



## New Defence Systems For Indian Army

**For Prelims:** F-INSAS, the Nipun mines, the Landing Craft Assault (LCA), DRDO

**For Mains:** Significance of advanced Defence Systems in India

### Why in News?

Recently, the Ministry of Defense has handed over **several new defence systems**, including the **F-INSAS, the Nipun mines, the Landing Craft Assault (LCA), to the Indian Army** as a part of Army's Modernization Plans.

### What is the F-INSAS system?

#### ▪ About:

- F-INSAS stands for **Future Infantry Soldier as a System**.
- It is a **programme for infantry modernisation**, which is aimed at **increasing the operational capability of the soldier**.
- Under the project, **soldiers are being equipped with modern systems** that are lightweight, all-weather-all-terrain, cost-effective and low maintenance.
- They have been indigenously designed by the Indian entities, including the [\*\*DRDO \(Defense Research and Development Organisation\)\*\*](#) and the [\*\*ordnance factories\*\*](#) ecosystem.

#### ▪ Items Under F-INSAS System:

- **AK-203 assault rifle:**
  - It is a Russian-origin gas-operated, magazine-fed, select-fire assault rifle.
  - It has a range of 300 metre.
- **Multi-Mode Hand Grenade:**
  - It can be used in **defensive and offensive** modes.
    - In defensive mode, the grenades are to be hurled when the thrower is in a shelter or has a cover.
    - In the offensive mode, the **grenades do not fragment and the adversary is harmed by the blast** or is stunned.
- **Ballistic Helmets and Ballistic Goggles:**
  - It provides soldiers with **ballistic helmets and ballistic goggles** for protection **against small projectiles and fragments**, along with a bullet-proof vest.
  - The helmet and the bullet-proof jacket are capable of protecting the soldier against 9 mm bullets and ammunition fired from AK-47 rifles.
- **Other Items:**
  - It also comes with hands-free, secured advanced communications set for real-time exchange of information with the command post and fellow soldiers for enhanced situational awareness.

#### ▪ Related Systems with other Countries:

- The US has Land Warrior, while the UK has FIST (Future Integrated Soldier Technology).
- Over 20 armies around the world are following such programmes.

## What are Nipun mines?

- Nipun mines are **indigenously designed and developed anti-personnel mines**, termed by the DRDO as 'soft target blast munition'.
  - Anti-personnel mines are meant to be used against humans as against anti-tank mines that are aimed at heavy vehicles.
  - **Russia's PFM-1 and PFM-1S** are commonly referred to as '**Butterfly mines**' or 'Green Parrots'. Butterfly mine is a very sensitive anti-personnel landmine.
- These mines are meant **to act as the first line of defence against infiltrators and enemy infantry**.
- They are smaller in size and can be deployed in large numbers.
- They provide protection to the troops on the borders and are more potent and effective than the existing anti-personnel mines in their arsenal.

## What is the Landing Craft Assault?

- The **Landing Craft Assault (LCA)** is meant to serve as **a replacement for the boats with limited capabilities** currently in use in the [Pangong Tso lake](#).
- It has better launch, speed and capacity to operate across water obstacles in eastern Ladakh.
- Similar vessels are already in operation in the [Indian Navy](#).

## What are the other Defence Systems?

- **Solar Photovoltaic Energy Project:** One of the most challenging terrain and operational sectors of the country is the [Siachen Glacier](#).
  - The complete power requirement in the area to operate various equipment was met only through captive generator supply. A solar photo-voltaic plant has been installed to improve the overall energy requirements and also obviate dependence on fossil fuels.
- The Ministry of Defence also handed over to the Army a thermal imaging sight for T-90 tanks; hand held thermal imager; and frequency-hopping radio relay for tactical communication across much longer ranges.
- Further, Downlink Equipment with Recording Facility to help helicopters in surveillance missions was also handed over.
  - Using this system, reconnaissance data is recorded and can be accessed only when the helicopter returns to the base.
- Some other defence systems included, Infantry Protected Mobility Vehicles; Quick Reaction Fighting Vehicles and Mini Remotely Piloted Aerial System surveillance, detection and reconnaissance at the infantry battalion and mechanised units level.

### UPSC Civil Services Examination, Previous Year Questions (PYQs)

**Q.** How is S-400 air defence system technically superior to any other system presently available in the world?

**Source:** [IE](#)