



# 2021 Current Affairs for Prelims 2021

## SECURITY

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# SECURITY

## 1. Indigenously developed Laser Dazzler for armed forces

**In news-** BEL signs contract with Indian Navy for Initial supply of indigenously developed Laser Dazzlers.

### **About Light Amplification by Stimulated Emission of Radiation Dazzlers (Laser Dazzlers)-**

- The Laser Dazzler is used as a non-lethal method for warning and stopping suspicious vehicles/ boats/ aircrafts/ UAVs etc... from approaching secured areas during both day and night.
- This unique product is indigenously designed and developed for first time for the Armed Forces.
- It is capable of dazzle and thereby suppresses the person's/optical sensor's action with disability glare in case of non-compliance to orders.
- It disorient/confuse/blind a person temporarily.
- It also dazzles and distract aircraft/UAVs.
- It is a portable, shoulder operated and ruggedized for military use in adverse environmental conditions.
- Laser dazzler technology was developed by DRDO.
- Dazzlers emit infrared or invisible light against various electronic sensors, and visible light against humans, when they are intended to cause no long-term damage to eyes.
- The emitters are usually lasers, making what is termed a laser dazzler Laser dazzler has a wider laser beam than regular laser pointers.

## 2. Mukti Bahini

**In news-** For the first time ever a 122 member strong contingent of the **Bangladesh Armed Forces (Mukti Bahini)** participated at the historic Republic Day celebrations, to commemorate the 50th anniversary of the 1971 Bangladesh Liberation War.

### **About Mukti Bahini/Bangladesh Forces-**

- **The Mukti Bahini, also known as the Bangladesh Forces, was the guerrilla resistance movement** consisting of the Bangladeshi military, paramilitary and civilians during the War of Liberation that transformed East Pakistan into Bangladesh in 1971.
- An earlier name **Mukti Fauj** was also used.
- In addition to regular units, such as the East Bengal Regiment and the East Pakistan Rifles, the **Mukti Bahini also consisted of the civilian Gono Bahini (People's Force).**
- The most prominent divisions of the Mukti Bahini were the **Z Force** led by Major Ziaur Rahman, the **K Force** led by Major Khaled Mosharraf and the **S Force** led by Major K M Shafiullah.
- **Using guerrilla warfare tactics, the Mukti Bahini secured control over large parts of the Bengali countryside.**
- It conducted successful "ambush and sabotage" campaigns, and included the nascent Bangladesh Air Force and the Bangladesh Navy.
- **It received training and weapons from India,** where people in West Bengal shared a common Bengali ethnic and linguistic heritage with East Pakistan.
- **During the Indo-Pakistani War of 1971, the Mukti Bahini became part of the Bangladesh-India Allied Forces.**

### 3. S-400 anti-missile system

**In News-** US, India friction grows over purchase of S-400 air defence system from Russia.

#### S-400 anti-missile system-

- It is Russia's most advanced long-range surface-to-air missile defence system.
- India had signed a \$5 billion deal with Russia to buy the S-400 air defence missile systems in 2018.
- The system is also known as the 'Triumph' interceptor-based missile system.
- It can simultaneously track numerous incoming objects - all kinds of aircraft, missiles and UAVs in a radius of 400km and launch appropriate missiles to neutralise them.
- Russia plans to complete the delivery by 2025.

### 4. Draft Data Centre Policy, 2020

**In News-** The Ministry of Electronics & Information Technology (MeitY) has released the Draft Data Centre Policy, which aims to simplify clearances for setting up data centres in the country.

#### About it-

##### Vision of the Draft Data Centre Policy-

- Making India a Global Data Centre hub,
- Promote investment in the sector,
- Propel digital economy growth,
- Enable provisioning of trusted hosting infrastructure to fulfil the growing demand of the country and facilitate state of the art service delivery to citizens.

##### Provisions of the Draft Data Centre Policy-

- Providing Infrastructure Status to the Data Centre Sector, at par with other sectors like Railways, Roadways, and Power.
- Demarcation of specific zones with necessary infrastructure such as roads, running water and electricity to set up **data centre parks**.
- These Data centre parks would be encouraged to set up their own power generation units, and use renewable energy.
- A single-window, time-bound clearance system for all the approvals required to set up a data-centre park.
- Formulation of **Data Centre Incentivization Scheme (DCIS)** which will specify the intended beneficiaries, applicability criteria and fiscal and non-fiscal incentives for the sector.
- Setting-up at least four **Data Centre Economic Zones (DCEZ)** in the country, as a Central Sector Scheme - DCEZ Scheme.
- **Data centres will be declared as an Essential Service** under "The Essential Services Maintenance Act, 1968 (ESMA)" which means that there would be a continuity of services even during times of calamities or crisis.
- An independent **Data Centre Industry Council (DCIC)** is proposed to be set up, which would act as an interface between the sector and the Government.

### 5. Digital Sky Platform

**In news-** Recently, BCCI has been given the conditional nod till Dec 31 or until the full operationalisation of Digital Sky Platform.

- It is an online IT platform developed for handling Unique Identification Number(UIN) issued by DGCA, Unmanned Aircraft Operator Permit(UAOP) applications, and permission to fly Remotely Piloted Aircraft System(s)(RPAs) in India.
- This platform is in operation since 2018.
- It is the first-of-its-kind national unmanned traffic management (UTM) platform that implements “no permission, no take-off” (NPNT).
- Its users will be required to do a one-time registration of their drones, pilots and owners.
- To get permissions to fly, RPAS operators or remote pilots will have to file a flight plan.
  - Green zones: Flying in the ‘green zones’ will require only intimation of the time and location of the flights via the portal or the app.
  - Yellow zones: Permissions will be required for flying in ‘yellow zones’
  - Red zones: The flights will not be allowed in the ‘red zones’.

**Civil RPA is categorized as indicated below:**

|        |  |
|--------|--|
| Nano   | Less than or equal to 250 grams.                       |
| Micro  | Greater than 250 grams and less than or equal to 2 kg. |
| Small  | Greater than 2 kg and less than or equal to 25 kg.     |
| Medium | Greater than 25 kg and less than or equal to 150 kg.   |
| Large  | Greater than 150 kg.                                   |

## 6. Information Technology Rules 2021

**In news-** The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021 has been framed in exercise of powers under section 87 (2) of the Information Technology Act, 2000 and in supersession of the earlier Information Technology (Intermediary Guidelines) Rules 2011.

**More about it-**

- Part- II of these Rules shall be administered by the Ministry of Electronics and IT, while Part-III relating to Code of Ethics and procedure and safeguards in relation to digital media shall be administered by the Ministry of Information and Broadcasting.
- Due diligence must be followed by intermediaries, including social media intermediaries.
- In case, due diligence is not followed by the intermediary, safe harbour provisions will not apply to them.
- The Rules make a distinction between social media intermediaries and significant social media intermediaries to encourage innovations and enable growth of new social media intermediaries.
- Significant Social Media Intermediary should appoint a Chief Compliance Officer, and Resident Grievance Officer who shall be a resident in India.
- Code of Ethics for online news, OTT platforms and digital media prescribes the guidelines to be followed by OTT platforms and online news and digital media entities.
- The OTT platforms would self-classify the content into five age based categories- U (Universal), U/A 7+, U/A 13+, U/A 16+, and A (Adult).
- Platforms would be required to implement parental locks for content classified as U/A 13+ or higher, and reliable age verification mechanisms for content classified as “A”.



The rules are based on Supreme Court observations in **suo-moto writ petition (Prajawala case)** where it opined that the Government of India may frame necessary guidelines to eliminate child pornography, rape and gangrape imageries, videos and sites in content hosting platforms and other applications.

## 7. M4 armoured vehicles

**In news-** Recently, the Indian Army ordered an emergency procurement of M4 armoured vehicles, from the Pune-based defence company Bharat Forge of the Kalyani group.

### About Kalyani M4 armoured vehicle-

- It is a multi-role platform, designed to meet the requirements of the armed forces for quick mobility in rough terrain and in areas affected by mine and IED threats.
- M4 has ballistic and blast protection from up to 50 kg TNT side blast, or IED or roadside bombs due to its design that is built on a flat-floor monocoque hull.
- The vehicle has a payload of 2.3 tonnes and an operating range of about 800 km.
- The M4 is an original product of the South African arms firm Paramount Group but has been fine-tuned for Indian conditions by Bharat Forge.

### Other competitors with M4-

**Mahindra Marksman-** India's first armoured capsule-based light bulletproof vehicle to provide protection to the personnel of defence, paramilitary and police forces against small arms fire and grenade attacks.

**Tata Kestrel-** It is a modern armoured personnel carrier developed by Tata Motors and the DRDO.

**Aditya MPV-** Aditya is the **first version of Mine-Resistant Ambush Protected-type vehicle used by the Indian Army** and the Central Reserve Police Force as an armoured personnel carrier to transport personnel with protections from explosives and small arms fire.

## 8. Regulations for OTT and online news content

**In news:** Govt. frames new rules to hold social media, OTT accountable for content.

### Regulations for ott and online news content-

- The digital news platforms will have to follow the programme code under the Cable Television Networks Regulation Act and Norms of Journalistic Conduct of the Press Council of India, which broadly guide the content, put out in television and print media.
- Similarly, OTT platforms will not stream content, which is against the sovereignty and integrity of the country, endangers security of state, which is detrimental to India's friendly relations with foreign countries, and content, which is likely to incite violence or disturb public order.
- The platforms also have to take into consideration India's multi-racial and multi-religious context, and exercise due caution and discretion when featuring the activities, beliefs, practices, or views of any racial or religious group.
- The **grievance redressal structure** that they are mandated to set up will be a **three-tier structure**.
- The first tier will be a grievance redressal mechanism to be established by the platforms themselves.
- The second tier will be a self-regulatory body to be headed by a retired Supreme Court or high court judge or an eminent person.

- The third tier will be an 'oversight mechanism' by the government as part of which an inter-ministerial committee (IMC) will be set up.

## SOCIAL MEDIA

- Identify 'first originator' of content that authorities consider anti-national
- Appoint grievance officer, resolve complaints in 15 days
- File monthly compliance report on complaints received, action taken

## DIGITAL NEWS

- Follow Press Council of India, Cable TV Networks (Regulation) Act norms.
- Self-regulatory bodies to oversee adherence to Code of Ethics
- I&B Ministry to form panel, oversight mechanism

## OTT PLATFORMS

- Self-classify content into five age-based categories: U (universal), U/A 7+ (years), U/A 13+, U/A 16+, and A.

- Parental locks for any content classified as U/A 13+ or above.
- Age verification mechanism for content classified as 'A' (adult)

## 9. Anti-Tank Guided Missile Systems 'Helina' and 'Dhruvastra'

**In News-** Joint User Trials for Helina (Army Version) and DhruvAstra (Air Force Version) Missile Systems were carried out from Advanced Light Helicopter (ALH) platform in desert ranges recently.

### About Helina-

- Helina, which is the **helicopter-launched version of the Nag missile system**, is a third-generation fire and forget class anti-tank guided missile (ATGM) system mounted on the ALH.
- The system has **all- weather day and night operational capabilities** and can defeat battle tanks with conventional armour as well as explosive reactive armour (ERA).
- It can engage targets both in direct hit mode as well as top attack mode.
- It has also undergone successful trials in 2018.

### About Dhruvastra-

While the Helina weapon system has been developed for the Indian Army, its **IAF variant Dhruvastra** has also been developed by the DRDO and now both variants are ready for induction into services.

## 10. NetWire

**In news-** NetWire was in news with respect Elgar Parishad case accused Rona Wilson (installation of the NetWire remote access Trojan ("RAT") on Wilson's computer)

### About the NetWire-

- It is a **remote access Trojan** focused on password stealing and keylogging, as well as including remote control capabilities.
- It has been used by malicious groups since 2012 and distributed through various social engineering campaigns (malspam)
- As per the experts, NetWire RAT has been observed during 2020 as one of the most active botnets.
- This malware was one of the malware families most exploited in COVID-19 phishing campaigns between February and April 2020.
- NetWire is often launched via social engineering campaigns or as a later payload of another malware chain.
- Criminals send emails with malicious files attached to a wide number of users and expect at least someone to open the infected file.
- Once a victim clicks on it, the malware file is downloaded onto the victim's computer.

**Phishing** is the fraudulent practice of sending emails purporting to be from reputable companies in order to induce individuals to reveal personal information, such as passwords and credit card numbers.

**Malware families most actively exploited COVID-19 phishing campaigns are:** AngentTesta, Netwire, LokiBot, HawkEye, Aurora, Hakbit, Form Book

## 11. Inner Line Permit

**In news:** The Uttarakhand government sought withdrawal of "inner-line permit" (ILP) system in Niti Valley of Chamoli district and Nelang Valley of Uttarkashi district.

### Why is the Inner Line permit in Uttarakhand's three districts?

- In Uttarakhand, tourists have to obtain ILP for locations near China border, at least in the **three districts of Uttarkashi, Pithoragarh and Chamoli.**
- **Nelong valley of Uttarkashi and Niti village, Chamoli share boundaries with China.**
- **Vyas valley, Dharchula, Pithoragarh** is strategically more sensitive as it shares boundaries with both China and Nepal.

### What is the Inner Line Permit system?

- ILP is a document that allows an Indian citizen to visit or stay in a state that is protected under the ILP system.
- IPL in force today in three Northeastern states — Arunachal Pradesh, Nagaland, Mizoram and Manipur.
- It has its origin in Bengal Eastern Frontier Regulation Act, 1873, which the British framed to restrict the entry and regulate the stay of outsiders in designated areas.
- After Independence, the Indian government retained it to address local concerns about protecting the interests of the indigenous people from outsiders belonging to other Indian states.
- An ILP is issued by the state government concerned.

## 12. Kalvari class Submarines

**In news:** Indian Navy's fifth Kalvari-class Diesel Electric attack submarine INS Vagir was launched at Mazgaon Dock in Mumbai.



#### Kalvari-class background-

- The other vessels of the Kalvari class are INS Kalvari, INS Khanderi, INS Karanj, INS Vela and INS Vagsheer.
- Kalvari and Khanderi have been commissioned in 2017 and 2019, Vela and Karanj and undergoing sea trials, Vagir has now been launched and Vagsheer is under construction.
- The now-decommissioned Kalvari and Vela classes were one of the earliest of the submarines in the post-independence Indian Navy, which belonged to Soviet origin Foxtrot class of vessels.

#### Important Facts about Kalvari Class Submarines-

- These submarines are built under **Project 75** and their design is based on the Scorpene class of the submarines.
- Constructed by the public sector shipbuilder Mazagon Dock Ltd (MDL) in Mumbai.
- Used in anti-warship and anti-submarine operations, intelligence gathering and surveillance and naval mine laying.
- Design is based on Scorpene class of submarines designed and developed by French defence major Naval Group formerly DCNS and Spanish state owned entity Navantia.

**India's Current submarine fleet** includes one submarine each in nuclear powered Classes of Chakra and Arihant. In addition to **14 submarines** belonging to three classes of Diesel Electric category — Kalvari, Shishumar and Sindhughosh.

### 13. Arms trade report

**In news:** According to a report by SIPRI, India's arms imports came down by a third between 2011-2015 and 2016-2020.

#### About the report-

- **Stockholm International Peace Research Institute (SIPRI)**, an international organisation that tracks arms trade has released a report.
- SIPRI is an international institute founded in 1966 and **provides data, analysis and recommendations for armed conflict, military expenditure and arms trade**, disarmament and arms control.
- India's arms imports came down by a third between 2011-2015 and 2016-2020.
- As per the report, **India remains the second highest importer**, only behind Saudi Arabia.
- The **top five global arms exporters** were the US, Russia, France, Germany and China in 2016-2020.
- The report also stated that **arms imports by India decreased by 33 percent** between 2011–15 and 2016–20.
- **Reasons for decline of India's arms imports** were due to factors including reducing the dependence on Russian arms, and the complex procurement procedure.
- **Russia was the most affected supplier**, although India's imports of US arms also fell, by 46 per cent.
- Indian government last year had announced a negative imports list of 101 defence equipment and platforms and this year it promoted the domestically produced weapons and platforms.
- Substantial increases in transfers by three of the top five arms exporters the USA, France and Germany were largely offset by **declining Russian and Chinese arms exports**.

#### About the Stockholm International Peace Research Institute (SIPRI):

- SIPRI is an international institute based in Stockholm.
- It was founded in 1966 and provides data, analysis and recommendations for armed conflict, military expenditure and arms trade as well as disarmament and arms control.

- SIPRI's organizational purpose is to conduct scientific research in issues on conflict and cooperation of importance for international peace and security, with the goal of contributing to an understanding for the conditions for a peaceful solution of international conflicts and sustainable peace.
- The SIPRI Arms Transfers Database contains information on all transfers of major conventional weapons from 1950 to the most recent full calendar year.

## 14. Operation Thiruvallur

- Southern Command of the Indian Army, Pune has launched 'Operation Thiruvallur' in Tamil Nadu.
- It has been launched for the safe disposal of at least 10 tonnes of unexploded ordnance collected from the industrial sector in Thiruvallur district.
- **The aim of the operation** is to ensure a safe environment for all citizens in and around Gummidipoondi.
- It **involves meticulous and high risk segregation of unexploded ordnance and controlled destruction**, which has been undertaken by a formation of the Southern Command that has expertise in handling bombs and explosive devices.
- The dump had been left unattended after a violent blast and consequent death of a factory worker a few years ago.
- The **operation is being undertaken under the aegis of 'Aid to Civil Authorities'**.
- The operation is a **classic demonstration of joint coordination and planning between the Army and Tamil Nadu state government**, on whose request the operation has been specifically approved by the Ministry of Defence.

## 15. Gelatin sticks

**In news:** Recently, the recovery of gelatin sticks near the residence of industrialist Mukesh Ambani has sparked off a major political upheaval in Maharashtra.

### About gelatin sticks-

- They are explosive materials **used by industries for the purpose of mining and construction related work**, like building structures, roads, rails and tunnels etc...
- They **cannot be used without a detonator**.
- Blasting Gelatin, **also known as Gelignite or simply jelly** is a kind of explosive that is made up of collodion-cotton and dissolved in wood pulp and saltpetre.
- Alternatively, it **can also be dissolved in nitroglycol**.
- This is one of the **cheaper explosives** and burns slowly.
- Since it cannot be burned without a detonator, these explosives can also be stored properly.
- It was **invented by Alfred Nobel** in the year 1875, who also invented dynamite.
- Only licensed explosive manufacturers can make gelatin sticks.
- In India, the manufacture is regulated by **Petroleum and Explosives Safety Organization (PESO)**, formerly known as Department of Explosives.
- **From 2002 till 2003**, gelatin sticks were **used in attacks by a terror organisation called the Gujarat Muslim Revenge Force in Mumbai**.

### Why did the police not able to trace its sale?

- Loose sticks are not bar coded yet.

- Though the government has recently introduced a rule that individual explosives should also be barcoded but the implementation of the same has been delayed.
- Another reason for not tracing it is blackmarketing behind these sticks.
- The customers may be small time contractors who use it in construction work or private individuals who mainly use it to blast wells.

#### About PESO-

- Since its inception on September 5, 1898, it has been the **nodal agency for regulating safety of hazardous substances such as explosives, compressed gas and petroleum** including gelatin sticks.
- It looks after the approval, grant, amendment and renewal etc. of various licenses and permits regarding manufacture, testing, authorisation, storage, transportation, use, import, and export of explosives.
- It administers the responsibilities under the **Explosives Act 1884** and **Petroleum Act 1934 and the Rules** made there under with the motto "Safety First" and **Explosives Rules 2008** etc...
- The PESO **comes under the Ministry of Commerce and Industry.**
- PESO has its Headquarters at Nagpur in Maharashtra.

## 16. Exercise Vajra Prahar

**In news-** 11th edition of the military exercise 'Vajra Prahar ' between India and the United States was conducted at Special Forces Training School, at Bakloh, Himachal Pradesh.

#### About Exercise Vajra Prahar-

- 'Vajra Prahar' is a Special Forces joint training exercise conducted alternately in India and the US to share the best practices and experiences in areas such as joint mission planning and operational tactics as also to improve interoperability between the Special Forces of both nations.
- It started off in 2010.
- Armies of participating nations jointly train, plan and execute a series of operations for neutralisation of threats of varied nature.
- The common aim is to counter threats of international terrorism through mutual training and jointness.
- The 10th edition of VAJRA PRAHAR was **held in 2019 at Seattle, USA.**

## 17. OLED (Organic Light Emitting Diodes)

- OLED is a flat light emitting technology, made by placing a series of organic thin films between two conductors.
- It consists of an organic layer sandwiched between two conducting sheets (an Anode and a cathode) with a glass plate the top and bottom.
- OLED is a newer display technology for mobiles and monitors.
- When electrical current is applied, a bright light is emitted.
- OLEDs are superior in their exceptional colour reproduction, fast response times, higher brightness and extremely light weight designs.
- The response time can be up to 1000 times faster than LCD displays which can be under 10  $\mu$ s.
- Mass production can be done for minimal cost, and as the materials do not use lead or such other material, hence environment friendly.
- OLED displays do not use backlight due to which the power consumption is less.
- These devices are thinner than their LCD counterparts.
- However, they have lower lifetime due to limited lifetime of organic materials.

- As water can cause instant damage to the organic materials of the OLED displays it can limit the longevity of more flexible displays.
- As OLED uses metallic cathode which acts as a mirror with reflectance approaching 80% this leads to poor readability in the bright light outdoors.

#### Differences between LED and OLED-

| OLED  | LED   |
|---|---|
| Made of organic materials.  | Made from inorganic compounds.  |
| The pixels are self-illuminating.                                     | The LEDs used to light an LED display                                 |
| Colours do not get washed out when viewers watch from extreme angles. | Colours do not get washed out when viewers watch from extreme angles. |
| Wider viewing angle than do LED.                                      | LED feature a limited viewing angle.                                  |
| Ability to develop lighter and thinner displays.                      | LED are heavier and thicker displays.                                 |
| Response Time faster  | Response Time of LED is slower than that of OLED.                     |
| More energy efficient   | LED consume more energy efficient when compared to their OLED         |

## 18. Military Farms Service

**In news-** Recently, Indian Army has formally closed the Military Farms Service which administered the 130 military farms all across the country.

#### A brief History of Military Farm Service-

- British established the first Military Farm in 1889 at Allahabad.
- Aim was to ensure nutritious milk supply to the troops deployed in India.
- The Military Farms also supplied hay to the Animal Transport units of the Indian Army.
- The role of Military Farms had expanded from only milk production to artificial insemination of cows too and the first pioneering steps in this regard were taken as early as in 1925.
- At one point of time the Indian Council for Agricultural Research (ICAR) had found Military Farms to be the largest holders of cattle in the country.
- In collaboration with the Ministry of Agriculture, the Military Farms undertook 'Project Frieswal', one of the largest cross-cattle breeding programmes in the country.
- Aim of the project was to produce and rear Holstein Friesian crossbred with Sahiwal breed for high milk productivity.

## 10.1 Joint Logistics node in Mumbai

**In news-** Recently, Chief of Defence Staff operationalized Joint Logistics Node in Mumbai.

#### More information-

- The Joint Operations Division (JOD) under the aegis of Headquarters Integrated Defence Staff (Hq IDS) actively pursued and enabled establishment of the JLN as the first concrete step towards logistics integration of the Tri-Service.

- The JLN in Guwahati and Tri-Services, Andaman and Nicobar Command, Port Blair were operationalised on January 01, 2021.
- JLN are required for better integration between the Army, the Navy and the Air Force.
- They provide integrated logistics cover to the Armed Forces for their small arms ammunition, rations, fuel, general stores, civil hired transport, aviation clothing, spares and also engineering support in an effort to synergise their operational efforts.

## 19. National Maritime Day

**In news:** The Ministry of Ports, Shipping and Waterways celebrated 58th National Maritime Day.

### About National Maritime Day-

- National Maritime Day is an annual celebration on April 5th.
- The first celebration took place in 1964 to spread awareness about intercontinental commerce and the economy.
- The day is celebrated every year to support the global economy, the most well-organized, safe and sound environmentally responsive way of transporting goods from one corner to another corner in this world.
- This year's theme is 'Sustainable Shipping beyond COVID-19'.
- The legacy of Indian shipping first started on April 5th, 1919, when the first ship 'The SS Loyalty' manufactured by Scindia Steam Navigation Company Ltd. sailed from Mumbai to the United Kingdom.
- India became a **member of the International Maritime Organisation (IMO) in 1959.**

### National Maritime Day awards-

- **The Varuna Award:** Consists of a statue of Lord Varuna and a scroll is awarded to them for their long and exceptional contribution.
- **The NMD Award:** Given to the people for their excellence for their lifelong contribution and distinguished achievements at the senior functional level.
- **The Outstanding Contribution to Maritime Education and Training Award**

## 20. Exercise la Perouse 2021

**In news-** For the first time, Indian Navy Ships and Aircraft participated in exercise La Perouse.

### Exercise la Perouse 2021-

- The multilateral maritime exercise La P rouse was conducted in the Eastern Indian Ocean Region.
- Participation of India completed the QUAD force representation in the French led naval exercise.
- Previously in 2019, La Perouse exercise saw the participation of the US, Japanese and Australia to showcase their common goal of maritime security in the Indian Ocean and Asia-Pacific region.
- Indian Navy Ships INS Satpura (with an integral helicopter embarked) and INS Kiltan along with P8I Long Range Maritime Patrol Aircraft participated in it.
- The Indian Navy ships and aircraft exercised at sea with ships and aircraft of French Navy (FN), Royal Australian Navy (RAN), Japan Maritime Self Defence Force (JMSDF) and **United States Navy (USN).**

## 21. Fake buster

**In news-** Researchers at the Indian Institute of Technology, Ropar in Punjab and Monash University, Australia have developed a unique detector named 'FakeBuster'.



### More about the detector-

- It is claimed that 'FakeBuster' is one of the first tools to detect imposters during live video conferencing using DeepFake detection technology.
- The real time mimicked visuals (videos) known as 'Deepfakes' can even be used during online examinations and job interviews.
- The detector helps to identify imposters attending a virtual conference without anybody's knowledge.
- It can find out faces manipulated on social media to defame or make a joke of someone.
- This standalone solution enables a user (organizer) to detect if another person's video is manipulated or spoofed during a video conferencing.
- This tool will also help in identifying fake news.
- It is claimed that the tool has achieved over 90 per cent accuracy.
- FakeBuster works in both online and offline modes.
- The device can presently be attached with laptops and desktops only.
- The team is working on using the device to detect fake audios.

## 22. I-familia, global database to identify missing persons

**In news** - Recently, **Interpol** has launched a new global database named "I-Familia" to identify missing persons through family DNA.

### About I-familia-

- I-Familia is a global database for identifying missing persons based on international DNA kinship matching.
- Its aim is to reunite loved ones or to bring closure to cases and allow families to rebuild their lives.
- Three components of I-Familia are-
  1. A dedicated **global database** to host the DNA profiles provided by relatives, held separately from any criminal data
  2. **The DNA matching software, called Bonaparte**, developed by Smart Research.
  3. **Interpretation guidelines**, produced by INTERPOL, to efficiently identify and report potential matches.
- SMART Research provides the software system, maintenance and support to INTERPOL.
- In DNA identification through kinship matching biological relatives share a percentage of their DNA, depending on their relationship.
- In the event that a DNA sample from the missing person cannot be obtained for direct matching, DNA from close family members (parents, children, siblings) can also be compared and this is where I-Familia is set to make a difference.

## 23. Women officers as combat pilots in Army Aviation Corps

**In news**- Two women army officers have for the first time been selected to train as helicopter pilots at the Combat Army Aviation Training School at Nashik in Maharashtra.

### Key updates-

- While women officers in the Indian Air Force and the Indian Navy fly helicopters, the Army Aviation Corps only inducted male officers until now.
- Of the 15 women officers who volunteered to join army aviation, only two were selected after the Pilot Aptitude Battery Test (PABT) and medicals.
- They would join front-line flying duties on completion of their training at Nashik training school in July 2022.

### About Army Aviation Corps-

- It was started in 1986.
- It operates the Dhruv advanced light helicopter, Chetaks, Cheetahs and Cheetal helicopters.
- It carries out an important role in supporting the army's deployment in high altitude areas, including the Siachen Glacier.

### Statistics of women officers-

- There are 9,118 women currently serving the army, navy and air force, with the services giving them more opportunities for career progression.
- One of the turning points for women in the military came in 2015 when IAF decided to induct them into the fighter stream.
- Earlier this year, the Indian Navy deployed four women officers on warships after a hiatus of almost 25 years.
- India's only aircraft carrier INS Vikramaditya and fleet tanker INS Shakti are the warships that have been assigned their first women crews since the late 1990s.
- In May 2021, the army inducted the first batch of women into the Corps of Military Police, the first time that women joined the military in the non-officer cadre.
- In percentage terms, women still form a small part of the military -- **0.56% of the army, 1.08% of the air force and 6.5% of the navy.**

## 24. Project Seabird

**In news-** Defence Minister Rajnath Singh recently visited the Karwar Naval Base to review the progress of ongoing infrastructure development under 'Project Seabird'.

### Project Seabird-

- **INS Kadamba** is an Indian Navy base located near Karwar in Karnataka.
- The first phase of construction of the base, code-named Project Seabird, was completed in 2005.
- Development of Phase II commenced in 2011.
- INS Kadamba is currently the third largest Indian naval base.
- In the early 1980s, then Chief of the Naval Staff Admiral Oscar Stanley Dawson conceived of a dedicated naval base sandwiched between the hills of the Western Ghats and the Arabian Sea near Karwar.
- The location had significant advantages as being very close to the world's busiest shipping route between the Persian Gulf and East Asia.
- It also offered a natural deep-water harbour.
- In 1999, following Pokhran-II, then Defence Minister George Fernandes approved Project Seabird to pursue the construction of the new naval base.
- The Binaga Bay was dredged and its rock outcrops blasted to allow even large aircraft carriers to turn inside the bay.
- The Phase-IIA expansion approval was obtained from the Cabinet Committee on Security in 2012.
- The work commenced in 2016 and is expected to be completed by 2022.
- After the completion of Phase II-B of the project, INS Kadamba will be the biggest naval base east of the Suez Canal.

## 25. Agni-P missile

**In news-** DRDO successfully flight tested the new generation **nuclear-capable ballistic missile**, Agni-P (Prime), at Integrated Test Range (ITR) in Chandipur off the coast of Odisha.

### About Agni-P-

- It is the first of the new class of Agni missile to be launched by DRDO.
- It is the sixth missile in the Agni (missile) series of ballistic missiles.
- The ballistic missile weighs 50% less than Agni 3 and has new guidance and a new generation of propulsion.
- Since the missile is canisterised, it can be launched from rail and road and stored for a longer period and transported all across the country.
- The missile has a range between 1000km to 2000km, and can be used to target enemy armadas in the Indo-Pacific.

### About Ballistic and cruise missiles-

#### Ballistic Missile

- A ballistic missile follows a ballistic trajectory to deliver one or more warheads on a predetermined target.
- A ballistic trajectory is the path of an object that is launched but has no active propulsion during its actual flight (these weapons are guided only during relatively brief periods of flight).
- The trajectory is fully determined by a given initial velocity, effects of gravity, air resistance, and motion of the earth (Coriolis Force).
- Shorter range ballistic missiles stay within the Earth's atmosphere.
- Longer-ranged intercontinental ballistic missiles (ICBMs), are launched on a sub-orbital flight trajectory and spend most of their flight out of the atmosphere.

#### Types of ballistic missiles based on the range are-

- Short-range (tactical) ballistic missile (SRBM): Range between 300 km and 1,000 km.
- Medium-range (theatre) ballistic missile (MRBM): 1,000 km to 3,500 km.
- Intermediate-range (Long-Range) ballistic missile (IRBM or LRBM): 3,500 km and 5,500 km.
- Intercontinental ballistic missile (ICBM): 5,500 km +

#### Cruise missile

- A cruise missile is a guided missile (target has to be pre-set) used against terrestrial targets.
- It remains in the atmosphere throughout its flight.
- It flies the major portion of its flight path at approximately constant speed.
- Cruise missiles are designed to deliver a large warhead over long distances with high precision.
- Modern cruise missiles are capable of travelling at supersonic or high subsonic speeds, are self-navigating, and are able to fly on a non-ballistic, extremely low-altitude trajectory.

#### Types of cruise missiles based on speed are-

- Hypersonic (Mach 5): these missiles would travel at least five times the speed of sound (Mach 5). E.g. BrahMos-II.
- Supersonic (Mach 2-3): these missiles travel faster than the speed of sound. E.g. BrahMos.
- Subsonic (Mach 0.8): these missiles travel slower than the speed of sound. E.g. Nirbhay.

| Ballistic Missile  | Cruise Missile  |
|--|---|
| A ballistic missile is targeted as a projectile from a single launch force with not much added guidance. | A cruise missile locates its target, or has a preset target, and navigates there.   |
| Powered on its way "up" only   | Powered throughout its full journey.  |
| Can be used for nuclear attack   | Normally have on-board guidance and can follow pre-set paths to the target and hit targets much more precisely because their primary use is not that of nuclear attack. |
| Rocket-powered booster   | Turbine-powered airplane  |
| Fly high up into the atmosphere  |   |
| Rely on earth Gravity target   | Don't rely on Earth Gravity   |

## 26. Kadaknath chicken

**In news-** The Kadaknath breed of chicken is changing lives of people in Odisha in the dark days of the COVID-19 pandemic.

### Key updates-

- The fear of COVID-19 has made many in Odisha to eat the meat of Kadaknath to increase their immunity.
- Kadaknath chicks are supplied to farmers from the Central Poultry Development Organization in Bhubaneswar.
- Large numbers of COVID-19-hit returnee migrant workers and self-help group (SHG) members are busy rearing and selling Kadaknath after getting financial help from the organisation.

### About Kadaknath chicken:

- The Kadaknath breed is popular for its black meat and known as **BMC (black meat chicken)**.
- It is famous for its meat quality, texture and taste.
- These birds bear great medicinal value in homeopathy and are useful in treating a particular nervous disorder.
- They are mainly reared by tribal communities in Bhil and Bhilala in the districts Jhabua and Dhar in the state of Madhya Pradesh(MP).
- Madhya Pradesh has won the **Geographical Indication (GI) tag** for Kadaknath.
- Kadaknath chickens are best suited for backyard farming rather than growing on commercial scales.

There are **3 different breeds of Black Meat Chicken (BMC)** available in the world.

- Kadaknath – Native to Madhya Pradesh, India.
- Silkie – Native to China.
- Ayyam Cemani – Native to Indonesia

### Benefits of Kadaknath Chicken breed:

- Its meat is textured and flavoured.
- The breeds are adaptable to any kind of environment.
- The meat helps to increase blood cells and haemoglobin and aids in curing pulmonary problems.
- The Kadaknath birds convert feed quickly into meat (feed conversion ratio is high).
- Its eggs are used to treat headaches, post-delivery problems, asthma and nephritis.
- The Kadaknath breed is hardy and highly resistant to diseases.
- Unlike broiler chicken, these can survive even on kitchen waste.
- These birds' meat has **more protein, less fat, and low cholesterol** when compared to similar kind of poultry breeds.
- Their meat costs about 600 to 800 Rs/kg, these bird eggs are also nutritious, they are sold up to 40 to 50 Rs/egg in the market.
- Its eggs are brown in colour.
- Because of the high feed conversion ratio, these birds can gain a body weight of 1.10 to 1.25 kg in 100 to 125 days.
- Kadaknath chickens may require a little more care initially to grow in a controlled environment and later they can be left freely in the open field.

## 10.2 Global Cybersecurity index

**In news-** India is ranked **10th** in the **Global Cybersecurity Index 2020 (GCI)** released by the International Telecommunication Union (ITU).

### Key updates-

- The Global Cybersecurity Index (GCI) is a trusted reference that measures the commitment of countries to cybersecurity at a global level – to raise awareness of the importance and different dimensions of the issue.
- Each country's level of development or engagement is assessed along **five pillars** –
  - (i) Legal Measures,
  - (ii) Technical Measures,
  - (iii) Organizational Measures,
  - (iv) Capacity Building,
  - (v) Cooperation – and then aggregated into an overall score.
- India has jumped 37 places to be ranked 10th in GCI, 2020.
- The third iteration of the GCI was released in 2018 and India was ranked 47.
- In this year's report, India has scored 97.5 in GCI.
- It is ranked fourth among Asia-Pacific nations and the rankings have demonstrated India's success and commitment to cybersecurity.
- The US is ranked first with a score of 100 and the UK and Saudi Arabia share the second rank with a score of 99.54 each.
- Estonia is ranked third with a global score of 99.48.
- South Korea **and Singapore scored fourth position** and stood at first place in the regional ranking.

### International Telecommunication Union (ITU)-

- ITU is a specialized agency of the United Nations responsible for all matters related to information and communication technologies.
- It was established on 17 May 1865 as the International Telegraph Union, making it among the oldest international organizations still in operation.



- It adopted its current name in 1934 and became a UN specialized agency in January 1949.
- It is headquartered in Geneva, Switzerland.
- Secretary-General is Houlin Zhao.
- Its parent organization is the United Nations Economic and Social Council (ECOSOC).
- The ITU promotes the shared global use of the radio spectrum, facilitates international cooperation in assigning satellite orbits, assists in developing and coordinating worldwide technical standards, and works to improve telecommunication infrastructure in the developing world.
- There are currently 193 member states of the ITU, including all UN member states except the Republic of Palau.
- The most recent member state to join the ITU is South Sudan in 2011.

## 27. Nagaland declared 'disturbed area' under AFSPA

**In news-** The entire state of Nagaland has been declared a "disturbed area" till December 31, 2021 under the Armed Forces (Special Powers) Act (AFSPA).

### Key updates-

- The AFSPA has been in force in Nagaland for decades and was not withdrawn even after a framework agreement was signed on August 3, 2015 between Naga insurgent group NSCN-IM and government interlocutor R N Ravi in the presence of PM Narendra Modi.
- The framework agreement came after over 80 rounds of negotiations spanning 18 years with the first breakthrough in 1997 when the ceasefire agreement was sealed after decades of insurgency in Nagaland.
- However, there has been no progress in the peace talks as the NSCN-IM has sought a separate flag and constitution for Nagaland, which has been rejected by the Central government.

### About AFSPA-

- Armed Forces Special Powers Act (AFSPA), 1958 gives armed forces the power to maintain public order in "disturbed areas".
- The Act came into force in the context of increasing violence in the Northeastern States decades ago.

### Provisions:

- Any suspect can be arrested without a warrant.
- Armed forces can search any house without any warrant and required force can be used to search for it.
- The armed forces have the authority to **prohibit gathering of five or more persons** in an area.
- The forces **can open fire on the disturbing factors after giving due warning** if they found any suspicious person.
- If a person is a **repeated offender** and tries to disturb the peace of the area then armed forces are entitled to use force till his death.
- If the Armed Forces suspect that any militant or offender is hiding in any house/building then the site or structure can be destroyed by the forces.
- Any Vehicle can be stopped and searched.
- **Even in the case of wrongful action by the armed forces, legal action is not taken against them.**

It is **operational** in entire states of Nagaland, Assam, Manipur (except Imphal Municipal area), three districts namely Changlang, Tirap and Longding of Arunachal Pradesh and the areas falling within the jurisdiction of the eight police stations in the districts of Arunachal Pradesh, bordering the State of Assam.

### Process of declaring a Disturbed Area:

- A “disturbed area” is one which is declared by **notification under Section 3** of the AFSPA.
- As per Section 3, it **can be invoked in places** where “the use of armed forces in aid of the civil power is necessary”.
- An area can be disturbed due to differences or disputes between members of different religious, racial, language or regional groups or castes or communities.
- The **Central Government or the Governor of the State or administrator of the Union Territory** can declare the whole or part of the State or Union Territory as a disturbed area.
- The **Ministry of Home Affairs would usually enforce this Act** where necessary, but there have been **exceptions** where the Centre decided to forego its power and leave the decision to the State governments.
- **Army and armed forces** are sent in the area only after the implementation of this law.
- As per the Section (3) of the AFSPA, it is **mandatory to seek the opinion of the state government whether** an area is disturbed or not.
- If an area is declared as the disturbed area, it will be under the **control of special forces for at least 3 months**.

### Criticisms:

- The Act has been described as a **draconian law** that encourages the Army to carry out **human rights violations with impunity**.
- **Section 4** empowers officers to “fire upon or otherwise use force, even to the causing of death” not only in cases of self-defence but against any person contravening laws or orders.
- Hence it is criticized for providing sanction to soldiers for excessive use of force that is in contravention to international norms.
- This section is also said to be in **violation of Article 21** of the Indian Constitution.
- **Section 6** of the Act prohibits prosecution or other legal proceedings without the sanction of the central government.
- Hence it is argued that this provision gives blanket immunity to soldiers.
- Many times the armed forces are blamed for conducting **fake encounters and sexually exploiting women** in the disturbed areas.

## 28. India's 1st Autonomous Drone Defence Dome system, "Indrajaal"

**In news-** Grene Robotics, a Hyderabad-based technology R&D firm has designed and developed India's first indigenous drone defence dome called “Indrajaal” recently.

### About Indrajaal-

- This drone defence dome has the capability to autonomously protect an area of 1000-2000 sq km against the aerial threats
- It can assess and act on aerial threats such as Unmanned Aerial Vehicles (UAVs), loitering munitions, and Low- Radar Cross Section (RCS) targets.
- It has gained significance as Jammu Air Base on June 27th was attacked by UAVs to drop explosives next to the Mi-17 hangar.
- The ANTI-UAV systems will not only provide protection to defence bases but it will be beneficial for linear infrastructures like **international borders against advanced weaponry**.

### Key features of Indrajaal-

- Real-time situational awareness.
- Integrated and Intelligent meshed network.
- Integrated all current weapons suite and infrastructure.
- Honeycombed cell structure is seamlessly built.
- Synergic combination of 9-10 technologies.
- 24x7 persistent and autonomous monitoring, action and tracking.

### 10.3 Center of Excellence for Research & Analysis of Narcotics and Psychotropic Substances

**In news-** Recently, the Union Home Minister inaugurated the newly built Center of Excellence for Research & Analysis of Narcotics and Psychotropic Substances of the National Forensic Science University in **Ahmedabad**.

#### **About the Centre of Excellence(CoE)-**

- It is a government organization established with a mission to diminish the drug abuse cases and the total convictions in narcotic cases and to combat drug trafficking.
- It is mandated to assist several central and state agencies to react to the instability and insecurity caused by crimes like the smuggling of illicit drugs.
- Through research and development CoE will assist the other government agencies to bridge the gap between different forensic science laboratories by developing the database of narcotic and psychotropic substances under one roof.
- The latest technologies would be developed to identify designer drugs, precursor chemicals and other impurities in the illicit drugs seized by the law enforcement agencies.
- Through the educational campaign like seminar, conferences, workshop, CoE will educate various law agencies, scientific fraternities and other stakeholders to identify current upcoming trends in drug trafficking, drug abuse cases and new challenges in their analysis leading to rapid court convictions of NDPS.

#### **Objectives of the Laboratory-**

- To conduct research in different zones of narcotic drugs and psychotropic substances to facilitate the law enforcement agencies in quick conviction of the narcotic cases.
- To acquaint and create expertise in the scientific fraternity in the advanced areas of instrumental analysis of NDPS and designer drugs.
- To create state of art centralised facilities in interdisciplinary areas of NDPS drugs analysis.
- To create a database of NDPS drugs to establish a network between Forensic Science Laboratories and other laboratories engaged in Narcotic Drugs analysis.
- To create a facility for **quality management systems** and proficiency testing programs related to NDPS drugs.

#### **The National Forensic Sciences University-**

- The National Forensic Sciences University with the status of an Institution of National Importance is the world's first and only University dedicated to Forensic, behavioral, cybersecurity, digital forensics, and allied Sciences.
- It was established by the Government of India through Act, 2020 with the objective of fulfilling the acute shortage against the increasing demand for forensic experts in the country and around the world.
- The first campus was set up at Gandhinagar, Gujarat.
- 7 States of the country have expressed their desire to open Colleges and Centers of Excellence affiliated to the University.

- The Cyber Defence Center and Ballistic Research Center set up here is unique in the whole of Asia and the nation.
- Several new dimensions have been established in the Ballistic Research Center for the testing of bullet proof materials.

## 29. Scene of crime officers

**In news-** The **Karnataka State Police** will introduce 'scene of crime officers' to gather crucial and minute evidence from crime scenes.

### **About Scene of Crime officers (SoC officers)-**

- The SoC officers will specialise in forensic science as well in identification, collection and preservation of evidence at the scene of the crime.
- This is the first time in the country that dedicated officials will be deployed for evidence collection, a system that exists in advanced countries.
- In 1961 in London, the first crime scene officer post was created.
- Before this, in 2015, the Karnataka police had planned to create a crime scene management section in the state with 33 district scientific aid units (DSAs) and some selected police personnel were to be trained in evidence collection, but the plan did not materialise.
- At present, it is only in sensational cases that forensic experts from the FSL visit the scene of crime and guide investigating officers.
- In most cases, the crime scene management is done by the police personnel.

### **Role & Functions of SoC officers-**

- They will have a rank equivalent to police sub-inspector and will be part of the Directorate of Forensic Science Laboratories.
- They have to identify, record and collect evidence at the crime scene.
- They will assist investigation officers by providing crucial evidence material.
- SoC officials will provide the police force with more trained forensic experts for investigations.
- SoC officers will be trained investigators, who will undergo training at National Forensic Sciences University in Gandhinagar, Gujarat, and Central Forensic Science Laboratory in Hyderabad.
- Initially, SoC officers will be assigned for cases of serious nature.
- Apart from this, they will also be engaged in other police duties, including maintaining law and order.
- Once operational with 206 'scene of crime' officers deployed across 33 DSAs, they will be deployed in cases involving crime against women and children, crimes against weaker sections, and those that merit punishment of more than seven years.
- According to the initial plans by the police department, all districts will have one SoC unit with four to five SoC officials.

The police department is also planning to deploy a dedicated 'Forensic mobile lab' for SoC officers, so they can arrive at the crime scene as soon as possible with all the equipment needed.

## 30. Pegasus spyware

**In news-** According to **French media nonprofit, Forbidden Stories, and Amnesty International**, Pegasus spyware was used to spy on ministers, opposition leaders, journalists and businessmen.

### **Spying on Indians & others-**

- India was among the 10 countries where the numbers were concentrated with Mexico topping the list with 15,000 numbers.
- A large share of the numbers was also from West Asian countries such as UAE, Bahrain and Saudi Arabia, with Pakistan, France and Hungary being the other prominent countries on the list.
- This is the second time that Pegasus has been linked to phone surveillance.
- In 2019, some WhatsApp users in India, including journalists and activists, were informed that their phones had been compromised.

#### **About Pegasus spyware -**

- It is developed by the Israeli cyberarms firm NSO Group.
- It was discovered in August 2016 after a failed attempt at installing it on an iPhone belonging to a human rights activist led to an investigation revealing details about the spyware, its abilities, and the security vulnerabilities it exploited.
- The spyware can be covertly installed on mobile phones (and other devices) running most versions of iOS and Android.
- The current Pegasus software is able to exploit all recent iOS versions up to iOS 14.6.
- It enables the keystroke monitoring of all communications from a phone (texts, emails, web searches).
- It also enables phone call and location tracking, while also permitting NSO Group to hijack both the mobile phone's microphone and camera, thus turning it into a constant surveillance device.
- The spyware is named after the mythical winged horse Pegasus, a Trojan horse that can be sent "flying through the air" to infect phones.
- For instance, the spyware gains "root-level privileges".
- After this it can view everything from contact lists to messages and internet browsing history and send the same to the attacker.

#### **Zero-click attacks**

- Zero-click attack helps spyware like Pegasus gain control over a device without human interaction or human error.
- They do not require any action from the phone's user.
- Once a phone is infiltrated, the spyware gains "root-level privileges".
- After this it can view everything from contact lists to messages and internet browsing history and send the same to the attacker.
- Most of these attacks exploit software which receive data even before it can determine whether what is coming in is trustworthy or not, like an email client.
- These attacks are hard to detect given their nature and hence even harder to prevent.

#### **Forbidden Stories-**

- It is a non-profit organization with the mission "to continue and publish the work of other journalists facing threats, prison, or murder.
- It partners with organizations such as Reporters without Borders and Freedom of the Press Foundation.
- The Forbidden Stories venture was envisioned by Laurent Richard, a French investigative journalist and filmmaker in 2015.
- Forbidden Stories ensures that journalists under threat can secure their information.