

Subject- S. S. T Class-7 Topic- Atmosphere and Climate  
Learn and Write

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1. Choose the correct options.

(a) The name of Hot Zone cyclone in USA is

(i) Hurricane

(iii) Typhoon

(ii) Tornado

(iv) Willy Willies

(b) In which layer of the atmosphere an aeroplane flies?

(i) Troposphere

(iii) Stratosphere

(ii) Ionosphere

(iv) Exosphere

2. Fill in the blanks.

(a) The amount of Nitrogen gas is maximum in the atmosphere.

(b) The Anemometer is an instrument for measuring the velocity of wind.

(c) The radio waves are reflected back from thermosphere of atmosphere.

(d) Looh is the name given to air flowing in summer season in Rajasthan.

3. What is the difference between a season and a climate? P-19

4. How many types of rain are there? Name them. 3

5. Define wind and explain its types. P-21

6. Differentiate between cyclones and anti-cyclones. P-23

7. Explain the composition of atmosphere. P-18

8. Draw a diagram showing the layers of atmosphere and write the main significance of each of them.

## Additional Questions For Practice

### A. Multiple Choice Questions (MCQs) – Tick (✓) the correct options.

1. .... is also referred to as the eye of the storm.

- (a) High pressure centre  (b) Low pressure centre   
 (c) Moderate pressure centre  (d) None of these

2. The layer above the stratosphere is .....

- (a) thermosphere  (b) troposphere   
 (c) mesosphere  (d) none of these

3. Which gas covers 21 per cent of the gases found in atmosphere?

- (a) Hydrogen  (b) Neon   
 (c) Krypton  (d) Oxygen

4. What is the exosphere composed of?

- (a) Hydrogen and helium  (b) Neon and geon   
 (c) Krypton and methane  (d) Argon and helium

### B. Fill in the blanks.

1. Permanent winds are of three types – trade, westerly and Polar.

2. Water from the rivers, lakes and other water bodies rise up in the atmosphere as water vapour.

3. Oxygen is the most essential gas found in the troposphere.

4. Seasonal climate and climata are two most commonly used words to denote weather conditions of a place.

### C. Match the following.

- |   |                                   |
|---|-----------------------------------|
| 1. barometer <u>b</u>                       | (a) cooler and drier air          |
| 2. thermometer <u>e</u>                     | (b) used to measure air pressure  |
| 3. mesosphere <u>d</u>                      | (c) global warming                |
| 4. anti-cyclones <u>a</u>                   | (d) meteors burn up in this layer |
| 5. emission of gases from vehicles <u>c</u> | (e) used to measure temperature   |

### D. Very Short Answer Questions

1. What is transpiration?      2. List down the factors affecting the distribution of rainfall. P-2  
 3. In which form do polar regions receive rainfall? P-22  
 4. How do forests play a crucial role in deciding weather conditions? P-23

### E. Short Answer Questions

1. What are anti-cyclones? P-21      2. What is an exosphere?  
 3. What is the difference between seasonal wind and local wind? P-21

### F. Long Answer Questions

1. How does humidity affect the weather of a place? P-22  
 2. How do seas and forests affect the climate of a place? P-23  
 3. Why is air pressure considered to be an aspect of weather? P-20  
 4. Write down the characteristics of the stratosphere.

## Exercise

1. (a) (i) Hurricane (b) (iii) Stratosphere
2. Fill in the blanks.
  - (a) nitrogen (b) anemometer
  - (c) thermosphere (d) Loo
3. Season is a particular weather pattern that happens in one of the four periods of a year whereas climate is the average condition that is expected at a certain place over a number of years.
4. There are three types of rainfall — mountain rain, cyclonic rain and conventional rain.
5. Wind is the movement of air parallel to the Earth's surface. There are three types of wind.
  - (a) **Permanent Wind** blows in one direction throughout the year. They are trade, westerly and polar winds.
  - (b) **Seasonal Wind** changes its direction in different seasons.
  - (c) **Local Wind** blows at some places in a year or at a particular time the day.

6. Cyclone refers to any spinning storm that rotates around a low pressure centre. An anti-cyclone is opposite to a cyclone, in which winds move to a low pressure area.
7. The atmosphere is a mixture of many gases such as nitrogen, oxygen, argon, carbon dioxide, helium, hydrogen, water droplets and dust particles.
8. Importance of each layer:

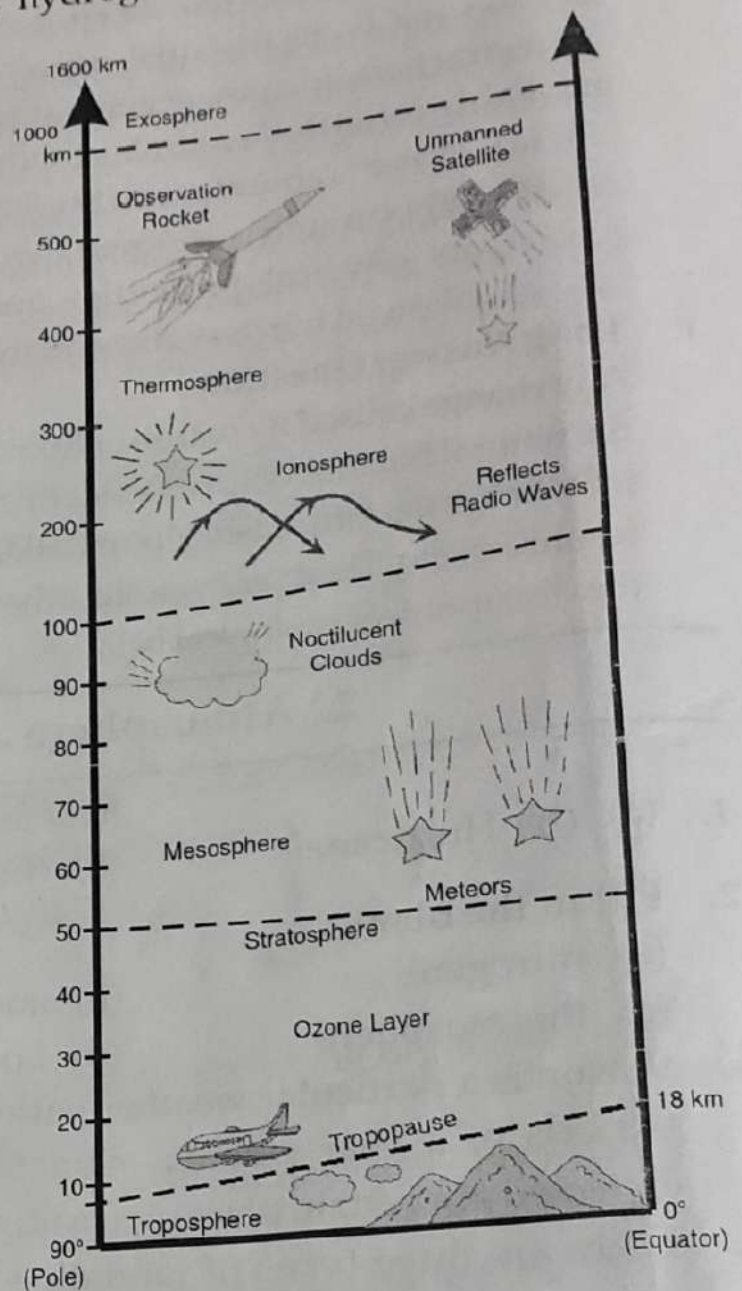
(a) **Troposphere**: It contains all the water vapour and dust particles. All weather and seasonal activities occur in this layer.

(b) **Stratosphere**: Ozone is in abundance in this layer. Jet aircraft and weather balloons fly here.

(c) **Mesosphere**: The top of the mesosphere is the coldest part of the Earth's atmosphere. Meteors burn up in this layer.

(d) **Thermosphere**: Space shuttles fly in this layer and the International Space Station orbits the Earth here. It is also called ionosphere because of the presence of the electrically charged ions. Radio waves from the Earth are reflected from this layer.

(e) **Exosphere**: It is extremely thin. It is composed of very widely dispersed particles of hydrogen and helium.



### Additional Questions For Practice

A. **Multiple Choice Questions (MCQs)** – Tick (✓) the correct options.

1. (b) Low pressure centre
2. (c) mesosphere
3. (d) Oxygen
4. (a) Hydrogen and helium

**B. Fill in the blanks.**

1. trade, westerly, polar
2. water vapour
3. Oxygen
4. Season, climate

**C. Match the following.**

1. b
2. e
3. d
4. a
5. c

**D. Very Short Answer Questions**

1. Evaporation of water from plants due to heat is called transpiration.
2. The factors affecting the distribution of rainfall are direction of mountains, distance from the sea, wind, temperature, etc.
3. The polar regions receive minimum rainfall in the form of snow.
4. Forests affect the climate of a particular place. The places that have abundant greenery experience cooler climate and moderate temperature. The regions that are deprived of good vegetation are hot and dry. So forests play a crucial role in maintaining the temperature of a place.

**E. Short Answer Questions**

1. An anti-cyclone is a cyclone in which winds move to a low pressure area. In an anti-cyclone, winds move out from a high pressure area with clockwise wind direction in the Northern Hemisphere and anti-clockwise in the Southern Hemisphere.
2. The exosphere is the highest layer and the uppermost limit of the Earth's atmosphere. This layer is extremely thin. It is composed of very widely dispersed particles of hydrogen and helium.
3. Seasonal wind changes their direction in different seasons. The monsoon wind in India is an example of seasonal wind. The local wind blows at some places in a year or at a particular time of the day. In Rajasthan, the hot wind in summer, called loo is an example of local wind.

**F. Long Answer Questions**

1. (a) Humidity indicates the likelihood of precipitation, dew or fog. In the rainy season, the humidity in the air is very high.  
(b) Humidity also helps in the formation of clouds and it causes rainfall too.  
(c) Humidity also makes the day hotter and can be used to predict storms.
2. Sea and forests affect the climate of a particular place.  
Sea: The places closer to sea experience moderate climate all year round. It is neither hot nor too cold in the coastal areas. There is

more evaporation near the sea and therefore these places receive sufficient rainfall too.

Forests: The places that have abundant greenery also experience cooler climate and moderate temperature. The regions that are deprived of good vegetation are hot and dry. So forests play a crucial role in maintaining the temperature of a place.

3. (a) The air pressure is generally used by the meteorologists to keep track of developing storms in the regions that are prone to it.
  - (b) Though the air pressure is typically considered an aspect of weather, certain regions of the world exist in zones where changing atmospheric pressure form a part of the predictable climate.
  - (c) Because of their proximity to large bodies of water, places like coastal regions and islands experience severe storms on a regular basis.
4. The characteristics of the stratosphere are as follows:
    - (a) It starts just above the troposphere and ends about 31 miles above the ground.
    - (b) Ozone is in abundance here and it heats the atmosphere while absorbing the harmful radiation from the Sun.
    - (c) The air here is very dry and it is about a thousand times thinner than it is at sea level.
    - (d) No seasonal activities occur in this layer.
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