Question:1

Write one to three words for the following.

1. An instrument used to measure the maximum and minimum temperature during a day .....

2. An instrument used to measure the relative humidity of a place .....

3.An instrument used to measure the amount of rainfall .....

Solution:

1. Maximum-minimum thermometer
2. Hygrometer
3. Rain gauge

Question:2

Define the following.

1. Weather
2. Climate
3. Angle of inclination
4. Adaptation

Solution:

1. Weather of a place at that time is the state of atmospheric conditions like temperature, rainfall, humidity, cloud cover, snow, wind and others at the given time and place.
2. Climate is the characteristic pattern of weather elements at a place over a period of time.
3. Earth's axis of rotation makes an angle with the direction perpendicular to the plane of earth's orbit around the sun, which is termed as angle of inclination.
4. Adaptation is the changes in the structure and behaviour of organisms, developing special characteristics that allow them to survive in a particular habitat.

Question:3

Write T for true statement and F for the false one. Correct the false statement(s).

1. Factors such as temperature, rainfall, and humidity determine the weather of a place.
2. The axis about which the Earth rotates is at a tilt with the plane of its orbit about the Sun.

3. The distance of a place from the equator depends on its altitude.
4. The higher a place, the hotter it is.
5. Places near the sea coast generally have a lower humidity than places far away from the sea.

Solution:

1. T. Factors such as temperature, rainfall, and humidity determine the weather of a place.
2. T. The axis about which the Earth rotates is at a tilt with the plane of its orbit about the Sun
3. F. The distance of a place from the equator is known as latitude.
4. F. The higher the place, the colder it is.
5. F. Places near the sea generally have a higher humidity than those away from the sea.

Question:4

The weather of a place over a long period of time is called

(a) humidity
(b) atmosphere
(c) weather forecast
(d) climate

Solution:

(d) Climate.
Climate is the pattern of weather of a place over a long period of time.

Question:5

The climate of a place depends on

(a) latitude
(b) height above sea level
(c) distance from the sea
(d) all of these

Solution:

(d) All of these.
Climate of a place depends on height above sea level, distance from sea and mountains and the latitude.

Question:6

The amount of water vapour present in the atmosphere determines the

(a) latitued
(b) altitude
(c) humidity
(d) maximum temperature

Solution:

(c) Humidity. Humidity is the amount of water vapor present in the atmosphere.

Question:7

The hump of the camel is a reservoir of

(a) fatty tissue
(b) water
(c) milk
(d) all of these

Solution:

(a) Fatty tissue.
Camel's hump is the reservoir of fatty tissue.

Question:8

Which one of the following animals possesses blubber under its skin?

(a) Camel
(b) African elephant
(c) Fennec
(d) Polar bear

Solution:

(d) Polar bear.
Polar bear has a thick of layer of fat called blubber under their skin to keep their body warm.

Question:9

Name two factors on which the weather of a place depends.

Solution:

Weather of a place depends on temperature and humidity at the given place.

Question:10

List four factors on which the climate of a place depends.

Solution:

Climate of a place depends on distance from the equator or latitude, height above the sea level or altitude and distance from the sea and distance from the mountains.

Question:11

What is the difference between weather and climate?

Solution:

Weather	Climate
Weather is the state of atmospheric conditions such as temperature, humidity, rainfall or snow at a given place and time.	Climate is the typical characteristic pattern of weather elements in a given place over a period of time.
Weather conditions at a place can change over a short period of time.	Climate does not change over short period of time and takes ages to change.

Question:12

Give the longest and shortest day of the year in the Northern Hemisphere.

Solution:

The longest day of the year is around 21st June and the shortest day is around 21st December in the Northern Hemisphere.

Question:13

What is the reason behind occurrence of seasons on the Earth?

Solution:

The angle of inclination is the angle that the Earth's axis of rotation makes with the direction perpendicular to the plane of earth's orbit around the sun, which is tilt in earth's axis. Seasons on earth are caused due to this tilt in the earth's axis and the earth's revolution around the sun.

Question:14

Give reasons for the following:

(a) Places in India are generally much warmer the Greenland.
(b) It is generally cooler during the nights than during the day.
(c) Mumbai has greater humidity than Delhi.

Solution:

(a) India is closer to the equator; as a result the sun's rays directly fall over there, while they fall at

angles on the poles as in Greenland. Hence, places in India are warmer than the Greenland.

(b) It is generally cooler nights during the nights than during the day, as during the day the sun rays heat up the earth.

(c) As Mumbai is closer to the sea it has greater humidity than places like Delhi that are far away from the sea.

Question:15

Mention briefly how the following animals make adaptations to survive in hot and dry desert climates:

(a) Camel
(b) Kangaroo rat
(c) Fennec

Solution:

The following adaptations are made by the animals to survive in hot and dry desert
(a)Camels have long eyelashes and ear hair to prevent sand entering inside, thick eyebrows to provide shade and wide feet to walk in sand without sinking. They can withstand high temperature changes. They have thick lips to eat prickly desert plants and their hump is a reservoir of fatty tissue to go without food for months.
(b) Kangaroo rats are active in morning and evening to escape the heat. They live in burrows to block midday heat and recycle moisture from their breathing. They do not drink water and survive on dry seeds.
(c) Fennec moves in search of food at night to escape the hot sun and stays in the den during the day. Its long ears help to dissipate heat.

Question:16

How are animals living in hot and humid areas adapted to keep their bodies cool?

Solution:

1. Animals living in hot and humid areas have adaptations for temperature regulation and evaporation of water to avoid getting uncomfortable and cooling their bodies.
2. Faster evaporation is induced by sweating, licking and panting.
3. They have long legs and tails and many also have large ears. The long legs keep their bodies above the hot ground.
4. Flapping of long ears helps in blowing air and cooling their body.
5. They are more active during early morning, evening and night.

Question:17

Mention briefly how the following animals make adaptations to survive in extremely cold climates:

(a) Polar bear

(b) Arctic fox

Solution:

The following adaptations are made by these animals to survive in cold climates

- Polar bears have blubber, a thick layer of fat under their skin to keep them warm. Their white fur provides insulation against cold and helps to hide from their prey to be able to hunt on land and in water. Female polar bears hibernate in the den during worst winter and cubs are also born there.
- Arctic foxes have large furry paws that act as snow shoes that help them to move easily in the snow. Their furry and ears help to protect from cold.

Question:18

How does the distance from the mountain affect the climate of a place?

Solution:

Distance from mountain affects the climate as mountains can change the direction of winds, stop winds and can also influence rainfall at that place.

Question:19

How many does the distance from the sea affect the climate of place?

Solution:

The presence of the sea affects humidity, which in turn determines climate. The nearer the sea, the more humid the climate.