

Anti-Tank Guided Missiles (ATGM)

Why in News?

Recently, <u>Defence Research and Development Organisation (DRDO)</u> has successfully test fired indigenously developed Laser-Guided Anti-Tank Guided Missiles (ATGM).

What do we need to know about the ATGM?



Anti-Tank Guided Missiles:

- ATGMs are primarily designed to hit and destroy heavily armored military vehicles.
 - The missiles can be transported by a **single soldier**, **to larger tripod-mounted weapons**, which require a squad or team to transport and fire, to vehicle and aircraft mounted missile systems.
- This type of guided missiles rely on an **electro-optical imager (IIR)** seeker, a laser or a **W-band radar seeker** in the nose of the missile.
 - These are 'fire-and-forget' missiles where the operator can retreat right after firing as there is no more guidance required.

Laser-Guided ATGM:

- The all-indigenous Laser Guided ATGM employs a tandem High Explosive Anti-Tank (HEAT) warhead to defeat Explosive Reactive Armour (ERA) protected armoured vehicles.
- The ATGM has been developed with multi-platform launch capability and is currently undergoing technical evaluation trials from the 120 mm rifled gun of MBT Arjun.

What are some other Anti-tank Missiles?

Helina:

 It has a maximum range of seven kilometers and has been designed and developed for integration on the weaponized version of the ALH (Advanced Light Helicopter). • The missile system has all-weather, day, and night capability and can defeat battle tanks with conventional armour as well as explosive reactive armour.



The Nag:

• It is a **third-generation fire-and-forget** missile developed for mechanized formations to engage **heavily fortified enemy tanks.**



MPATGM:

• It stands for **Man-Portable Anti-Tank Guided Missile** which has a range of 2.5 kilometers, with **fire-and-forget and top attack capabilities** for infantry use.



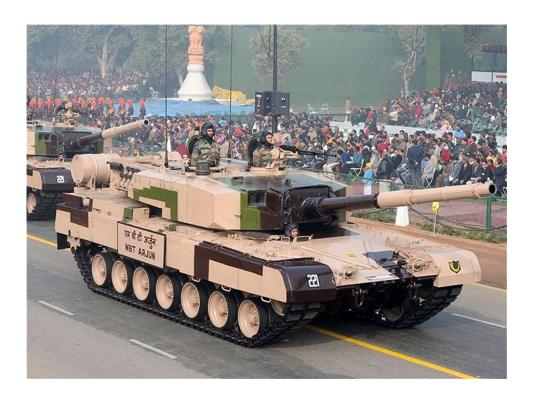
SANT:

• It is a **Smart Stand-off Anti-Tank Missile** being developed for launch from the **Mi-35 Helicopter** for the Air Force's anti-tank operations.



ATGM for MBT Arjun:

 ATGM for MBT Arjun is a laser-guided, precision-guided munition that is launched from the 120mm rifled gun of the Arjun tank to engage and defeat Explosive Reactive Armourprotected armoured targets.



UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. What is "Terminal High Altitude Area Defense(THAAD)", sometimes seen in the news? (2018)

- (a) An Israeli radar system
- **(b)** India's indigenous anti-missile programme
- (c) An American anti-missile system
- (d) A defence collaboration between Japan and South Korea.

Ans: (c)

Explanation:

- Terminal High Altitude Area Defence (THAAD) is an American anti-missile system designed to intercept and destroy short and medium-range ballistic missiles during their "terminal" phase of flight when they are falling towards the target.
- They have the ability to intercept missile inside and outside the atmosphere.
- It is interoperable with other ballistic missile defence systems and is highly mobile and deployable worldwide.
- Therefore, option (c) is the correct answer.

Q. With reference to Agni-IV Missile, which of the following statements is/are correct? (2014)

- 1. It is a surface-to-surface missile.
- 2. It is fuelled by liquid propellant only.
- 3. It can deliver one-tonne nuclear warheads about 7500 km away.

Select the correct answer using the code given below:

- (a) 1 only
- **(b)** 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (a)

Explanation:

- Agni-IV is a nuclear-capable long-range ballistic missile of India, with a strike range of 4,000 km.
- The indigenously developed Agni-IV is a two-stage surface-to-surface missile. It is 20 metres long with a weight of 17 tonnes. Hence, statement 1 is correct.
- It is a two stage solid fuelled system that can carry a one-tonne nuclear warhead over a distance of 4,000 kilometres. Hence, statements 2 and 3 are not correct.
- Therefore, option (a) is the correct answer.

Source: PIB

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