

NCERT SOLUTIONS

CLASS - 11th



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Class : 11th

Subject : Geography

Chapter : 8

Chapter Name : Composition and structure of Atmosphere

Q1

(i) Which one of the following gases constitutes the major portion of the atmosphere?

(a) Oxygen (c) Argon

(b) Nitrogen (d) Carbon dioxide

(ii) Atmospheric layer important for human beings is:

(a) Stratosphere (c) Troposphere

(b) Mesosphere (d) Ionosphere

(iii) Sea salt, pollen, ash, smoke soot, fine soil — these are associated with

(a) Gases (c) Water vapour

(b) Dust particles (d) Meteors

(iv) Oxygen gas is in negligible quantity at the height of atmosphere:

(a) 90 km (c) 100 km

(b) 120 km (d) 150 km

(v) Which one of the following gases is transparent to incoming solar radiation and opaque to outgoing terrestrial radiation?

(a) Oxygen (c) Helium

(b) Nitrogen (d) Carbon dioxide

Answer.

i-(b) Nitrogen

ii-(c) Troposphere

iii-(b) Dust Particles

iv-(b) 120 km

v-(d) Carbon dioxide

Page : 74 , Block Name : Multiple Choice Questions

Q2 Answer the following questions in about 30 words.

(i) What do you understand by atmosphere?

(ii) What are the elements of weather and climate?

(iii) Describe the composition of atmosphere.

(iv) Why is troposphere the most important of all the layers of the atmosphere?

Answer.

(i) Atmosphere is an envelope around the earth. It is composed of a mixture of different gases, water vapour and dust particles. It protects the Earth from UV rays and also contains life supporting gases like oxygen and carbon dioxide.

(ii) Temperature, pressure, winds, humidity, clouds and precipitation are the main elements of weather and climate.

(iii) The atmosphere is composed of gases, water vapour and dust particles.

(iv) The troposphere is the lowermost layer of the atmosphere. This layer contains dust particles and water vapour. Water vapour in air regulates the temperature and weather of Earth. It is also the starting point of the water cycle. It also traps other kind of gases like carbon dioxide and nitrogen which are responsible for other environmental problems.

Page : 74 , Block Name : Very Short Answer

Q3 Answer the following questions in about 150 words.

- (i) Describe the composition of the atmosphere.
- (ii) Draw a suitable diagram for the structure of the atmosphere and label it and describe it.

Answer.

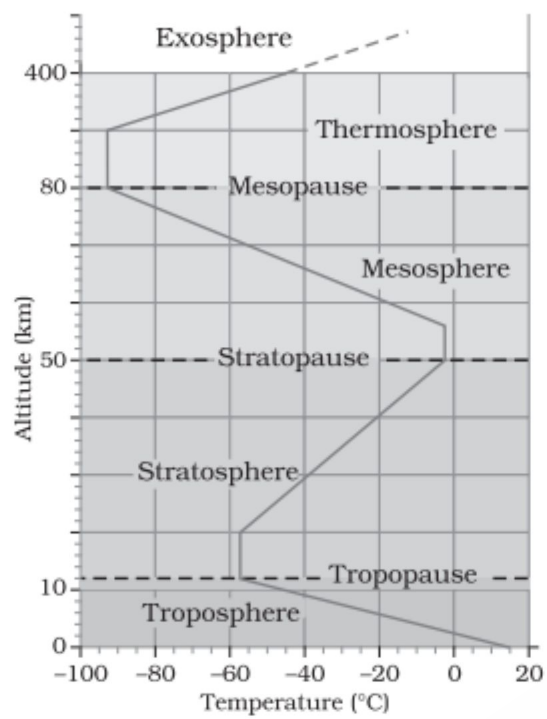
- (i) The atmosphere is mainly composed of gases, water vapour and dust particles.

→ Gases- The percentage of nitrogen is about 78.08% which is the highest. Oxygen constitutes 20.94% whereas argon contributes 0.93% in atmosphere. Other gases include carbon dioxide, helium, ozone, methane, hydrogen, xenon, neon etc. the proportion of gases changes in the higher layers of the atmosphere. For example- oxygen is almost negligible at the height of 120 kms.

→ Water Vapour- It is the most important element of the atmosphere. It decreases with altitude. It acts like a blanket that doesn't enable earth to become too hot or too cold. The volume of water vapour in air is higher towards the equator and lower towards the poles. The volume increases in wet and warm tropics and decreases in dry and cold areas.

→ Dust particles- comprises as one of the major component of the atmosphere. Atmosphere has a sufficient capacity to keep small solid particles, which may originate from different sources and include sea salts, fine soil, ash, pollen, dust and disintegrated particles of meteors.

- (ii) The atmosphere consists of different layers with varying density and temperature. Density is highest near the surface of the earth and decreases with increasing altitude. The atmosphere is divided into five different layers depending upon the temperature condition. They are: troposphere, stratosphere, mesosphere, thermosphere and exosphere.



Page : 74 , Block Name : Long Answer

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