ATMOSPHERE

The earth is enveloped by gaseous layer called atmosphere. Gaseous mantle forming atmosphere extends into outer space some 1,000 or more above the earth surface. It maintain contact with all the major types of environment to support their life. It serves many functions including filtration of radiant energy coming from Sun. The atmosphere greatly influences the climate.

STRUCTURE OF ATMOSPHERE:

R.L. Smith (1974) has divided the atmosphere into various level which are as follows:

1. Troposphere
2. Stratosphere
3. Mesosphere
4. Thermosphere and
5. Exosphere

① Troposphere:

The lowest layer of atmosphere in which man and other living organism live is called atmosphere. It is about 20 km above the earth surface. It is thin (about 10km thick) in polar region. It is a mixture of several gases. The proportion of gases in air is constant. Troposphere is characterized by steady decreases in temperature and it may decrease up to −60°C in the upper layers. The composition of troposphere are as follows :

Constituents		Percentage
Nitrogen	78.08	78.0841
Oxygen	20.9	20.9476
Carbon dioxide	0.03	0.0318
Argon	0.23	0.023
Neon	0.001	0.0005
Helium	0.0005	0.0002
Methane	0.0002	0.00025
Nitrous oxide	0.00005	0.00114
Krypton	0.000114	

Constituent	Percentage
Hydrogen	0.00005
Xenon	0.000008
Ozone	0.000001

The water vapour and dust particles occur in troposphere in various concentrations. The amount of water vapour in troposphere is maximum in the lowest level of atmosphere and is decrease gradually in the upper region and is entirely absent above 8 to 10 km. Dust is limited to lower levels.

Troposphere is the layer of sulphates and is the region of strong air movements, cloud formation, lightening, thundering etc. The upper layer of troposphere which gradually merges with the next or Stratosphere is called **tropopause**.
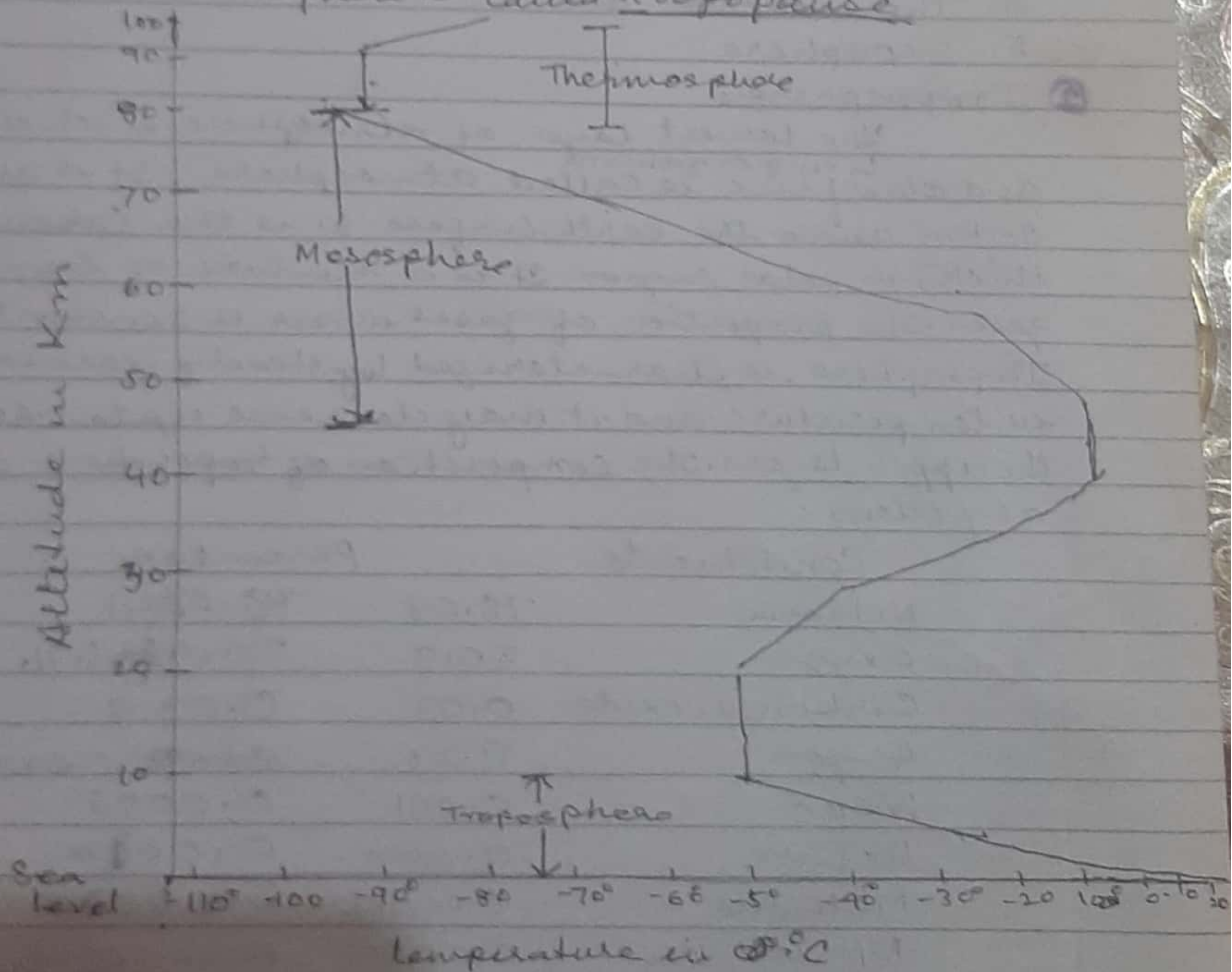

Fig - Diagram showing extent of different layers of atmosphere.