Vande Bharat Express 2.0

Why in News?

Recently, the Prime Minister flagged off Gandhinagar- Mumbai Vande Bharat Express 2.0 at Gujarat's Gandhinagar station.

- Earlier, two Vande Bharat Expresses were operational —one between New Delhi and Varanasi and the other from New Delhi to Katra.

What are Vande Bharat Trains?

- It is an **indigenously designed and manufactured semi high speed,** self-propelled train that is touted as the next major leap for the Indian Railways in terms of speed and passenger convenience since the introduction of Rajdhani trains.
- The first Vande Bharat was manufactured by the **Integral Coach Factory (ICF), Chennai** as part of the **'Make in India' programme,** at a cost of about Rs. 100 crore.
- The Vande Bharat was **India's first attempt at adaptation of the train set technology** compared with conventional systems of passenger coaches hauled by separate locomotives.
- The train set configuration, though complex, is faster, easier to maintain, consumes less energy, and has greater flexibility in train operation.

What are the Features of the Vande Bharat Trains?

- These trains, dubbed as **Train 18 during the development phase**, operate without a locomotive and are based on a propulsion system called distributed traction power technology, by which each car of the train set is powered.
- It can **achieve a maximum speed of 160 kmph** due to faster acceleration and deceleration, reducing journey time by 25% to 45%.
- It also has an intelligent braking system with power regeneration for better energy efficiency thereby making it cost, energy and environment efficient.

What are the Features of Vande Bharat 2.0?

- The Vande Bharat Express 2.0 **offers a myriad of superior and aircraft-like travelling experiences.**
- It is equipped with **advanced state-of-the-art safety features** including an indigenously developed **Train Collision Avoidance System - KAVACH.**
- In the new design of Vande Bharat Express, **a photo-catalytic ultraviolet air purification system** is installed in the Roof-Mounted Package Unit (RMPU) for air purification.

Source: PIB