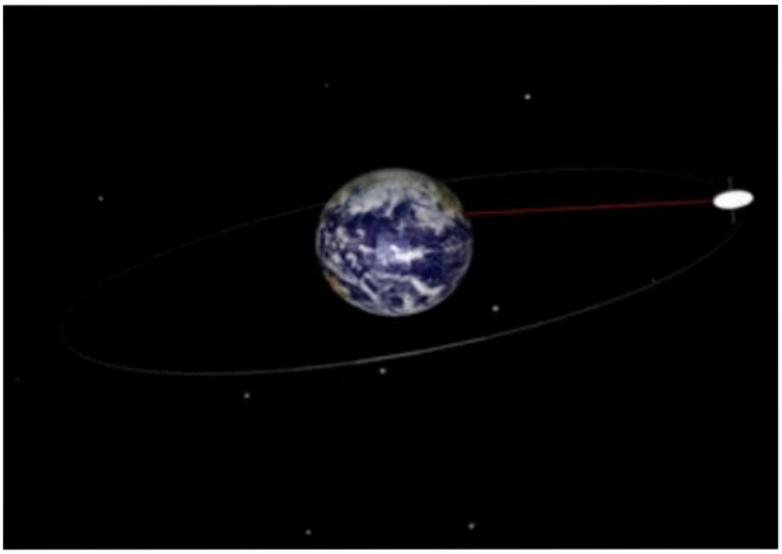
Geosynchronous-Earth-Orbit (GEO)

- Orbit is synchronous with the earths rotation.
- From the ground the satellite appears fixed.
- Altitude is about 36000 km.
- Coverage to 40% of planet per satellite.



Geostationary Earth Orbit (GEO)

- These satellites are in orbit 35,863 km above the earth's surface along the equator.

- Objects in Geostationary orbit revolve around the earth at the same speed as the earth rotates. This means GEO satellites remain in the same position relative to the surface of earth.

Orbital parameters

- ***Apogee:*** *A point for a satellite farthest from the Earth. It is denoted as ha.*
- ***Perigee:*** *A point for a satellite closest from the Earth. It is denoted as hp.*
- ***Line of Apsides:*** Line joining perigee and apogee through centre of the Earth. It is the major axis of the orbit. One-half of this line‟s length is the semi-major axis equivalents to satellite‟s mean distance from the Earth.
- ***Ascending Node:*** The point where the orbit crosses the equatorial plane going from north to south.
- ***Descending Node:*** The point where the orbit crosses the equatorial plane going from south to north.

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- ***Inclination:*** the angle between the orbital plane and the Earth‟s equatorial plane. Its measured at the ascending node from the equator to the orbit, going from East to North. Also, this angle is commonly denoted as **i.**
- ***Line of Nodes:*** the line joining the ascending and descending nodes through the centre of Earth.
- ***Prograde Orbit:*** an orbit in which satellite moves in the same direction as the Earth‟s rotation. Its inclination is always between 00 to 900. Many satellites follow this path as Earth‟s velocity makes it easier to lunch these satellites.
- ***Retrograde Orbit:*** an orbit in which satellite moves in the same direction counter to the Earth‟s rotation.
- ***Argument of Perigee:*** An angle from the point of perigee measure in the orbital plane at the Earth‟s centre, in the direction of the satellite motion.

- ***Mean anamoly***: *It gives the average value to the angular position of the satellite with reference to the perigee.*
- ***True anamoly:*** *It is the angle from point of perigee to the satellite"s position,*