



DRDO & Research & Development:

1. Integrated Air Defence Weapon System (IADWS)

The most significant news is the successful maiden flight test of India's indigenous Integrated Air Defence Weapon System (IADWS) on August 23, 2025. This multi-layered platform, developed by the Defence Research and Development Organisation (DRDO), is a major step toward India's goal of self-reliance in defense. The IADWS system integrates three key indigenous components to create a comprehensive air defense shield:

The Quick Reaction Surface-to-Air Missile (QRSAM).

The Very Short Range Air Defence System (VSHORADS) missiles.

A high-power, laser-based Directed Energy Weapon (DEW).

The system's control is managed by a centralized command and control center. During the test, it simultaneously engaged and destroyed three different aerial targets, including two high-speed fixed-wing UAVs and a multi-copter drone, at varying altitudes and ranges.

2. Naval Flare for Submarines

On August 30, 2025, the DRDO's High Energy Materials Research Laboratory (HEMRL) in Pune successfully developed an indigenous 'signal star naval flare' for the Indian Navy's Kalvari-class submarines. This is a critical step

towards self-reliance, as it eliminates the need to rely on foreign suppliers for this strategic underwater signaling device. The flare is designed to be ejected from a submarine and upon surfacing, ignite a bright pyrotechnic charge to produce red or green signals for distress or tactical communication.

3. Other DRDO Developments

Astra Missile: The DRDO and the Indian Air Force (IAF) successfully conducted flight tests of the Astra Beyond Visual Range Air-to-Air Missile (BVRAAM), which is now equipped with an indigenous radio frequency (RF) seeker.

Akash Prime: The DRDO successfully tested the Akash Prime weapon system, a variant of the Akash missile, in a high-altitude terrain in Ladakh, demonstrating its enhanced capabilities for the Indian Army.

Carbon Foot Prosthesis: The Defence Research and Development Laboratory (DRDL) in Hyderabad, in collaboration with AIIMS, developed the ADIDOC-Optimised Carbon Foot Prosthesis, a cost-effective, high-profile prosthetic solution.

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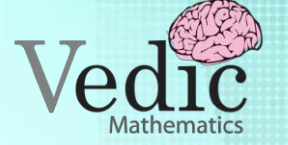
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The news explicitly states that the IADWS integrates the QRSAM, VSHORADS missiles, and a laser-based DEW.

2.What is the purpose of the indigenous 'signal star naval flare' developed for the Indian Navy's Kalvari-class submarines?

- a) To launch a torpedo.
- b) To produce signals for distress or tactical communication.
- c) To confuse enemy radar.
- d) To provide underwater illumination.

Answer: b) To produce signals for distress or tactical communication.

The news states the flare is designed to "produce red or green signals for distress or tactical communication."

3.The DRDO successfully tested the Akash Prime weapon system in which type of terrain to demonstrate its enhanced capabilities?

- a) Desert
- b) Coastal
- c) High-altitude
- d) Tropical rainforest

Answer: c) High-altitude

The news mentions that the Akash Prime was tested "in a high-altitude terrain in Ladakh."

4.The ADIDOC-Optimised Carbon Foot Prosthesis was developed in a collaboration between the Defence Research and Development Laboratory (DRDL) in Hyderabad and which other institution?

- a) IIT Madras
- b) AIIMS
- c) Indian Institute of Science
- d) Tata Memorial Centre

Answer: b) AIIMS

MCQS

1.Which of the following indigenous components are integrated into the new Integrated Air Defence Weapon System (IADWS)?

- a) Quick Reaction Surface-to-Air Missile (QRSAM), a laser-based Directed Energy Weapon (DEW), and the BrahMos missile.
- b) Quick Reaction Surface-to-Air Missile (QRSAM), the Very Short Range Air Defence System (VSHORADS), and a laser-based Directed Energy Weapon (DEW).
- c) Akash Prime and the Astra missile.
- d) A carbon foot prosthesis and a naval flare.

Answer: b) Quick Reaction Surface-to-Air Missile (QRSAM), the Very Short Range Air Defence System (VSHORADS), and a laser-based Directed Energy Weapon (DEW).





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The news states the prosthesis was developed "in collaboration with AIIMS."

5.The Astra Beyond Visual Range Air-to-Air Missile (BVRAAM) now features an indigenous component. What is it?

- a) A new propulsion system.
- b) A new airframe.
- c) A new indigenous radio frequency (RF) seeker.
- d) A new warhead.

Answer: c) A new indigenous radio frequency (RF) seeker.

The news specifies that the Astra missile is now "equipped with an indigenous radio frequency (RF) seeker."

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