

## Short Questions

**Q1. What name is given to the part of land which is surrounded by water from all sides?**

**Ans: The part of land surrounded by water from all sides is called island.**

**Q2. What is difference between sea and ocean?**

**Ans: The largest body of water is called ocean while. Sea is the part of ocean. They are generally located between oceans and land masses.**

**Q3. What are the causes of the ocean currents?**

**Ans:**

- i. winds**
- ii. Variations in salts concentration in ocean water.**
- iii. Variation in temperature of ocean.**
- iv. Rotation of the earth.**
- v. Continental margins**

**Q4. Which sea is connected with Mediterranean Sea by the Suez Canal?**

**Ans: Red sea is connected with the Mediterranean Sea by the Suez Canal.**

**Q5. How much of the earth consists of the water?**

**Ans: 71% of the earth consists of water.**

**Q6. What is the nature of the ocean currents?**

**Ans:**

- 1. Cold Currents: The currents which move from the North or South pole towards the equator are called cold current. i.e. California Currents**
- 2. Warm Currents: Warm currents move from warm equatorial region to the cold polar area. i.e. Gulf Stream and Brazil currents.**

**Q7. What cause the tides?**

**Ans:**

- **Tides are the rise and fall of the sea levels due to gravitational pull of moon and sun.**
- **Spring Tides: spring Tides are produced by the combined force of sun and moon at the time of new and full moon.**
- **Neap Tides: Neap Tides are produced when sun and Moon are at right angles to each other e.g. at first and last quarter of the moon.**

**Q8. Differentiate among the waves, currents and Tides.**

**Ans:**

- **Waves are the sea surface disturbances moving in the form of ridges.**
- **Currents are the regular channels of flowing water on the surface of oceans.**
- **Tides are the rise and fall of sea levels.**

**Q9. Explain the following terms.**

- i. **Gulf**    ii. **Bay**    iii. **Bight**    iv. **Channel**    v. **Island**  
vi. **Peninsula**    vii. **Isthmus.**

**Ans:**

1. **Gulf: The narrow long extensive of ocean or sea towards the land is called Gulf. Examples Persian Gulf and Gulf of Mexico.**
2. **Bay: A comparatively wider extensive of water body into the land is called Bay. Examples Bay of Bengal and the Hudson Bay.**
3. **Bight: A slightly receding bay or a coast which is less indented as compared to bay is known as bight.**
4. **Channel/Strait: A narrow water body which connects two large water bodies is called a channel or strait For Examples.**
  - i. **Gibraltar strait connects Mediterranean Sea with Atlantic Ocean.**
  - ii. **Strait of Hormuz connects the Arabian Sea with Persian Gulf.**

5. **Island**: That piece of land which is bounded by water, whether sea, ocean or river, from all the four sides is called island. Examples i. Maldives and Srilanka
6. **Peninsula**: A piece of land which is attached with landmass from one side and bounded by water from three sides is called peninsula .Examples Arabian Peninsula.
7. **Isthmus**: A narrow strip of land connecting two landmass and bounded by water from two sides is called Isthmus. Examples Panama Isthmus connects North and South Americas.

### Long Questions

**Q1. Describe the main characteristics of the major Oceans?**

**Ans:**

**1. Pacific Ocean:**

- **Pacific Ocean is the largest ocean of world.**
- **The name pacific is given to it because of its calm and silent conditions as compared to the other oceans.**
- **It stretches from the eastern coasts of Asia and Africa to the western coasts of North and South America.**
- **Its surface area is about 155,557,000 sq Km.**
- **The deepest point of pacific ocean is the Mariana Trench near Philippines where its depth is 11.03 Km**

**2. Atlantic Ocean:**

- **Atlantic Ocean is the largest ocean of the world.**
- **On east it is bounded by Africa and Europe while North and South America bound it on the west.**
- **Its surface area is 76,762,000 sq. Km.**
- **Atlantic Ocean is the busiest ocean of the world in term of sea trade and transport.**

**3. Indian Ocean:**

- **Indian Ocean is the third largest ocean of the world.**
- **It stretches southward from continent Asia and reaches up to the southern Ocean.**
- **Indian area of about 58,556,000 sq. km**
- **Indian Ocean remains open for navigation throughout the year.**

**4. Southern Ocean:**

- **Southern Ocean is Fourth Ocean of the world.**
- **Its ocean spreads up to Antarctic continent in the south of continent Australia and South America.**
- **Due to extremely low temperature most part of this Ocean remains frozen.**

**5. Arctic Ocean:**

- **Arctic Ocean is situated to the north of Asia, Europe, and North America around the North Pole.**
- **It remains frozen for most the year therefore it is called frozen Ocean. in summer due to raised temperature ice melt and huge icebergs are formed in this ocean.**
- **Most part of these icebergs is submerged and only small portion (10%) can be seen above the surface of the ocean. The icebergs pose high risk to ships and navigation.**

**Q2. What is sea? State some important characteristics of live major seas.**

**Ans: The Sea is expanse of salt water that covers most of the earth's surface and surrounds its land masses.**

**Mediterranean Sea:**

- **It is located between Europe, Africa and Asia.**
- **Countries surrounding this sea include Italy, Spain, Algeria, Tunisia, Turkey and Greece etc.**
- **It average depth is 1500 meters.**

**Arabian Sea:**

- It is located in the north western part of the Indian Ocean.
- Saudi Arabia, Iran, Pakistan and India are its bordering region.
- Karachi port, Aden port and Mumbai port are the busiest port of Arabian Sea.
- Our country Pakistan is also located on the coast of Arabian Sea.

**Red Sea:**

- It is located peninsular Arab and Africa.
- It is connected with the Mediterranean Sea by the Suez Canal and is an important water route for navigation.

**Dead Sea:**

- Water of this sea is so salty that no living thing can survive in it.
- It lies between Jordan and Palestine 24 km east from Jerusalem.
- The main source of water for this sea is the Jordan River.

**Caspian Sea:**

- It is the largest fresh water lake of the world situated between Europe and Asia.
- Russia, Azerbaijan, Iran, Turkmenistan and Kazakhstan are located around it.
- It is the largest water body.
- Its average depth is 211 meters.

**Q3. Write in detail about the relief of ocean floor?**

**Ans: Continental sheaf:**

- It is the shoreline area of the sea extending towards the land.
- It is formed due to rise in the level or submergence of the land adjacent to the shore of the sea.
- Its edge occurs at an average depth of 135 meters.

**Continental slope:**

- **Toward the margin a continental shelf, slope begins to descend quickly this is the beginning of continental slope.**
- **The base of this slope occurs at a depth of 2000 meters.**

**Continental Rise:**

- **Continental rise are gently sloping, smooth surfaced features along the bottom end of the continental slope.**

**Abyssal plains:**

- **Beyond the end of the continental rise, lies the underwater plain known as Abyssal plain.**
- **It is usually found at the depth of 3000 to 6000 meters.**

**Mid Ocean Ridge:**

- **Mid Oceanic ridges are the underwater mountain chains formed along spreading plate boundaries.**

**Oceanic Trenches:**

- **Oceanic Trenches are elongated depression and deepest parts of the Oceans.**
- **Mariana Trench is the deepest Oceanic trench with a depth of 10,911 meters.**

**Q4. Discuss various Oceanic movements and their cause?**

**Ans: Ocean water constantly in a state of motion. Water moves both in horizontal as well as in vertical direction. The horizontal movement is called waves and currents while the vertical movement or regular rise and fall of water in ocean is called tide. Detail of these movements is given below:**

- 1. Waves: Waves are caused by winds. When the wind moves over the surface of the Ocean it pushes the water forward. The molecules of water gain some of the kinetic energy from the air molecules in fraction.**

Apparently it looks like the waves are moving horizontally in a forward direction. While actually the wave move vertically in an up and down manner. It can be

observed and well understood from a buoy or a floating device on the surface of water. It prances up and down with waves instead of moving in a straight manner from one side to another.

## **2. Ocean Currents:**

The constant movement of Ocean water regularly in a specific direction is known as current .The width, dept and speed of Ocean current vary and their length goes up to thousands of kilometers. Ocean currents cause motion only in the surface water, while the water in depth remains static.

### **Causes of Ocean Currents**

The causes of Ocean current are discussed below.

#### **a. Different in temperature**

The water around the equator becomes warm and Expands as a result of high intensity of solar insulation. One the other hand the water around the poles remains cold and heavy. This dense water sinks down and water from the surrounding flows to fill this gap.

#### **b. Different in water Salinity:**

With increase in Salinity the density of water increase and density of water increase and becomes heavier. The water with high density moves downward and the less dense water rise up.

**For examples:** The water of Mediterranean Sea is more salme as compared to the Atlantic Ocean. Therefore, the water of Atlantic Ocean moves to Mediterranean Sea through the strait of Gibraltar and currents moves back to Atlantic along the bottom. This difference in salinity also produces currents.

#### **c. Configuration of land:**

Ocean currents are also caused due to the variations in the shapes of the variations in the shapes of the continents. The southern tip of continent Africa divides the basin of Atlantic Ocean into two parts resulting into the formation of the different types of currents.