Regional Iowa Envirothon Aquatics Test - 2025
(25 total points)

1. In 2016, Iowa was awarded a $97 million federal grant to address chronic flooding which resulted in the formation of nine regional watershed management authorities that oversaw the construction of 800 structures intended to _____.
A. decrease pollution-intolerant benthic macroinvertebrate species
B. increase sedimentation within rivers and streams
C. reduce flooding and improve water quality
D. reduce wetland areas and improve water quality
E. all of these

2. Which of the following is NOT one of the three nutrient reduction practices categories included with the development of the Iowa Nutrient Reduction Strategy (NRS)?
A. Edge-of-field/erosion control
B. Nutrient management of nitrogen (N) and phosphorus (P)
C. In field/land use
D. Advanced technologies/drones/variable rate applications/GIS mapping

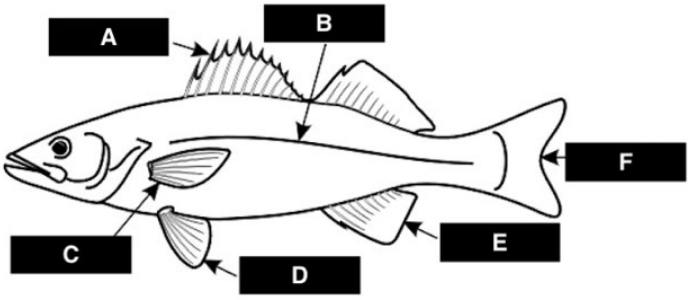
3. Benthic macroinvertebrates including the caddisfly, dobsonfly, mayfly, riffle beetle, stonefly, and water penny beetle are all classified into the "High Quality Group" which indicates that they are:
A. endangered species
B. pollution intolerant
C. pollution tolerant
D. somewhat pollution tolerant
E. none of these

4. On the Iowa DNR website, over ten fish families are that most Iowa fish species belong to. Which of the following is NOT a fish family commonly found in Iowa?
A. catfish family
B. damselfish family
C. minnow family
C. perch family
D. sunfish family

5. What is the name for this species of fish? (see picture)
A. Bluegill
B. Largemouth bass
C. Smallmouth bass
D. White crappie



6. Letter "E" (on the fish picture) is identified as what type of fin?
A. Anal
B. Caudal
C. Dorsal
D. Pectoral
E. Pelvic



7. Which of the following is the goal of the Iowa Watershed Approach (IWA)?
A. Reduction of flood risk
B. Engagement of stakeholders through collaboration, outreach, and education
C. Improved quality of life and health for Iowans
D. Improvement in water quality
E. All of these are goal

8. The recently completed lake restoration project at the Otter Creek Lake Park, located in Tama County, included all of the following except _____.
A. targeted dredging and shoreline restoration
B. installing watershed improvement practices
C. adopting practices to increase water turbidity
D. establishing new fishing habitat

9. _____ is the name for an engineered practice of rainscaping or green infrastructure, when vegetation covered permeable soil, perforated subdrains, and earthen berms are installed as an alternative to storm sewers.
A. Bioswales
B. River restoration
C. Rainwater harvesting
D. All of these

10. _____ is the scientific study of water on earth and includes not only water on the earth's surface, but also groundwater and water in the atmosphere.
A. Hippology
B. Horology
C. Hydrodynamics
D. Hydrology

11. The watershed that drains all of Iowa as well as 40% of the United States, is the _____ watershed.
A. Des Moines River
B. Iowa River
C. Mississippi River
D. Missouri River

12. Which of the following makes up 78.1% of the earth's atmosphere, is a fertilizer that plants need and is an important part of all proteins?
A. Carbon
B. Nitrogen
C. Oxygen
D. Phosphorus
E. Potassium

13. The imprints of glaciers are most prevalent in central to _____ central Iowa on the Des Moines Lobe landform, the area most thoroughly covered and scoured by the most recent glaciation.
A. east
B. north
C. south
D. west

14. Which provides the greatest source of water flowing into Iowa rivers, lakes, and wetlands?
A. ground water
B. precipitation in the form of rain or snow
C. surface water flowing from bordering states
D. transpiration by plants

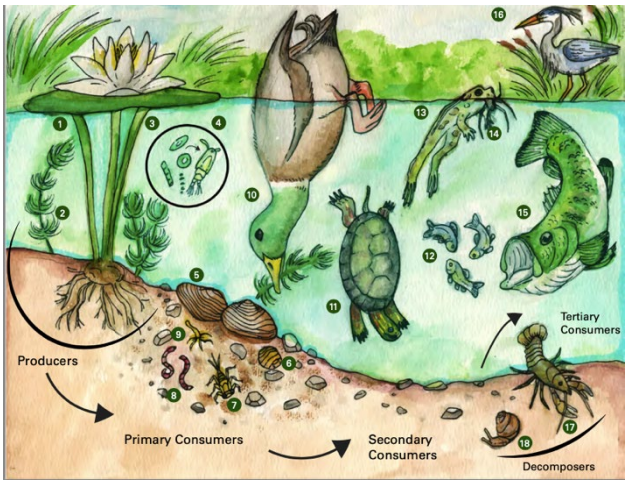
15. Which part of Iowa has the greatest concentration of man-made ponds that were created for watering cattle, slowing erosion, and providing recreational opportunities?
A. central
B. eastern
C. northern
D. southern
E. western

16. _____ are very shallow depressions that were formed in the North Central Iowa landscape by retreating glaciers.
A. Fens
B. Oxbows
C. Prairie potholes
D. Riverine wetlands

17. Which statement regarding "Fens" is true.
A. Fens are a unique, rare type of wetland often found on hillsides and fed by groundwater.
B. Fens most often have no pooled water, and the groundwater is very alkaline which can lead to deposits of calcium carbonate on the ground.
C. Walking through a fen has a unique spongy feel caused by the production of peat from non-decomposed vegetation.
D. All of these are true

18. The plant eaters or primary consumers found in Iowa's aquatic environments are called _____.
A. detritivores
B. herbivores
C. secondary consumers
D. tertiary consumers `
E. zooplankton

19. Hydra, mallard ducks, mayfly larva, midges, pond mussels, water penny, and zooplankton are examples of _____ in an aquatic ecosystem. (see picture)
A. detritivores/decomposers
B. primary consumers
C. producers
D. secondary consumers
E. tertiary consumers



20. What is the name for this species of fish?
A. Ghost shiner
B. Goldfish
C. Golden shiner
D. Topeka shiner



21. _____is a fundamental tool in the management and protection of aquatic environments.
A. The “10 factor” prism
B. The Iowa roadside survey
C. The Biltmore stick
D. Water quality monitoring
E. all of these

22. Which of the following is a species of wildlife are called ecosystem engineers because of the significant impact they have on the environment through their normal actions?
A. beavers
B. ground squirrels
C. white-tail deer
D. zebra mussels
E. All of these are correct

23. Wildlife species that Iowa trappers harvest rely heavily on quality rivers and streams. What are the three most popular species?
A. beaver, otter, and squirrel
B. beaver, otter, and mink
C. beaver, mink, and weasel
D. muskrats, mink, and weasel

24. The 2022 "Water Quality Monitoring and the Water Quality Initiative" report indicates:
A. Monitoring of nitrogen and phosphorus in streams and rivers throughout Iowa is an essential element of the Iowa Nutrient Reduction Strategy.
B. The state of Iowa has not adopted a standard approach or strategy for water monitoring for Water Quality Initiative projects to establish baselines and track effectiveness of the projects or progress toward Iowa Nutrient Reduction Strategy goals.
C. Water quality data is not publicly available for many projects and state agencies lack data to assess water quality effects of the individual practices they fund.
D. All of these

25. Estimates made in 2019, suggest that the Gulf of Mexico's hypoxia zone was over 7,800 square miles, or roughly the size of _____.
A. Alaska
B. California
C. Des Moines, Iowa
D. Massachusetts
E. Mexico