LEDA 1313424, Bullseye Galaxy

Prelims – *Current events of national and international importance*

Mains (GS III) – *Science and Technology- Awareness in the fields of Space*

Why in News?

A team of international researchers recently discovered a galaxy with nine rings, named Bullseye.

- It is a collisional ring galaxy discovered recently by *NASA's Hubble Space Telescope.*
- **Size -** It is nearly ***2.5-times larger than the Milky Way*** with a diameter of 250,000 light-years.
- **Type -** Spiral galaxy.
- A blue dwarf galaxy, positioned at the center-left of the image, is believed to have interacted with the Bullseye Galaxy approximately 50 million years ago.
    - It results in the distinctive shape of the Bullseye Galaxy.
- A *thin trail of gas* connecting the two galaxies even though they are separated by 130,000 lightyears (or 1.22 billion billion km).
- The blue dwarf galaxy's straight path through the Bullseye Galaxy caused gas in the latter to *ripple back and forth in waves*, creating new places of star formation.
- The interaction didn't alter the orbits of individual stars but it caused groups of stars to pile up and form the distinct rings over millions of years.
- Bullseye hosts a lot of neutral hydrogen gas, considering its mass in stars.
- That reservoir of star-forming material is similar to known *low surface brightness galaxies*, strengthening the notion that collisional ring galaxies evolve into these fainter objects as their rings fade.
- The Bullseye Galaxy will continue to evolve and, as a result, will have these star-filled rings only for a short interval of time.
- This means the astronomers captured an intriguing image of a multi-ring galaxy in a special moment.
- Bullseye Galaxy also contains signs that it could one day evolve into a giant low surface brightness (GLSB) galaxy, which are important in the study of dark matter.

> *Giant low surface brightness (GLSB) galaxies are the largest of the low surface-brightness galaxies. All GLSB galaxies are truly colossal.*

Reference

The Hindu | Bullseye Galaxy

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