

Class:-9th

Geography, Ch.18

A. Answer the following questions:-

1. What do you mean by the term 'Climate'?

Ans.1 The average weather conditions of temperature and rainfall at a specific place or a region over a period of several decades (around 30 years) is known as **climate**.

2. How have the climatic regions of the world been classified?

Ans.2 A climatic region has been defined as an area of the Earth's surface over which an approximately homogeneous set of climatic conditions are produced by the combined efforts of a number of climatic controls. The particular set of climatic conditions is called a climatic type.

3. Name the different climatic regions of the world.

Ans.3 The major climatic types of the world have been classified as follows:-

(a) Equatorial region **(b)** Tropical grasslands **(c)** Tropical desert **(d)** Tropic monsoon **(e)** Mediterranean **(f)** Temperate grasslands **(g)** Taiga **(h)** Tundra

4. Describe the location to the equatorial regions.

Ans.4 The Equatorial type of climatic regions are found along the Equator at 5°N to 5°S on either side. The typical Equatorial climatic features are experienced between 2° and 8°N while swinging of Pressure Belt affects the Rain Belt between 10°N to 10°S.

5. Give the other names by which equatorial regions are also popular.

Ans.5 This is also known as the Tropical Wet Climate or Tropical Rainforest Climate.

6. Why has the Equatorial Region the hottest climate?

Ans.6 Equatorial regions are located mostly within 5° to 10° North and South. The Sun is overhead throughout the year and the areas experience equal day and night. That's why this belt receives maximum amount of incoming radiation (Insolation). The average monthly temperature is above 18°C. However, many places record the average monthly temperature of 24°C to 28°C.

7. What type of rainfall in Equatorial Regions and why?

Ans.7 The Equatorial areas are known for heavy convectional rainfall. Terrestrial rain is experienced in the afternoon at 4 o'clock and is generally accompanied by lightening and thunders. Many areas receive about 200 cm rainfall annually.

8. State in brief the characteristic features of the Equatorial Type of Climate.

Ans.8 Characteristic features of the Equatorial Type of Climate are:-

- * Equatorial type region do not experience any season as there is very little change in range of temperature.
- * These regions experience average temperature of 26°C throughout the year with a belt of low pressure. Extensive cloud cover and heavy rainfall prevent any rise in temperature.
- * The annual range of temperature is about 3°C and diurnal temperature range is about 6°C to 8°C.
- * Humidity is always high.

9. Name a few important trees found in the equatorial region. How important are these trees?

Ans.9 Tropical rainforests have some very valuable trees like mahogany, ebony, rosewood and greenheart used for expensive furniture. Besides this, cinchona, banana, bam leaves, coconut and palm trees of tremendous commercial value are also found here.

10. Why is the diurnal range of temperature low in the equatorial regions?

Ans.10 As the sun rays fall vertically in this zone, the difference between day and night temperature is minimum. So the diurnal range is also low. Due to vertical rays of sun the temperature doesn't change much with the change in seasons. So the annual range is lowest in equatorial region.

11. Give the location of the Tropical Monsoon lands.

Ans.11 The tropical monsoon type of climate is found in the tropical regions where due to differential heating of land and water, a complete seasonal reversal of winds takes place.

12. Name all the areas which experience tropical monsoon type climate.

Ans.12 The most clearly defined monsoon climates are located in the coastal areas of the South-East Asia, India, Myanmar, Bangladesh, Indonesia, South China and Philippines. This area is located within the 10° N to 30° N.

13. How do the South-West Monsoon Winds originate?

Ans.13 The monsoon lands are greatly affected by the differential heating of land and water. During summer, the landmass of Asia is heated and low pressure is created. Winds from surrounding seas and oceans start blowing from sea to land carrying a lot of moisture, as they cross the water bodies. These are called South-West monsoon.

14. State in brief a few important features of the Tropical Monsoon Climate.

Ans.14 Characteristic Features of Monsoon Type of Climate:-

- i. Seasonal reversal of winds is the chief feature.

ii. Temperature ranges from 15°C in the cool season to 32°C in hot season.

iii. Three distinct seasons can be identified

Cool dry season (Nov to Feb)

Hot dry season (March to May)

Hot wet season (June to Oct)

iv. Great variation in rain takes place from 12 cm in the deserts to 200 cm in coastal regions.

15. What are the characteristics of the climate of hot deserts?

Ans.15 Characteristic Features of Tropical Desert Type of Climate

i. Rain rarely falls and average rainfall is usually below 12 cm. Sometimes there may be a sudden torrential downpour due to depression which may cause temporary floods.

ii. The average temperature varies from 29°C in hot season to 10°C in cool season.

iii. Absence of clouds causes temperature to rise up to 49°C at times. At night, because of clear skies, radiation is rapid and temperature may fall to 15°C to 5°C. Thus diurnal range of temperature is very high.

16. What type of natural vegetation is found in hot deserts?

Ans.16 Desert plants can withstand high temperatures for long periods when there is no rainfall, e.g. Xerophytic plants. The plants adopt themselves to extreme drought conditions. Some plants have long roots and are tough or have needle shaped leaves to reduce transportation to a minimum. The most common plants are drought resident plants like cacti, thorny bushes and coarse grasses.

17. Why are the major hot deserts of the world found on the Western margins of the continents ?

Ans.17 Most of the world's hot deserts lie within the latitude 15°N to 30°N and south. They occupy the western margins of the continents in the belt of permanent trade winds. The only exception is the Sahara desert, which extends from west coast right across the continent into South-West Asia.

18. Point out the important features of the Tropical Deserts.

Ans.18 Important features of the Tropical Deserts are:-

i. Rain rarely falls and average rainfall is usually below 12cm. Sometimes there may be a sudden torrential downpour due to depression which may cause temporary floods.

ii. The average temperature varies from 29°C in hot season to 10°C in cool season.

iii. Absence of clouds causes temperature to rise skies, radiation is rapid and temperature may fall to 15°C to 5°C. Thus diurnal range of temperature is very high.

19. Point out the location of the hot desert region of the world naming the areas and the countries.

Ans.19 Most of the world's hot deserts lie within 15°N to 30°N and south. They occupy the western margins of the continents in the belt of permanent trade winds. The only exception is the Sahara desert, which extends from west coast right across the continent into South-West Asia.

The most important reason having this type of climate are the Sahara Desert, the Arabian, Iranian and Thar Desert, Australian Desert, the Kalahari and Namibia Desert, the Atacama Desert and the California and Mexico Desert.

20. What is the main feature of the Mediterranean climate?

Ans.20 Main feature of the Mediterranean climate are:-

i. Mediterranean climate is famous for its warm, dry summer and mild rainy winters.

ii. Offshore trade winds blow in the summer. These are dry and give no rains. The sky is cloudless and humidity is low.

iii. During winter because of the shifting of the pressure belts these regions come under the influence of Westerlies. Onshore Westerly winds blow in the winter bringing cyclonic rain.

iv. Mediterranean climates experience both hot and cold local winds like *Sirocco* during summer and *Mistral* and *Bora* during winter.

v. These lands are known for growing citrus fruits because of its unique climate.

21. When do Mediterranean regions receive their rain and why?

Ans.21 During winter when the pressure belts shift southward it come under the influence of westerlies which cause characteristic moderate winter rainfall.

22. What are the main characteristics of Mediterranean vegetation?

Ans.22 Mediterranean summers are hot and dry and make the plant growth difficult. However, the plants in this region have adapted themselves to the summer drought, by storing water obtained from winter rains, e.g. bulbous roots.

Species:- Coniferous forests consisting of evergreen oak, eucalyptus, jarrah and karri in South-West Australia; cedar, cypress, redwood and Sequoia in California are found.

Crops:- Agriculture in Mediterranean lands is predominantly intensive. High yielding crops are grown. The climate of this region is ideal for wheat, maize, barley and rice which is grown only in river valley plains. Mediterranean region is famous for fruit cultivation. Citrus fruits like orange, lime and lemon are

grown. Other fruits grown are figs, peaches, pears, apricots and cherries etc. Several nut trees are also grown in this region.

23. Name the principal trees which grow on lands.

Ans.23 Mediterranean lands is predominantly intensive. High yielding crops are grown. The climate of this region is ideal for wheat, maize, barley and rice which is grown only in river valley plains. Mediterranean region is famous for fruit cultivation.

Walnut, chestnut, hazel nut, almonds etc. are important nut crops. Olives are grown in plenty and are used as fresh fruit as well as used for oil. Grapes are grown abundantly in Mediterranean region.

24. Name a few local winds found in Mediterranean region.

Ans.24 Mediterranean climates experience both hot and cold local winds. Some examples are *Sirocco*, a hot dusty, dry wind which blows from Sahara desert during summer across Mediterranean; *Mistral*, intensely strong cold wind which blows in winter down the Rhone valley from North reaching Mediterranean coast; *Bora*, another winter wind which develops because of pressure difference between Central Europe and Mediterranean Sea and blowing south across Yugoslavia to the Adriatic Sea.

25. Name any four climate types of the world.

Ans.25 **(a)** Equatorial region **(b)** Tropical grasslands **(c)** Tropical desert **(d)** Tropic monsoon.

26. Give an account of the winter conditions in the Taiga region.

Ans.26 Long cold winters last from October to April and temperature can fall to -30°C or less. Summer are short and cool, with a brief growing season. Verkhoyansk is a Siberian station where the record of minimum temperature is -50°C .

27. What is the location of the Tundra region?

Ans.27 The Tundra lies beyond the Arctic circle ($66^{\circ}30'\text{N}$) in the Northern Hemisphere. There is no tundra region in the Southern Hemisphere.

28. Describe the summer conditions in Tundra region.

Ans.28 Summers are cool and short. They last only for about 2 to 3 months and the temperature may vary between 2°C to 10°C .

29. What is meant by the term Aurora Borealis? Where do they occur?

Ans.29 A natural electrical phenomenon characterized by the appearance of streamers of reddish or greenish light in the sky. The effect is caused by the interaction of charged particles from the sun with atoms in the upper atmosphere. In northern and southern regions it is respectively called aurora

borealis or Northern Lights and aurora australis or Southern Lights. These are seen only in latitudes beyond 65° in both hemisphere.