

Falcon Heavy rocket

November 8, 2022

In news— Recently SpaceX launched the Falcon Heavy rocket into a geosynchronous Earth orbit from the Kennedy Space Center in Florida, U.S.

About the rocket-

- SpaceX claims Falcon Heavy to be the most powerful rocket in the world today by a factor of two.
- With a **lifting capacity of around 64 metric tonnes into orbit**, Falcon Heavy can lift more than twice the payload of the next closest operational vehicle, the Delta IV Heavy.
- The rocket has a **height of 70 m**, a width of 12.2 m and a mass of 1,420,788 kg.
- It has 27 Merlin engines which together generate more than five million pounds of thrust at lift-off, equalling around eighteen 747 aircraft at full power. This makes it the **most capable rocket flying**.
- The rocket can lift the equivalent of a fully loaded 737 jetliner, complete with passengers, luggage and fuel, to orbit.
- **Merlin is a family of rocket engines developed by SpaceX** for use on its Falcon 1, Falcon 9 and Falcon Heavy launch vehicles.
- **Merlin engines use RP-1 and liquid oxygen as rocket propellants** in a gas-generator power cycle. These engines were designed for recovery and reuse.
- **The Falcon Heavy uses three boosters for added thrust and lift capacity.**
- The centre booster plunged into the ocean as planned and the two side boosters landed on ground pads at the Cape Canaveral Space Force Station.
- The company hails this as the most powerful operational rocket in the world.

- Recent launch is the fourth launch of the giant rocket system, and the first one in nearly three years since its last launch in 2019.

The current mission-

- The rocket is **carrying satellites to space for the U.S. military in a mission named as U.S. Space Force (USSF)-44.**
- The mission deployed two spacecraft payloads, one of which is the **TETRA 1 microsatellite created for various prototype missions** in and around the geosynchronous earth orbit.
- The other payload is for national defence purposes. It will **place the satellites for the Space Systems Command's Innovation and Prototyping.**
- **Space Systems Command (SSC) is the oldest military space organisation in the United States Armed Forces.**
- It is responsible for developing, acquiring, equipping, fielding and sustaining lethal and resilient space capabilities.