

***** EXAMINATION *****

DESIGN OF SMALL WATER SYSTEMS

1. **The function of a water supply system is:**
 - a) provide water from a source
 - b) treat the water to render it suitable
 - c) deliver the water to the user
 - d) All of the above

2. **Water systems vary because of factors such as:**
 - a) yield and quality of raw water sources
 - b) topography
 - c) geology
 - d) All of the above

3. **Design, construction, and operation of water systems vary because**
 - a) of state legislation and regulation
 - b) of uniform geology
 - c) of the same topography
 - d) None of the above

4. **Agencies involved in the approval of water system designs include:**
 - a) US EPA, state health department, and local health department
 - b) US Department of Housing
 - c) US Department of Mines and Reclamation
 - d) None of the above

5. **For smaller water systems, the ratio of peak to average demand**
 - a) rates is less
 - b) rates is greater
 - c) rates is usually equal
 - d) rates is varies because of factors other than size

6. **Alternatives to constructing a water system include:**
 - a) direct connection to an existing water system
 - b) indirect connection to an existing water systems such as hauling
 - c) development of ground or surface water resources
 - d) All of the above

7. **Sources of water include:**
- a) groundwater
 - b) rain
 - c) recycling
 - d) None of the above
8. **Equipment manufacturers and supplies are:**
- a) poor sources of cost information because of bias.
 - b) a last alternative for cost information
 - c) an excellent source for cost information
 - d) not considered for cost information.
9. **When rate of water demand vary, there is a need for:**
- a) pumping
 - b) storage
 - c) distribution facilities
 - d) All of the above
10. **Operation and maintenance of the water plant is the responsibility**
- a) of the design engineer
 - b) of the operating engineer
 - c) of the project engineer
 - d) of the environmental engineer
11. **The highest water quality requirements are for:**
- a) drinking water
 - b) industrial water
 - c) commercial water
 - d) fire departments
12. **The type of contaminant may be:**
- a) chemical
 - b) biological
 - c) radiological
 - d) Any of the above
13. **Ptomaine poisoning is caused by:**
- a) Vibrio cholera
 - b) Salmonella
 - c) Shigella
 - d) Leptospira
14. **An organism very resistant to chlorination is:**
- a) salmonella
 - b) shigella
 - c) mycobacterium tuberculosis
 - d) leptospira

15. **An organism causing acute diarrhea is:**
- a) salmonella
 - b) leptospira
 - c) mycobacterium tuberculosis
 - d) shigella
16. **Hardness in water is caused by the presence of:**
- a) Magnesium
 - b) Iron
 - c) Phosphorus
 - d) Chlorine
17. **The pH of water can be depressed by adding:**
- a) gaseous chlorine
 - b) bicarbonates
 - c) alkalis
 - d) any nitrate
18. **The pH of water naturally ranges from:**
- a) 3.5 to 4.5
 - b) 4.5 to 6.5
 - c) 6.5 to 8.5
 - d) 7.5 to 9.5
19. **Analyses of water includes:**
- a) acidity and alkalinity
 - b) pH
 - c) free carbon dioxide, total residue and hardness
 - d) All of the above
20. **The source of choice for testing public water supplies is:**
- a) connection at the sewage treatment plant
 - b) connection to the existing water supply system
 - c) sampling from sweating pipes at the water plant
 - d) None of the above.

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