Arch 464 ECS Midterm II Spring 2009

## 30 Multiple Choice Questions



- 1. Cross-media pollution of aquifers is caused by
  - A. industrial pollutants
  - B. water extraction wells
  - C. a combination of A and B above
  - D. none of the above
- 2. Important uses of clean water include
  - A. agriculture
  - B. recreation
  - C. ecological health
  - D. all of the above
- 3. A water problem that is pertinent to the Western US is
  - A. xeriscaping
  - B. ultra low-flush toilets
  - C. excessive ground water extraction
  - D. all of the above
- 4. Significant domestic water saving can be accomplished by
  - A. using composting toilets
  - B. recycling grey water for reuse in toilets and on lawns
  - C. capturing stormwater for irrigation use
  - D. all of the above
- 5. Water conservation features common to both BedZED and the Eden Project include
  - A. xeriscaping
  - B. stormwater collection
  - C. a living machine
  - D. all of the above

## 6. Stormwater collection for domestic residential potable water use is appropriately done by

- A. a retention pond
- B. a reservoir
- C. a cistern with sand and charcoal filters
- D. all of the above
- 7. Tertiary treatment of wastewater can be effectively accomplished by
  - A. municipal waste water treatment plants
  - B. neighborhood scale living machines
  - C. constructed wetlands
  - D. all of the above
- 8. The Portland Water Pollution Control Lab is a good exemplar of
  - A. neighborhood scale stormwater control
  - B. parking lot run-off control
  - C. rooftop run-off control
  - D. all of the above
- 9. A project that demonstrates successful integration of stormwater management, gardens, and pedestrian trails is
  - A. Moscow's Sweet Avenue Paradise Creek restoration
  - B. Village Homes in Davis, CA
  - C. Seattle's Growing Vine Street project
  - D. all of the above
- 10. Projects that feature a green roof include
  - A. The Eden Project near St. Austell, UK
  - B. Chicago City Hall
  - C. the new Scottish Parliament in Edinburgh, UK
  - D. all of the above
- 11. Grey water can be treated on-site by
  - A. mechanical means
  - B. biological means
  - C. both A and B above
  - D. none of the above
- 12. Treatment of black water on a small urban site can be accomplished by
  - A. a septic system
  - B. a small living machine
  - C. a composting toilet
  - D. all of the above
- 13. A 1.6 gallon/flush toilet
  - A. has been required by code in the US since 1994
  - B. should be able flush a load of at least 250 grams
  - C. both of the above
  - D. none of the above

## 14. Public bathroom design issues include

- A. ADA compliance
- B. cultural taboos
- C. social problems
- D. all of the above

15. As it travels through agricultural lands to the east of Moscow, Paradise Creek is polluted by

A. erosion from wheat and lentil fields

- B. creek bed channelization
- C. the run-off from the Pullman Highway
- D. all of the above

16. The Sweet Avenue restoration project of Paradise Creek has improved the creek by

- A. lessening flood hazard
- B. reducing parking lot run-off pollution
- C. riparian zone revitalization
- D. all of the above
- 17. Methane can be harvested from
  - A. compost piles
  - B. municipal landfills
  - C. waste water treatment plants
  - D. all of the above

18. A realistic goal for improved city-wide recycling is

- A. 5 to 15%
- B. 25 to 35%
- C. 45 to 65%
- D. 90 to 100%

19. The sector that makes the largest U.S. contribution to greenhouse gas emissions is

- A. buildings
- B. transportation
- C. industry
- D. agriculture

20. Using the SBSE revision of Malcolm Wells' wilderness-based checklist for design and construction to evaluate a project allows you to

- A. make an objective judgment on its sustainability
- B. compare site design to building design suitability
- C. calculate the building's sustainability index
- D. all of the above



21. When rated using the SBSE/Wells checklist, both the Sun Valley house and London City Hall demonstrate a common problem, which is

A. ineffective passive design strategies

- B. lack of building and site development integration
- C. too much glazing
- D. all of the above

22. To help mitigate global warming, the most suitable goal for a new building would be to

A. surpass the current energy code

B. achieve a LEED platinum rating

C. attain an SBSE/Wells checklist score that indicates "sustainability"

D. meet John Tillman Lyle's ideal of regenerative design

23. According to Mazria's 2030 Challenge, all new buildings built next year should exceed energy use benchmarks for their building type by

- A. 20%
- B. 30%
- C. 50%
- D. 60%



24. Building design professionals in the Pacific Northwest can get design assistance for energyefficient, green buildings from

- A. LEED accredited professionals
- B. Betterbricks integrated design labs
- C. BuildingGreen.com
- D. all of the above

25. Alternatives to traditional economic analysis of new building costs take into account

- A. health costs
- B. future scarcities of fuels
- C. ecological and environmental costs
- D. all of the above

26. In the long-term the largest cost savings for a well-designed green building is

- A. energy savings
- B. increased worker productivity
- C. increased market value
- D. lower first costs
- 27. Life cycle cost analysis takes into account
  - A. future energy source scarcities
  - B. social and environmental costs
  - C. time preference for money
  - D. all of the above

28. A LEED-experienced integrated design team would be expected to bring in a "Gold" project

- A. well below the first cost of a similar code-compliant building
- B. at or near the first cost of a similar code-compliant building
- C. more than 10% above the first cost of a similar code-compliant building
- D. none of the above
- 29. Building performance can be enhanced by
  - A. green building design strategies
  - B. building commissioning
  - C. post-occupancy evaluation
  - D. all of the above

30. Natural ventilation strategies used in decade-old European green architecture projects include

- A. night-flushing of concrete waveform ceiling modules
- B. ventilation through vegetated atrium gardens
- C. solar-enhanced stack ventilators
- D. all of the above

