Length of a Day on Each Planet

Why in News

- Recently, the research was undertaken to calculate the **accurate length of a day on Venus and Saturn which has been changing since 1963.**
    - **Venus:**
        - The recent observation of the **Magellan spacecraft's observations (1991)** concluded that the **rotation period for Venus** has an uncertainty of about 9 seconds.
    - **Saturn:**
        - The recent, the **Cassini spacecraft** showed that there is an uncertainty of **6 minutes** with a rotation period of Saturn.

The Solar System

- The Solar System consists of the Sun and eight **planets.**
    - It also consists of bodies such as **comets, asteroids, and meteors.**

Planets vs Dwarf Planets

- The definition of a planet was adopted by the **International Astronomical Union** in 2006. A planet must:
    - Orbit a star (in our system, it is the Sun).
    - Be big enough to have enough gravity to force it into a spherical shape.
    - Be big enough that its gravity cleared away any other objects of a similar size near its orbit around the Sun.
- On the other hand, **dwarf planet** is a celestial body orbiting a star that is massive enough to be rounded by its own gravity but has **no clear orbit (Gravitationally not dominant in its orbit).**

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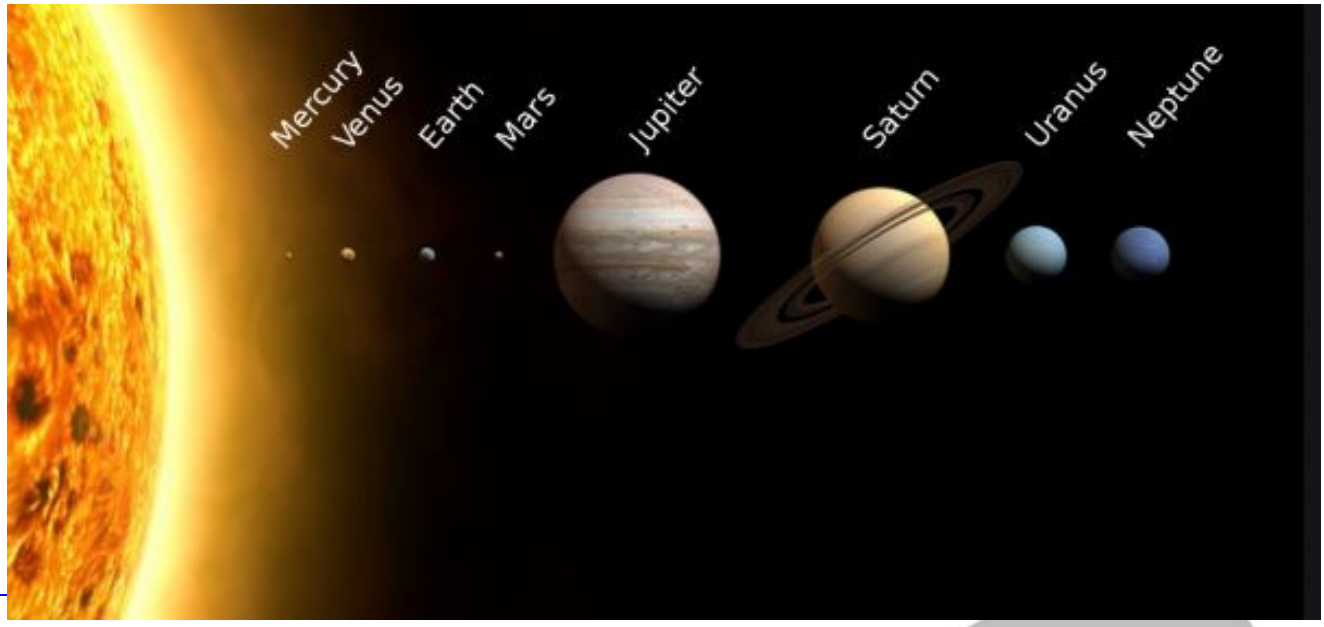

Planets	Facts
Mercury	▪ It is **the nearest to the Sun** and also the **smallest planet** in our solar system. ▪ It has **no satellite** of its own. ▪ It takes **1408 hours** to complete a rotation.
Venus	▪ It is called **morning or an evening star,** although it is not a star. ▪ Sometimes it is called as **Earth's twin.** ▪ Venus has **no moon or satellite** of its own. ▪ It rotates from **east to west** while the **Earth rotates from west to east.** ▪ It takes **5,832 hours** to complete a rotation.
Earth	▪ The Earth is the only planet in the solar system on which life is known to exist. ▪ The axis of rotation of the Earth is 23.5 degrees relative to the orbital plane – the plane of Earth's orbit around the sun. The tilt is responsible for the **change of seasons** on the Earth. ▪ The Earth has **only one moon.** ▪ The Earth takes **24 hours** to complete a rotation.
Mars	▪ It appears slightly **reddish** and, therefore, it is also called the **red planet.** ▪ Mars has **two small natural satellites.** ▪ It takes **25 hours** to complete a rotation.
Jupiter	▪ Jupiter is the **largest planet** of the solar system. ▪ Jupiter has **53 named satellites** and another **26 awaiting official names.** ▪ It also has **faint rings around** it. ▪ It takes only **10 hours** to complete a rotation.
Saturn	▪ The Saturn is **yellowish** in colour. ▪ It has an icy ring around it. ▪ It has more than **60 known moons.**

	▪ It takes **11 hours** to complete a rotation **(second-shortest day in the solar system).**
Uranus	▪ Uranus also **rotates from east to west** (like Venus). ▪ It has a **highly tilted rotational axis.** ▪ It takes **17 hours** to complete a rotation.
Neptune	▪ It is the eighth and most distant planet in our solar system. ▪ The Neptune is dark, cold and has a presence of supersonic winds. ▪ It takes **16 hours** to complete a rotation.

Source: IE