

1. A LEED project has 8 employees that work 4 hours per day, 12 employees that work 6 hours per day and 20 employees that work 8 hours per day. What is the total Full Time Equivalent (FTE) for the project?
  - A. 37
  - B. 35
  - C. 33
  - D. 38
  
2. An electricity provider is looking to reduce grid energy and manage electricity consumption. Which of these might help them?
  - A.
  - B.
  - C. Demand Response
  - D.
  
3. How many points must a LEED project earn to achieve Gold level certification?
  - A. 30-39
  - B. 40-49
  - C. 50-59
  - D. 60-79
  
4. How many points must a LEED project earn to achieve Silver level certification?
  - A. 30-39
  - B. 40-49
  - C. 50-59
  - D. 60-79
  
5. Minimum Program Requirements (MPRs) require a LEED project to
  - A. Comply with minimum project size
  - B.
  - C.
  - D.
  
6. Which of these is a LEED for Building Design and Construction minimum program requirement (MPR)?
  - A. Must be constructed in a permanent location
  - B. Project must be built in a LEED for Neighborhood Development location
  - C. Must have a minimum number of parking locations
  - D. Must not exceed the maximum size requirement
  
7. A building maintenance manager is purchasing a new boiler to replace an existing system. Although the first cost of one of the new boilers being considered is higher, when maintenance, fuel, and operating costs are included the payback over time shows the system to be the most cost effective. What tool is being used to help make the decision?
  - A. Life-cycle costing
  - B. Life-cycle analysis
  - C. Performance Rating Method
  - D. Energy Cost Budget Analysis

8. Which of these tools attempts to identify and quantify environmental effects throughout the life of materials, products, or buildings?
- A. Life-Cycle Evaluation (LCE)
  - B. Life-Cycle Costing (LCC)
  - C. Life-Cycle Development (LCD)
  - D. Life-Cycle Assessment (LCA)
9. A project team has obtained a door salvaged from another location. What Materials and Resource credit could this be used for?
- A. Recycled content
  - B. Construction Waste Management
  - C. Material reuse
  - D. FSC certification
10. A project team has used a door found on site and turned it into a table. What Materials and Resource credit could this be used for?
- A. Recycled content
  - B. Construction Waste Management
  - C. Material reuse
  - D. FSC certification
11. An owner wants to LEED certify an existing office building and commit to on-going sustainability goals. Which rating system would you recommend?
- A. LEED for Interior Design and Construction
  - B. LEED for Building Design and Construction
  - C. LEED for Building Operations and Maintenance
  - D. LEED for Neighborhood Development
12. What system has the largest energy use in a commercial building?
- A. Lighting
  - B. Cooling
  - C. Heating
  - D. Ventilation
13. What standard is used for the baseline calculation for the Water Efficiency Indoor Water Use Reduction credit?
- A. Energy Policy Act of 1992 (EPA 1992) and 2005
  - B. ASHRAE
  - C. DOE
  - D. Montreal Protocol
14. Acoustic design is considered in which credit category?
- A. Sustainable Sites
  - B. Materials and Resources
  - C. Energy and Atmosphere
  - D. Indoor Environmental Quality

15. Which of these water sources is best for landscape irrigation?
- A. Blackwater
  - B. Dirty water
  - C. Greywater
  - D. Potable Water
16. Which of these environmental concerns is addressed in the Construction Activity Pollution Prevention plan?
- A. Preservation of open space
  - B. Using native and adapted vegetation
  - C. Controlling airborne dust generation
  - D. Irrigation demand required by the project site
17. A landscape architect, civil engineer, and city planner are all working together to create a stormwater management system. What type of design are they using?
- A. Siloed
  - B. Integrative process
  - C.
  - D.
18. Which of these strategies would help with reducing the heat island effect and surrounding air temperature?
- A. Low albedo pavers
  - B. Dark colored pavers
  - C. Open grid pavers
  - D. Highly reflective roof
19. Which of these can help a project to reduce the contaminants brought into a building?
- A. Install sensors at the entryways
  - B. Use carpet mats
  - C. Have fewer building entrances
  - D. Install grates, grilles, or mats at the main entrances
20. What is the best way to prevent indoor pollutants?
- A. Decrease the ventilation going to the building
  - B. control them at the source.
  - C. Keep pollutants out of the building
  - D. Locate air intakes near loading docks and idling vehicles
21. Which of these can help to prevent light pollution?
- A. up-lighting
  - B. Shielded fixtures
  - C. Open-grid pavers
  - D. Native landscaping
22. What is the standard for thermal comfort for LEED projects?
- A. ASHRAE 55
  - B. ASHRAE 62
  - C. ASHRAE 90
  - D. ASHRAE 189

23. What is the LEED referenced standard for providing adequate ventilation to a building?
- A. ASHRAE 55
  - B. ASHRAE 62
  - C. ASHRAE 90.1
  - D. SMACNA
24. What is the LEED referenced standard for establishing minimum standards for indoor air quality (IAQ)?
- A. SMACNA
  - B. ASHRAE 62
  - C. ASHRAE 90.1
  - D. ISO
25. What is the LEED referenced standard for establishing baseline energy use (using energy modeling and simulation) for LEED buildings?
- A.
  - B.
  - C.
  - D. ASHRAE 90.1–2010, Appendix G
26. What tool can projects use to benchmark energy performance for the project's type, scope, occupancy, and location?
- A.
  - B. EPA Energy Star's Target Finder
  - C.
  - D.
27. An owner of a project would like to encourage the building occupants to use alternative transportation. Which of these could help?
- A. Underground parking
  - B. Increase parking lot size
  - C. carpooling incentive program
  - D. Limit parking spaces
28. Which of these refers to the referenced standard Green Seal?
- A. Flooring and Cabinets
  - B. Carpets and carpet pads
  - C. Pest control
  - D. Custodial products and material
29. What policy should specify standards for selecting cleaning products and technologies, such as Green Seal standards, California Code of Regulations, and certification of cleaning equipment from the Carpet and Rug Institute?
- A. Pest Management Policy
  - B. Green Cleaning Policy
  - C. Recycling Policy
  - D. Indoor Air Quality (IAQ) Policy

30. Which of these systems can help a project to reduce energy demand for a building?
- A. Highly Efficient HVAC
  - B.
  - C.
  - D.
31. Studies by the Heschong Mahone Group have demonstrated that providing which of these strategies in classrooms can improve student scores by 7% to 18%.
- A.
  - B.
  - C. daylighting
  - D.
32. Which of these design strategies would help a project with providing occupant thermal comfort and control and earning points in the Indoor Environmental credit category?
- A. Desk lamp
  - B. Specifying operable windows, lighting control, ergonomic furniture
  - C. Provide a view to the outside
  - D. Creating a green cleaning policy
33. Which of these can be used to reduce water consumption?
- A. Aerators
  - B.
  - C.
  - D.
34. Which of these is the most important LEED Impact Category?
- A. Biodiversity
  - B. Profit
  - C. Restore Water Resources
  - D. Climate Change
35. LEED stands for
- A. Leadership in Engineering and Eco-Design
  - B. Leadership in Energy and Ecological Design
  - C. Leadership in Energy and Environmental Design
  - D. Leadership in Engineering and Ecological Design
36. U.S. Green Building Council created which of these?
- A.
  - B.
  - C. LEED Rating System
  - D.
37. LEED Online is used to
- A. Purchase a LEED Reference Guide
  - B. Manage the entire LEED certification process
  - C. Register to take a LEED exam
  - D. Hire a LEED AP

38. Which of these are the most important LEED impact categories?
- A. Reduce Climate Change, support a Green Economy, Reduce Potable Water Use
  - B. Reduce Climate Change, Support a Green Economy, Provide Alternative Transportation
  - C. Reduce Climate Change, Protect Human Health, Support a Green Economy
  - D. Return on Investment, Protect Human Health, Support a Green Economy
39. What substance environmental impact has ozone depletion potential (ODP) and global warming potential (GWP)?
- A.
  - B.
  - C.
  - D. Refrigerants
40. Which of these strategies would help to reduce heat island effect and manage stormwater?
- A. 100% vegetated roof
  - B.
  - C.
  - D.
41. Which of these is the best source of alternative water?
- A. Captured Rainwater
  - B.
  - C.
  - D.
42. A LEED project can reduce the amount of water needed for landscape irrigation by
- A. Installing sprinklers to cover the entire project.
  - B. Bioswales.
  - C. having compacted soil.
  - D. increasing the use of native plants.
43. During design which of these should be included in the cost budget?
- A.
  - B. Include contingency for research and analyses for system designs
  - C.
  - D.
44. A new tenant in a commercial office building wants to pursue LEED certification. Which rating system would you recommend they use?
- A. LEED for Interior Design and Construction
  - B. LEED for Building Design and Construction
  - C. LEED for Building Operations and Maintenance
  - D. LEED for Neighborhood Development
45. Which of these is a tool a LEED project can use to monitor their energy consumption?
- A.
  - B. EPA Energy Star's Target Finder
  - C.
  - D.

46. Over time, if not mitigated building resource use
- A. Can't be determined
  - B. Stays about the same
  - C. Incrementally decreases
  - D. Incrementally Increases
47. Which class of refrigerants has the highest Ozone Depletion Potential (ODP)?
- A. Volatile Organic Compound (VOC)
  - B. Chlorofluorocarbon (CFC)
  - C. Hydrochlorofluorocarbons (HCFCs)
  - D. Hydrofluorocarbon (HFC)
48. Which of these is used to compare baseline water consumption for Water Efficiency Indoor Water Use Reduction points?
- A. Calculated installed
  - B. Other LEED Buildings
  - C. National Averages
  - D. Fixture cut sheets for composting toilets
49. Which of these is a cost-effective strategy for an existing building, if porcelain replacement proves cost-prohibitive to achieve water savings?
- A. Install sensors
  - B. Use timers
  - C. Replace flush valves, install flow restrictors
  - D. Limit access
50. Which of these is a positive feedback loop?
- A.
  - B. Climate Change
  - C.
  - D.
51. Collecting, storing, reusing, marketing, and diverting material to put it back into production is called?
- A. Triple Bottom Line
  - B. Recycling
  - C. Low Impact Development
  - D. Zero Waste
52. Diverting construction solid waste from landfills helps to reduce which of these environmental effects?
- A. Methane Gas
  - B.
  - C.
  - D.
53. Which of these is the best site to build on?
- A. Floodplain
  - B. Habitat
  - C. Brownfield
  - D. Farmland

54. What are the units for water use by water closets?
- A. Gallons (liters) per flush
  - B. Gallons (liters) per person
  - C. Average time per usage
  - D. Average Daily use per person
55. Solar Reflectance Index (SRI) pertains to
- A.
  - B.
  - C. Heat Island Effect
  - D.
56. The triple bottom line concept of sustainability incorporates what resources?
- A. Profit, Planet, People
  - B. Return on Investment, People, Planet
  - C. Community, Environment, Health
  - D. Return on Investment, Environment, Planet
57. Which of these is important to the concept of the triple bottom line?
- A. Social Responsibility
  - B.
  - C.
  - D.
58. Besides air temperature and air speed what other factor of human thermal comfort can buildings control?
- A. Metabolism
  - B. Clothing
  - C. Sunlight
  - D. Humidity
59. The perimeter of a building defines the
- A. Gross floor area
  - B. LEED boundary
  - C. project footprint
  - D. building footprint
60. A project design includes reducing the parking lot footprint. What other LEED credit could this strategy help?
- A. Sensitive Land Protection
  - B. Restore Habitat
  - C.
  - D.
61. Which of these is required for projects pursuing the Sustainable Sites credit Rainwater Management?
- A. Manage 95% of the site runoff
  - B. Use Low-Impact Development (LID) and Green Infrastructure (GI)
  - C.
  - D. Use structural and nonstructural strategies to manage the 90<sup>th</sup> percental rainfall event

62. What is the main objective of the Regional Priority credit?
- A.
  - B. Address Local Issues
  - C.
  - D.
63. Which of these is how an exemplary performance point can be earned, if available in the Reference Guide?
- A. Have at least three LEED APs on the project
  - B. Use a credit from a different rating system
  - C. Earn all the credits in a single category
  - D. Next incremental percentage threshold
64. The Integrative Process credit requires projects to
- A.
  - B.
  - C.
  - D. Analyses system synergies
65. A graded site is commonly referred to as
- A. Brownfield
  - B. Green Field
  - C. Previously Developed
  - D. Previously Undeveloped
66. What building code adopted ASHRAE 189.1 as an equivalent code?
- A. ASHRAE 90.1
  - B. IGCC
  - C. California Title 24
  - D. SMACNA
67. Which of these is pollution from the production of electricity?
- A. CFC
  - B. HCFC
  - C. NH<sub>3</sub>
  - D. Nitrogen Oxide
68. Which of these purchases would meet the requirement for being obtained locally for LEED Material and Resources (MR) credits?
- A. Bamboo floor harvested 600 miles away and purchased 300 miles from the project site
  - B. Stone extracted and processed 80 miles away and purchased within 75 miles from the project site
  - C. Vinyl floor manufactured 1,350 miles away and purchased within two miles of the project site
  - D. Marble extracted and processed 1500 miles away and purchased within 700 miles of the project site
69. What is the reason for encouraging LEED projects to use products sourced (extracted, manufactured, purchased) locally?
- A.
  - B.
  - C. Reduce Transportation Emissions
  - D.

70. Which of these strategies could help a project to reduce a building's energy demand?
- A. Design for Daylighting
  - B.
  - C.
  - D.
71. A project wants to use renewable energy but the cost to purchase, install and maintain is too high. What could they do to meet their goal?
- A.
  - B.
  - C.
  - D. Install renewable energy system on site without owning the equipment and pay for the energy
72. Where can projects purchase Renewable Energy Credits (RECs)?
- A. Almost anywhere
  - B. Only in locations that have deregulated power
  - C. In areas that have a wind farm within 100 miles of the project
  - D. Only from a utility company that has a green pricing program
73. Which of these helps the design team to ensure building systems are functioning as designed and support the owner's project requirements?
- A. Sub-Metering
  - B. Commissioning (CX)
  - C. Simple Box
  - D. Discovery
74. Which of these strategies would help to encourage building users to use alternative transportation?
- A.
  - B. Install showers and changing facilities
  - C.
  - D.
75. Which of the following permanent structures contributes to achieving LEED for Building Design and construction Material and Resources credits?
- A. Elevator
  - B. Framing
  - C. Process Equipment
  - D. Cooling Tower
76. Water from a kitchen sink is considered black water unless
- A. it is used for toilets.
  - B. local code says otherwise.
  - C. it is used for irrigation.
  - D. It is captured and reused for building systems.

77. Which of these emissions should be minimized in order to protect workers during construction?
- A. Volatile Organic Compound (VOC)
  - B. Chlorofluorocarbon (CFC)
  - C. Hydrochlorofluorocarbons (HCFCs)
  - D. Hydrofluorocarbon (HFC)
78. Which of these is considered a renewable energy source?
- A. Natural Gas
  - B. Nuclear
  - C. Biomass
  - D. Clean Coal
79. As of 1996, the Montreal Protocol banned the use of what chemical compound known to cause ozone depletion?
- A. Hydrofluorocarbons (HFC)
  - B. Hydropentachlorodimethyl (HPD)
  - C. Ammonium (NH<sub>3</sub>)
  - D. Chlorofluorocarbons (CFC)
80. Which of these can be used to verify the location of services?
- A. Arial color photo
  - B. Site plan
  - C. Phone Book
  - D. Map of area showing locations
81. Specifying the use of submeters for all building level water use and outdoor water use can help a project to do which of the following?
- A. Lower costs for electricity
  - B. Charge tenants more for water
  - C. Track water consumption and identify leaks
  - D. Improve fixture performance
82. Which of these is used for documenting the Materials and Resources Construction Waste Management credit?
- A. Number of Dumpsters
  - B. Weight/Volume of waste
  - C. Material purchasing plan
  - D. Location of landfill
83. A project is unable to earn one of the prerequisites in a credit category. Which of these can they do?
- A. Can't certify the project
  - B. Substitute a prerequisite from another rating systems
  - C. Submit a CIR
  - D.