Roll No :
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School : ACHIEVERS FOUNDATION
Assessment : climate
Subject : SST
Class : CBSE-IX

Time : 00000
Marks: 138

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1 Which one of the following warm ocean currents replaces the Peruvian cold current? **1**

(a) Kuroshio
(b) El Nino
(c) South Pacific Current
(d) Gulf Stream

Ans :(b) El Nino

2 Which of the following crops is associated with the winter rainfall? **1**

(a) Zaid
(b) Rabi
(c) Kharif
(d) None of these

Ans :(b) Rabi

3 Which of the following areas is not an area of low precipitation? **1**

(a) Western Ghats in Gujarat
(b) Leh in Jammu and Kashmir
(c) Deccan Plateau
(d) Assam

Ans :(d) Assam

4 Which of the following states suffer from loo? **1**

(a) Tamil Nadu
(b) Uttar Pradesh
(c) Gujarat
(d) None of these

Ans :(b) Uttar Pradesh

5 _____ are the fast flowing cold air current in a narrow zone in the upper atmosphere. **1**

(a) Loo

(b) Mango showers
(c) Kal Baisakhi
(d) Jet Streams

Ans :(d) Jet Streams

6 Chennai receives more rainfall in winter because **1**
(i) The North-East winds pick up moisture while crossing Bay of Bengal.
(ii) In summer, Chennai lies in the rain shadow of the Western Ghats.
(iii) The South-East winds pick up moisture while crossing Bay of Bengal.
(iv) In winter Chennai lies in the rain shadow of the Eastern Ghats.
(a) (i) and (iii) are correct.
(b) (i), (ii) and (iii) are correct.
(c) Only (i) and (ii) are correct
(d) Only (iv) is correct.

Ans :(c) Only (i) and (ii) are correct

7 Which one of the following is the main reason for the horizonal motion of air over the earth's surface? **1**
(a) Variation in atmospheric pressure
(b) Variation in attitude
(c) Variation in temperature
(d) Variation in latitudes.

Ans :(a) Variation in atmospheric pressure

8 Thiruvananthapuram has low annual range (22°C) of temperature as it is **1**
(i) far away from the equator
(ii) far away from the sea
(iii) near to the sea
(iv) near to the equator
(a) (i), (ii) and (iii)
(b) (i) and (ii)
(c) (ii) and (iv)
(d) (iii) and (iv)

Ans :(d) (iii) and (iv)

9 Which of the following stations has equable temperature? **1**
(a) Lucknow
(b) Mumbai

(c) Amritsar

(d) Nagpur

Ans :(b) Mumbai

10 Which among the following sentences is incorrect? **1**

(a) India has mountains to the north, which have an average height of 6000 meters.

(b) India lies in the region of South easterly winds.

(c) The Climate of India is described as the 'monsoon' type.

(d) Mawsynram is the wettest place on the earth.

Ans :(b) India lies in the region of South easterly winds.

11 The tropic of cancer passes through the middle of the country from the Rann of Kuchchh in the west to **1**

(a) Arunachal Pradesh in the east

(b) Mizoram in the east

(c) Tripura in the east

(d) Nagaland in the east

Ans :(b) Mizoram in the east

12 Identify the correct statement **1**

(a) Parts of western coasts and northeastern India receive over about 400 cm of rainfall annually

(b) A striking feature of the cold weather season is the loo.

(c) During hot season, the northeast trade winds prevail over the country.

(d) All the above

Ans :(a)

13 Which among the following places experience wide difference between day and night temperatures? **1**

(a) Thar Desert

(b) Kerala

(c) Maharashtra

(d) Andaman and Nicobar islands

Ans :(a) Thar Desert

14 Which among the following places experiences hardly any difference in day and night temperature **1**

(a) Bihar

(b) Kerala

(c) Madhya Pradesh

(d) Uttar Pradesh

Ans :(b) Kerala

15 Violent winds or storms 'Kaal Baisakhi' is associated with **1**

(a) Rajasthan

(b) West Bengal

(c) Madhya Pradesh

(d) Jharkhand

Ans :(b) West Bengal

16 Mango showers occurs in the states of **1**

(a) Haryana and Punjab

(b) Bihar and Jharkhand

(c) Gujarat and Rajasthan

(d) Kerala and Karnataka

Ans :(d)

17 In which months is the season of rainfall experienced in India? **1**

(a) January and February

(b) September to December

(c) June to September

(d) March to June

Ans :(c)

18 The term 'Mahawat' is associated with the **1**

(a) total amount of winter rainfall

(b) total amount of summer rainfall

(c) total amount of spring rainfall

(d) none of the above

Ans :(a)

19 India's climate has characteristics of **1**

(a) torrid climate
(b) polar climate
(c) tropical as well as subtropical climates
(d) none of these

Ans :(c)

20 India has a vast coastal area where the maximum elevation is about **1**
(a) 10 meters
(b) 30 meters
(c) 60 meters
(d) 100 meters

Ans :(b)

21 Which among the following prevents the cold winds from central Asia from entering the subcontinent? **1**
(a) Deccan Plateaus
(b) Himalayas
(c) Peninsular Plateaus
(d) Indian Desert

Ans :(b)

22 The word monsoon is derived from the Arabic word ‘mausim’ which literally means **1**
(a) rainy
(b) winter
(c) cold
(d) season

Ans :(d)

23 There is decrease in rainfall generally from east to west in the **1**
(a) Desert
(b) Northern plains
(c) Peninsular India
(d) Coastal areas

Ans :(b)

24 What do you understand by the term ‘continentality’? **1**
(a) Very hot during summers and very cold during winters.
(b) Mass of snow and ice

(c) Contiguous stretch of landmass

(d) Waters of the rivers that do not reach the oceans

Ans :(a)

25 In summer, the mercury occasionally touches 50°C in some part of the **1**

(a) Peninsular Plateau

(b) Satpura Range

(c) Rajasthan Desert

(d) Deccan Plateau

Ans :(c)

26 Which of the following statements is correct regarding the cold weather season? **1**

(a) The temperature decreases from north to south.

(b) Frost is common in the north and the higher slopes of the Himalayas experience snowfall.

(c) The weather is normally marked by high humidity.

(d) The northern region does not have a well defined cold season.

Ans :(b)

27 Which among the following states gets scanty rainfall? **1**

(a) West Bengal

(b) Rajasthan

(c) Assam

(d) Bihar

Ans :(b)

28 'ITCZ' stands for **1**

(a) Inter Tropical Climate Zone

(b) International Tropical Climate Zone

(c) Internation Terminal Convergence Zone

(d) Inter Tropical Convergence Zone

Ans :(d)

29 Which among the following forces is responsible for the deflection of winds from its normal path? **1**

(a) Coriolis force

(b) Centrifugal force

(c) Unbalanced force

(d) None of these

Ans :(b)

30 How do the variations in temperature affect the lives of the people in India? **3**

Ans :(a) They affect the food the people eat.
(b) The clothes the people wear
(c) The kind of houses they live in.

31 What is the jet stream? **3**

Ans :
(a) These are a narrow belt of high altitude westerly winds in the troposphere.
(b) Their speed varies from about 110 km/h in summer to about 184 km/h in winter.
(c) Of the jet streams that have been identified, the most constant are the mid-latitude and the sub-tropical jet stream.

32 What is the ITCZ? **3**

Ans :
(a) The Inter Tropical Convergence Zone is a low pressure trough lying 5° North and South of the Equator.
(b) The North East and the South East Trade winds meet here.
(c) The ITCZ moves north or south of the Equator with the apparent movement of the sun.

33 Explain the Southern Oscillation. **3**

Ans :
(a) Normally when the tropical eastern South Pacific Ocean experiences high pressure, the tropical eastern Indian Ocean experiences low pressure.
(b) Sometimes there is a reversal in the pressure conditions.
(c) This periodic change in pressure conditions is known as the Southern Oscillation or S.O. If the pressure differences are negative it would mean late monsoons.

34 How is the EI Nino phenomenon connected with the Southern Oscillation? **3**

Ans :

(a) Normally a cold current flows along the Peruvian Coast.
(b) Every two to five years a warm ocean current takes the place of the cold Peruvian current.
(c) The changes in the pressure conditions are connected to the EI Nino, so this phenomenon is referred to as ENSO (EI Nino Southern Oscillations).

35 What do you understand by the 'Retreating of the Monsoon'? When does it occur? **3**

Ans :
(a) Withdrawal of the monsoon from the country is known as the retreating of the monsoon.
(b) The withdrawal is a gradual process. In September the monsoon withdraws from the north western states and by October from the northern half of the peninsular.
(c) The monsoon finally withdraws from the country by early December.

36 Describe the main features of the Retreating Monsoon season in India. **3**

Ans :
The main features of the Retreating Monsoon season in India are:
(a) During October-November the monsoon trough becomes weaker. It is gradually replaced by a high pressure system. The south-west monsoon winds starts withdrawing gradually. By beginning of October the monsoon withdraws completely from northern plains.
(b) The months of October and November are a period of change from hot rainy season to dry winter conditions. The land is moist, the sky is clear and the temperature rises. Nights are cool and pleasant. Owing to high temperature and humidity, the heat becomes oppressive during daytime and it is called 'October heat'.
(c) The low pressure conditions get transferred over the Bay of Bengal by the beginning of November.
This shift is associated with the occurence of cyclonic depression, which develops over the Andaman Sea. These cyclones cross the eastern coast and cause heavy rainfall. They are destructive and the deltas of the Godavari, Krishna and Kaveri are often struck by them.

37 What are the temperate cyclones? How do they influence the climate of India? **3**

Ans :

(a) Temperate cyclone also known as depressions, enter India from the Mediterranean Sea in the cold season.
(b) These cause winter rains over the Northern plains and snowfall in the mountains.
(c) The winter rainfall locally known as ‘mahawat’ is small, but is very important for the cultivation of rabi crops.

38 Write short notes on the local winds of the Hot/Summer season. **3**

Ans :
(a) Loo: These are strong, gusty, hot dry winds blowing during the day over north and north west India. Dust storms are common.
(b) Kaal Baisakhi: These are the localised thunderstorms, accompanied by violent winds, torrential rain, sometimes accompanied by hail. These occur in West Bengal.
(c) Mango showers: These are the pre-monsoon showers, which occur in Kerala and Karnataka at the end of the summer season. These help in the ripening of mangoes.

39 How are the Trade Winds related to the Monsoon Winds? **3**

Ans :
(a) The South East Trade winds originate over the warm subtropical areas of the southern oceans.
(b) Due to the intense low pressure over the northwest of India, the Trade Winds cross the equator and blow in a south westerly direction towards the Indian peninsula.
(c) These blow over the warm ocean, pick up moisture and then blow into the Indian peninsula causing heavy rain there. These winds enter India as the South West Monsoon winds.

40 What is the pattern of annual rainfall distribution in India? Name any two states having heavy rainfall, two states having moderate rainfall and two having low rainfall. **3**

Ans :

The annual rainfall is highly variable from year to year. Parts of western coast and north eastern India receive heavy rainfall. Rainfall is low in Deccan plateau, east Sahyadris, Leh, Rajasthan, Gujarat. The rest of the country receives moderate rainfall. Thus the pattern of annual rainfall distribution is uneven in India.

Heavy rainfall — Meghalaya, Arunachal Pradesh

Moderate rainfall — Uttar Pradesh, Tamil Nadu

Low rainfall — Rajasthan, Gujarat

41 Explain any three factors which affect the mechanism of monsoons. **3**

Ans :

The three factors are:

(a) The presence of land and water causes the differences in temperature. This results in differences in pressure which gives rise to the monsoons. The monsoon winds blow from high pressure to low pressure. This determines the direction of winds.

(b) The movement of the westerly jet stream to the north of the Himalayas and the presence of the easterly jet stream over the peninsula during summer.

(c) The shift of the position of the Inter Tropical Convergence zone in summer over the Ganga plain (normal position is about 5°N of the equator).

42 Explain how an onshore wind affects the climate of the coastal region when it blows over an ocean current? **3**

Ans :

When a wind blows over an ocean current towards the land they affect the climate of the coastal region, if it crosses over a warm current it increases the temperature of the areas along the coast but if it crosses over a cold current it reduces the temperature. A warm wind carries more moisture than a cold wind.

43 Give reasons why Nainital or any hill station is cooler than Delhi in the summer season. **3**

Ans :

A hill station is located at a height and is cooler. This is because as one goes from the surface of the earth to higher altitudes, the atmosphere becomes less dense, so the temperature decreases. Therefore, Nainital remains cooler than New Delhi in summer.

44 Give three differences between a tropical cyclone and temperate cyclone. **3**

Ans : Differences between tropical and temperate cyclones.

Tropical cyclones	Temperate cyclones
• Occur over the Bay of Bengal • Occupy a small area • Heavy rain and strong winds cause missive destruction	• Occur in the north west of India • Spread over a larger area • Destructionisless. They cause rain which is beneficial

45 How do the Himalayas affect the climate of India? **3**

Ans :

The Himalayas affect the climate of India in two ways:

(a) In winter they prevent the icy cold winds from entering the Indian subcontinent, because of their height.

(b) During the rainy season, the Himalayas prevent the moisture laden winds from leaving the country, thereby causing rain in the Indian subcontinent. The Himalayas divert the Bay of Bengal Branch towards the Northern Plains.

46 Differentiate between the 'bursting' and the 'retreating' of the monsoon. **3**

Ans :

Bursting of the monsoons refers to the sudden increase of rainfall around early June which continues constantly for several days. Withdrawal of the monsoons from the country in early September is known as the 'Retreating' of the Monsoons.

47 On the outline map of India, locate and label the following cities. **4**

(a) Thiruvananthapuram

(b) Chennai

(c) Jodhpur

(d) Bengaluru

(e) Mumbai

(f) Kolkata

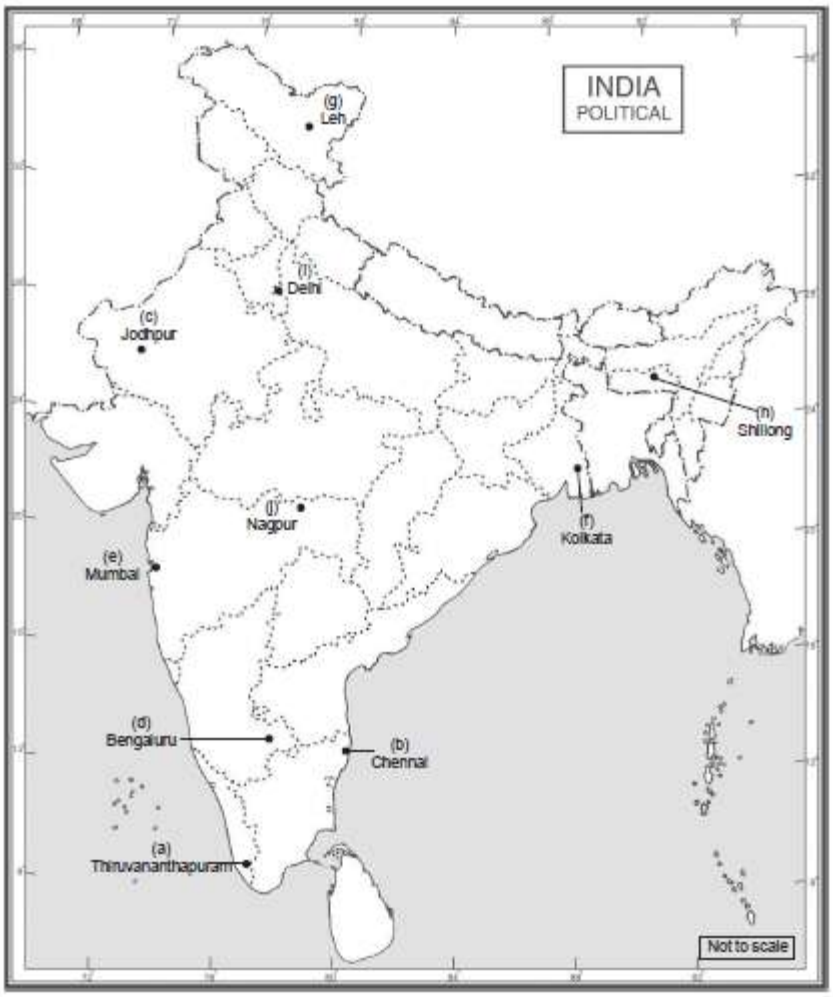
(g) Leh

(h) Sehillong

(i) Delhi

(j) Nagpur

Ans :



48 Locate and lable the following cities on an outline map of India. **4**

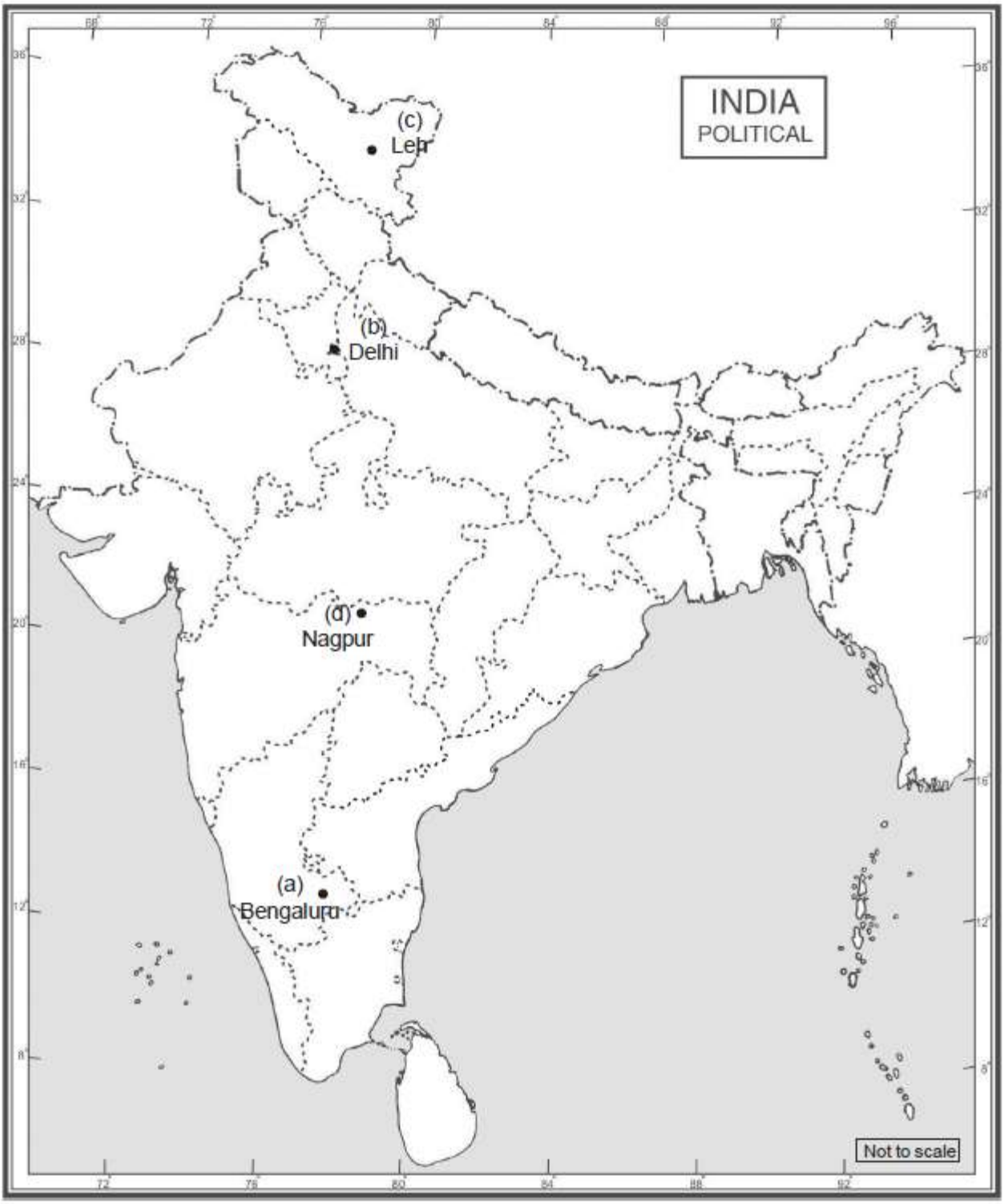
(a) Bengaluru

(b) Delhi

(c) Leh

(d) Nagpur

Ans :



49 Explain the four features of the Monsoon rains. **5**

Ans :

(a) The Monsoon is often irregular in its arrival and retreat.
(b) The rainfall is unevenly distributed. Certain regions lying on the windward slopes of the mountains receive heavy rain while those in the rain shadow area receives less.
(c) The amount of rain varies annually.
(d) The rainfall is concentrated within the three months of the year.
(e) The alternation of dry and wet spells vary in intensity. At one place the rainfall is very heavy causing floods while at another place it might have famines. (any four)

50 Describe the regional variations in the climatic conditions of India with the help of suitable examples. **5**

Ans :
There are great variations in the climate of India.
(a) Certain regions receive very heavy rainfall like the North-east and the Western Coastal plains while others like the Thar Desert receive scanty rainfall.
(b) Places like Ladakh and Kashmir are very cold while others like Rajasthan are very hot.
(c) Coastal regions have an equable climate while places in the interior have an extreme climate.
(d) Areas on the windward slopes of the mountains receive heavy rainfall, while leeward and rain shadow areas receives less rain.
(e) Coastal areas with warm currents flowing past it, will be warmer than those areas which have the cold currents flowing close to it.

51 Describe the role of El Nino and Southern Oscillation to control the climate of India. **5**

Ans :
The periodic change in pressure conditions in eastern Pacific and eastern Indian Ocean is known as the Southern Oscillation. The difference in pressure in the Indian and Pacific Oceans is computed to predict the intensity of the monsoons. Negative pressure differences predict below average and late Monsoons. This affects the El Nino, a warm current which flows along the Peruvian current instead of the cold current. The changes in pressure conditions are connected to the EL Nino.

52 Why is the distribution of rainfall uneven in India? Mention any five factors? **5**

Ans :

The distribution of rainfall is uneven in India because:
(a) Relief: The Western Ghats receives heavy rainfall. The Arabian sea branch of the South-West monsoon, which are moisture laden winds, causes very heavy rainfall when they strike the
Western Ghats. Mawsynram gets more rain due to its relief. It gets rain from the Bay of Bengal branch of the South-West monsoon.
(b) Distance from the Sea: Places near the coastal region get more rainfall than the places situated far away from the sea.
(c) Direction of the Winds: Rajasthan get scanty rainfall due to Arabian sea Branch blowing parallel to the Aravalli hills.
(d) Inter-Tropical Convergence Zone (ITCZ): It is also known as monsoon trough during the monsoon season. The trough and its axis keep on shifting, northward or southward, which determines the spatial distribution of rainfall. When the trough lies over the plains, rainfall is over this region. When the axis shift closer to the Himalayas, there is a dry spell over the plains and widespread rainfall in mountainous catchment area.
(e) Cyclonic disturbances: The occurrence of cyclonic depressions, which originate over Andaman Sea, generally cross the eastern coasts of India cause heavy and widespread rain in deltas of the Godavari, the Krishna and the Kaveri, coasts of Orissa and West Bengal.

53 Development of tropical cyclones is a distinguishing feature of the monsoon. How do tropical cyclones influence distribution of rainfall in India? **5**

Ans :

The low pressure conditions over north western India slowly get transferred to the Bay of Bengal by early November. The occurrence of cyclonic depression is a result of this shift. The tropical cyclones move westwards towards the east coast of India and cause heavy rainfall there. These cyclones are very destructive and cause great damage to life and property. Most of the winter rain along the east coast is caused by these depressions.

54 At times floods become major disasters in a country. Mention five ways in which the people in the affected area suffer. What can be done to minimise the sufferings of these people? **5**

Ans :

At times floods become disasters in a country. The different ways in which people get affected are:
(a) There is loss of property.
(b) Cattle and other animals drown or are carried away by the currents.

(c) People are drowned or are swept away by the flood water.
(d) Diseases spread.
(e) Crops are washed away leading to rise in prices of food crops. There should be proper Disaster management in the sensitive areas, so that the loss due to natural disasters can be minimized.

55 Name any two states where the following occur. **5**
(a) Loo
(b) Kaal Baisakhi
(c) Mango showers
(d) Temperate cyclones/Westerly depression
(e) A place having the highest rainfall in the world.

Ans :
(a) Loo—UP, Bihar (b) Kaal Baisakhi—West Bengal, Assam
(c) Mango showers—Karnataka, Kerala
(d) Westerly Depressions /Temperate cyclones— Punjab, Uttarakhand
(e) Mawsynram

56 Explain any five factors that affect the climate of India. **5**

Ans :
(a) Pressure: In winter the pressure is high over the land and low over the sea. Therefore cold winds blow from land to the sea. In summer the winds blow from sea to land where the pressure is low.
(b) Distance from the Sea: Places near the sea have a moderate climate due to the influence of land and sea breezes. Places far away in the interior have a continental or extreme climate.
(c) Ocean Currents: Ocean currents affect the coastal regions. Cold currents reduce the temperature of the regions they blow along. Warm currents increase the temperature of coastal regions.
(d) Relief: Mountains lying at right angles to the winds cause heavy rainfall whereas mountains lying
parallel to the winds do not cause rain. Windward slopes of mountains cause heavier rain than the leeward slope or the rain shadow area.
(e) Latitude: Due to the spherical shape of the earth the amount of solar energy received by the earth varies according to the latitude. Temperature decreases from the Equator to the poles.

57 Describe the path of the monsoon winds, after it strikes the West Bengal coast. **5**

Ans :

(a) The Bay of Bengal Branch first strikes the coast of Bangladesh and then proceeds towards Assam in the first week of June.

(b) The high mountains cause the monsoon winds to deflect towards the west over the Ganga plains.

(c) The rainfall keeps on decreasing as the winds move up the Ganga Valley.

(d) By mid-June, the Arabian Sea Branch meets the Bay of Bengal Branch.

(e) The monsoon reaches Delhi by 29th June. Uttar Pradesh, Punjab, Haryana and eastern Rajasthan receives rain by the 1st week of July and Himachal Pradesh by mid-July.

58 Explain the distribution of rain caused by the Monsoons. **5**

Ans :

(a) Heavy rainfall (over 250 cm) is caused on the windward slopes of the Western Ghats.

(b) The Deccan plateau and parts of Madhya Pradesh lie in the rain shadow area of the Ghats and get less rain.

(c) The north eastern part of the country receives very heavy rain (Mawsynram receives the highest rainfall in the world).

(d) Rain in the Ganga plain decreases from the east to the west.

(e) Rajasthan and parts of Gujarat get scanty rainfall.