

[Question - 4 section - 3]

Answer

1) Solar constant: -

The solar constant is a flux density measuring mean solar electromagnetic radiation per unit area. It is measured on a surface perpendicular to the rays, one astronomical unit from the Sun.

2) Hour Angle: -

Hour angle is defined as the angle of the sun from the local meridian measured along the celestial equator in the westerly direction. As the earth rotates this angle increases by 15 degrees ~~by~~ every hour. The hour angle ranges from 0-24 hours.

3) Zenith Angle: -

The zenith angle is the angle between the sun and the vertical. The zenith angle is similar to the elevation angle but it is measured from the vertical rather than from the horizontal, thus making the zenith angle $= 90^\circ - \text{elevation}$.

4) Global Radiation: -

Global radiation is the total short-wave radiation from the sky falling onto a horizontal surface on the ground. It includes both the direct solar radiation and the diffuse radiation resulting from reflected or scattered sunlight.