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# DRDO & Research & Development:

### **Key Highlights**

**Agni-5 Test:** The Defence Research and Development Organisation (DRDO) successfully test-fired the Agni-5 missile from the Integrated Test Range at Chandipur, Odisha. This was a routine user trial conducted under the Strategic Forces Command.

MIRV Capability: The test validated the missile's Multiple Independently Targetable Re-entry Vehicle (MIRV) technology, which allows a single missile to deliver multiple nuclear warheads to different targets. This technology significantly enhances India's nuclear deterrence by providing a robust second-strike capability.

Strategic Reach: With a range of over 5,000 kilometers, the Agni-5 is nuclear-capable and can reach targets across almost all of Asia, including northern parts of China, and parts of Europe. An upgraded version with a range of up to 7,500 km is reportedly under development.

Laser Weapon Prototyping: DRDO's Centre for High Energy Systems and Sciences (CHESS) has entered the prototyping phase for a more powerful 50kW solid-state laser weapon. This is an upgrade from the 30kW system and is designed to neutralize larger aerial threats such as drones, helicopters, and incoming rockets. It will include a sophisticated beam control system and an integrated Ku-band radar suite for precision targeting.

#### Other DRDO & Defence News

Mission Sudarshan Chakra: The government has announced "Mission Sudarshan Chakra," an ambitious plan to build a multi-layered integrated air and missile defense shield. This shield, developed by DRDO, will include an overlapping network of sensors and interceptor missiles. Phase-1 of this indigenous ballistic missile defence (BMD) system, with a 2,000 km range, is in development.

Naval & Air Force Procurement: The Cabinet Committee on Security has approved the procurement of six Airborne Early Warning and Control (AEW&C) aircraft for the Indian Air Force, based on the Airbus A321 platform.

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#### 2. What notable capability does the Agni-5 missile possess, according to the provided text?

- A) The ability to launch satellites into geostationary orbit.
- B) The ability to carry a single warhead to multiple targets.
- C) The ability to carry multiple warheads to different targets (MIRV).
- D) The ability to intercept hypersonic missiles.

**Answer:** C) The ability to carry multiple warheads to different targets (MIRV).

The text highlights that a key feature of the Agni-5 is its Multiple Independently Targetable Reentry Vehicle (MIRV) capability, which allows it to deliver multiple warheads to different targets with a single missile.

#### 3. What is one of the primary technologies being tested on the U.S. Space Force's X-37B Orbital Test Vehicle (OTV-8) mission?

- A) A new solar panel design for space stations.
- B) A new type of rocket propulsion system.
- C) A quantum inertial sensor for navigation without GPS.
- D) A new space telescope for deep space observation.

**Answer:** C) A quantum inertial sensor for navigation without GPS.

The news explicitly states that a primary objective of the OTV-8 mission is to test an advanced quantum inertial sensor, which uses the behavior of atoms to enable highly accurate navigation without relying on satellite networks like GPS.

#### 4. From where was the Agni-5 missile successfully test-fired?

- A) Sriharikota, Andhra Pradesh
- B) Pokhran, Rajasthan
- C) Chandipur, Odisha

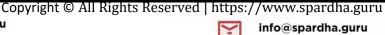
## **MCQS**

- 1. What is the primary purpose of India's recent test-firing of the Agni-5 missile?
- A) To showcase its new cruise missile technology.
- B) To test its range for a future space mission.
- C) To validate its operational and technical parameters as a routine user trial.
- D) To demonstrate its ability to intercept enemy aircraft.

Answer: C) To validate its operational and technical parameters as a routine user trial. The news states that the Agni-5 test was a "routine user trial" conducted under the Strategic Forces Command to validate the missile's operational and technical capabilities.

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#### D) Thiruvananthapuram, Kerala

Answer: C) Chandipur, Odisha The news specifies that the Agni-5 test was conducted from the Integrated Test Range located at Chandipur, Odisha.

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