



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](#)