CLASS-9
GEOGRAPHY
Chap-3 CLIMATE

Question 6:
Discuss the mechanism of monsoons.
Answer:
The monsoons are experienced in the tropical regions roughly between 20° N to 20° S latitudes. There are various phenomena to explain the mechanism of monsoon in India.
(i) Differential heating and cooling of land and water-
At the end of May, due to high temperature, low pressure area is found on the land mass and sea or ocean experiences comparatively higher pressure.
(ii) Shift in the position of Inter Tropical Convergence Zone- In summer, it ITCZ or the the low pressure trough is shifted its position over the Ganga plain. It is also known as monsoon trough during monsoon season.
(iii) Presence of high pressure area at 20° S over the Indian Ocean means east of Madagascar-
The intensity and position of this high pressure area affects the Indian monsoon.
(iv) Intensely heating of Tibetan plateau-
In summer, the intense heating of Tibetan plateau results in strong vertical air currents and formation of high pressure over the plateau at about 9 km above sea level.
(v) Westerly jet stream and tropical easterly jet stream-
The moment of westerly jet streams to the north of the Himalayas and the presence of the tropical easterly Jet streams over the Indian peninsula during summer. This periodic change in pressure

condition is known as Southern Oscillation. This change in the pressure condition over the southern ocean also affects the monsoon.

Question 7:
Give an account of weather conditions and characteristics of the cold season.
Answer:
The Cold Weather Season-
Beginning from mid-November, the winter season lasts till February. The weather is usually marked by clear sky, low temperatures and low humidity, and feeble and variable winds. The temperature decreases from the south to the north, with the peninsular region not showing any noticeable seasonal change in temperature pattern due to the moderating influence of the sea. The coldest months are December and January. The days are generally warm and the nights are cold. Frost is common in the north and the higher slopes of the Himalayas experience snowfall.

During this season, the sub- tropical westerly jet streams blowing south of the Himalayas bring in cyclonic disturbances from the Mediterranean region. These cause winter rains over the plains and snowfall in the mountains. The Tamil Nadu coast also receives winter rainfall due to the blowing of the north-east trade winds from sea to land.

Question 8:
Give the characteristics and effects of the monsoon rainfall in India.
Answer:

Characteristics of monsoon rainfall in India:
(i) The duration of the monsoon is between 100 to 120 days from early June to mid-September.
(ii) Around the time of its arrival, the normal rainfall increases suddenly and continues for several days. This is known as the 'burst' of the monsoon.
(iii) The monsoon has characteristic wet and dry spells or 'breaks' in rainfall. The monsoon rains take place only for a few days at a time. They are interspersed with rainless intervals.
(iv) The moisture is carried by pulsating south westerlies that are affected by different atmospheric conditions, thereby giving monsoon rains an uncertain character. The annual rainfall is highly variable from year to year
(v) The rainfall is unevenly distributed across the Indian landscape. Parts of the western coast and north-eastern India receive the maximum rainfall. Regions such as parts of Rajasthan, Gujarat, Leh and the leeward side of the Western Ghats receive very little rainfall.

Effects of monsoon rainfall in India:
(a) Indian agriculture is largely dependent upon the water from the monsoon rains. Late, low or excessive rains have a negative impact upon crops.
(b) Due to the uneven distribution of rainfall across the country, there are some regions that are drought prone and some that are flood afflicted.
(c) The monsoon provides India with a distinct climatic pattern. Hence, in spite of the presence of great regional variations, it has a unifying influence upon the country and its people.