At elliptic orbit of the planet. these are

At the same as Galileo that is late 16th century Tycho Brahe from Denmark, who studied planetary motion.

The data obtained by him is analysed by Johannes Kepler, who later gave three laws governing the motion of a planet inside a stat system. These laws are known as Keplar’s law of planetary motion. The laws are stated below Law of orbits: Every planet moves in elliptical orbits with the Sun at one of the focus of the ellipse. This law is different from that given by Copernicus by the fact that Copernicus, only allowed a circular orbit where in this case the orbits are elliptical. The ellipse, which is a general case and circle is a special case.

An ellipse becomes a circle if the semi-major axis and semi minor axis are of same length. Law of orbit: The straight line which joins the planet and the sun covers an equal area in equal interval of time. This law comes from the direct observation that planets apparently moves slowly when they are far away from the sun than when they are nearer.

Law of period: The squared time period of revolution of a planet is directly proportional to the cubed semi-major axis of the elliptic orbit of the planet. These are the three laws of planetary motion or Keplar’s laws of planetary motion. Next, we shall focus on the motion of a satellite around a planet. A satellite is a celestial object which revolves round a planet. The earth has only natural satellite, Moon, as we all know. The motion of a satellite round a planet is very similar to that of a planet round the sun and hence Keplar’s law of planetary motion are the laws which

govern them. In the case of the moon which has an almost circular orbit with a period of 27. 5 days which is also almost equal to the rotational period of it.

This is the cause that at any arbitrary point on earth, the same face of the moon always seen. We are now launching artificial satellites for various purposes using advanced technologies. While moving around a planet, there are two forces mainly acting on the satellite, viz, Centripetal force, which is acting outward. And Gravitational force, which is acting inwards. The balance between these two forces actually enables the satellite to revolve around the planet.

Mathematically, centripetal force is given by, Here RE is the earth’s radius, m and v are the mass and the velocity of the satellite respectively, h is the height at which it is placed. And the gravitational force is given by, For a satellite to revolve, we must have Hence, we get