Arch 464 ECS Midterm II Spring 2014

# 30 Multiple Choice Questions



1. Which phase of the evapotranspiration cycle can contribute to both water purity and pollution

- A. evaporation
- B. precipitation
- C. percolation
- D. transpiration
- 2. In general, the Western US receives
  - A. much more rain than the Eastern US
  - B. a bit more rain than the Eastern US
  - C. a bit less rain than the Eastern US
  - D. much less rain than the Eastern US

3. Which of the following toilets does not exceed code water use requirements?

- A. waterless urinals
- B. dual-flush toilets
- C. low-flush toilets
- D. all of the above exceed code
- 4. For the average American household the most water use is for
  - A. toilets
  - B. showers and baths
  - C. lawns and gardens
  - D. plumbing leaks

#### 5. Local jurisdictions may require storm water mitigation for

- A. water falling on the building
- B. water falling on the site
- C. water falling during construction
- D. all of the above

- 6. Potable water conservation can be effected by
  - A. installing low-flow fixtures in showers and lavs
  - B. recycling gray water
  - C. collecting and treating rainwater
  - D. all of the above
- 7. Constructed wetlands can be used to treat black water at
  - A. the building scale
  - B. the neighborhood scale
  - C. the city scale
  - D. all of the above
- 8. Village Homes in Davis, CA is a great example of neighborhood scale
  - A. black water management
  - B. gray water management
  - C. storm water management
  - D. all of the above
- 9. The reason that biological treatment of black water is possible is
  - A. black water is toxin-free
  - B. black water is nutrient-rich
  - C. black water requires filtration of grit
  - D. none of the above
- 10. Sidwell Friends School in Washington, DC is a great example of building scale
  - A. black water management
  - B. gray water management
  - C. storm water management
  - D. all of the above

11. Septic tanks and drain fields are most effective in treating black water in

- A. rural settings
- B. suburban settings
- C. urban settings
- D. all of the above
- 12. Pay per pee public toilets can be found in
  - A. London
  - B. Paris
  - C. San Francisco
  - D. all of the above
- 13. The biggest problem with low-flush toilets is
  - A. inability to flush big loads
  - B. they simply meet code requirements
  - C. few design options are available
  - D. all of the above



- 14. Paradise Creek watershed
  - A. is less than 20 miles long
  - B. includes sixteen tributaries
  - C. is home to six endangered species
  - D. all of the above
- 15. Paradise Creek restoration projects have included
  - A. hydro-electric dams
  - B. wider riparian zones to reduce flooding downstream
  - C. elimination of flows from roads and parking lots
  - D. all of the above

### 16. The stuff that gets thrown into the US solid waste stream is

- A. mostly recyclable
- B. mostly compostable
- C. mostly recyclable or compostable
- D. mostly unusable in any way



- 17. Toxic wastes that get into landfills can be mitigated by
  - A. bioremediation
  - B. concentrated solar heating
  - C. impermeable barriers protecting aquifers
  - D. all of the above
- 18. Construction site waste management goals for landfill diversion of over 90%
  - A. are unattainable
  - B. are among the criteria for meeting the Living Building Challenge
  - C. are required for LEED certification
  - D. none of the above
- 19. The sector that has been most effective at reducing carbon emissions through improved energy efficiency is
  - A. buildings
  - B. transportation
  - C. industry
  - D. none of the above

20. What score would a sustainable building achieve on the SBSE revision of Malcolm Wells' wilderness-based checklist for design and construction?

- A. a negative score
- B. about zero
- C. a positive score
- D. a perfect score
- 21. A building that is most likely to be sustainable or better
  - A. exceeds building code compliance
  - B. achieves LEED Platinum
  - C. meets the Living Building Challenge
  - D. is restorative (perfect Wells score)
- 22. Arne Bystrom's Sun Valley House
  - A. is an example of restorative design
  - B. has redundant passive and active solar heating and cooling systems
  - C. incorporates sustainable site design
  - D. all of the above

23. Sir Norman Foster's London City Hall (aka GLA Building) has a poor Display Energy Certificate rating because

- A. it uses few recycled materials
- B. it creates no site energy
- C. it has an all glass facade
- D. none of the above
- 24. The first law efficiency of a device
  - A. compares its potential energy to useful energy
  - B. cannot exceed 100%
  - C. gives an indication of the most effective device for the task at hand
  - D. all of the above

25. Life Cycle Costing analysis compares your design proposal to a meets code building for

- A. worker productivity
- B. first costs and operational costs of the building
- C. all externalities
- D. all of the above
- 26. Embodied energy is the total Btus in
  - A. materials manufacture
  - B. fuel extraction
  - C. materials and fuel delivery
  - D. all of the above

- 27. Studies show that green building's greatest impact is
  - A. energy savings
  - B. water savings
  - C. operations and maintenance savings
  - D. worker productivity improvement

28. The Benny Hill project in Montreal shows documented positive benefits from

- A. energy savings to residents
- B. neighborhood improvements
- C. city-scale improvements
- D. all of the above

## 29. European green architecture is encouraged by

- A. the green party
- B. European Union regulations
- C. signing on to the Kyoto Accord
- D. all of the above

## 30. ComerzBank in Frankfort features sustainable strategies including

- A. operable windows for ventilation
- B. daylighted work spaces
- C. sky gardens for enhancing air quality
- D. all of the above

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Get ready for Quiz #3!