

1. What is the primary driving force behind the formation of ocean waves?

- a) Gravitational pull of the moon
- b) Wind friction on the ocean surface
- c) Earth's magnetic field
- d) Tectonic plate movement

*Correct Answer: b) Wind friction on the ocean surface*

Explanation: Ocean waves are primarily generated by the transfer of energy from the wind to the water surface. Wind blowing over the ocean creates friction, which imparts energy to the water molecules, causing them to move and generate waves.

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2. Which natural phenomenon is responsible for the cyclical rise and fall of sea levels along coastlines?

- a) Wind patterns
- b) Tidal forces
- c) Ocean currents
- d) Earthquakes

*Correct Answer: b) Tidal forces*

Explanation: Tidal forces, caused by the gravitational pull of the moon and the sun, result in the cyclical rise and fall of sea levels, known as tides.

3. What is the primary factor influencing the direction of ocean currents?

- a) Earth's rotation
- b) Depth of the ocean
- c) Temperature gradients
- d) Marine life

*Correct Answer: a) Earth's rotation*

Explanation: The Coriolis effect, a result of the Earth's rotation, influences the direction of ocean currents by deflecting them to the right in the Northern Hemisphere and to the left in the Southern Hemisphere.

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4. Which of the following is a consequence of littoral drift?

- a) Coral reef formation
- b) Beach erosion
- c) Deep-sea trench formation
- d) Volcanic island growth

*Correct Answer: b) Beach erosion*

Explanation: Littoral drift refers to the transport of sediment along the coastline by waves and currents. It can lead to beach erosion as sediment is removed from one area and deposited elsewhere.

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5. What is the primary factor contributing to the formation of coastal silting?

- a) Strong ocean currents
- b) Underwater volcanic activity
- c) Sediment runoff from rivers
- d) Coral reef growth

*Correct Answer: c) Sediment runoff from rivers*

Explanation: Coastal silting occurs when sediment carried by rivers is deposited along coastlines, gradually building up sedimentary deposits in shallow areas.

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6. Which natural phenomenon plays a significant role in the formation of sand dunes along coastal regions?

- a) Wind erosion
- b) Ocean currents
- c) Tidal waves

d) Seismic activity

*Correct Answer: a) Wind erosion*

Explanation: Sand dunes along coastal regions are primarily formed by the accumulation of sand grains carried by wind and deposited in sheltered areas behind obstacles like vegetation or man-made structures.

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7. What is the primary cause of beach erosion along coastlines?

- a) Decreased wave energy
- b) Rising sea levels
- c) Decreased sediment transport
- d) Marine biodiversity

*Correct Answer: b) Rising sea levels*

Explanation: Rising sea levels contribute to beach erosion by increasing the amount of wave energy reaching the coastline, which can result in higher rates of erosion and loss of coastal land.

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8. Which phenomenon describes the movement of sediment along the coastline due to wave

action and currents?

- a) Tidal bore
- b) Littoral drift
- c) Tsunami
- d) Rip current

*Correct Answer: b) Littoral drift*

Explanation: Littoral drift refers to the movement of sediment along the coastline due to the action of waves and currents, resulting in the redistribution of sediment along the shore.

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9. Which natural phenomenon is responsible for the creation of sandbars and barrier islands along coastlines?

- a) Tsunamis
- b) Tidal waves
- c) Littoral drift
- d) Underwater volcanic eruptions

*Correct Answer: c) Littoral drift*

Explanation: Littoral drift, the movement of sediment along the coastline by waves and currents, plays a key role in the formation of sandbars and barrier islands as sediment is deposited and accumulates in certain areas.

10. What is the primary source of energy for the generation of ocean currents?

- a) Solar radiation
- b) Earth's magnetic field
- c) Gravitational pull of the moon
- d) Wind patterns

*Correct Answer: d) Wind patterns*

Explanation: Ocean currents are primarily generated by the transfer of energy from wind patterns, which create friction on the ocean surface, initiating the movement of water masses and the formation of currents.