



# Quick Reaction Surface to Air Missile system

## Why in News?

Recently, India conducted six successful flight-tests of the [Quick Reaction Surface to Air Missile \(QRSAM\) system](#) from Integrated Test Range (ITR) Chandipur off the Odisha coast.

- The test was jointly conducted by the [Defence Research and Development Organisation \(DRDO\) and Indian Army.](#)

## What is QRSAM?

- **About:**
  - QRSAM is a **canister-based system**, which means that it is **stored and operated from specially designed compartments**.
    - In the canister, the **inside environment is controlled**, thus along with making its transport and storage easier, the shelf life of weapons also improves significantly.
  - The system is **capable of detecting and tracking targets** on the move and engaging targets with short halts.



- **Range and mobility:**
  - It is a short-range surface-to-air missile (SAM) system, **primarily designed and developed by DRDO to provide a protective shield** to moving armoured columns of the Army from enemy aerial attacks.
  - The entire weapon system has been configured on a mobile and manoeuvrable platform and is capable of providing air defence on the move.
  - It has been designed for induction into the Army and has a range of 25 to 30 km.
- **Functioning:**
  - The QRSAM weapon ensemble, which functions on the move, consists of a **fully automated command and control system**.

- It also consists of two radars - Active Array Battery Surveillance Radar and Active Array Battery Multifunction Radar - with one launcher.
- Both radars have **360-degree coverage with “search on move”** and “track on move” capabilities.
- The system is compact, **uses a single stage solid propelled missile and has a mid-course inertial navigation system** with two-way data link and terminal active seeker developed indigenously by DRDO.

### UPSC Civil Services Examination Previous Year Question (PYQ)

**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)**

**Exp:**

- 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)**

- 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: TH**

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