



Class: VII	DEPARTMENT OF SCIENCE- 2022-2023	Date: 19/1/2023
Worksheet No.: 15	Topic: WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE	Note: A4 FILE FORMAT
NAME OF THE STUDENT:	CLASS & SEC:	ROLL NO.:

**I.VERY SHORT ANSWER (1M):**

1. What is adaptation?

**[A special feature displayed by an organism to live and reproduce successfully in a particular environment is called adaptation.]**

2. What is hibernation?

**[Certain animals go into deep sleep during extreme cold condition. This is called hibernation]**

3. Name an organism which hibernates.

**[Bears/ Snakes/ Bats/ Skunks/ Hedgehogs.]**

4.. The polar bear has big paws. What might be the advantage of this?

**[The wide and large paws of polar bear help them to swim and walk with ease in the snow.]**

5. Some animals have the ability to match their surroundings. Name the property of such animals.

**[This property of animal to blend with its surrounding is called camouflage.]**

6. How is fur on the body helpful to polar bear?

**[The thick white fur provides warmth and also helps the animal to camouflage as the white colour blends with the snow.]**

7. What are the various body features which make penguin a good swimmer?

**[Streamlined body, webbed feet and paddle like flippers makes the penguin a good swimmer.]**

8. What do you mean by nocturnal animal?

**[Animals that remain active during night and sleep during day are called nocturnal animals. Example: Owls, Bats, Hedgehogs, Foxes]**

9. “A fish dies when taken out of water whereas a wall lizard will die if kept underwater.”  
Mention the term used to describe such abilities that allow fish and lizard to survive in their respective habitats.

**[Adaptation.]**

10. Name two animals each that live in Polar region and Tropical rain forests.

**[Polar region- Polar bear and Penguins; Tropical rain forests- deer, tiger]**

*For the following questions, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below-*

- i) Both A and R are true and R is correct explanation of the assertion.*
- ii) Both A and R are true but R is not the correct explanation of the assertion.*
- iii) A is true but R is false.*
- iv) A is false but R is true*

11. Assertion (A): Penguins are good swimmers.

Reason (R): Penguins have webbed feet and streamlined body.

**(i) Both A and R are true and R is correct explanation of the assertion.**

12. Assertion (A): A leaf insect looks like leaves and polar bears have white fur.

Reason (R): They use their bodies to attack enemies.

**(iii) A is true but R is false.**

13. Assertion (A): The lion tailed macaque lives on trees in tropical rain forest.

Reason (R): Lion tailed macaques have silver – white mane.

**(ii) Both A and R are true but R is not the correct explanation of the assertion.**

## **II.(a) PASSAGE BASED QUESTIONS:**

*Read the following passage and answer the questions.*

All changes in the weather are caused by the sun. The sun is a huge sphere of hot gases at a very high temperature. The distance of the sun from us is very large. Even then the energy sent out by the sun is so huge that it is the source of all heat and light on the earth. So, the sun is the primary source of energy that causes changes in the weather. Energy absorbed and reflected by the earth’s surface, oceans and the atmosphere play important roles in determining the weather at any place. If you live near the sea, you would have realised that the weather at your place is different from that of a place in a desert, or near a mountain.

1. Which of the following is responsible for all changes in the weather?
  - a. Moon
  - b. Stars
  - c. Sun**
  - d. Earth
  
2. Which of the following statement is true?
  - a. Sun is a huge sphere of hot gases at a very high temperature.**

- b. Earth is a huge sphere of hot gases at a very high temperature.
  - c. Sun is a huge sphere of cold gases at a very high temperature.
  - d. Earth is a huge sphere of cold gases at a very low temperature.
3. Which of the following determines weather at any place?
- a. Energy absorbed but not reflected.
  - b. Energy absorbed and reflected.**
  - c. Energy neither absorbed nor reflected.
  - d. Energy not absorbed but reflected.
4. Which of the following statement is true?
- a. Weather at a coastal region and desert region are the same.
  - b. Weather remains the same throughout a year in a place.
  - c. Weather does not have any impact in mountain regions.
  - d. Weather at a coastal region is different from that of in a desert region.**

## **II.(b) CASE STUDY BASED QUESTIONS:**

*Read the following passage and answer the questions*

Animals P and Q are good swimmers. Animal **P** has white thick layer of fur, large and wide paws with long curved and sharp claws. It lives in Arctic region whereas another animal **Q** has black and white colour feathers all over the body. It lives in Antarctic region. Both these animals have thick layer of fat under the skin.

1) What could be animal **P**?

- a. Penguin
- b. Polar bear**
- c. Siberian crane
- d. Toucan

2) What could be animal **Q**?

- a. Penguin**
- b. Polar bear
- c. Siberian crane
- d. Toucan

3) In what type of surroundings do these animals live?

- a. Tropical region
- b. Desert region
- c. Polar region**
- d. Tropical rain forest.

4) What is the function of layer of fat (blubber) under the skin of these animals?

- a. It helps in swimming.
- b. It helps in camouflaging.
- c. It helps in hunting the prey.
- d. It acts like insulator, keeping their bodies warm.**

5) Which of the following bird is an inhabitant of Antarctic region ?

- a) **P** – parrot
- b) **P** – Toucan.

c) Q- Siberian crane

d) Q- Penguin

**III.a) SHORT ANSWER TYPE QUESTIONS (2 M):**

1. What is meant by weather of a place?

**[The day-to-day condition of the atmosphere at a place with respect to the temperature, humidity, rainfall and wind-speed is called the weather.]**

2. Describe the climate of tropical rainforest.

**[The tropical rainforest has a warm and wet climate. The summer temperature can be as high as 50°C and in winters, the minimum temperature seldom goes below 15-20°C. The tropical rainforest gets plenty of rainfall.]**

3. What is blubber? What is its importance for polar bear?

**[The thick layer of fat present under skin of polar bear is called blubber. It acts like an insulator and helps the animal to keep warm.]**

4. What do you understand by migration?

**[Birds undergo seasonal journey from colder to warmer place in order to cope up with cold and shortage of food supply during winter months. This seasonal journey is called migration.]**

5. Explain the adaptations which help in protection of Red-eyed tree frog.

**[Red-eyed frog has developed sticky pads on its feet to help it climb trees. Large red eyes with silt-like black pupil scares away predators]**

6. Which feature helps a penguin to block cold Antarctic water from reaching its skin?

**[The penguin has thick layers of stiff and densely packed feathers that block the cold Antarctic waters from reaching its skin.]**

7. Why does Siberian crane migrate?

**[Birds must remain warm to survive. So Siberian crane migrate to warmer regions in India when winter sets in. They travel back to Siberia after the winter is over]**

**III.a) SHORT ANSWER TYPE QUESTIONS (3 M):**

1. Why is it difficult to predict the weather of a place while it is easy to predict its climate?

**[Weather is a complex phenomenon which can vary over a short period of time and thus it is difficult to predict the weather of a place while it is easier to predict climate as it is the average weather pattern taken for a long time.]**

2. What is camouflage? How it is useful to animals?

**[The colour and pattern on bodies of certain animals blend with their surroundings. Such property is called camouflage. It protects them from their predators and also help them**

**in catching their prey. Example: Polar bears have white fur so that they are not easily visible in the snowy white background.]**

3. How is the lion-tailed macaque adapted to live on trees?

**[Lion-tailed macaque is an arboreal animal and is adapted to grasp the branches with its long muscular tail and hold on to the branches with its hands and feet.]**

4. A Toucan has a long and sharp beak. How does this adaptation help the bird in its survival on trees?

**[The Toucan has a big, strong and sharp beak to squash many kinds of nuts and berries found on trees. It also feeds on small birds and lizards using its beak and narrow leather-like tongue.]**

5. Tropical Rain Forests have a large population of animals. Explain why this is so?

**[The tropical rainforest has a large population of animals due to favourable climatic conditions and easy availability of different kinds of foods. These regions are hot and humid with ample rainfall which supports the growth of animals and plants.]**

#### **IV. LONG ANSWER TYPE QUESTIONS (5M):**

1. Write three differences between weather and climate.

<b>Weather</b>	<b>Climate</b>
<b>Weather is the atmospheric condition of a place on a particular day.</b>	<b>Climate is the average weather condition of a place over a long period of time.</b>
<b>Weather changes every day and may change several times a day.</b>	<b>Climate generally remains unchanged for a few days.</b>
<b>Weather conditions generally depend on temperature, humidity and rainfall of a place. These factors are known as elements of weather.</b>	<b>The climate of a place generally depends on altitude, latitude and distance from the sea and wind.</b>

2. An elephant has a long trunk and large ears. How do these adaptations help the elephant to live and survive in its habitat?

**[Elephants have large ears with keen sense of hearing. The large ears also help them to lose heat from the body, thus maintaining the body temperature. Elephant's upper lip is fused with the nose and is modified in the form of a long trunk, which is used for breathing, smelling, feeding, drinking, and lifting load, grasping and defence.]**

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