

Knowledge Check

1. Which is an aspect of the sustainability triple bottom line?
 - a. Environmental
 - b. Financial
 - c. Social
 - d. All of the above

2. Building energy consumption contributes to an organization's carbon footprint.
 - a. True
 - b. False

3. Building energy consumption increases over time without intervention because:
 - a. Changes to occupancy and building use are made.
 - b. Energy conservation settings, such as set-backs are overridden or not set up properly.
 - c. a and b
 - d. Energy costs increase over time.

4. The heat island effect is:
 - a. The phenomenon where tropical islands are hotter than the mainland.
 - b. Where all roofs are vegetative roofs.
 - c. When the temperature of an urban area is higher than the surrounding area.
 - d. Where all the roofs are black materials.

5. The purpose of HVAC is to provide:
 - a. Heating
 - b. Cooling
 - c. Ventilation
 - d. All of the above

6. Cooling towers require maintenance that includes:
 - a. Water treatment to disinfect and prevent biological organisms such as legionella.
 - b. Checking air intakes for blockage
 - c. a and b
 - d. Cleaning light fixtures in the tower.

Fundamentals of Energy Efficient Building Operations



7. There are ventilation requirements for outside air included in which standard?
 - a. ASHRAE Standard 62.1
 - b. OSHA Standard 1910
 - c. NIOSH
 - d. Centers for Disease Control

8. What type of maintenance does not take a proactive approach?
 - a. Reactive maintenance
 - b. Preventive maintenance
 - c. Predictive maintenance
 - d. Predictable maintenance

9. What is a measure of the level of light?
 - a. Lumens
 - b. Footcandle
 - c. Brightness
 - d. Lamp type

10. Which lighting source is more efficient?
 - a. T12 bulb
 - b. T8 bulb
 - c. T40 bulb
 - d. Incandescent bulb

11. Lamp characteristics building operators should be aware of include the efficacy, efficiency, color and:
 - a. Temperature
 - b. Ventilation
 - c. Light output (lumens)
 - d. LEDs

12. Simple payback is:
 - a. Cost X Savings
 - b. Cost - Savings
 - c. Cost + Savings
 - d. Cost / Savings

13. What are the three components of efficient building operation?
 - a. Efficient purchasing, efficient operation, and efficient equipment
 - b. Efficient purchasing, efficient operation, and efficient people
 - c. Renewable energy, efficient operation, and efficient equipment
 - d. Energy conservation, efficient lighting, and sustainability

Fundamentals of Energy Efficient Building Operations



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14. A building automation system (BAS) can be used to identify and correct building operational problems related to all of the following except:
 - a. System setpoints
 - b. Scheduling
 - c. Start-up/shutdown
 - d. Plumbing fixtures

 15. The only way to save energy in a building is to perform major capital projects.
 - a. True
 - b. False

 16. A building operator can impact the comfort and productivity of occupants through management of:
 - a. Indoor air quality
 - b. Indoor environmental quality
 - c. Ventilation
 - d. Flooring

 17. Which indoor air contaminant causes feelings of “stuffiness”?
 - a. Radon
 - b. Carbon dioxide
 - c. Carbon monoxide
 - d. Particulate matter

 18. Effective communication is clear, concise, and:
 - a. Respectful
 - b. Organized
 - c. Wordy
 - d. Digital

 19. What are the two major components of an electric bill?
 - a. Administrative costs (\$) and energy consumption (kWh)
 - b. Energy consumption (kWh) and demand (kW)
 - c. Renewable energy and distribution charges
 - d. Energy consumption (kWh) and water consumption

 20. The calculation for the Energy Utilization Index (EUI) requires which of the following:
 - a. Energy consumption and square footage
 - b. Electric consumption only
 - c. Natural gas consumption only
 - d. Square footage and water consumption