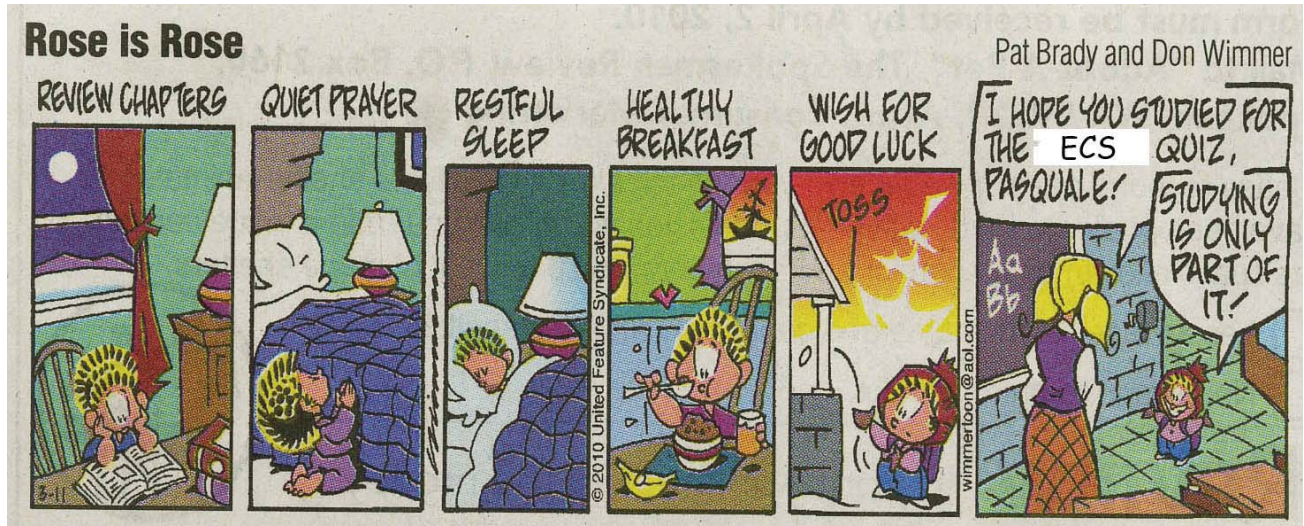


40 Multiple Choice Questions – Select the **best** answer for each one.

NEW QUESTIONS



1. A site energy strategy that avoids the need for battery storage of electricity is,
 - A. a roof-top photovoltaic array
 - B. residential scale wind turbines
 - C. a micro-hydro generator
 - D. a net metering hook-up to the grid
2. The central heat and power plant at BedZED is designed to
 - A. provide primary space heating
 - B. provide back-up electrical generation
 - C. both of the above
 - D. provide domestic hot water and back-up space heating
3. Since 1979 US energy use has increased by about 25%, but first law energy efficiency has
 - A. also increased significantly
 - B. stayed about the same
 - C. decreased significantly
 - D. remained at 100%
4. Which currently used combustion fuel, if used exclusively, would make the least significant contribution to greenhouse gas build-up, which causes global climate change?
 - A. coal
 - B. natural gas
 - C. bio-fuels
 - D. gasoline

5. The energy strategy with the most potential and least expensive means toward meeting Mazria's goal of carbon-neutrality by 2030 is
- wind power
 - concentrating photovoltaics
 - hydro-electric power
 - buildings designed for energy efficiency
6. The smallest current threat to avian life is collisions and interactions with
- wind turbines
 - buildings and windows
 - electric power transmission lines
 - vehicles
7. Green building occupants are most dissatisfied by
- acoustics
 - thermal comfort
 - indoor air quality
 - lighting
8. The most effective way of reducing the negative effects of noise generated off site is
- by using solid barriers midway between source and receiver
 - masking the sound with white noise of an equal intensity
 - planting a deciduous tree between source and receiver
 - all of the above
9. A small hole in a wall between adjacent spaces
- reduces the wall's STC to zero
 - reduces the wall's STC to 20
 - sets a limit on the wall's STC dependent on the size of the hole
 - has little effect on the wall's STC
10. If the impulse response diagram for a room show a series of equally spaced spikes,
- the room exhibits creep
 - the room has a long reverberation time
 - the room has a flutter echo
 - none of the above
11. The dBA scale is preferred for architectural acoustics because
- it treats all frequencies equally
 - it's weighted to the sensitivity of the human ear
 - it includes reverberation in the scale
 - it's a logarithmic scale



12. If two sound sources simultaneously produce sounds of 0 and 2 dBA, the resultant sound is
- 1 dBA
 - 2.1 dBA
 - 3.8 dBA
 - 4.1 dBA
13. A silence goal space with a reflective concave back wall
- provides speech privacy for the occupants
 - concentrates sound in the center of the room
 - is ideal for symphonic performance
 - requires a absorptive ceiling panels for the performers
14. To achieve fine acoustic performance, surround halls require
- diffusely reflective balcony facades
 - convex reflective "clouds" above the performers
 - a resonant cavity beneath the stage
 - all of the above
15. During summertime concerts on warm days, the back wall at Seiji Ozawa Hall in Tanglewood, MA
- is acoustically absorptive
 - allows the seating capacity to be increased
 - prevents echoes at the front of the hall
 - all of the above
16. The acoustics in the multi-purpose hall in Chicago's Museum of Contemporary Art (MCA) are adjusted by
- electronic enhancement
 - movable wall or ceiling partitions
 - movable seating
 - all of the above
17. The acoustic advantage of playing music in a traditional bandshell over playing in open air is
- the audience gets a strong reflected sound wave
 - no degradation of sound over distance
 - concert hall-like acoustics
 - all of the above
18. The earliest acoustic models were
- 10:1 scale models
 - ray tracing scale drawings
 - digital acoustic models
 - physical models that use laser pointers to simulate ray tracing



19. On the acoustic tour of campus the musicians preferred playing in
- A. St. Augustine's chapel
 - B. the SUB ballroom
 - C. the Admin Auditorium
 - D. none of the above
20. The reconstructed Globe Theater in London is acoustically appropriate for dramatic performance because it has
- A. a reflective ceiling
 - B. plaster reflective side walls
 - C. thick absorptive curtains on the concave back walls
 - D. none of the above

REVIEW QUESTIONS

21. The west end of the Kibbie Dome has been glazed with translucent Kalwall. The lighting effect of this move is
- A. wonderful daylighting of a previously dismal space
 - B. low daylight levels in the morning; adequate in the afternoon
 - C. high probability of glare late in the afternoon on sunny days
 - D. none of the above
22. Students who visited London last summer saw fewer stars at night than their Moscow-based counterparts because
- A. it's always cloudy in London
 - B. London's urban light pollution is stronger than Moscow's
 - C. country stars are brighter than city stars
 - D. none of the above
23. Given a 4 candela light source, the density of luminous flux at 2 feet away is
- A. one foot lambert
 - B. two footcandles
 - C. one footcandle
 - D. about 50 lumens
24. The best daylight modeling program to use early in the design process is
- A. AGi32
 - B. Ecotect
 - C. 3D Studio Max
 - D. none of the above
25. A physical daylighting model is effective in predicting spatial distribution of daylight
- A. when internal reflectivity is modeled accurately
 - B. only when window transmission is modeled accurately
 - C. when external reflected components are ignored
 - D. only under clear skies

26. If the luminous ceiling you've designed for an office space provides 30 footcandles at the workplane,
- A. task lighting will be needed for normal office work
 - B. both energy codes and minimum light levels are probably satisfied
 - C. too much energy will be required for the fluorescent lighting specified
 - D. daylighting will be unnecessary
27. Low-voltage MR-16 lamps are
- A. LEDs
 - B. CFLs
 - C. HIDs
 - D. incandescents
28. Lighting fixtures that have therapeutic potential
- A. emit infrared light
 - B. require 2000-watt lamps
 - C. emit full-spectrum light
 - D. exclude the blue portion of the visible spectrum
29. For the best integration with a daylighting scheme, choose a photosensor-controlled
- A. direct lighting scheme
 - B. direct/indirect lighting scheme
 - C. indirect lighting scheme
 - D. any of the above
30. Given a room with matte black surfaces, the point source method prediction will be
- A. optimistic
 - B. fairly accurate
 - C. pessimistic
 - D. any of the above
31. If global warming melts the polar icecaps as predicted,
- A. available fresh water will be greatly increased globally
 - B. coastal cities will be inundated with high sea levels
 - C. desert areas will become rain forests
 - D. all of the above



32. In Moscow conservation programs have affected per capita water use
- A. positively, by significant reductions
 - B. neutrally, affording a steady total water use each year
 - C. negatively, providing no real conservation
 - D. none of the above
33. The bioswales in the parking lot at the Portland Water Pollution Control Lab
- A. treat parking lot runoff
 - B. treat runoff from a 50-acre neighborhood
 - C. send overflow to the on-site retention pond
 - D. all of the above
34. It's most desirable to provide potable water by
- A. using composting toilets
 - B. collecting rainwater from a cedar shake roof
 - C. using an on-site living machine
 - D. all of the above
35. Paradise Creek is not polluted as it flows through
- A. forested uplands
 - B. cropland
 - C. pasture land
 - D. none of the above
36. The toxic wastes deposited during the Sweet Avenue parking lot's industrial past were detoxified by
- A. bioremediation
 - B. aggressive recycling
 - C. concentrating solar collectors
 - D. all of the above
37. The truly effective energy conservation design strategy employed by London City Hall (the GLA building) is
- A. the overhanging floor plates that self-shade lower floors
 - B. use of a spherical building envelope to reduce the wall surface to volume ratio
 - C. using bore hole cooling, which is more efficient than air-conditioning
 - D. all of the above
38. UI's Integrated Design Lab in Boise provides free energy consulting services to
- A. local architecture and engineering firms
 - B. only LEED accredited professionals
 - C. regional utility customers
 - D. none of the above

FAMILY TREE

BY SIGNE WILKINSON



39. Recently the market rate of energy has been affected drastically by

- A. a mining accident in West Virginia
- B. an off-shore drilling disaster in the Gulf of Mexico
- C. both A and B above
- D. none of the above

40. Daylighting strategies used in decade-old European green architecture projects include

- A. extensive and appropriate external shading
- B. moveable fritted glass louvers
- C. narrow buildings with workstations near windows
- D. all of the above

Catch some rays, catch some action at the green cathedral of your choice (e.g., Safeco Field), catch some Zzzzzzzzzs!

Come back to Moscow or Boise with renewed energy next fall!