

1. Relative to the LEED project design what has a low soft cost?
 - A. Facility management costs
 - B. Building commissioning
 - C. Carpet installation
 - D. Cost of the LEED charrette

2. What variables measure a refrigerant's impact on the environment? (Choose 2)
 - A. Global warming period
 - B. Ozone depletion potential
 - C. Lifecycle potential
 - D. Greenhouse gas lifetime
 - E. Global warming potential

3. Water that is used for dishwashing, clothes washing, and ice making is considered what type of water?
 - A. Reclaimed water
 - B. Process water
 - C. Blackwater
 - D. Recycled water

4. Which of the following statements regarding LEED Interpretations is NOT true?
 - A. LEED interpretations are reviewed by LEED committees comprised of member-selected green building practitioners and USGBC staff.
 - B. LEED interpretations are an opportunity to contribute to LEED in a significant way.
 - C. LEED interpretations are used to add new requirements to the LEED Rating System.
 - D. LEED interpretations can be applied to multiple projects.

5. Which project layout would be the best for reducing demand for new materials?
 - A. A dense, mixed-use neighborhood
 - B. A multi-building office project with single-story buildings
 - C. Single-home residences in a suburban area
 - D. An outdoor shopping mall built on a greenfield

6. Which of the following are mandatory for LEED certification? (Choose 2)
 - A. Earning at least 50 points
 - B. Meeting the Minimum Program Requirements
 - C. Earning Innovation points
 - D. Having a LEED AP on the project
 - E. Achieving all Regional Priority credits
 - F. Meeting all prerequisites

7. Which of the following does green building help with creating? (Choose 2)
 - A. Communities that are more vital to a healthy society
 - B. Increased building operational costs
 - C. Lower-impact built environments
 - D. Increased segregated land use

8. Which LEED rating system has pre-certification?
- A. LEED BD+C: Core and Shell
 - B. LEED O+M: Existing Buildings
 - C. LEED BD+C: New Construction
 - D. LEED BD+C: Schools
 - E. LEED ID+C: Commercial Interiors
9. Which of the following is NOT a type of diverse use?
- A. An ATM
 - B. A public park
 - C. A barber shop
 - D. A police station
10. Which of the following legally binding documents describe the quality of the materials to be used on the project?
- A. Health Product Declaration (HPD)
 - B. Specifications
 - C. Environmental Product Declaration (EPD)
 - D. Cradle-to-Grave Analysis
11. Which of the following impact categories is given the greatest weight in LEED?
- A. Protect, Enhance and Restore Biodiversity and Ecosystem Services
 - B. Enhance Individual Human Health and Well-Being
 - C. Build a Greener Economy
 - D. Reverse Contribution to Global Climate Change
 - E. Promote Sustainable and Regenerative Material Resources Cycles
 - F. Protect and Restore Water Resources
12. Which of the following is effective at reducing potable water use indoors?
- A. Installing submeters
 - B. Implementing cooling tower water management
 - C. Installing fixtures that meet the EPA 1992 standard
 - D. Installing low-consumption flush fixtures and low-flow rate faucets
13. A project that reduces the amount of wastewater transported off site helps achieve which of the following? (Choose 2)
- A. A reduction in the demand for potable water
 - B. A reduction in the need for graywater used on site
 - C. A reduction in energy required to treat wastewater
 - D. A reduction in the demand for wastewater treatment infrastructure
14. A project team has decided to modify a low SRI roof design to include a vegetated roof to help with rainwater management. What other credit would this decision help with?
- A. Light pollution reduction
 - B. Heat island reduction
 - C. On-site renewable energy
 - D. Construction activity pollution prevention

15. Which of the following would help increase the daylight brought into a space?
- A. Clerestory windows, light shelves, reflective paint, and skylights
 - B. Low VOC interior walls, single-pane glazing, and reused furniture
 - C. Ergonomic furniture, reused acoustic ceiling tiles, polished concrete flooring, and movable partitions
 - D. Task lighting, occupancy sensors, window blinds, and operable windows
16. Designing a building with a natural ventilation system will impact what credit categories? (Choose 2)
- A. Materials and Resources
 - B. Sustainable Sites
 - C. Energy and Atmosphere
 - D. Indoor Environmental Quality
17. What should be used during all project phases to verify the green building goals are being met?
- A. Materials checklist
 - B. Commissioning plan
 - C. LEED Project Checklist
 - D. Sustainable purchasing policy
18. What is the term for the analysis of the environmental aspects and potential impacts associated with a product, process, or service?
- A. Life-cycle costing
 - B. Life-cycle assessment
 - C. Triple bottom line accounting
 - D. ASHRAE Level I audit
19. What statement is true regarding HydroChloroFluoroCarbons (HCFCs)?
- A. HCFCs have a low ozone depletion potential compared to CFCs
 - B. HCFCs are a type of natural refrigerant
 - C. LEED requires zero use of HCFCs
 - D. HCFCs are refrigerants currently banned by the Montreal Protocol
20. The Green Label Plus certification is used for what material?
- A. Cleaning products
 - B. Floors
 - C. Carpets
 - D. Wood
21. What factor impacts the cost of earning LEED-certification?
- A. The type of land the building was built on
 - B. The number of Full Time Equivalents (FTEs) that will occupy the finished building
 - C. The number of stories the building has
 - D. Square footage of the building
22. Which of the following is not an alternative LEED recommends for reducing stratospheric ozone depletion?
- A. Selecting refrigerants that have a long atmospheric lifetimes
 - B. Designing a building to use natural ventilation
 - C. Selecting refrigerants with lower Ozone Depletion Potential (ODP) and Global Warming Potential (GWP)
 - D. Using natural refrigerants

23. An effective thermal comfort strategy considers the six primary factors that affect thermal comfort. A close collaboration between the owner, architect, and who else is critical to achieving thermal comfort success?
- A. Engineer
 - B. Building code inspectors
 - C. Landscape designer
 - D. Lighting designer
24. What is a negative environmental externality of locating a project in an area that does not have diverse uses or public transportation access, and is not densely developed?
- A. Increased air pollution
 - B. Availability of high-paying jobs
 - C. Increased tax base
 - D. Increased development costs
25. Which of the following reduce the energy use and waste associated with the demolition and construction of buildings? (Choose 3)
- A. Incinerating construction waste from a demolition
 - B. Designing buildings with single-pane glazing for daylighting
 - C. Preserving historic structures
 - D. Restoring existing buildings
 - E. Rehabilitating blighted buildings
26. For a project to be LEED Platinum a minimum of how many points must be earned?
- A. 70
 - B. 90
 - C. 80
 - D. 60
27. Which of the following does LEED use as a standard means of reporting the environmental impacts of a product, such as global warming potential and greenhouse gas emissions?
- A. Carbon management tool
 - B. MSDS
 - C. Greenhouse Gas Inventory
 - D. Environmental Product Declarations
28. What are examples of spaces that are typically unoccupied? (Choose 3)
- A. Airplane hanger
 - B. Data center floor area
 - C. Private office
 - D. Inactive storage area in a warehouse
 - E. Mechanical room
 - F. Gymnasium
29. A project team developing a library on a greenfield site decides to reduce the project's parking footprint. Which of the following additional areas of the project could this also aid?
- A. Protecting sensitive land
 - B. Increasing the project density
 - C. Encouraging walkable design
 - D. Restoring habitat

30. During the integrative process a building owner decides to replace a low VOC ten-year carpet tile with a less expensive and higher VOC twelve-year carpet tile. Which of the following would be impacted by this change?
- A. Indoor air quality
 - B. Raw material sourcing
 - C. Construction waste management
 - D. Material reuse
31. The owner of a historic renovation project wants to achieve carbon neutrality. Which of the following design decision will help the project team achieve this?
- A. Purchasing carbon offsets
 - B. Using no more water than what falls on the site as precipitation
 - C. Participating in a demand response program
 - D. Purchasing Renewable Energy Credits (RECs)
32. What intense workshop is used to establish green building goals across all aspects of the building design, drawing on the expertise of all participants?
- A. Charrette
 - B. Technical Advisory Group meeting
 - C. Facility manager meeting
 - D. LEED roundtable
33. Which type of products would reduce the environmental effects of cleaning products?
- A. Green Label Plus
 - B. Green-e
 - C. Environmental Choice
 - D. CRI
34. Which of the following can increase the heat island effect in urban areas?
- A. Hardscapes shaded by trees
 - B. Underground parking
 - C. Large areas of turf grass
 - D. Reduced air flow from tall buildings and narrow streets
35. A delivery of drywall arrived at a building site during a rain storm. Some of the drywall was exposed to the rain. What should the general contractor do with the material?
- A. Ask for replacement drywall from the seller
 - B. Send it to the landfill
 - C. Wait for it to dry out and then install it
 - D. Install it anyway
36. A hamburger franchise is planning on building thirty new restaurants across the country in the next two years. Each restaurant is based on the same prototype. How should the multiple buildings be certified?
- A. By registering each project individually with LEED Online
 - B. Using the LEED Volume Program
 - C. Using the LEED Campus Program
 - D. As a LEED for Neighborhood Development project

37. In which of the following instances would a project team need to use the ITE Transportation Planning Handbook?
- A. When reviewing planned future public transportation routes
 - B. When locating existing rights-of-way when determining surrounding density
 - C. When calculating a project's parking capacity
 - D. When determining if a bicycle network is adequate
38. What does ASHRAE 55 specify?
- A. Commuting surveys
 - B. Energy performance
 - C. Indoor air quality
 - D. Thermal comfort
39. Some credits have an LPE option. What does LPE mean?
- A. That a LEED Accredited Professional is primarily responsible for the credit
 - B. That the credit has a Licensed Professional Exemption
 - C. That a credit is a LEED Pilot credit
 - D. That the credit will pursue LEED Exemplary Performance
40. Which of the following is a type of graywater?
- A. Rainwater collected in a retention pond
 - B. Wastewater that has not come in contact with toilet waste or kitchen sinks
 - C. Rainwater collected and held in a cistern
 - D. Wastewater from urinals
41. What describes a project that has been certified to the base level?
- A. LEED Accredited
 - B. LEED Certified certified
 - C. LEED Certified
 - D. LEED's Certified
42. The use of a brownfield site can enhance a community. What must occur for a brownfield site to be developed?
- A. The site must be revegetated
 - B. The site must be located in a suburban area
 - C. The site must be remediated
 - D. The site must be located along existing roads
43. Regional priority credits are specific to:
- A. The state the project is located in
 - B. LEED project type (schools, healthcare, data centers, etc.)
 - C. LEED credit category
 - D. LEED rating system family (BD+C, ID+C, etc.)
44. Which of the following is not a credit category for LEED for Neighborhood Development?
- A. Green Infrastructure and Buildings
 - B. Smart Location and Linkage
 - C. Awareness and Education
 - D. Neighborhood Pattern and Design

45. One side of a building is oriented toward the afternoon sun. Which of the following can give occupants control over excessive brightness and glare?
- A. Individual task lighting
 - B. Adjustable window shades
 - C. Operable windows
 - D. Thermal comfort controls
46. Which of the following best describes systems thinking?
- A. A Sustainable plan for built environments that improve existing conditions.
 - B. An understanding of the built environment as a series of relationships in which all parts influence many other parts.
 - C. An approach to design and operations that brings team members together to work collaboratively on all of the project's systems, finding synergistic solutions that support greater levels of sustainability.
 - D. A formal review process of the design of a project based on its intended function in order to identify potential alternatives that reduce costs and improve performance.
47. Which of the following preventive maintenance tasks would a facility manager routinely perform to maintain indoor air quality? (Choose 2)
- A. Replacing air filters
 - B. Conducting a flush-out
 - C. Dusting all blinds with electrostatic cloths
 - D. Calibrating sensors
48. An owner is questioning the additional costs of submetering of a mixed-use project's water systems. For what reason should the submeters be installed?
- A. Identifies disparities between how a project's water-based systems are designed to operate and how they actually perform
 - B. LEED requires metering by subsystem of all energy and water based systems
 - C. Submetering is a Minimum Program Requirement
 - D. The integrative process does not work without submetering data
49. Construction activity pollution prevention should address what environmental protection measures? (Choose 3)
- A. Soil erosion
 - B. Fresh water consumption
 - C. Greenhouse gas emissions
 - D. Ozone protection
 - E. Airborne dust
 - F. Waterway sedimentation
50. What are local ordinances?
- A. Building codes based on national model codes
 - B. Recommendations for good building practices
 - C. Local government regulations imposed to promote orderly development of private lands and prevent land-use conflicts
 - D. A law usually found in a municipal code

51. What is at the core of the integrative process?
- A. Working toward individual goals
 - B. Upfront cost-based decision making
 - C. Collaborative team members
 - D. Linear planning
52. A LEED project is in the pre-design phase, and a previously developed site has already been selected. The team wants to protect or restore habitat. Which of the following strategies should they consider?
- A. Increasing the floor-to-area ratio of the building
 - B. Restoring compacted soils and revegetating
 - C. Implementing a construction activity pollution plan
 - D. Using pervious paving materials for the parking area
53. What type of plants should be used on a green roof to promote biodiversity?
- A. Tall plants that provide shade
 - B. Monocultures
 - C. Plants with high watering needs
 - D. Native plants
54. Which of the following is NOT a strategy to reduce construction waste?
- A. Recycle materials
 - B. Sell unused materials
 - C. Use salvaged materials
 - D. Maximize the building footprint
55. What is the purpose of having a LEED AP on a project?
- A. To serve as the project administrator
 - B. To streamline the LEED process
 - C. To submit all project data
 - D. For building commissioning
56. What type of water is rainwater?
- A. Blackwater
 - B. Graywater
 - C. Non-potable water
 - D. Potable water
57. Indoor water use reductions require projections based on which of the following:
- A. The number of fixtures installed
 - B. The gross area of the building
 - C. The cost of potable water
 - D. Occupants' usage
58. 'To transform the way buildings and communities are designed, built, and operated, enabling an environmentally and socially responsible, healthy, and prosperous environment that improves the quality of life' denotes which of the following:
- A. The purpose of LEED Online
 - B. USGBC's mission
 - C. USGBC's 2013-2015 strategic plan
 - D. USGBC's vision

59. Which greenhouse gas is produced in landfills as a result of solid waste disposal?
- A. Methane
 - B. CO₂
 - C. Radon
 - D. NH₃
60. Which of the following project team members is responsible for verifying and documenting that a building and all of its systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet the owner's project requirements?
- A. The commissioning authority
 - B. The mechanical engineer
 - C. The project administrator
 - D. The LEED project reviewer
61. REACH Optimization would be used in which of the following credit categories?
- A. Materials and Resources
 - B. Indoor Environmental Quality
 - C. Location and Transportation
 - D. Energy and Atmosphere
62. What process uses heat recovery to capture heat from the process of generating electricity and then turns the recovered heat into thermal energy that can be used to heat a building?
- A. Evapotranspiration
 - B. Commissioning
 - C. Cogeneration
 - D. Tertiary treatment
63. A United Nations study indicates that which of the following percentages of the ecosystem services that have been assessed worldwide are currently degraded or used unsustainably?
- A. 40%
 - B. 60%
 - C. 30%
 - D. 50%
64. How are LEED credits that significantly contribute to accomplishing the system goals of the seven impact categories given more emphasis?
- A. The requirements are easier to achieve
 - B. They contain third party standards
 - C. They have more options to meet the requirements
 - D. They can earn more points
65. Who is responsible for ensuring the use of the consensus process to evolve LEED in accordance with the mission, guiding principles, and strategic plan of USGBC?
- A. LEED Board of Directors
 - B. LEED Technical Committee
 - C. LEED Steering Committee
 - D. LEED Technical Advisory Groups

66. A project owner that chooses to use onsite renewable energy sources instead of oil, coal, and natural gas gets what economic benefit of the triple bottom line?
- A. Decreasing destructive extraction processes
 - B. Avoiding escalating market prices
 - C. Protection from uncertain supplies
 - D. Contributing to national security vulnerability
67. What is FSC Certified wood?
- A. Wood that has been sourced (extracted, manufactured, purchased) within 100 miles (160 km) of the project site
 - B. Wood that has been procured from well managed forests
 - C. Composite wood that does not contain any urea formaldehyde
 - D. Composite wood that contains post-consumer recycled wood, usually from construction and demolition debris
68. What is a benefit of selecting a project location surrounded by existing built density?
- A. More lenient zoning rules
 - B. Reduction of heat islands
 - C. Protection of undeveloped land
 - D. Increased availability of rainwater
69. How many of the 110 possible LEED points can be earned for addressing regionally specific environmental issues?
- A. 1
 - B. 10
 - C. 4
 - D. 2
70. A data center is located in a remote, forested area. In which of the following ways could the project team reduce light pollution?
- A. By installing surfaces and lights that reduce glare
 - B. By placing exterior lights close to the project boundary
 - C. By increasing the number of exterior lights
 - D. By installing lights that shine upward
71. What does LEED accept as part of a building design to qualify as open space for projects in urban areas?
- A. Balconies
 - B. Higher density buildings
 - C. Shaded parking lots
 - D. Vegetated (green) roofs
72. If a building owner enrolls in a demand response program, which of the following will happen?
- A. During off-peak times, the building's excess electricity may be sold back to the utility company.
 - B. The owner will have to purchase carbon dioxide equivalents equal to the annual grid-generated electricity.
 - C. The owner will have to purchase RECs equal to fifty percent of the building's yearly electricity use.
 - D. The building may have to decrease electricity use during peak times.

73. Which of the following helps encourage building users to take alternative transportation?
- A. Limiting parking
 - B. Sharing parking among two or more buildings
 - C. Reducing the number of bicycle spaces
 - D. Using permeable paving for parking lots
 - E. Including off-street parking spaces
74. By identifying synergies between systems during the integrative process, teams will save time and money in both the short and the long term while optimizing resource usage. Which of the following are also true of the integrative process? (Choose 2)
- A. The integrative process is based on an ISO standard.
 - B. The integrative process reduces the need for change orders during construction.
 - C. The integrative process increases the amount of construction time for a project.
 - D. The integrative process can avoid delays and costs resulting from design changes during the Construction Documents phase.
75. For which of the following credit areas would a site plan be submitted for documentation?
- A. Acoustic design
 - B. Furniture reuse
 - C. Outdoor water use reduction
 - D. Demand response
76. What credit category rewards project teams for taking advantage of existing patterns of development and land density?
- A. Innovation
 - B. Location and Transportation
 - C. Regional Priority
 - D. Sustainable Sites
77. If a developer is planning on building a multi-family residential project what are the most important things the project team should consider? (Choose 2)
- A. Available LEED ND projects close by
 - B. Nearby LEED BD+C projects
 - C. Local zoning
 - D. Proximity to waste haulers
78. What environmental issue occurs from runoff?
- A. Heat islands
 - B. Sedimentation
 - C. Increased municipal wastewater treatment costs
 - D. Ozone depletion
79. What is the International Green Construction Code (IgCC) intended to replace?
- A. ASHRAE 189.1
 - B. LEED
 - C. ENERGY STAR
 - D. Traditional building codes

80. What is an environmental benefit of using graywater for irrigation?
- A. Drip irrigation can be used
 - B. Increased irrigation efficiency
 - C. Preserving aquifers
 - D. Reduced heat islands
81. What environmental issue is associated with refrigerants used in HVAC&R systems?
- A. Increasing greenhouse gas emissions
 - B. Increased CO2 indoors
 - C. Groundwater contamination
 - D. Soil contamination
82. What does a REC represent?
- A. The environmental, social, and other positive attributes of power generated by renewable resources
 - B. The quantity of fossil fuels avoided by purchasing renewable energy, expressed in tons
 - C. The amount of energy purchased from a Green-e supplier
 - D. The amount of energy an electricity provider purchases from renewable sources
83. What is considered a positive externality of LEED-certified buildings on building occupants?
- A. Reduced water consumption
 - B. Improved daylighting
 - C. Decreased absenteeism
 - D. Energy efficiency improvements
84. What are the benefits of reducing potable water use in buildings? (Choose 2)
- A. Reduced contamination of nearby water bodies
 - B. Reduced drawdown of water from water bodies and aquifers
 - C. Decreased building operating costs
 - D. Increased irrigation efficiency
85. When conducting a confidential occupant survey to rate the lighting, acoustics, temperature, and cleanliness of a building, who is primarily responsible for reviewing the results and taking any corrective action?
- A. The architect(s)
 - B. The facility manager(s)
 - C. The building owner(s)
 - D. The occupant(s)
86. A developer for an office project is considering a natural ventilation system. Which of the following will be the MOST important in determining if the system will be appropriate?
- A. Whether or not the system can be submetered
 - B. Whether or not the system is quiet
 - C. Whether or not the system can provide enough fresh air
 - D. Whether or not the system can connect to a building automation system
87. The built environment, including buildings and transportation systems, account for what percent of all greenhouse gas emissions?
- A. 2/3
 - B. 1/2
 - C. 1/4
 - D. 1/3

88. What statement is true regarding green building?
- A. LEED teams are achieving certification through widely diverse methods
 - B. LEED buildings were increasingly common until construction costs rose 30% in the last two years
 - C. Green design is a cost neutral add-on
 - D. The construction of green buildings have no major significant cost difference to non-green buildings
89. What financial incentives can a municipality offer to a developer that proposes a green building? (Choose 3)
- A. Allowing a building to be have an increased height
 - B. Percentage increase in the floor area ratio
 - C. Tax credits
 - D. Revolving loan funds
 - E. Fee waivers
 - F. Increases in the allowable density
90. What process identifies the high-performance building systems that will save money over the life of a project?
- A. Value engineering
 - B. Life-cycle assessment
 - C. Life-cycle costing
 - D. First costs
91. Which of the following is a difference between Renewable Energy Credits (RECs) and a carbon offset?
- A. RECs are tradable commodities
 - B. RECs encourage the reduction of GHG emissions
 - C. RECs must be purchased locally
 - D. RECs are purchased
92. What best defines the property area?
- A. Total area within the platted property line not including any non-constructed areas
 - B. Total area within the legal property boundaries of the site; it encompasses all areas of the site, including constructed and non-constructed areas
 - C. Portion of the project site submitted for LEED certification
 - D. Platted property line of the project defining land and water within it
93. Using passive strategies such as daylighting is an example of which of the following:
- A. Increasing energy efficiency
 - B. Reducing energy demand
 - C. Energy performance management
 - D. Renewable energy practice
94. Which of the following does not aid in the identification of sensitive habitats? (Choose 2)
- A. The U. S. Fish and Wildlife Service
 - B. ACEEE
 - C. FEMA
 - D. The U.S. Code of Federal Regulations
 - E. The NatureServe Heritage Program

95. The process of green building begins with the idea of the project and continues until:
- A. The schematic design is completed
 - B. The project is reused or recycled
 - C. The construction documents are prepared
 - D. The project begins operating
96. Which of the following would require use of the EPA's ENERGY STAR Portfolio Manager?
- A. Comparing the ongoing operating performance of a building with its intended design performance
 - B. Registering a large volume of LEED projects
 - C. Calculating a building's minimum energy use
 - D. Bulk uploading project information into LEED online
97. Which of the following strategies should a hospital project choose to extend the life of the building and conserve building resources as the surrounding population grows?
- A. Site the building in a dense area
 - B. Purchase additional land on which to construct additional buildings
 - C. Select low-emitting materials
 - D. Design rooms with modular systems
98. What impact category addresses reducing negative environmental impacts throughout the materials life-cycle?
- A. GHG Emissions Reduction from Materials and Water Embodied Energy Use
 - B. Promote Sustainable and Regenerative Material Resources Cycles
 - C. Protect, Enhance and Restore Biodiversity and Ecosystem Services
 - D. Reverse Contribution to Global Climate Change
99. A project team is trying to maximize the number of points they can achieve for their LEED project by identifying synergies. Which elements, when combined, would best achieve this goal? (Choose 3)
- A. Occupant lighting controls
 - B. Operable windows
 - C. Daylight sensors
 - D. CO2 sensors
 - E. Occupancy sensors
100. What unit of measurement is used for toilets?
- A. Gallons per flush (liters per flush)
 - B. Gallons per minute (liters per minute)
 - C. FTE
 - D. Wastewater efficiency