

Oceanography and Human Health

Oceanography · Answer Key · 12 Questions

1. Which marine-derived compound is used in the treatment of chronic pain as a potent analgesic derived from the venom of the cone snail?

A) Ziconotide

B) Tetrodotoxin

C) Saxitoxin

D) Domoic acid

2. The primary dietary source of iodine, an essential element for human thyroid hormone production, is often found in which marine organisms?

A) Coral polyps

B) Seaweed

C) Zooplankton

D) Jellyfish

3. What condition can occur when humans consume shellfish contaminated with the neurotoxin produced by Pseudo-nitzschia diatoms?

A) Amnesic Shellfish Poisoning

B) Paralytic Shellfish Poisoning

C) Ciguatera Fish Poisoning

D) Diarrhetic Shellfish Poisoning

4. Omega-3 fatty acids, which are critical for cardiovascular health in humans, are initially synthesized by which marine life form?

A) Sharks

B) Phytoplankton

C) Crustaceans

D) Cephalopods

5. Which mineral found in high concentrations in seawater is essential for maintaining human fluid balance and nerve impulse transmission?

A) Calcium

B) Potassium

C) Sodium

D) Magnesium

6. Marine sponges have been studied extensively for their ability to produce which type of compounds useful in human medicine?

A) Antiviral and anticancer

B) Cardiotonic

C) Analgesic

D) Sedative

7. The human body requires selenium, a trace element often bioaccumulated in marine fish, to support the function of which system?

A) Digestive

B) Immune

C) Muscular

D) Skeletal

8. Exposure to high levels of aerosolized toxins produced during Harmful Algal Blooms (HABs) can trigger which human health issue?

A) Respiratory irritation

B) Bone density loss

C) Hyperthyroidism

D) Visual impairment

9. Which marine-derived polysaccharide is widely used in medical research for creating hydrogels and scaffolds for human tissue engineering?

A) Chitin

B) Alginate

C) Keratin

D) Collagen

10. Ciguatera poisoning in humans is caused by the ingestion of reef fish that have accumulated toxins from which organism?

A) Dinoflagellates

B) Cyanobacteria

C) Diatoms

D) Coccolithophores

11. What is the human health risk associated with the bioaccumulation of methylmercury in large predatory marine fish?

A) Neurological damage

B) Skin pigmentation

C) Bone brittleness

D) Respiratory failure

12. The study of marine natural products has led to the development of Cytarabine, a drug used to treat human leukemia, originally derived from what?

A) Sea sponges

B) Blue-green algae

C) Sea stars

D) Deep-sea bacteria