

**\*\*\* EXAMINATION \*\*\***

**CONSTRUCTED WETLANDS TREATMENT OF MUNICIPAL WASTEWATERS**

1. **Wastewater can be treated by aquatic plants using**
  - a) biological processes
  - b) physical processes
  - c) chemical processes
  - d) All of the above
  
2. **A natural wetland may be the result of**
  - a) filling
  - b) draining
  - c) altering the flow patterns
  - d) Any of the above
  
3. **Algae in open areas**
  - a) will reduce dissolved oxygen levels
  - b) will increase dissolved oxygen levels
  - c) either a or b depending on the temperature
  - d) None of the above
  
4. **A key nutrient in the life cycles of wetland plants include**
  - a) nitrogen and phosphorus
  - b) oxygen and phosphorus
  - c) hydrogen and phosphorus
  - d) hydrogen and oxygen
  
5. **A nuisance species in a constructed wetland includes**
  - a) beavers
  - b) muskrats
  - c) carp
  - d) All of the above
  
6. **Enhancement marshes are also known as**
  - a) rapid lagoons
  - b) polishing wetlands
  - c) drilled ponds
  - d) aquatic reservoirs

7. **The time for constructed wetlands to become operational is**
- a) a few days
  - b) several weeks
  - c) several months
  - d) several years
8. **The adherence by chemical bonding of a pollutant to**
- a) a solid surface is known as anaerobics
  - b) a solid surface is known as reareation
  - c) a solid surface is known as adsorption
  - d) a solid surface is known as an abiotic condition
9. **A plant that readily conducts water, minerals, and food**
- a) throughout its boundaries is sedimentary
  - b) throughout its boundaries is vascular
  - c) throughout its boundaries is vegetable
  - d) throughout its boundaries is tertiary
10. **A separation may be**
- a) absorption
  - b) adsorption
  - c) filtration
  - d) Any of the above
11. **Flocculation is a**
- a) mechanism for suspended solid removal
  - b) mechanism for removing chemicals
  - c) mechanism for oxidizing solids
  - d) mechanism for removing gases
12. **The efficiency of particle collection is dependent of**
- a) the particle size
  - b) the particle velocity
  - c) the particle characteristics
  - d) All of the above
13. **Flotation of particulates may be caused by**
- a) nitrogen generated by algae
  - b) carbon dioxide generated by algae
  - c) oxygen generated by algae
  - d) carbon dioxide generated by algae
14. **The three sources of dissolved oxygen in a wetland system are**
- a) surface aeration, photosynthesis, and evaporation
  - b) surface aeration, photosynthesis, and plant oxygen transfer
  - c) surface aeration, photosynthesis, and condensation
  - d) surface aeration, photosynthesis, and organic reaeration

15. **Organic phosphates are formed primarily by**
- a) organic processes
  - b) biological processes
  - c) chemical processes
  - d) inorganic processes
16. **Most pathogens entering wetlands are destroyed by**
- a) predation
  - b) vapor irradiation
  - c) leaching
  - d) chlorination
17. **The design of wetlands include**
- a) topography
  - b) climate
  - c) wastewater characteristics
  - d) All of the above
18. **A toxic metal even at a very low concentration is**
- a) iron
  - b) copper
  - c) mercury
  - d) zinc
19. **The most common method for characterizing wetland hydrology is**
- a) the development of a wetland water balance
  - b) the development of a constructed water model
  - c) the development of a surface water flow
  - d) None of the above
20. **The current trend in wetland design modeling is the**
- a) development of a biology rate equation
  - b) development of a simple mass balance
  - c) development of a surface flow model
  - d) development of a hydrologic rate model

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