

US Space Warfare & Anti-Satellite (ASAT) Capabilities

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Why in News?

Recently, the US has confirmed it deployed a space weapon in Earth's orbit, the first time it has acknowledged such offensive capabilities.

Anti-Satellite (ASAT) and Counter-Space Capabilities

- ASAT weapons and capabilities are intended to disrupt, disable, damage, or destroy satellites.
- Potential methods of counter-space operations include the following:
 - **Kinetic attacks** - Physically striking a satellite.
 - **Electronic warfare** - Jamming or disrupting satellite signals.
 - **Cyber operations** - Compromising satellite systems.
 - **Directed-energy systems** - Using technologies such as lasers.
 - **Co-orbital systems** - Manoeuvrable spacecraft that can approach or interfere with other satellites.

Outer Space Treaty, 1967

- The 1967 Outer Space Treaty (OST) prohibits the placement of the following categories of weapons:
 - Nuclear weapons
 - Other weapons of mass destruction (WMDs) in orbit around Earth or stationing them in outer space.
- However, the treaty does not establish a comprehensive ban on all categories of weapons or military operations in outer space.
- Consequently, states may develop certain counter-space or 4 anti-satellite capabilities without violating the treaty's specific restrictions on weapons of mass destruction.

United States Space Force

- It is the first new branch of the United States military established in over 70 years.
- Established in 2019.
- **Objectives** - To protect United States space assets and interests.
- Key assets include satellites that support the following functions:
 - Communication
 - Surveillance
 - Navigation

- Military operations.

India's Achievement

Mission Shakti (2019)

- India demonstrated its **anti-satellite (ASAT)** capability by successfully destroying a low-Earth orbit satellite.
- This achievement established India as the **4th country**, after the United States, Russia, and China, to demonstrate ASAT capability.

Defence Space Agency (DSA)

- The Defence Space Agency (DSA) is a tri-service organization responsible for managing India's **space warfare** and **space security** requirements.

Reference

[BBC | Anti-Satellite \(ASAT\) Capabilities](#)

