

QUES 01:-

Both earth and moon are subject to the gravitational force of the sun. As observed from the sun, the orbit of the moon

- 1) will be elliptical
- 2) is not elliptical but will necessarily be a closed curve
- 3) deviates considerably from being elliptical due to influence of planets other than earth
- 4) will not be strictly elliptical because the total gravitational force on it is not central

Sol. 3) deviates considerably from being elliptical due to influence of planets other than earth

The gravitational force of attraction due to earth on the moon follows the inverse square law due to which the as seen from the earth, the moon revolves around it in a circular orbit.

When observed from the sun, the moon experiences the gravitational pull due to both, the sun and the moon which results in a net force thus changing the trajectory of the moon, and hence it does not revolve in strictly elliptical due to the influence of both sun and earth.