

Q. What are different layers of Atmosphere? On what sequence are they classified? In which layer auroras are formed and where satellites orbit?

Atmosphere:

The naturally occurring mixture of gases, surrounding the earth's surface is called atmosphere.

Layers of atmosphere:

Atmosphere is divided into four layers based on their temperature and chemical compositions.

a. Troposphere:

"Troposphere is the layer of atmosphere that extends from earth's surface to 12 km above earth's surface."

a. In troposphere temperature decreases with altitude from 17°C to -53°C .

b. It consists of N_2 , O_2 , trace amount of inert gases, CO_2 , water vapours etc.

Weather pattern occurs in this layer, clouds form in this layer.
This is the layer we live in.

b. Stratosphere:

The layer next to troposphere is stratosphere. It extends upto 50 km above earth's surface.

a. It contains ozone (10 ppm) which protects earth's surface from harmful radiation.

b. Temperature increases in stratosphere with altitude from -53°C to -5°C .

c. Mesosphere:

Mesosphere extends from 50 km to 80 km above earth's surface.

a. It is the coldest layer of atmosphere. Temperature reaches upto -93°C .

b. Meteors burn in this layer.

c. It contains N_2 , O_2 .

d. Thermosphere.

Thermosphere is the layer that extends into outer space from 80 km.

a. It is further divided into Ionosphere and Ecosphere.

Ionosphere extend upto 400 km above earth's surface. Temperature increases with altitude in

thermosphere. Auroras form in this layer due to ionisation of atoms by sun and cosmic radiations.

b. Ecosphere is the outer most layer. Satellites orbit in this layer of earth's atmosphere. It consists of H_2 and He mostly.

Thermosphere - 80 above.

