

Chapter: 5

Q.1 Choose the right option and rewrite the sentence

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- 1 In which ocean does the Labrador current flow ?
a. Pacific b. South Atlantic c. North Atlantic d. India

Ans In which ocean does the Labrador current flow **North Atlantic**.

- 2 Which current out of the following flow in the Indian ocean ?
a. East Australian current b. Peru current
c. South Polar current d. Somali current

Ans Which current out of the following flow in the Indian ocean **Somali current**.

- 3 Which of the following occurs in the area where the cold and warm currents meet ?
a. High temperature b. Snow c. Low temperature d. Thick fog

Ans Which of the following occurs in the area where the cold and warm currents meet **Thick fog**.

- 4 Which factor out of the following does not affect the region along the coast ?
a. Precipitation b. Temperature c. Land breezes d. Salinity

Ans Which factor out of the following does not affect the region along the coast **Land breezes**.

- 5 Which of the these following currents flow from the northern polar region to Antarctica?
a. Warm ocean currents b. Surface ocean currents
c. Cold ocean currents d. Deep ocean currents

Ans Which of the these following currents flow from the northern polar region to Antarctica **Deep ocean currents**.

Q.2 Answer in one sentence

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- 1 Explain the effect of -
Deep ocean currents

Ans Deep ocean currents lead to redistribution of sea water.

- 2 Explain the effect of -
The transportational capacity of ocean currents.

Ans The transportational capacity of ocean currents leads to transfer of warm water to the bottom and cold water to the surface from the bottom.

- 3 Explain the effect of -
Meeting of warm and cold ocean currents.

Ans Meeting of warm and cold ocean currents lead to thick fog.

- 4 Explain the effect of -
Cold ocean currents on the movement of icebergs.

Ans Icebergs are carried away from polar region because of cold ocean currents

- 5 Explain the effect of -
Warm ocean currents on climate.

Ans The climate of coastal area becomes warm due to warm ocean currents.

- 6 Explain the effect of -
The shape of the coast line on ocean currents.

Ans The shape of the coast line changes the direction of the ocean currents.

Q.3 State whether the given statement is right or wrong and correct the wrong one.

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1 Water becomes warm near Brazil due to ocean currents. On the other hand, it becomes cold near African coast.

Ans Incorrect : Water becomes warm near Brazil due to ocean currents, on the other hand, it becomes warm near African coast.

2 The movement of icebergs is not dangerous for water transport.

Ans Incorrect : The movement of icebergs is dangerous for water transport.

3 Ocean currents hold great importance for human life.

Ans Correct

4 Ocean currents give specific direction and velocity to the water.

Ans Correct

5 Generally, surface ocean currents are formed in the equatorial region.

Ans Incorrect : Warm ocean currents are formed in the equatorial region.

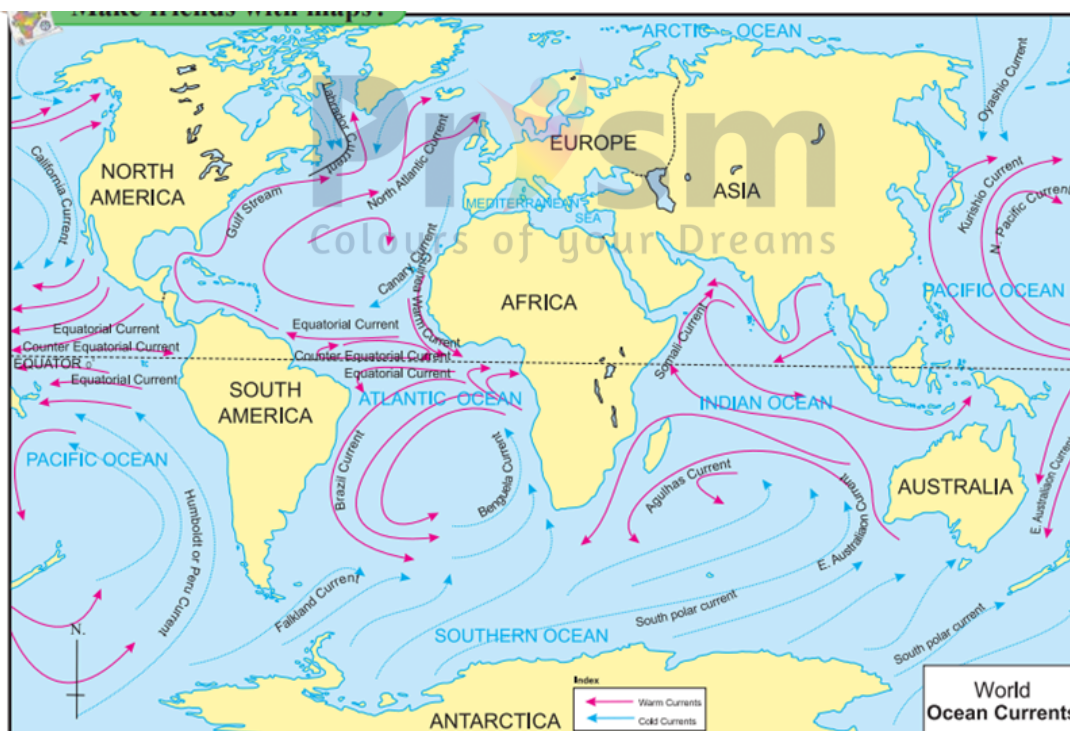
6 The deep ocean currents flow with high velocity.

Ans Correct

Q.4 Answer the following questions on the basis of the map given

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- How does the Humboldt current affect the climate of the South American coast?
- In which oceans are counter equatorial currents not observed and why?
- Which currents are absent in the northern part of the Indian Ocean and why?
- In which regions do the cold and warm ocean currents meet?

Ans

- Humboldt current is a cold current which reduces the temperature and precipitation near west coast of South America.
- Counter equatorial currents are not observed in Arctic ocean and Southern ocean.
- Cold currents are absent in the northern part of Indian ocean.
- North Atlantic ocean where Gulf warm current and Labrador cold current meet.
Second South Atlantic ocean where Falkland cold current and Brazilian warm current meet.

Q.5 Answer in detail/ brief

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1 How do winds give direction to the ocean currents?

Ans Winds give clockwise direction to the ocean currents in the northern hemisphere and anti-clockwise direction to the ocean currents in the southern hemisphere.

2 Why do the ports in the eastern coast of Canada freeze in winter?

Ans i. Labrador cold current flows along the eastern coast of Canada.
ii. Due to Labrador cold current, the temperature of sea water near the eastern coast of Canada decreases.
iii. Due to fall in temperature, the sea water along the eastern coast of Canada start freezing. As its effect, the ports in the eastern coast of Canada freeze in winter.

3 What is the reason behind the dynamics of the ocean water ?

Ans i. The reason behind the dynamics of the ocean water are the temperature, density and salinity of ocean water, planetary winds, Earth's rotation, continental structure and thermohaline circulation.
ii. The difference in temperature, salinity and density of ocean water varies in different parts of the ocean.
iii. So the warm having low density comes to the surface of the sea and cold water having high density goes down. This causes the deep ocean current. This is also known as thermohaline circulation.
iv. Temperature is the main factor causes surface ocean currents which are either war or cold. The sea water moves from equator to poles and poles to equator.
v. The earth's rotation give it clockwise directions in the northern hemisphere and anti-clockwise directions in the southern hemisphere.
vi. Alignment of coastline changes the direction of the ocean currents.
vii. Ocean currents always flow in one direction that's why they are called the rivers of sea. Planetary winds give the ocean current the speed.

4 What are the reasons responsible for the formation of deep ocean currents ?

Ans i. The temperature varies in various parts of the ocean
ii. Similarly the density of ocean water is not the same everywhere in the ocean.
iii. The difference in temperatures of various parts of the ocean is the major reason behind the deep sea currents.
iv. Such water comes to the surface of the sea and cold water with high density goes down.
v. This movement causes the deep sea water currents. This is known as thermohaline circulation.