



Prithvi-II Missile

For Prelims: Prithvi II, DRDO, IGMDP, Agni IV, Ballistic Missiles, Various types of Missiles

For Mains: Missile Technology of India, IGMDP

Why in News?

Recently, India successfully conducted the night trial of **surface-to-surface nuclear-capable short-range ballistic missile Prithvi-II**.

- Earlier, Intermediate Range Ballistic Missile **Agni-IV** was tested which can travel as far as 4,000 km.

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What are the Key Highlights about Prithvi-II Missile?

▪ About:

- Prithvi-II is an **indigenously developed Surface-to-Surface Missile Short-Range Ballistic Missile (SRBM)**, which has a range of around 250 km-350km and can carry a one tonne payload.
- Prithvi II class is a **single-stage liquid-fueled missile** that has warhead mounting capability of 500 kg-1000kg.
- The missile is a **proven system and is capable of striking targets** with a very **high degree of precision**.
- The state-of-the-art missile uses an **advanced inertial guidance system** with manoeuvring trajectory to hit its target.
- It was initially **developed for the [Indian Air Force](#)** as its primary user and was **later inducted into the [Indian Army](#) as well**.
- While the missile was inducted into India's Strategic Forces Command for the first time in 2003, it was the first missile developed under the IGMDP.

▪ Developed by:

- [Defence Research and Development Organisation \(DRDO\)](#) of India under its [Integrated Guided Missile Development Programme \(IGMDP\)](#).

What are the Prithvi Missiles?

- The **Prithvi missile system** comprises various tactical **Surface-to-Surface Short-Range**

Ballistic Missiles (SRBM).

- Its development began in 1983, and it was **India's first indigenous ballistic missile.**
- It was first test-fired in 1988, from **Sriharikota**, SHAR Centre.
 - It has a range of from 150 to 300 km.
- The **naval variant of Prithvi I and Prithvi III class missiles** have the code-name **Dhanush.**
- The propulsion technology was likely based on the **Soviet SA-2 surface-to-air missile.**
 - **Soviet SA-2 Surface-to-Air Missile:**
 - Developed in the mid-1950s, the **Soviet SA-2 surface-to-air** missile was the first effective Soviet Union surface-to-air missile.
 - Developed as a missile for the battlefield, it could carry a nuclear warhead in its role as a tactical nuclear weapon.
- The Prithvi I missiles have been in service with the Indian Army since 1994.
 - Reportedly, **Prahar missiles** are replacing with Prithvi I missiles.
- Prithvi II missiles have been in service since 1996.
- Prithvi III having a more extended range of 350 km, was successfully test-fired in 2004.

What is Integrated Guided Missile Development Programme (IGMDP)?

- **About:**
 - IGMDP was an Indian Ministry of Defence programme to **research and develop a comprehensive range of missiles.**
 - The project started in 1982–1983 under the leadership of **Dr APJ Abdul Kalam.**
 - This Programme made **Dr APJ Abdul Kalam the missile man of India.**
 - The integrated guided missile programme was complete in, 2008.
- **Five Missiles Developed under the IGMDP:**
 - PRITHVI (Short range surface-to-surface ballistic missile)
 - **AGNI** (Medium to intercontinental surface-to-surface missile)
 - TRISHUL (Short range low-level surface-to-air missile)
 - **AKASH** (Surface-to-air missile having a range of up to 25 Km and multi-target handling system)
 - **NAG** (Third generation “fire & forget”, “top attack” anti-tank missile)

UPSC Civil Services Examination, Previous Year Question(PYQ)

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)

Exp:

- 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.**

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