

2012 Aquatics Test

1. Which of the following best describes what a watershed is?

- A. Boundary of the service area for a wastewater treatment plant.
- B. The land area that drains water to a specific point.
- C. The place where water and land meet.
- D. Porous land surface where water can soak into the ground.

2. Which of the following fish is the most tolerant of pollution?

- A. Rock Bass
- B. Channel Catfish
- C. Walleye
- D. Northern Hog Sucker

3. Which of the following is a nonpoint source pollutant?

- A. Factory discharge
- B. Straight pipe discharge from Home or Boat
- C. Aerobic septic tank discharge
- D. City streets and parking lot discharge into storm drains

4. What impact does water temperature have on stream water quality?

- A. Sediment stays in suspension longer in colder water
- B. High nutrient levels causes excessive algal blooms in colder water
- C. Warm water increases fecal coliform levels
- D. Heat increases the capability of water to hold dissolved oxygen

5. Which of the following orders contain Blackfly larvae?

- A. Crustacea
- B. Hemiptera
- C. Diptera
- D. Ephemeroptera

6. What do scientists believe is causing the Dead Zone in the Gulf of Mexico?

- A. High levels of nitrates
- B. Hurricanes
- C. Toxic algae
- D. Dredging

7. Which of the following characteristics best describe a stable and healthy riparian zone?

- A. 100-foot wide zone with gentle slopes, dense stands of Johnson grass, and a limestone retaining wall
- B. 3-foot wide zone with gentle slope, intermittent large trees with grass underneath, and an aquatic vegetation edged stream bank

C. 30-foot wide zone with steep slopes, undisturbed and permeable soils, and dense native vegetation

D. 100-foot wide zone densely vegetated with shrubs and lined with rip rap

8. Which of the following group of tests would you perform to determine if a stream is being polluted with animal wastes?

A. Phosphate and Cryptosporidium

B. Nitrate and turbidity

C. Ammonia and heavy metals

D. Fecal coliform and conductivity

9. Which of the following fish is not a game species?

A. Brown Trout

B. Rosefin Shiner

C. Smallmouth Bass

D. Pike

10. What causes "acid rain"?

A. Greenhouse gases mix with water droplets and fall to the earth as phosphoric acid

B. Ozone gases mix with the with water droplets in clouds and fall to the earth as Freon

C. Smoke particles mix with water droplets in clouds and fall to the earth as sulfuric or nitric acid

D. Water droplets in clouds absorb carbon from the atmosphere and turn into carbonic acid

11. If a farmer came to you with a jar of pondwater that was green throughout, what would you tell them was the cause?

A. Duckweed or Lemna sp.

B. Bluegreen algae or Cyanobacteria sp.

C. Water meal or Wolffia sp.

D. Filamentous algae or Spirogyra sp.

12. What are the common names of the three insect orders used by OEPA to perform a Rapid Bioassessment of a local stream?

A. Stoneflies, Mayflies, and Caddisflies

B. Stoneflies, Caddisflies, and Dragonflies

C. Mayflies, Hellgrammites, and Stoneflies,

D. Hellgrammites, Caddisflies, and Mayflies

13. What keeps some streams full of water even during periods of drought?

A. Leaking underground water lines

B. Groundwater

C. Discharge from dams

D. Surface water from previous rainfall

14. What three features do the US Army Corps of Engineers (US ACE) use to positively identify an area as a wetland?

A. Aquatic plants, flooded/saturated soil conditions, and waterfowl

B. Presence of water all or part of the year, hydrophytic vegetation, and hydric soils

C. Substrate that is periodically deficient in oxygen due to excess water, aquatic plants, and vernal pools

D. Saturated, flooded or ponded soils, aquatic vegetation, and aquatic animals

15. Which of the following water sample would be considered hard water?

A. 32 mg/L MnCO_3

B. 59 mg/L CaCO_3

C. 175 mg/L CaCO_3

D. 212 mg/L MnCO_3

16. What water property causes ice to float?

A. Density

B. Surface water tension

C. Cohesion

D. Vapor Pressure

17. In the United States, what water use accounts for the least amount of freshwater withdrawal?

A. Power Plants

B. Public Water Supply

C. Irrigation

D. Livestock Operations

18. Which water conservation technique helps recharge groundwater supplies?

A. Cut your grass at least three inches high.

B. Wash your car in the driveway.

C. Use porous pavers or gravel instead of asphalt for driveways and walkways.

D. Use a broom instead of a hose to clean off your driveway or sidewalk.

19. The Clean Water Act (CWA) is the cornerstone of surface water quality protection in the United States. The Act does NOT:

A. Protect fish, shellfish, and wildlife in and on the nations' waters

B. Finance municipal wastewater treatment facilities

C. Restore and maintain the chemical, physical, and biological integrity of the nation's waters

D. Employ a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways

20. Which of the following is NOT a riparian zone?

A. Shrubby fringe of lake

B. Sedge-dominated wet meadow

C. Sandy ocean beach

D. Maple-Hickory Forest

The following questions related to materials provided at the event.

21. Which of the macroinvertebrates located on the table are considered Sensitive Species according to Ohio's Stream Quality Measurement (SQM) pollution tolerance index (PTI)?

22. Use the kits provided to measure Nitrate-Nitrogen and record the results in the proper units.
23. Use the Michigan Seagrant Dichotomous Key to Great Lakes Fish Families Key provided to identify the fish provided.
24. Observe the three topographic maps provided. Each map is the same USGS Quadrangle but each has the watershed map for a stream drawn differently. Which map shows the correct watershed boundaries for the stream indicated?
25. Identify the nuisance aquatic plant pictured.