties an intellectual property right: the breeder's right.
- In the case of a variety protected by a breeder's right, the authorization of the breeder is required to propagate the variety for commercial purposes. The breeder's right is granted by the individual UPOV members.
- Only the breeder of a new plant variety can protect that new plant variety. It is not permitted for someone other than the breeder to obtain protection of a variety.
- There are no restrictions on who can be considered to be a breeder under the UPOV system: a breeder might be an individual, a farmer, a researcher, a public institute, a private company etc.
- India is not a member.

## 14. Hallmark Unique Identification (HUID)

- HUID is a **six-digit alphanumeric code**, or one that consists of numbers and letters.
- It is given to every piece of jewellery at the time of hallmarking and is unique for each piece.
- It is being implemented by the **Bureau of Indian Standards** (BIS) in a phased manner.
- Hallmarking & HUID are **mandatory for 14-, 18- and 22-carat gold jewellery** and artefacts.
- Before buying any piece of gold jewellery, the buyer should check all these three symbols.

## 15. Immunity Debt

- “Immunity debt” refers to **the lack of immune stimulation due to the reduced exposure to viruses, germs and bacteria as a result of COVID-19 safety and lockdown measures.**
- The “immunity debt” occurs because of measures like lockdowns, hand-washing, social distancing and masks which are not only effective at controlling Covid-19 but they also suppress the spread of other illnesses that transmit in a similar way, including the flu, common cold etc.
- In New Zealand, due to lockdowns last winter (2020), it led to a 99.9% reduction in flu cases and a 98% reduction in RSV (Respiratory syncytial virus).

## 16. Revenue Neutral Rates (RNR)

- RNR is the **rate at which tax revenue remains the same despite giving credit of duty paid on inputs and other factors.**
- It is the rate of tax that allows the Government to receive the same amount of money despite changes in the tax laws.
- In the GST regime the revenue of the government would not be the same in comparison with the present tax structure due to tax credit mechanism, removal of cascading effect , or otherwise.
- Therefore an adjustment in tax rate is required to avoid reduction in revenue of the government. This adjusted Rate is termed as Revenue Neutral Rate (RNR).
- RNR is a good indicator of future requirements in **calculating the adequate compensation to both state as well as central government.**

## 17. Pinaka Missile

- Pinaka is an **indigenous multi-barrel rocket launch system**, which has been developed by the **Defence Research and Development Organisation (DRDO) for the Indian Army.**
- Its weapon system has a state-of-the-art guidance kit bolstered by an advanced navigation and control system.





- The **Pinaka Mark II Rocket** is modified as a missile by integrating with the navigation, control and guidance system to improve the accuracy and enhance the range.
- The navigation system of the missile is aided by the **Indian Regional Navigation Satellite System (IRNSS)**.
- It is an artillery missile system capable of striking into enemy territory up to a range of 75 kilometres with high precision.
- The initial version of the weapon system was called Mark I, which had a range of 40 km. The upgraded version or Pinaka Mark II has an extended range of 70 to 80 km.
- The mission achieved all the objectives including enhancing the range, accuracy and sub-system functionality.
- 

### 18. G7

- The 48th G7 Summit, the G7 Summit 2022 will be held in Germany as per the upcoming rotation of the G7 Presidency.
- It is an **intergovernmental organisation** that was formed in 1975.
- The bloc meets annually to discuss issues of common interest like global economic governance, international security and energy policy.
- The G7 countries are the **UK, Canada, France, Germany, Italy, Japan and the US**.
- All the **G7 countries and India are a part of G20**.
- The G7 does not have a formal constitution or a fixed headquarters. The decisions taken by leaders during annual summits are non-binding.

### 19. Herd Immunity

- Herd immunity is **when a large number of people are vaccinated against a disease, lowering the chances of others being infected by it**.
- When a sufficient percentage of a population is vaccinated, it slows the spread of disease.
- It is also **referred to as community immunity or herd protection**.
- The decline of disease incidence is greater than the proportion of individuals immunised because vaccination reduces the spread of an

infectious agent by reducing the amount and/or duration of pathogen shedding by vaccines, retarding transmission.

- The approach requires those exposed to the virus to build natural immunity and stop the human-to-human transmission. This will subsequently halt its spread.

## 20. AFSPA

- A reincarnation of the British-era legislation that was enacted to quell the protests during the **Quit India movement**, the **AFSPA** was issued by way of four ordinances in 1947.
- The ordinances were replaced by an Act in 1948 and the present law effective in the Northeast was introduced in Parliament in 1958 by the then Home Minister, G.B. Pant.
- It was known **initially as the Armed Forces (Assam and Manipur) Special Powers Act, 1958**.
- After the States of **Arunachal Pradesh, Meghalaya, Mizoram, and Nagaland** came into being, the Act was adapted to apply to these States as well.
- The ASFPA gives unfettered powers to the armed forces and the Central armed police forces deployed in "disturbed areas" to kill anyone acting in contravention of law and arrest and search any premises without a warrant and with protection from prosecution and legal suits.
- The law first came into effect in **1958 to deal with the uprising in the Naga Hills, followed by the insurgency in Assam**.
- The Act was amended in 1972 and the powers to declare an area as "disturbed" were conferred concurrently upon the Central government along with the States.
- Currently, the Union Home Ministry issues periodic "disturbed area" notification to extend AFSPA only for Nagaland and Arunachal Pradesh.
- The notification for Manipur and Assam is issued by the State governments.
- **Tripura revoked the Act in 2015** and Meghalaya was under AFSPA for 27 years, until it was revoked by the MHA from 1st April 2018.
- The Act was implemented in a 20-km area along the border with Assam.
- Jammu and Kashmir has a separate J&K Armed Forces (Special Powers) Act, 1990.



- 

## 21. Dhawan 1 Engine

- **Skyroot Aerospace** successfully tested Dhawan-1 last month. It became the **country's first privately developed fully cryogenic rocket engine.**
- The indigenous engine was developed using 3D printing with a superalloy.
- It runs on two high-performance rocket propellants – **liquid natural gas (LNG) and liquid oxygen (LoX).**
- This was after successfully designing and developing the solid propulsion rocket engine, the first private firm in the country to do so.

## 22. Hypersonic Technology Demonstrator Vehicle (HSTDV) program

- HSTDV is an unmanned scramjet vehicle with a capability to travel at six times the speed of sound.
- The scramjets are a variant of a category of jet engines called the **air-breathing engines.**
- The ability of engines to handle airflows of speeds in multiples of the speed of sound gives it a capability of operating at those speeds.
- Hypersonic speeds are those which are five times or more than the speed of sound.
- The unit tested by the **DRDO** can achieve upto six times the speed of sound or Mach 6, which is well over 7000 km per hour or around two km per second.

## 23. Tsirkon Hypersonic Cruise Missile

- The 3M22 Zircon also spelled as 3M22 Tsirkon is a **scramjet powered maneuvering anti-ship hypersonic cruise missile** currently in testing by Russia
- The Zircon missile is capable of flying 9 times the speed of sound and hit targets successfully upto a range of 1,000 kms (620 miles).
- The Tsirkon Cruise Missile will join Avangard glide vehicles and the air-launched Kinzhal (Dagger) missiles in Russia's hypersonic arsenal.



- The missile can develop a speed of Mach 9 and fly at an altitude of 30-40 km where the range and speed increase as air resistance is smaller.
- Experts estimate the payload at 300-400 kg and the missile length at 8-10 meters.
- Tsirkon is to be fired from universal vertical launchers 3S-14 on warships and submarines and from Bastion mobile coastal missile launchers.

## 24. Sarmat Missile

- The **RS-28 Sarmat** whose NATO name is Satan-II is able to carry a minimum of ten decoys and warheads. It has the capability of firing over either pole of the earth and has a range of 11,000 to 18,000 km.
- This missile will also be posing a challenge to the western powers' ground-and-satellite-based radar tracking systems. Each of the ten warheads is a **Multiple Independently-Targetable Re-entry Vehicle** with a blast yield of 75 MT.
- The Sarmat will be **Russia's first ICBM** that can carry smaller hypersonic boost-glide vehicles. These are hard to intercept as they are manoeuvrable. This ICBM is much more lethal than the R-36M Voyevoda ICBMs (NATO name Satan) as it has upgraded guidance systems, electronic countermeasures, and alternative warhead carrying capacity.
- This ICBM is a **liquid-fuelled missile** as compared to the ones that are used by the US.

## 25. 21st Annual India-Russia Summit

- India-Russia Annual Summit was last held in September 2019. In 2019, PM Modi visited Vladivostok (Russia). The Annual Summit of 2020 was postponed due to Covid-19 pandemic.
- This summit will be the first face-to-face meeting between both the leaders, following their meeting of the BRICS Summit in November 2019 in Brasilia.
- During the 2021 Summit, both the leaders will review the state and prospects of bilateral relations.
- They will discuss ways to further strengthen the strategic relationship between both the countries.
- Summit will also provide an opportunity to exchange views on **international, multilateral and regional issues of mutual interest.**

- They will exchange views on topical issues on the international agenda, such as joint work within the **BRICS, G20, and Shanghai Cooperation Organization (SCO)**.

## 26. Physella Acuta

- A tiny snail with a striking, pellucid golden-yellow shell found in the Edappally canal in Kochi has been flagged as an **invasive species** that could play havoc with native ecosystems.
- Physella acuta is considered native to **North America but is now found in all continents except Antarctica**.
- The snail was **first reported in India in the early 1990s**
- Its discovery is worrying that it plays host to worms that can cause **food-borne diseases and skin itches in humans**.
- Moreover, its rapid growth rate, air-breathing capability, and tolerance to pollution make the Physella acuta a potential competitor to native fauna.
- Small in size, the snail can grow to 16 mm in height and 9 mm in width. The dead, vacant shell is brownish-yellow while that of the live individuals are translucent golden-yellow with a mottled appearance.



## 27. 'India–Russia Special and Privileged Strategic Partnership

- **India and Russia have enjoyed good relations since 1947** wherein Russia helped India in attaining its goal of economic self-sufficiency through investment in areas of heavy machine-building, mining, energy production and steel plants
- India and the Soviet Union signed the Treaty of Peace and Friendship in August 1971 which was the manifestation of shared goals of the two nations as well as a blueprint for the strengthening of regional and global peace and security.



- After the dissolution of the **Soviet Union, India and Russia entered into a new Treaty of Friendship and Cooperation in January 1993 and a bilateral Military-Technical Cooperation agreement in 1994.**
- In 2000 both countries established a Strategic Partnership. In 2010, the Strategic Partnership was elevated to the level of a “Special and Privileged Strategic Partnership”.
- Russia has been a longstanding and time-tested partner for India. Development of India-Russia relations has been a key pillar of India’s foreign policy
- Since the signing of “Declaration on the India-Russia Strategic Partnership” in 2000, India-Russia ties have acquired a qualitatively new character with enhanced levels of cooperation in almost all areas of the bilateral relationship including **political, security, defence, trade and economy, science and technology, and culture.**

## 28. Compensatory Afforestation Fund Management and Planning Authority (CAMPA)

- CAMPA funds are part of long-pending dues of the **Compensatory Afforestation Fund (CAF)**, a ₹54,000-crore tranche collected for nearly a decade as environmental compensation from industry, which has razed forest land for its business plans.
- The CAF Act 2016, which came into being more than a decade after it was devised, established an independent authority – the Compensatory Afforestation Fund Management and Planning Authority – to execute the fund.
- As per the rules, 90% of the CAF money is to be given to the states while 10% is to be retained by the Centre.
- The funds can be **used for treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management**, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood saving devices and allied activities.

## 29. Compensatory Afforestation Fund (CAF)

- The CAF Act was passed by the centre in 2016 and the related rules were notified in 2018.
- The CAF Act was enacted to manage the funds collected for **compensatory afforestation which till then was managed by ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**.
- As per the rules, 90% of the CAF money is to be given to the states while 10% is to be retained by the Centre.
- The funds can be used for treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood saving devices and allied activities.

## 30. Facial Recognition Tech and Digi Yatra Initiative

### Facial recognition System

- Facial recognition System is part of the Digi Yatra initiative of the government for providing passengers seamless and hassle-free experience at airports. It is to be implemented in a phased manner.
- The first phase is planned at Kolkata, Varanasi, Pune, Vijayawada, Bangalore, Delhi and Hyderabad Airports by March 2023.
- Facial recognition is a **biometric technology that distinguishes facial features to identify a person**.
- Facial recognition technology has received significant attention as it has the potential for a wide range of applications related to law enforcement as well as other enterprises.
- Whether it's a surveillance camera in grocery stores, tagging friends in social media, or logging into our smart-phones, facial recognition finds its application.

### Digi Yatra Initiative



- The **Ministry of Civil Aviation's** "Digi Yatra" is a policy on biometric based digital processing of passengers at Airports that envisages a connected ecosystem enhancing the seamless travel experience for the passengers and simultaneously improving the security.
- The initiative seeks to promote **paperless and hassle-free air travel**. There would be one-time verification at the departure airport while travelling for the first time using the ID.
- After successful verification, facial recognition biometrics would be captured and stored in the Digi Yatra ID.
- With this initiative, the civil aviation ministry is looking to make **ticket booking, airport entry and boarding pass security check-in digital**.

### 31. Combined Antiretroviral Therapy (cART) for HIV and Hydrogen Sulphide

- Researchers at the **Indian Institute of Science (IISc.)** and their collaborators have identified a key role played by **hydrogen sulphide (H<sub>2</sub>S)** gas in suppressing the **Human Immunodeficiency Virus (HIV)**.
- Increased H<sub>2</sub>S was found to have a direct effect on reducing the rate at which the virus multiplies in HIV-infected human immune cells.
- Current state-of-the-art **combined antiretroviral therapy (cART)** is not a cure for HIV. It can only suppress the virus by causing it to become latent.

#### About Hydrogen sulphide

- Hydrogen sulfide is a chemical compound with the formula H<sub>2</sub>S.
- It is a **colorless chalcogen hydride gas** with the characteristic foul odor of rotten eggs. It is poisonous, corrosive, and flammable.
- Hydrogen sulfide is often produced from the microbial breakdown of organic matter in the absence of oxygen, such as in swamps and sewers; this process is commonly known as anaerobic digestion which is done by sulfate-reducing microorganisms.
- H<sub>2</sub>S also occurs in volcanic gases, natural gas, and in some sources of well water.
- The **human body produces small amounts of H<sub>2</sub>S** and uses it as a signaling molecule.



- When high amounts of this chemical are found in the human body, damage to organs can occur with symptoms ranging from breathing difficulties to convulsions and even death.
- Hydrogen sulfide is slightly denser than air. A mixture of H<sub>2</sub>S and air can be explosive.
- Hydrogen sulfide burns in oxygen with a blue flame to form sulfur dioxide (SO<sub>2</sub>) and water.
- In general, hydrogen sulfide acts as a reducing agent.
- Hydrogen sulfide is slightly soluble in water and acts as a weak acid.
- Hydrogen sulfide reacts with metal ions to form metal sulfides, which are insoluble, often dark colored solids.

## 32. Swachh Bharat Mission (SBM) 2.0

- SBM-U 2.0 aims to make **Indian cities garbage free and all urban local bodies (ULBs) open defecation free.**
- It will focus on source **segregation of solid waste, utilising the principles of 3Rs (reduce, reuse, recycle), scientific processing of municipal solid waste and remediation of legacy dumpsites.**
- The scheme has an outlay of Rs. 1.41 lakh crore.
- It focuses on transitioning to a circular economy that treats solid and liquid waste as a resource.
- It also aims for **100% tap water supply in about 4,700 urban local bodies and sewerage and septage in 500 AMRUT cities.**

## 33. Reciprocal Exchange of Logistics Agreement (RELOS)

- The Reciprocal Exchange of Logistics Agreement is a **long-awaited administrative agreement** that would enable the militaries of both the countries to access logistics and support facilities at each other's bases and ports.
- It would **facilitate the replenishment of fuel, rations, spare parts and berthing for troops, warships and aircrafts** while operating away from home ports and bases during the war and peacetime missions.

- The agreement would enable maintenance facilities to warships and military aircraft at each other's bases.
- RELOS would further ensure smooth use of the host nation's existing logistics networks which would reduce the overall costs of the mission and provide a strategic edge to each other's military operations.

### 34. Ken-Betwa river interlinking project

- The Ken-Betwa Link Project (KBLP) is the River interlinking project that **aims to transfer surplus water from the Ken river in MP to Betwa in UP to irrigate the drought-prone Bundelkhand region.**
- The project involves building a 77-metre tall and a 2-km wide Dhaudhan dam and a 230-km canal.
- Ken-Betwa is one of the 30 river interlinking projects conceived across the country.
- The project has been delayed due to political and environmental issues.



#### Ken and Betwa Rivers

- Ken and Betwa rivers **originate in MP and are the tributaries of Yamuna.**
- Ken meets with **Yamuna in Banda district of UP and with Betwa in Hamirpur district of UP.**
- Rajghat, Paricha and Matatila dams are over Betwa river.
- Ken River passes through **Panna tiger reserve.**

### 35. Sustainable Alternative Towards Affordable Transportation (SATAT) scheme.

- It is an initiative aimed at **setting up Compressed Bio-Gas production plants and makes them available in the market for use in automotive fuels by inviting Expression of Interest from potential entrepreneurs.**
- The initiative was launched in October 2018 by **the Ministry of Petroleum & Natural Gas** in association with the **PSUs- Indian Oil Corporation Ltd.,**

### **Bharat Petroleum Corporation Ltd. and Hindustan Petroleum Corporation Ltd.**

- There are multiple benefits from converting agricultural residue, cattle dung and municipal solid waste into CBG on a commercial scale:
- Responsible waste management, reduction in carbon emissions and pollution
  - Additional revenue source for farmers
  - Boost to entrepreneurship, rural economy and employment
  - Support to national commitments in achieving climate change goals
  - Reduction in import of natural gas and crude oil
  - Buffer against crude oil/gas price fluctuations

## **36. Compressed Bio-Gas (CBG)**

- Biogas is produced naturally through a **process of anaerobic decomposition** from waste / bio-mass sources like agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc.
- After purification, it is compressed and called CBG, which has a pure methane content of over 95%.
- CBG is exactly **similar to the commercially available natural gas** in its composition and energy potential.
- With calorific value (~52,000 KJ/kg) and other properties similar to CNG, CBG can be used as an alternative, renewable automotive fuel.
- Given the abundance of biomass in the country, CBG has the potential to replace CNG in automotive, industrial and commercial uses in the coming years.

## **37. National Calamity Contingent Duty**

- The NCCD is a tax imposed on pan masala, cigarettes, cellular phones and other tobacco products. It was introduced under the **Finance Act, 2001**.
- The Tobacco Institute of India believes that increasing the NCCD will incentivize illegal cigarette trading in the country. Currently, the illegal cigarettes account for one-fourth of the Indian Cigarette market.

## 38. World Inequality Report

- **France-based World Inequality Lab** published its report titled “World Inequality Report 2022”.
- Report notes that, top 1 % of India's population owns more than one-fifth of the total national income in 2021.
- The bottom half of the population earns just 13.1 per cent.
- It highlights that, economic reforms and liberalization that India has adopted, have mostly benefited the top 1 percent.
- Report identifies **India as a poor and an unequal country**, with an affluent elite.
- 1 percent richest people in India hold 22% of the total national income in 2021, while the top 10 % own 57 per cent of the income.
- Average national income of the Indian adult population is Rs 204,200 in 2021, on the basis of purchasing power parity.
- However, the report clarified that the average national income of a country masks inequalities.

## 39. Chaperones Proteins

- Chaperones are a functionally related **group of proteins assisting protein folding in the cell under physiological and stress conditions**.
- In biological systems, Chaperones play crucial roles.
- Many molecular chaperones belong to the class of “heat shock” proteins (or stress-response proteins).
- This is because whenever an organism is subjected to elevated temperatures – a heat shock – proteins in the system begin to lose their native shapes, and chaperones are produced in large quantities to restore order.
- Chaperones are **needed under physiological conditions too**, for normal cellular function since misfolding of proteins can cause a number of diseases.
- Alpha-synuclein protein, present in neurons, is wrongly folded in Parkinson's disease.
- Brains of Alzheimer's patients have plaques formed from aggregates of amyloid beta-peptide.

- This accumulation of amyloid fibrils is toxic, leading to widespread destruction of neurons – a ‘neurodegenerative’ disorder.
- Aberrant folding of crystallins of the eye lens leads to cataracts.
- Major chaperones in humans include HSP70, HSC70 and HSP90: the numbers express the size of the proteins in kilodaltons.
- In normal cells 1%–2% of all proteins present are heat shock proteins.
- This number rises threefold during stressful conditions.

## 40. National Monetisation Pipeline (NMP)

- The National Monetisation Pipeline (NMP) envisages an aggregate monetisation potential of ₹6-lakh crore through the leasing of core assets of the Central government in sectors such as roads, railways, power, oil and gas pipelines, telecom, civil aviation etc, over a **four-year period (FY 2022-25)**.
- It is the first-of-its-kind initiative that will **boost the economy**, generate better employment opportunities and drive the competitiveness of the Indian economy.
- The NMP advocates unlocking idle capital from non-strategic underperforming government owned assets.
- It also envisages reinvesting the funds, thus received, into new infrastructure projects and augmentation of assets such as greenfield infrastructure creation.
- **Eight core industrial sectors** that support infrastructure (coal, crude oil, natural gas, refinery products, fertilizers, steel, cement, and electricity) have a total weight of nearly 40% in the Index of Industrial Production (IIP).

## 41. Pradhan Mantri Gati Shakti National Master Plan

- On India’s 75th Independence Day, Prime Minister Narendra Modi announced that the Centre will launch ‘PM Gati Shakti Master Plan’, a Rs. 100 lakh-crore project for developing ‘holistic infrastructure’
- It will incorporate the infrastructure schemes of various Ministries and State Governments like Bharatmala, Sagarmala, inland waterways, dry/land ports, UDAN etc.

- The plan aims to **transform India into a hub of world class infrastructure** by providing integrated and seamless connectivity for movement of people, goods and services.
- A digital platform will be created to bring 16 ministries including rail and roadways together for integrated planning and coordinated implementation of infrastructure projects.
- It will offer 200 layers of geospatial data, including on existing infrastructure as well as geographic information about forests, rivers and district boundaries.
- The **portal will allow various government departments to track the progress** of various projects in real time and at one centralised place.
- Different Departments will be able to prioritize their projects through cross-sectoral interactions.
- For the transportation of goods from one place to another, the plan will help in selecting the most optimum route in terms of time and cost.
- PM GatiShakti will help in **synchronizing the activities of each department in a holistic manner** by ensuring coordination of work between them.
- The project will be spearheaded by the logistics division in the commerce ministry and the implementation will be monitored by a monitoring group under the **Department for Promotion of Industry and Internal Trade (DPIIT)**.

## 42. Zero Budget Natural Farming (ZBNF)

- ZBNF is a set of farming methods, and also a **grassroots peasant movement**, which has spread to various states in India.
- Subhash Palekar perfected it during the 1990s at his farm in Amravati district in Maharashtra's drought-prone Vidarbha region.
- According to the "zero budget" concept, farmers **won't have to spend any money on fertilisers and other agricultural inputs**.
- Over 98% of the nutrients that crops require – carbon dioxide, nitrogen, water, solar energy – are already present in nature.
- The **"four wheels" of ZBNF** are 'Jiwamrita', 'Bijamrita', 'Mulching' and 'Waaphasa'.
  - **Jiwamrita** is a fermented mixture of cow dung and urine (of desi breeds), jaggery, pulses flour, water and soil from the farm bund.

- This isn't a fertilizer, but just a source of some 500 crore micro-organisms that can convert all the necessary "non-available" nutrients into "available" form.
- **Bijamrita** is a mix of desi cow dung and urine, water, bund soil and lime that is used as a seed treatment solution prior to sowing.
- **Mulching**, or covering the plants with a layer of dried straw or fallen leaves, is meant to conserve soil moisture and keep the temperature around the roots at 25-32 degrees Celsius, which allows the microorganisms to do their job.
- **Waaphasa**, or providing water to maintain the required moisture-air balance, also achieves the same objective.

### 43. European Investment Bank (EIB)

- EIB is a **long-term lending institution of the European Union owned by its member states**.
- It is also engaged in **multilateral financing and works closely with other EU institutions** to implement EU policy.
- More than 90% of its activity is in Europe but it is also a big investor globally.
- EIB's activities focus on four priority areas including innovation and skills, access to finance for infrastructure, smaller businesses and climate & environment.

### 44. African Continental Free Trade Area (AfCFTA)

- The African Continental Free Trade Area (AfCFTA) is an **ambitious trade agreement** that aims to connect approximately 1.3 billion people in 54 African countries to build the world's largest free-trade zone.
- AfCFTA **aims to create a single continental market for products and services**, with free movement of people and capital, paving the way for the Continental Customs Union and the African Customs Union to be established faster.
- The preliminary work on the AfCFTA **focuses on incremental tariff reductions**, non-tariff barriers, supply networks, and dispute resolution.
- It creates the world's largest free-trade zone since the **World Trade Organization was founded in 1995**.



- AfCFTA will have a worldwide influence that is becoming increasingly reliant on African markets and commodities.
- The AfCFTA's primary objective is to end or reduce tariff and non-tariff obstacles among the 54 countries that have committed to join the bloc by creating a single market for goods and services, assisted by the free movement of people, in order to promote economic integration and prosperity.

### 45. Glasgow Leaders' Declaration on Forests and Land Use

- It is an ambitious declaration initiated by the **United Kingdom** to "halt deforestation" and **land degradation by 2030**.
- The declaration has been signed by over 105 countries including the **UK, US, Russia and China**.
- **India, Argentina, Mexico, Saudi Arabia and South Africa** are the only **G20** countries that did not sign the declaration.

### 46. Harnaaz Sandhu

- 21 years after Lara Dutta won the title of Miss Universe, Harnaaz Sandhu from India has become the new Miss Universe 2021

#### Miss Universe

- Miss Universe is an **annual international beauty pageant**. It is run by the United States-based Miss Universe Organization.
- This pageant is one of the most watched pageants worldwide, with an estimated audience of 500 million viewers across 190 territories. Apart from Miss World; Miss International, Miss Earth and Miss Universe are among Big Four international beauty pageants.
- Miss Universe Organization and its brand are presently owned by Endeavor. Telemundo has got the licensing rights to air the pageant for next 5 years.



## 47. Meghalaya Living Root Bridges

- The **Zoological Survey of India (ZSI)** has underlined some green rules for the living root bridges of **Meghalaya** to get the **UNESCO World Heritage Site tag**.
- A living root bridge is a **type of simple suspension bridge formed of living plant roots by tree shaping**.



- They are common in the **southern part of the Northeast Indian state of Meghalaya**. Such a bridge is locally called jingkieng jri.
- They are handmade from the aerial roots of rubber fig trees (*Ficus elastica*) by the **Khasi and Jaintia peoples** of the mountainous terrain along the southern part of the **Shillong Plateau**.
- Most of the bridges grow on steep slopes of subtropical moist broadleaf forest between 50m and 1150m above sea level.
- As long as the tree from which it is formed remains healthy, the roots in the bridge can naturally grow thick and strengthen.
- New roots can grow throughout the tree's life and must be pruned or manipulated to strengthen the bridge.
- Once mature some bridges can have as many as 50 or more people crossing, and have a lifespan of up to 150 years.

## 48. India-Central Asian Dialogue

- It is a ministerial-level dialogue between **India and the Central Asian countries** namely **Kazakhstan, Kyrgyzstan,**



**Tajikistan, Turkmenistan and Uzbekistan.**

- It established a platform for strengthening cooperation between India and the Central Asian countries in political, security, economic and commercial, development partnership, humanitarian and cultural spheres as well as exchanging views on regional and international issues of mutual interest and enhancing cooperation under the framework of UN and other multilateral fora.
- It called for **building a comprehensive and enduring India-Central Asia partnership** on the basis of their historical, cultural and civilizational bonds as well as traditionally close people-to-people contacts.

## 49. PANEX 21

- It is a **Multi-Agency multi national disaster relief exercise (MAE)**
- The exercise is to be held among the BIMSTEC countries: **Bhutan, Bangladesh, Nepal, Myanmar, Sri Lanka, India and Thailand.**
- On the second day of PANEX 21, a Humanitarian Assistance and Disaster Relief (HADR) Exercise for BIMSTEC member nations, organized at College of Military Engineering in Pune,
- It shows demonstration of the capabilities of the Indian Armed Forces to launch swift, coordinated and incremental relief efforts in case of occurrence of any natural calamity in a particular region.
- The main aim of the **exercise is to build regional cooperation in responding to natural disasters.**
- The equipment display, organized in association with **Federation of Indian Chambers of Commerce & Industry (FICCI)**, is aimed to showcase the niche industrial capabilities and capacities of the Indian industry on disaster relief operations.
- The participants of the exercise will be divided into eight syndicates. One syndicate from the participating countries and two from India.
- It will analyse the capabilities of member states in responding to natural disasters. The countries will share their best practices.
- The exercise will review the procedures of preparedness and response. It will then recommend the evolution of organised structure.
- During the exercise, the countries will discuss military – to – military cooperation protocol.

## 50. Chillai Kalan

- Kashmir is in a deep freeze as the 40-day harshest spell of winter, locally called 'chillai kalan', started on December 21, 2021.
- Chillai Kalan is a Persian word which literally means forty days of intense cold.
- It is the local name given to the **40 day period of harsh winter in Kashmir**.
- It is the coldest part of winter, starting from 21 December to January 29 every year.
- Chillai-Kalan is followed by **20-day long Chillai Khurd (small cold) and a 10-days long Chillai Bachha (baby cold)**.
- Impact of Chillai Kalan on daily life of Kashmiris: Use of **Pheran (Kashmiri dress) and a traditional firing pot called Kanger increases**.

## 51. Troika

- India recently joined the **G20 Troika**. The G20 Troika is made of **Indonesia, India and Italy**. The Troika is made of the current presidency, Indonesia; the previous presidency Italy and the incoming presidency which is India.
- Troika means a group of three people working together. It is an English word. The Troika of G20 is made of the current, next and immediate past host countries. The Troika ensures continuity and provides presidency support.
- The G20 operates without a permanent staff or secretariat. The chair of the group rotates annually among its members. The current chair establishes the secretariat temporarily.
- This secretariat organises meetings and coordinates the working of the group. Thus, there is a need for Troika to help with the secretariat so that there is continuity in the works of G20.

## 52. James Webb Space Telescope

- It is the most powerful infrared telescope of **National Aeronautics and Space Administration (NASA)**.
- It is also considered a successor of the Hubble Telescope and will extend and complement its discoveries.
- The telescope is the result of an international collaboration between **NASA, the European Space Agency (ESA) and the Canadian Space Agency**.
- Webb will reveal new and unexpected discoveries, and help humanity understand the origins of the universe and our place in it.
- The telescope will study the atmospheres of a wide diversity of exoplanets.
- It will also search for atmospheres similar to Earth's, and for the signatures of key substances such as methane, water, oxygen, carbon dioxide, and complex organic molecules, in hopes of finding the building blocks of life.
- It will be launched on an **Ariane 5 ECA rocket** from French Guiana in South America

## 53. Magnetar

- Magnetars are the most magnetic stars in the universe.
- It is a **rare compact type of neutron star teeming with energy and magnetism**.
- It is an **exotic type of neutron star**, its defining feature is that it has an ultra-powerful magnetic field.
- The field is about 1,000 times stronger than a normal neutron star and about a trillion times stronger than the Earth's.
- Magnetars are relatively rare objects, with only about thirty having been spotted within the **Milky Way** so far.

## 54. Retail Direct Gilt Account (RDG Account)

- A "Gilt Account" means **an account opened and maintained for holding Government securities. Instead of money**, the account is debited or credited with treasury bills or government securities.
- The retail investors can now invest in G-Secs by opening a gilt securities account called **Retail Direct Gilt (RDG)** Account with the RBI.
- Only one bid per security is permitted and payment to the aggregator/receiving office can be made through using the net-banking or UPI facility from the linked bank account.
- Registered investors can access the secondary market transaction link on the online portal to buy or sell government securities through **NDS-OM**.
- For buying of government bonds, payment can be made by transfer of funds to the designated account of **CCIL** (Clearing Corporation of India NDS-OM).

## 55. Log4j

- A new vulnerability named Log4 Shell is being touted as **one of the worst cybersecurity flaws** to have been discovered.
- The vulnerability is dubbed Log4 Shell and is officially **CVE-2021-44228**.
- It is based on an open-source logging library used in most applications by enterprises and even government agencies.
- The exploits for this vulnerability are already being tested by hackers and it grants them access to an application, and could potentially let them run malicious software on a device or servers.
- The problem impacts **Log4j 2 versions** which is a very common logging library used by applications across the world.

## 56. National Technical Advisory Group on Immunisation (NTAGI)

- It was established by an order of the **Ministry of Health and Family Welfare (MoHFW) in 2001**.

- As **India's apex advisory body on immunization**, the NTAGI provides guidance and advice to the MoHFW on provision of vaccination and immunization services for the effective control of vaccine preventable diseases in the country.
- NTAGI of India fulfils a need for informing decision-making concerning the introduction of new vaccines and strengthening the Universal Immunisation Programme (UIP).
- The role and membership of NTAGI have expanded over the years in tune with the emerging needs and priorities of the Government of India.
- The **NTAGI includes a Standing Technical Sub-Committee (STSC)**.
- The STSC is tasked with undertaking technical review of scientific evidence on matters related to immunization policy and programmes.
- Final recommendations are drafted by the NTAGI taking into account the scientific review by the STSC and any other relevant evidence.

### 57. Resolution Frameworks 2.0 RBI

- This Framework is **to relieve stress faced by most vulnerable categories of borrowers** – namely individuals, borrowers and MSMEs.
- Individuals, borrowers and MSMEs who have not availed any restructuring will be eligible to be considered under **Resolution Framework 2.0**.
- For individuals and small businesses who have availed restructuring of loans under Resolution Framework 1.0, lending institutions can now extend residual tenure up to a total period of 2 years.

### 58. Nord Stream 2

- It is a system of **offshore natural gas pipelines** running under the **Baltic Sea from Russia to Germany**.
- It includes two active pipelines running from Vyborg to Lubmin near Greifswald forming the original Nord Stream, and two further pipelines under construction running from Ust-Luga to Lubmin termed Nord Stream 2.
- In **Lubmin** the lines connect to the OPAL line to Olbernhau on the Czech border and to the NEL line to Rehden near Bremen.

- The first line **Nord Stream-1** was laid and inaugurated in 2011 and the second line in 2012.
- At 1,222 km in length, Nord Stream is the longest sub-sea pipeline in the world, surpassing the Langeded pipeline.

## 59. Consumer Protection (Direct Selling) Rules, 2021

- The Central Government has notified the Consumer Protection (Direct Selling) Rules, 2021.
- The new rules will be applicable to:
  1. All goods and services bought or sold through direct selling
  2. All direct selling entities offering goods & services to consumers
  3. All models of direct selling
  4. All forms of unfair trade practices in all models of direct selling
- Direct selling entity, **not established in India but offering goods or services** to consumers across India.
- Under the notified rules, direct selling entity and direct sellers have been prohibited from:
  - **Promoting a Pyramid Scheme** or enrol any person to these
  - Participating in money circulation scheme
- State Governments have been mandated to do monitoring to ensure compliance of these rules.
- Rules provides certain obligation upon Direct Selling Entities, including:
  - They should have at least one physical location as a registered office within India.
  - They should make self-declaration that Direct Selling Entity has complied with provisions of these rules and are not a part of Pyramid Scheme or money circulation scheme.
- All products of a direct selling entity are mandated to comply with the declarations made under **Legal Metrology Act, 2009**.
- Direct selling entities will have to establish an adequate grievance redressal mechanism. They will have to display the current and updated name, and

other details on their website. Details of the website will have to be prominently printed on product information sheets or pamphlets.

## 60. Konyaks of Nagaland

- The Konyaks are one of the major **ethnic groups of Nagaland**.
- Reside mostly in the Mon district also known as 'The Land of The Anghs'.
- Also found in some districts of **Arunachal Pradesh, Assam and Myanmar**
- The Anghs/Wangs are their traditional chiefs
- Facial tattoos were earned for taking an enemy's head.
- Known to be one of the **fiercest warrior tribes in Nagaland**,
- They are also adept in making '**janglaü**' (**machetes**) and **wooden sculptures**.

## 61. Durga Puja Gets Intangible Cultural Heritage Tag

- UNESCO has inscribed 'Durga Puja in Kolkata' on the Representative List of **Intangible Cultural Heritage of Humanity**.
- Durga Puja, also known as Durgotsava or Sharodotsava, is an annual Hindu festival that reveres and pays homage to the goddess Durga.
- It is an important festival in the **Shaktism tradition of Hinduism**.
- It is celebrated because of Durga's victory over Mahishasur.
- It is particularly popular and traditionally celebrated in the Indian states of **West Bengal, Bihar, Jharkhand, and Odisha among other states**.
- It is a ten-day festival, of which the last five are of the most significance.
- The UNESCO Committee commended its **initiatives to involve marginalized groups, and individuals as well as women in their participation in safeguarding the element**.
- The festival is also marked by scripture recitations, performance arts, revelry, gift-giving, family visits, feasting, and public processions.
- Durga Puja not only is a celebration of the **feminine divinity but is a consummate expression of dance, music, crafts, rituals, practices, culinary and cultural aspects**.
- The festival transcends the boundaries of caste, creed and economic classes and joins the people together in its celebration.



## 62. Semiconductor PLI

- The **Ministry of Electronics and Information Technology (MeitY)** has approved a comprehensive Program for the **Development of Semiconductors and Display Manufacturing Ecosystems in the country.**
- Incentive support to the tune of Rs.55,392 crore (7.5 billion USD) have been approved under PLI for **Largest Scale Electronics Manufacturing, PLI for IT Hardware, SPECS Scheme and Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme.**
- In addition, PLI incentives to the quantum of Rs.98,000 crore (USD 13 billion) are approved for allied sectors comprising **ACC battery, auto components, telecom & networking products, solar PV modules and white goods.**

## Semiconductors

- Any of a class of crystalline solids intermediate in **electrical conductivity between a conductor and an insulator.**
- Semiconductors are employed in the manufacture of various kinds of electronic devices, including diodes, transistors, and integrated circuits. Such devices have found wide application because of their compactness, reliability, power efficiency, and low cost.
- As discrete components, they have found use in power devices, optical sensors, and light emitters, including solid-state lasers.

## 63. Pradhan Mantri Garib Kalyan Anna Yojana

- PMGKAY is a scheme by the **Ministry of Consumer Affairs, Food & Public Distribution.**
- It is a scheme as **part of Atmanirbhar Bharat to supply free food grains to migrants and the poor.**
- Government of India announced the 'Pradhan Mantri Garib Kalyan Package (PMGKP) in 2020 to ameliorate the hardships faced by the poor due to economic disruptions caused by the Covid-19 in the country.
- This package inter-alia comprises the implementation of "Pradhan Mantri Garib Kalyan Anna Yojana (PM-GKAY)", through which additional

free-of-cost food grains (Rice/Wheat) at the scale of 5 Kg per person per month are being provided to about 81 Crore beneficiaries covered under National Food Security Act, 2013 (NFSA), so that poor and vulnerable families/beneficiaries are able to access food-grains easily without facing any financial distress.

- **Families belonging to the Below Poverty Line** – Antyodaya Anna Yojana (AAY) and Priority Households (PHH) categories will be eligible for the scheme.

## 64. Biological Diversity Act, 2002

- It was enacted by the Parliament, to provide for:
  - Conservation of biological diversity,
  - Sustainable use of its components
  - Fair and equitable sharing of the benefits arising out of the use of biological resources and knowledge.
- The 2002 Act imposed a heavy “compliance burden” on Indian medicine practitioners, seed sector, industry & researchers and made it hard to conduct collaborative research and investments.
- The amendments also **streamline the process of Patenting for Indian researchers to encourage patenting.**
- It seeks to give a fillip to “Indian system of medicine”, and **facilitate fast-tracking of research, patent application process, transfer of research** results while utilising the biological resources available in India.
- It seeks to decriminalise certain provisions in the chain of biological resources.
- It also **allows for foreign investment** in research in biodiversity. However, this investment will necessarily have to be made through Indian companies involved in biodiversity research.
- The Bill seeks to **exempt registered AYUSH medical practitioners** and people accessing codified traditional knowledge, among others, from giving prior intimation to State biodiversity boards for accessing biological resources for certain purposes.

## 65. Navy-to-Navy cooperation Memorandum of Understanding (MoU) Russia

- **Access to Russian naval port facilities in the Arctic**, thus enhancing "Indian Navy's reach and operational experience in Polar waters".
- To Enhanced operational turnaround and strengthened interoperability on the high seas" by relying on the infrastructure and assistance of partner countries.
- According to IDSA ,from a geostrategic point of view, while giving the Indian Navy better access to northern sea routes and Russian ports in the Arctic, where India is looking to set up an Arctic station. Russia and India are also exploring enhanced energy cooperation in the Arctic region.
- IDSA also notes that "India's presence in the (Arctic) region will act as a strategic counterweight to China's strategic posturing" with Beijing and Moscow sharing "synergy" in the Arctic.
- The reciprocal arrangement means that Russian naval ships and aircraft will also be able to access Indian ports and bases.

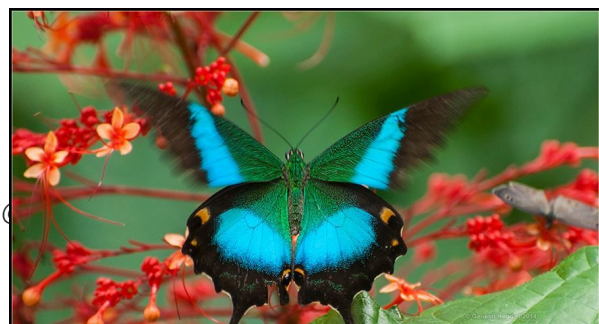
## 66. Donbass

Donbass is a region in **south-eastern Ukraine**, some of whose territory was occupied by two separatist groups in the course of the Russo-Ukrainian War calling themselves the **Donetsk People's Republic** and the **Luhansk People's Republic**.



## 67. Budha Peacock Butterfly

- The **Malabar Banded Peacock or the Buddha Mayoori** which was recently declared the 'State Butterfly' of





**Kerala** will have a dedicated butterfly park in Kochi.

- Malabar Banded Peacock is one of the most dazzling butterflies in the world and also rated as the third most beautiful butterfly in India.
- Its flight is extremely swift; possibly swifter than that of any other Peacock butterflies.
- This Swallowtail butterfly is endemic to the Western Ghats and is found essentially between southern Goa and northern Kerala. The scientific name of this butterfly is *Papilio buddha*.
- The peripheral of its wing is black with a central blue band. Depending upon the angle of incident light, the wings show variegated shades. The underside of the wings is black. The male and female are alike in colouration. The wingspan varies from 90–100 mm.