14. **Angular distance:** The angular distance between any two points on a sphere is measured by the smaller one of the great circle through these points, the arc are measured by the angle it substends at the centre of the sphere.

15. **Secondaries:**

All those great circles which passes through both the poles of a given great circle are called secondaries to the given circle and the given circle in this turn is called the primary circle, the plane in which the secondaries lie it is perpendicular to the plane of the given great circle.

Here pp' is a secondary.
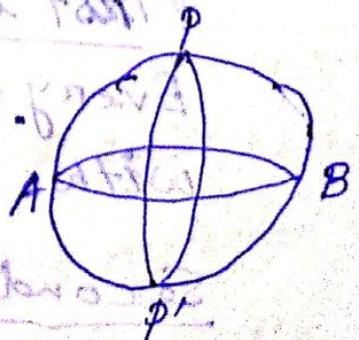
16. **Spherical Triangle:**

Let A, B, C be any three points on the
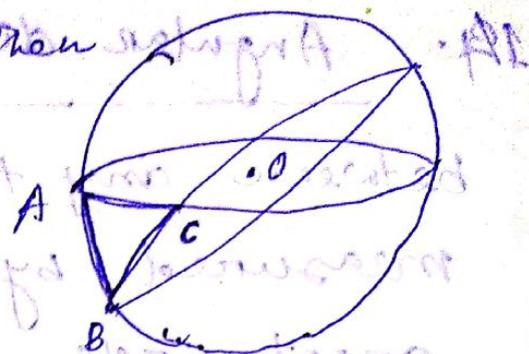
surface of the sphere. Then
the figure ABC formed
by joining the arcs AB,
B,C , CA of great circles
passing through them is called
spherical triangle.

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Kepler's law of Planetary motion:

Motion of the planets is governed by ~~these~~
three law, which are due to Kepler. The
first two law were published in the year
1609 , while the third one in the year
1619.

First law:

Every planet revolves in an elliptic orbit
with the sun at one of its ~~orbit~~ foci

Second law:

Every planet revolves in its orbit,
A line that connects a planet to ~~Sun~~ the sun sweeps
equal area in equal time.

Third law:

The squares of the periods of revolution of the planets are proportional to the cubes of the semi major axis of their orbit.

Two-body problem

The problem of dealing with the motions of two objects under their mutual attraction are called the two body problem. It is assumed that, the bodies are specially symmetrical and that Newton's law holds; then the bodies can be considered to be a point masses.

The natural example of two body problem is the one, where one body represents the Sun and the other a planet. In this Example the gravitational influence exerted by the other planets are neglected also. The motion of an artificial satellite arround the Earth is governed by the attraction

between the Earth and the satellite, Hence the effects of Gravitational attractions of the Sun, Moon, and the other planets on the satellite orbit are small and may thus be neglected which enable us to consider it as a two body problem.