

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

New Questions

1. On most sites in the Pacific Northwest 100% of a building's energy can be provided every day on-site by,

- A. a roof-top photovoltaic array
- B. residential scale wind turbines
- C. a micro-hydro generator
- D. none of the above

2. A project that was planned to fully exploit on-site energy sources to achieve energy independence is

- A. Bill Dunster's BedZED
- B. Mike Reynolds' earthships
- C. UI's McCall Field Campus Carbon-Neutral Design/Build project
- D. all of the above

3. In the last 40 years the First Law efficiency of the US economy as a whole has been about

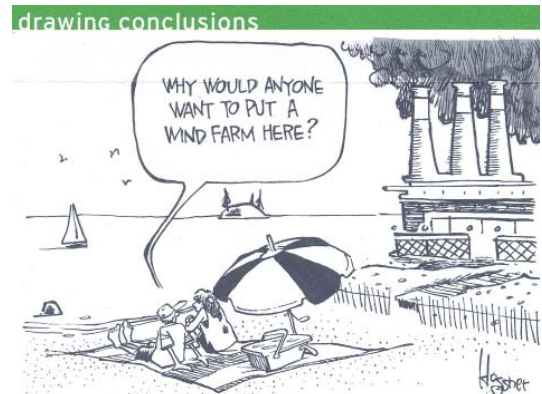
- A. 90%
- B. 55%
- C. 45%
- D. 25%

4. The fossil fuel that has the most potential for accelerating contribution to greenhouse gas build-up causing global climate change is

- A. coal
- B. natural gas
- C. gasoline
- D. all of the above

5. Currently, the most cost-effective means of providing non-carbon emitting energy generation is

- A. wind power
- B. photovoltaics
- C. hydro-electric power
- D. conservation



6. Birds are most likely to be killed by
- horizontal axis commercial-scale wind turbines
 - vertical axis residential-scale wind turbines
 - reflective glass high-rise buildings
 - all of the above
7. A mid-tone sound's wave length is dependent on
- its distance from the source
 - its frequency
 - the reflective/absorptive qualities of the room in which it's generated
 - all of the above
8. A CMU wall will best block an offending sound source if it is placed
- close to the offending sound
 - midway between the offending sound and the receiver
 - close to the receiver
 - either A or C above
9. Sound privacy for a small space in a larger room can be achieved by
- increasing the room's reverberation time
 - placing a reflective concave dome over the small space
 - decreasing the room's reverberation time
 - none of the above
10. The room that is most likely to have three acoustic fields is
- a large dead room
 - a medium-sized neutral room
 - a small live room
 - none of the above
11. The acoustic goal of a library reading room is
- quiet
 - silence
 - reverberation
 - decibel control
12. The dBA scale is
- weighted towards human perception of sound
 - the primary raw measure of sound intensity
 - used to measure musical performance
 - accurate for only one octave

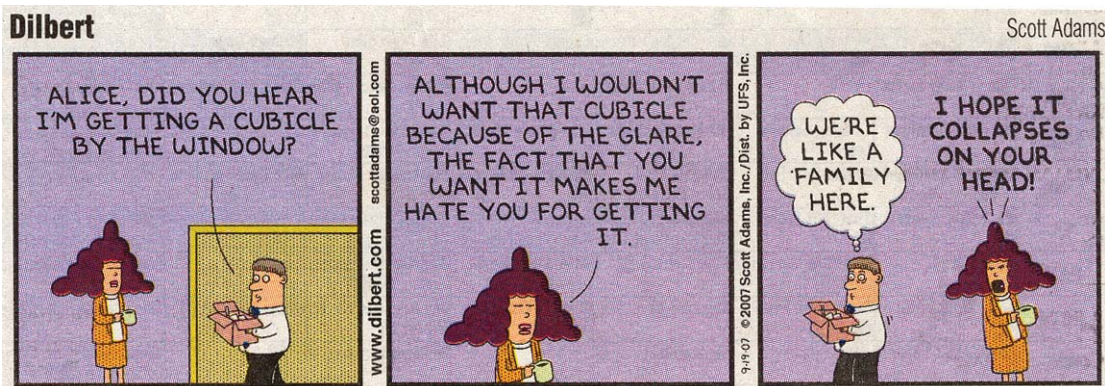


13. The total absorption of the open 30' by 15' back wall of the hall at Tanglewood is
- A. zero Sabins
 - B. 45 Sabins
 - C. 300 Sabins
 - D. 450 Sabins
14. The behavior of sound in a simple classroom can be modeled with
- A. a hand-rendered ray diagram
 - B. a physical model
 - C. a computer model
 - D. all of the above
15. If you use a sound source that employs frequencies five times those of speech, you should make your physical acoustic model of a lecture hall
- A. at full scale
 - B. at 2:1
 - C. at 5:1
 - D. at 10:1
16. The concert hall configuration most likely to require electronic acoustic enhancement is
- A. the shoebox
 - B. a wide hall
 - C. a surround hall
 - D. none of the above
17. The acoustics of an auditorium can be adjusted to accommodate multiple purposes by
- A. mechanical devices that adjust its volume
 - B. mechanical devices that change surface acoustic reflectivity
 - C. electronic devices that adjust reverberation time
 - D. all of the above
18. A classic band shell like the one used by Boston Pops assures all audience members
- A. receive equal sound intensity
 - B. receive early reflected sound
 - C. have good sight lines
 - D. all of the above
19. An impulse response diagram of a space which has a flutter echo shows
- A. an even degradation of sound over time
 - B. pairs of reflected sounds evenly spaced over time
 - C. a distinct acoustic event
 - D. none of the above

20. The composer who designed the hall for performance of his works was
- A. Handel
 - B. Verdi
 - C. Wagner
 - D. Varèse

Review Questions

21. A daylighted building that is a good example of evolution, flexibility, and adaptability is
- A. Walt Disney Concert Hall in LA
 - B. Musée d'Orsay in Paris
 - C. Riola Church in Italy
 - D. all of the above
22. Given a 1257 lumen source in a darkened room, the luminous intensity measures 25 fc at
- A. 1 foot away
 - B. 2 feet away
 - C. 4 feet away
 - D. 8 feet away
23. In a daylighted room the light reflected from an exterior shading device is considered
- A. external reflected component
 - B. internal reflected component
 - C. sky component
 - D. none of the above
24. A daylighted space with a square floor plan illuminated by a single central skylight (10% of the floor area in glazing) would be most successful if it were
- A. twice as tall as it is wide
 - B. as tall as it is wide
 - C. half as tall as it is wide
 - D. any of the above



25. A good program for modeling both illumination and thermal consequences of single wall window options for a rectilinear room is
- A. ArchiPhysics Daylight
 - B. Daylight 1-2-3
 - C. Skycalc
 - D. all of the above
26. In order to use a physical daylighting model effectively, you must
- A. test it under partly cloudy skies
 - B. photograph the model
 - C. assure that all construction joints are light tight
 - D. all of the above
27. The mirror box artificial sky at the IDL in Boise is most effective at predicting
- A. sun penetration
 - B. sunny day daylight factors
 - C. illumination on a cloudy day
 - D. all of the above
28. Your standard incandescent bedside lamp just burned out. Your valid excuse for not replacing it with an electronic ballast compact fluorescent lamp is
- A. poor color rendering
 - B. excessive first cost
 - C. visible flicker
 - D. none of the above
29. A lamp's photometric curve is important because
- A. it gives the illuminance of the lamp at different angles
 - B. it helps a designer visualize light distribution from the fixture
 - C. it's necessary in all hand methods for calculating illumination levels in a space
 - D. all of the above
30. The illumination level recommendations given by the IES that best align with office workers' actual needs were offered in
- A. 1936
 - B. 1960
 - C. 2005
 - D. all of the above
31. Global warming will cause water supply
- A. to become more plentiful
 - B. to become more problematic
 - C. to become less plentiful
 - D. to stay about the same

32. The fixture that eliminates black water is
- A. a composting toilet
 - B. a waterless urinal
 - C. an ultra low-flush toilet
 - D. all of the above
33. When bioswales are used to capture and treat parking lot run-off, they
- A. help purify water before it is returned to the aquifer
 - B. mitigate flooding
 - C. help purify water before it is sent to a nearby stream or river
 - D. all of the above
34. The major advantage of a living machine is that it
- A. can treat water for re-use on site
 - B. is an inexpensive biological process
 - C. complements composting toilets
 - D. all of the above
35. Our local watercourse, Paradise Creek, is polluted by
- A. farmland run-off
 - B. legal dumping at its headlands
 - C. Moscow Waste Water Treatment Plant effluent
 - D. all of the above
36. Dumpsters for buildings that have no recycling program in force typically have contents that are at least
- A. 10% recyclable and compostable
 - B. 25% recyclable and compostable
 - C. 50% recyclable and compostable
 - D. 80% recyclable and compostable



37. Buildings that can mitigate global warming must be
- A. able to greatly reduce carbon emissions
 - B. LEED certified
 - C. entirely self-sufficient
 - D. all of the above
38. The spaghetti charts of US energy use for the last four decades show
- A. a sharp increase in first-law efficiency
 - B. fairly consistent first-law efficiency
 - C. a sharp decrease in first-law efficiency
 - D. none of the above
39. A LEED-experienced design team can easily deliver a LEED Gold building at
- A. 20% above the cost of a code-compliant building
 - B. 10% above the cost of a code-compliant building
 - C. near the cost of a code-compliant building
 - D. 10% below the cost of a code-compliant building
40. New buildings in the UK tend to be greener than those in the US because
- A. the country is a Kyoto Accord signee
 - B. EU building regulations are more stringent than those in the US
 - C. signature architects in the UK are committed to green architecture
 - D. all of the above

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

