

Chapter:Climate

LONG ANSWER TYPE QUESTIONS :

Q.1.Give a brief account of the hot weather season in India.

Answer:

The period between March to May is the hot weather season or summer in India.

The characteristic features of the hot weather season are as follows :

Due to the apparent northward movement of the sun, the global heat belt shifts northwards.

The influence of the shifting of the heat belt can be seen clearly from temperature recordings taken during March-May at different latitudes. In March, the highest temperature is about 38° Celsius, recorded on the Deccan plateau.

In April, temperatures in Madhya Pradesh and Gujarat are around 42°C. In May, temperature of 45°C is common in northwestern parts of the country. In temperature remain lower due to the Peninsular India, has moderating to influence of the oceans.

The summer months experience rising temperature and falling air pressure in the northern part of the country. Towards the end of May, an elongated low-pressure area develops in the region extending from the Thar Desert in the northwest to Patna and Chotanagpur plateau in the east and southeast. Circulation of air begins to set in around this trough.

Strong, gusty, hot, dry winds, locally called 'loo', blow during the day over the north and northwestern India. They may continue until late in the evening.

Dust storms are common during the month of May in Punjab, Haryana, Delhi, Eastern Rajasthan and Western Uttar Pradesh. Sometimes, they bring light rain and pleasant cool breeze that provide temporary relief from the heat.

High temperature during the day causes violent, localised thunderstorms by the evening. These thunderstorms are associated with violent winds, torrential downpours, often accompanied by hail.

These storms are known as 'Kaal Baisakhi' or calamity of the month of Baisakh in West Bengal.

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Question.2.

What are the variations in precipitation in India?

Answer:

(a) There are variations not only in the form and types of precipitation but also in its amount and the seasonal distribution.

(b) The rest of the country receives moderate rainfall. Snowfall is restricted to the Himalayan region.

(c) The annual precipitation varies from over 400 cm in Meghalaya to less than 10 cm in Ladakh and western Rajasthan.

(d) Owing to the nature of monsoons, the annual rainfall is highly variable from year to year. Variability is high in the regions of low rainfall, such as parts of Rajasthan, Gujarat and the leeward side of the Western Ghats.

(e) Most parts of the country receive rainfall from June to September but some parts like the Tamil Nadu coast gets most of its rains during October and November.

Question.3.

Describe the effect of western cyclonic disturbances on the Indian climate?

Answer:

The western cyclonic disturbances are weather phenomena of the winter months brought in by the westerly flow from the Mediterranean region.

They affect the climate of India in the following ways :

By causing cyclonic rainfall in the month of winter, which is otherwise dry, the region of western cyclonic disturbances influence the weather of the north and north-western India.

These low-pressure systems originate over the Mediterranean Sea and Western Asia and move into India, alongwith easterly flow.

They cause the much-needed winter rains over the plains and snowfall in the mountains.

Although the total amount of winter rainfall, locally known as 'Mahawat' is small, it is very useful for rabi crops. These winds are called western cyclonic disturbances since they came from the western part of India.

Question.4.

Write about the Arabian Sea branch of the monsoon.

Answer:

The monsoon arrives at the southern tip of the Indian peninsula generally by the first week of June. Subsequently, it proceeds into two – the Arabian Sea branch and the Bay of Bengal branch. The Arabian Sea branch reaches Mumbai about ten days later on approximately the 10th of June. This is a fairly rapid advance. The onshore moisture-laden winds strike the Western Ghats and provide heavy rainfall on its windward side. As a result, Mumbai in the windward side receives much more rainfall than Pune which is located on the leeward side of the Western Ghats.

By mid-June, the Arabian Sea branch of the monsoon arrives over Saurashtra-Kuchchh and the central part of the country. In the western and northwestern parts of the country, the highlands, the Aravalis, lie parallel to the direction of the incoming Arabian Sea branch of monsoon. Hence, these areas do not receive much rainfall because the rain-bearing winds do not strike any barrier.

By the first week of July, Western Uttar Pradesh, Punjab, Haryana and eastern Rajasthan experience the monsoons.

The Arabian Sea branch of monsoon merges with the Bay of Bengal branch over the north-western part of the Ganga plains. Delhi receives its rain from either of the two branches.

Question.5.

Write a brief account of the conditions and characteristics of the retreating monsoons.

Answer:

The months of October-November mark a period of transition from hot rainy season to cold dry winter conditions. With the apparent movement of the sun southwards, the low-pressure monsoon trough over the Northern Plains weakens and is gradually replaced by a high-pressure system. The low-pressure conditions shift to the Bay of Bengal.

The retreat of the monsoon is marked by clear skies and rise in temperature. While day temperatures are high, nights are cool and pleasant. The land is still moist.

As a result, the southwest monsoon winds weaken and start withdrawing gradually from India. By the beginning of October, it withdraws from the Northern Plains. This period is known as the Retreating Monsoon

The Retreating Monsoon season is marked by clear skies and rise in temperature. While days are warm, nights are cool and pleasant. High rate of evaporation from the land that is still moist results in high humidity and oppressive weather conditions during the day. This phenomenon is known as 'October heat'.

The low-pressure conditions, over northwestern India, get transferred to the Bay of Bengal by early November. This shift is associated with the occurrence of cyclonic depressions, which originate over the Andaman Sea.

The deltas region of the Godavari, the Krishna and the Kaveri are frequently struck by cyclones, which cause great damage to life and property. Sometimes, these cyclones arrive at the coasts of Odisha, West Bengal and Bangladesh. The bulk of the rainfall of the Coromandel Coast is derived from depressions and cyclones.

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