 **Pakistan School , Kingdom of Bahrain**

**E- Support and Learning Material / Session 2020-2021**

**Subject: GOP Grade :9th**

**Book: GOP for foreign students FIRST TERM Unit 3: Climate Pg. No:20-29**

**Ex.2-Detail Questions:**

**Q#1:- Q1 Explain the terms "weather" and "climate", what are the elements of climate? Describe what factors the climate of a place depends on.** Answer:

Introduction. The earth is surrounded by an envelope of gaseous matter called the atmosphere which extends outward from the earth's surface gradually becoming thinner until it ceases to exist. The atmosphere has no precise limit. However, 75% of it is less than 11 Km from the earth's surface, 90% lies below 16 Km and 97% below 27 Km.

**Weather and climate:**

The daily weather forecast tells us what to expect in the next 24 hours or 48 hours, it indicates the possibility of rain, frost or strong winds, and it suggests the likelihood of sunshine or clouds. No two days have exactly the same weather because weather changes from hour to hour and form place to place. We cannot know with any degree of certainty whether the next Friday will be dry for the game of cricket or the 1 "January will be sunny enough for a picnic. But we can be certain that there will be no frost during mid-summer, and The excessive heat will not trouble us in January, This emphasizes the difference between weather and climate.

**Elements of Climate:**

The most important elements of whether and climate are temperature, pressure, winds, humidity and rainfall.

* **Factors the climate of a place depends on.**
* **Latitude or distance from the equator.**
* **Altitude (height above sea level).**
* **Distance from sea (distribution of land and water).**

The difference in climate from place to place can be explained in terms of the above mentioned factors commonly known as the climatic control factors. We will study the climate of Pakistan taking into consideration the main elements of climate ie, temperature, pressure, winds and rainfall.

Pakistan is a sub-tropical country located on a large landmass. It has a monsoon type of climate since it is located in the western part of the monsoon region. Its climate 1s generally arid, hot and continental characterized by extreme variation of temperature, since a large part of the country lies at a great distance from the sea.

**Q.2 Describe the climate of Pakistan under the following headings:**

**Temperature , Pressure and Winds Rainfall .**

1. **Temperature**

On the basis of temperature a year can be divided into two main seasons in Pakistan. The summer season that lasts from April to September. The winter season that lasts from October to March. The later part of the summer is the rainy season. It is for this reason that a year is properly divided into three seasons, summer, rainy and winter. A view of variations in temperature Pakistan may be divided into four temperature zones.

1. **Pressure and winds**
2. Pakistan is dominated by monsoon winds and receives most of the rainfall due to summer monsoons. Monsoons are the seasonal winds blowing from sea to land in Summer, and land to sea in winter. So these are land and sea breezes on a large scale.
3. During summer central Asia and plains of India become hot, and low pressure is created. The winds are directed from the distant sea where high pressure is present, so the trade winds are drawn across the equatorial areas. In the winter season central Asia and the Plains of the ubiquitous become cold, and therefore, develop a high pressure from the Bay of Bengal branch during summer. The summer monsoons gradually retreat into autumn and are replaced by owing form the high prestige area These winds use called winter monsoons or the north-east monsoons. They are generally light and dry winds blowing down the Indus valley.
4. The Balochistan Plateau is beyond the reach of the summer monsoon and receives little rain in summer. The other part of Balochistan receives more rain in winter. This is due to the western disturbances coming from across the Mediterranean sea and the Gulf.

**3. Rainfall**

Except for the southern slope of the Himalayas. Pakistan in generally arid, and has low rainfall. The rainfall in Pakistan is markedly variable in amount, timings of its incidence and in its area of distribution over a large part of the country most of the rainfall associated with the monsoon winds. The other source is the passage of the western disturbances coming from the Mediterranean and the Persian Gulf. In coastal areas tropical storms from the Arabian Sea and thunderstorms associated with thermal instability produce some rainfall. The distribution of rainfall in Pakistan can be explained by taking into consideration the effect of the two branches of the summer monsoons.

**Q.3 Divide Pakistan into main climatic regions and give brief description of each**.

Answer: Climatic Regions in Pakistan Keeping in view the factors influencing the climate of Pakistan we may divide the county into the following climatic regions as given by the eminent geographer, the late Dr. Kazi S. Ahmad.

* **Sub-tropical continental High lands**
* **Sub-tropical continental low-lands**
* **Sub-tropical continental plateau**
* **Sub-tropical coastland.**

1. **Sub-tropical continental highlands**

This is a region of cold snowy winters with mainly spring and winter rains The northern and western areas of Pakistan which include a large complex belt of mountains. The actual conditions of climate vary with the height and position of mountains. The southern slopes of the Himalayas receive good rainfall due to the direct impact of the rain bearing winds. The northern slopes of the Himalayas from a rain shadow area where precipitation is low. The outer Himalayas which include Murree and Hazara districts receive rainfall all year round from summer monsoons as well as from western disturbances during winter months: In Kohat and Waziristan areas rainfall is about 25cm, but decreases to about 12cm both to the north in Gilgit and the south in Makran.

1. **Sub-tropical continental lowlands**

This is a region of extreme climate, mostly it is arid with summer rainfall this includes the whole of the plain. Of Pakistan excluding coastlands. The entire Indus plain generally experiences arid and extreme climates. Summers are very hot and winters are extremely cold. Dry winds called "loo" blow during the day, and outdoor work becomes difficult in the mid-summers. The annual range of temperature is high. The climate of the lowland is characterized by dry season in winter and late summer monsoon rains: In the northern Submontane area rainfall is good. It is more than 25cm a year. In the west central (Thal) and south eastern parts (Bahawalpur), where there is no irrigation, a large area is desert The Peshawar Plain experiences thunderstorms, and light or heavy showers, which follow the storms in summer which makes the weather pleasant.

1. **Sub-tropical Continental**

Plateau region experiences extreme and arid climate. It includes the north-west of Balochistan, which is an arid desert where rainfall is less than 12.5cm a year. Hot and dusty winds blow. Continuous during summer: Rainfall mostly takes place during winter due to western disturbances coming from the Mediterranean and Gulf. Some only get Some rainfall a year

1. **Sub-tropical Coastland**

This strip of the country experiences arid but marine climate. It includes the area of the southern part of Pakistan the Makran arid the Karachi coast. This region is generally hot and humid. Heat is oppressive during summer and humidity is high this season. The temperatures are moderate on account of the proximity of the sea. The mean annual temperature is moderate on account of the proximity of the sea the mean annual temperature is over 32 "C, The annual rainfall is less than 17.5cm and there is a steady inflow of sea breezes throughout the summer.

Q.4 Write a comprehensive note on:

Answer: (i) **Western disturbances**

Western Disturbance is. the tem used in Pakistan to describe an extratropical dumb originating in the Mediterranean that brings sudden winter rain and snow to the northwestern parts of the Indian subcontinent This is a non-monsoonal precipitation Partially driven by the Westerlies, the moisture in these storms usually originates over the Mediterranean Sea and the Atlantic Ocean. Extratropical storms are a global, rather than a localized, phenomenon with moisture usually carried in the upper atmosphere (unlike tropical storms where it is carried in the lower atmosphere) In the case of the subcontinent, moisture is sometimes shed as rain when the storm system encounters the Himalayas.

(ii) **Arid Regions of Pakistan**

|  |
| --- |
| **Pakistan School , Kingdom of Bahrain**  **E- Support and Learning Material / Session 2020-2021**  **Subject: GOP Grade :9th Book: GOP for foreign students FIRST TERM Unit 3: climate Pg. No:**  **Ex.1-Short Questions:**    **Q#1:- What is the difference between weather and climate ?**  Ans: Weather consist of day to day changes in atmospheric conditions which we can predict for a short time ahead where as climate is a more general statement of atmospheric conditions for it is an expression for the average weather condition we can expect to experience over a long period of time.  Climate is what we expect butt weather is what we get .  **Q#2:- What are the elements of climate?**  Ans: The most important elements of weather and climate are temperature, pressure, winds, humidity and rainfall. These are controlled by the following main factors. **1-**  **Latitude or distance from the equator 2- The altitude (height above the sea level).**  **3- The distance from the Sea (distribution of land and water)**  **Q#3:- Describe the climate of Pakistan.**  Ans: Pakistan is a subtropical country located on a great land mass. It has a monsoon type of climate since it is situated in the western part of the monsoon region .its climate is generally arid ,hot and Continental characterized by Extreme variation of temperature , Since a large part of the country lies at a great distance from the sea.    **Q#4:- Into how many seasons Pakistan is divided on the basis of temperature.**  **Ans:-** On the basis of temperature a year can be divided into two main seasons in Pakistan .  1-The summer season that lasts from April to September.  2-The winter season that lasts from October to March.  The later part of the summer is the rainy season it is for this reasons that a year properly divided into three seasons summer, rainy, winter.  **Q#5:- Into how many temperature zones Pakistan is divided?**  Ans:- Pakistan is divided into four Temperature zones.   1. **The northern and North Western mountainous Zone** 2. **The upper Indus plain** 3. **The lower Indus plain** 4. **The Balochistan plateau** |

**Q#6:- What do you know about the monsoon winds?**

Ans:- Monsoons are the seasonal winds blowing from sea to the land in summer and land to the sea in winter.so these are land and sea breezes on a large scale.

**Q#7:- From where Pakistan receives most of rains?**

Ans:- Pakistan receives most of its rainfall from the Bay of Bengal branch during summer. **Q#8:- Into how many climatic region Pakistan is divided?**

Ans:- Pakistan is divided into four climatic regions:

1. **Subtropical Continental highlands**
2. **Subtropical Continental lowlands**
3. **Subtropical Continental plateau**
4. **Subtropical coastland**

**Q#9:- What is “Loo”?**

**Ans:-** The entire Indus plain generally experience arid and extreme climate .summers are very hot and winters are extremely cold. Dry winds called “loo” blow during the day and outdoor work becomes difficult in the mid summers.

 **Pakistan School , Kingdom of Bahrain**

**E- Support and Learning Material / Session 2020-2021**

**Subject: GOP Grade :9th**

**Book: GOP for foreign students FIRST TERM Unit 3: Climate WORKSHEET-1 Pg. No:20-24**

**Read Pages 20-24 and answer these questions.**

**Q1. Fill in the blanks:**

**1. Weather consists of day to day changes in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ conditions.**

**2. Climate can be regarded as an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .**

**3. The most important elements of weather and climate are \_\_\_\_\_\_\_\_\_\_\_\_ , \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**4. Pakistan is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ country located on a great \_\_\_\_\_\_\_\_\_\_\_\_.**

**5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the hottest place in the subcontinent and \_\_\_\_\_\_\_\_\_\_\_ is the driest place in Pakistan.**

**6. The summer season lasts from\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_ .**

**7. The winter season lasts from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**8. Pakistan is divided into four \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ zones.**

**9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are seasonal winds blowing from sea to land in \_\_\_\_\_\_\_\_\_\_\_\_\_ and land to sea in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .**

**10. The southern tip of the peninsular India , are divided into two branches- the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ branch and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ branch.**

**Q2. Answer in about 4-5 lines ( Any 3 ):**

**i) The northern and north-western mountainous Zone**

**ii) The Upper Indus Plain**

**iii) The Lower Indus Plain**

**iv) The Balochistan Plateau**

**v) Rainfall**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Rubric:** | **Ex.** | **Go.** | **Sat.** | **NI** |
| **ContentAccuracy** | **1** | **2** | **3** | **4** |
| **Creativity** | **1** | **2** | **3** | **4** |
| **Completeness** | **1** | **2** | **3** | **4** |
| **Neatness** | **1** | **2** | **3** | **4** |
| **1-Excellent 2- Good 3- Satisfactory 4- Needs improvement** | | | | |