

40 Multiple Choice Questions – Select the **best** answer for each one.

New Questions



1. Currently, the United States' most common fuel source for electrical generation is
 - A. coal
 - B. natural gas
 - C. nuclear
 - D. hydro
2. Which of these fuels has never been the primary fuel during some time in U.S. history?
 - A. fuel wood
 - B. coal
 - C. petroleum & natural gas
 - D. all of the above have been
3. Bio-fuels cannot be made from
 - A. corn
 - B. wood wastes
 - C. algae
 - D. none of the above
4. The combustion fuel that currently makes the least significant contribution to greenhouse gas build-up, which causes global climate change, is
 - A. coal
 - B. natural gas
 - C. bio-fuels
 - D. gasoline

5. The energy strategy with the most potential and least expensive means toward contributing to meeting Mazria's goal of carbon-neutral by 2030 is

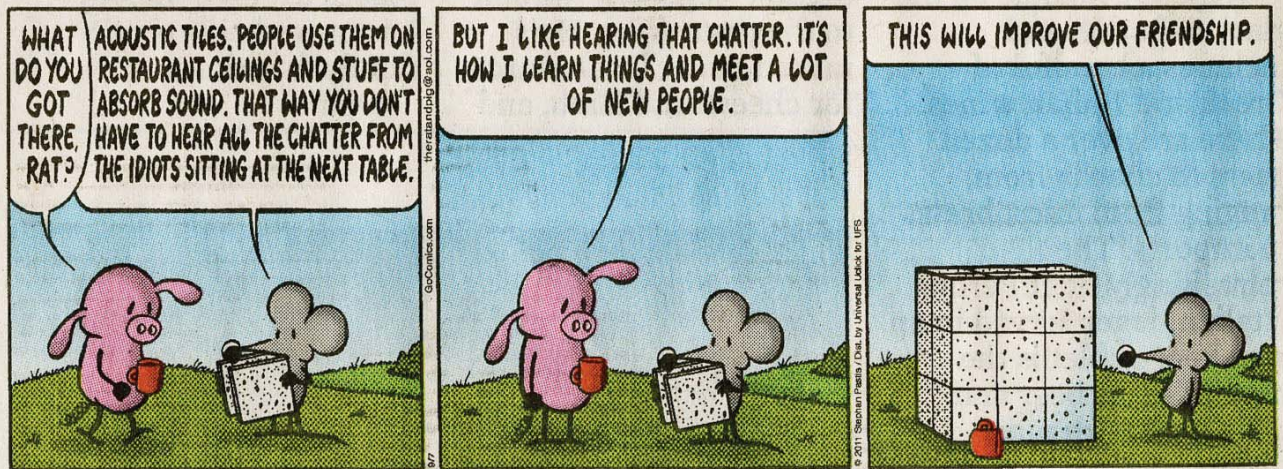
- A. passive solar design
- B. photovoltaics
- C. micro hydroelectric power
- D. conservation

6. Hydroelectric power generation emits no carbon, but its disadvantages include

- A. lowered potential for flood control
- B. diurnally fluctuating energy supply
- C. disruption of ecosystems
- D. all of the above

Pearls Before Swine

Stephan Pastis



7. Compared to sound transmission in air, sound transmission in building materials is

- A. slower
- B. about the same
- C. faster
- D. impossible

8. The most effective way of reducing the negative effects of noise generated off site is

- A. by using solid barriers midway between source and receiver
- B. masking the sound with white noise
- C. planting a row of trees between source and receiver
- D. all of the above

9. An acoustic barrier between adjacent spaces has an STC rating of 45dB.

- A. It will protect a room with an acoustic goal of 45dB.
- B. It is suitable for adjacent quiet goal and silence goal rooms.
- C. It will reduce noise transmission by 45dB on average.
- D. all of the above

10. Impulse response diagrams for the Kennedy Center symphony hall before it was re-modeled revealed
- A. it was a dead space
 - B. time gaps between direct sound and reflected sound
 - C. it was too reverberant
 - D. diffuse reflections from the coffered ceiling
11. The dBA scale is preferred for architectural acoustics because
- A. it treats all frequencies equally
 - B. it's weighted to the sensitivity of the human ear
 - C. it includes reverberation in the scale
 - D. it's a logarithmic scale
12. If two sound sources simultaneously produce sounds of 0 and 1 dBA, the resultant sound is
- A. 1 dBA
 - B. 1.8 dBA
 - C. 2.8 dBA
 - D. 3.5 dBA
13. A whisper gallery features
- A. concave reflective walls
 - B. convex reflective walls
 - C. parallel reflective walls
 - D. none of the above



14. UI's Administration Building Auditorium is an example of
- A. a wide hall
 - B. a shoebox hall
 - C. a surround hall
 - D. a symphony hall

15. The secret to the success of Gehry's outdoor performance venue in Chicago's Millennium Park is
- A. its sculptural bandshell
 - B. electronic enhancement speakers in the overhead grid
 - C. the red chairs in the seating area
 - D. all of the above
16. Chicago's Museum of Contemporary Art auditorium is a suitable multi-purpose hall because it uses
- A. electronic enhancement
 - B. movable wall partitions
 - C. movable seating
 - D. all of the above
17. The shape of a traditional bandshell creates
- A. a strong reflected sound wave directed toward the audience
 - B. no degradation of sound over distance
 - C. concert hall-like acoustics
 - D. all of the above
18. A physical acoustic model that uses a laser pointer aimed at corrugated cardboard and aluminum foil to simulate reflective and absorptive surfaces can
- A. help visualize ray tracing in the space
 - B. demonstrate the reverberation time
 - C. show diffuse reflections
 - D. all of the above
19. Arup's auralization technique allows designers to
- A. hear a simulated performance in their unbuilt work
 - B. compare acoustic quality of historic halls
 - C. evaluate the effectiveness of noise reduction strategies in reverberant spaces
 - D. all of the above
20. Which of the pieces in the music and architecture slide/tape doesn't rely on reverberation?
- A. Motet for Six Voices in Santa Maria del Fiore
 - B. Pilgrims' Song in the church at Santiago de Compostela
 - C. The Bells of Speyer for Speyer Cathedral
 - D. all of the above do

Review Questions

21. Effectively daylighted buildings were common
- A. during the Great Depression
 - B. before the Arab Oil Embargo
 - C. only after LEED standards were published
 - D. in Europe during all eras

22. A translucent transmitter
- A. provides diffuse light
 - B. is a potential glare source on a sunny day
 - C. is an oxymoron, since it does not transmit light
 - D. A and B above
23. Given a 9 candela source at the center of a three-foot radius translucent sphere whose transmittance is 0.50,
- A. the illuminance of the outside surface is one foot lambert
 - B. the luminance of the outside surface is 0.50 foot lamberts
 - C. the source produces about 64 lumens
 - D. all of the above
24. The brightness of a daylighted gallery wall can be measured with
- A. a luminous flux detector
 - B. a luminance meter
 - C. an illuminance meter
 - D. an ordinary light meter
25. Lightshelves are an effective daylighting strategy because they
- A. greatly increase daylight levels deep in a space
 - B. reduce daylight levels near the window
 - C. work to even out distribution of light in the space
 - D. all of the above
26. An artificial sky is useful in testing daylight models because it can
- A. reproduce the illumination of a cloudy sky
 - B. model the distribution of light for a standard cloudy sky
 - C. reproduce the light quality of a cloudy sky
 - D. all of the above



27. Which of these is not an HID lamp?
- A. compact fluorescent
 - B. metal halide
 - C. high pressure sodium
 - D. all of the above are
28. SAD is treatable by
- A. exposure to full-spectrum light
 - B. melatonin enhancement
 - C. green light therapy
 - D. all of the above
29. LEDs are more energy efficient than CFLs
- A. when run on AC power
 - B. when white light is not desired
 - C. when run on DC power
 - D. never, they have about the same efficiency
30. In the Zonal Cavity Method, the Coefficient of Utilization characterizes
- A. the interaction of fixtures and room surfaces
 - B. loss of light from a variety of operating conditions
 - C. the efficacy of the lamp and fixture
 - D. all of the above



31. The building codes in western U.S. were the first to require
- A. waterless urinals
 - B. low-flush toilets
 - C. dual-flush toilets
 - D. composting toilets

32. The roofs at BedZED and the Eden project biomes are similar in that they
- A. are designed to collect stormwater in cisterns
 - B. use roofing materials that assure high quality water
 - C. provide only toilet-flushing water
 - D. all of the above
33. An intensive green roof will
- A. eliminate stormwater runoff
 - B. mitigate downstream flooding
 - C. contribute to the heat island effect
 - D. all of the above
34. A system that is effective in reducing but not eliminating black water in an urban setting is
- A. a composting toilet
 - B. a waterless urinal
 - C. a block-scale living machine
 - D. all of the above
35. Creek bed channelization of Paradise Creek abets
- A. erosion of banks
 - B. cross-media pollution
 - C. flood control
 - D. all of the above
36. Which common lamp is not mercury-free?
- A. LEDs
 - B. CFLs
 - C. incandescents
 - D. none of the above
37. The most effective buildings for mitigating global warming are designed to be
- A. sustainable
 - B. LEED platinum
 - C. zero net energy
 - D. self-sufficient
38. Architecture 2030 seeks to
- A. reduce carbon emissions from buildings to 0
 - B. teach architects to design for low-carbon
 - C. influence US energy policy
 - D. all of the above



39. A building with a low life cycle cost may have
- A. the lowest first cost
 - B. the lowest maintenance and operating costs
 - C. alternative energy systems that payback over a relatively short period
 - D. any of the above
40. European regulations now require that public buildings
- A. generate 10% of their own energy
 - B. comply to the Kyoto Accord
 - C. display an energy performance certificate
 - D. none of the above

Catch some rays, catch some Zzzzzzzzzzs!
Come back with new energy next fall!

