

LEED AP BD+C V4- Practice Exam #5

Power Jam Study – Lori Brown

1. The U.S. Green Building Council has expanded internationally by
 - A. Creating more stringent credits
 - B. Developing additional rating systems
 - C. Allowing standards like ASHRAE 90.1-2010 requirements to be met with a USGBC-approved equivalent
 - D. Eliminating prerequisites
2. The Integrative process includes which three phases?
 - A. Pre-schematic design, Construction, Occupancy and performance feedback
 - B. Discovery, Design and Construction, Occupancy, Operations, and Performance Feedback
 - C. Schematic Design, Design and Construction, Occupancy, Operations, and Performance Feedback
 - D. Design Charette, Construction, Certificate of Occupancy
3. Which of these LEED project types must have a mandatory preliminary LEED meeting with key project team members?
 - A. LEED for Schools
 - B. LEED for Healthcare
 - C. LEED for Hospitality
 - D. LEED for Retail
4. What is a project team doing when they are using the project goals to identify credits and options that should be attempted by the team to establish the target LEED certification level?
 - A. Developing the LEED Scorecard
 - B. Comparing costs
 - C. Identifying opportunities for synergies
 - D. Devising a LEED Work Plan
5. Which of these is considered when developing the Owner's Project Requirements?
 - A. Sustainability Goals
 - B. Cost of systems to be installed
 - C. Availability of supplies
 - D. Occupancy
6. What must be included in the Owner's Project Requirements?
 - A. Applicable Standards and Codes
 - B. Building's intended function and operation
 - C. Equipment Warranties
 - D. Targeted LEED credits
7. For Location and Transportation Credit High-Priority Site Option 1, besides being in a historic district, where else must the site be located?
 - A. At least ¼ mile for a main bus terminal
 - B. Infill site
 - C. LEED for Neighborhood Development site
 - D. Greenfield

8. A project has a total of 20 tons of construction waste. Determine the percentage of total waste diverted.
- | | |
|--------|---|
| 8 tons | recycled concrete and steel |
| 2 tons | trees removed from the site |
| 3 tons | co-mingled waste 40% diverted |
| 6 tons | recycled/donated furniture |
| 1 ton | carpet and ceiling tiles returned to the manufacturer |
- A. 50%
- B. 75%
- C. 90%
- D. 100%
9. A LEED project has a minimum outdoor air intake flow of 0.12 CFM. What must the outdoor air intake flow be increased to for earning the Indoor Environmental Quality Credit Enhanced Indoor Air Quality Performance Option 2?
- A. 0.120 CFM
- B. 0.144 CFM
- C. 0.156 CFM
- D. 0.30 CFM
10. A LEED project is unable to install deck-to-deck partitions in an area that is used for storing hazardous materials. To meet the requirements for Indoor Environmental Quality Credit Enhanced Indoor Air Quality Strategies Interior Cross-Contamination Prevention what could the project do?
- A. Use MERV 8 filters
- B. Install a hard-lid ceiling
- C. Create positive pressure in the room with doors closed
- D. Provide room air quality data showing contamination levels
11. A laundry facility is located next to an athletic locker room. Which of these strategies would help the project to mitigate interior cross-contamination?
- A. Install portable exhaust fans
- B. Periodically run the building exhaust system longer
- C. Use laundry facility only at night
- D. Install a separate exhaust system with no recirculation
12. Which of these sources of water is potable?
- A. Municipally supplied
- B. Condensate
- C. Purple pipe water
- D. Collected rainwater
13. A LEED project has reduced their outdoor water use by 30% and the Indoor Water Use by 40%. Which of these can the project earn?
- A. Outdoor Water Use Reduction One point and Indoor Water Use Reduction two points
- B. Outdoor Water Use Reduction One point and Indoor Water Use Reduction three points
- C. Outdoor Water Use Reduction prerequisite and Indoor Water Use Reduction four points
- D. Outdoor Water Use Reduction prerequisite and Indoor Water Use Reduction six points

14. Which of these strategies would help a project to earn Sustainable Sites Credit Heat Island Reduction Option 1. Nonroof and Roof?
- A. Dark nonreflective roofing tiles
 - B. Paint all the interior walls white
 - C. Reduce the buildings plug loads
 - D. Provide shade with structures covered by energy generation systems
15. What is a maintenance person doing when they are power washing a highly reflective paving area?
- A. Increasing the heat island effect
 - B. Reducing the heat island effect
 - C. Wasting water
 - D. Increasing the surface temperature of the pavers
16. What is the total amount of air that must be supplied to a 1000 ft² building with a 10 ft ceiling to meet the requirements for Indoor Environmental Quality Credit Indoor Air Quality Assessment Option 1?
- A. 14,000 CF
 - B. 14,000,000 CF
 - C. 140,000,000 CF
 - D. 3,500,000 CF
17. A LEED commercial building project uses all electricity as its only energy source. The annual total cost for electricity is 2,224,226 kWh. How much of the total electricity cost must the project spend for EA Credit Green Power and Carbon Offsets?
- A. 2,224,226 kWh
 - B. 1,112,113 kWh
 - C. 556,057 kWh
 - D. 222,423 kWh
18. A LEED for Building Design and Construction Hospitality project is located in an area that has a beautiful view to an outdoor lake. Designers utilized a large percentage of window to wall area to provide direct views to the outside. The project needs to consider one additional credit to achieve platinum level of certification. Which of these should the project team consider pursuing?
- A. EA Credit Optimize Energy Performance
 - B. EQ Credit Daylight
 - C. EA Credit Interior Lighting
 - D. Exemplary Performance for EQ Credit Quality Views
19. Which of these credits can a LEED project earn an exemplary performance point?
- A. Indoor Environmental Quality Acoustic Performance
 - B. Indoor Environmental Quality Low-Emitting Material
 - C. Indoor Environmental Quality Indoor Air Quality Assessment
 - D. Indoor Environmental Quality Interior Lighting
20. All U.S. areas have how many regional priority credits?
- A. Five
 - B. Six
 - C. Seven
 - D. Eight

21. A LEED project is served from a central hot water plant and is charged a flat rate for the buildings hot water use. The central plant does not meter the quantity of hot water provided. What must the LEED Project do to meet the requirements for the prerequisite Energy and Atmosphere Building-Level Energy Metering?
- A. Nothing. It can be excluded
 - B. Install an energy meter at the main hot water supply
 - C. Estimate the annual cost of the hot water supply using 25% of the total energy bill
 - D. Use a fixed quantity of consumption for hot water based on building occupancy
22. The gross floor area of the LEED project should be no less than what percentage of the gross land area within the LEED project boundary.
- A. 1%
 - B. 2%
 - C. 5%
 - D. 10%
23. When can a non-contiguous parcel of land be included within the LEED project boundary?
- A. If the parcels directly support or are associated with normal building operations of the LEED project and are accessible to the LEED project's occupants.
 - B. Never
 - C. If it is unoccupied
 - D. If it has native and adaptive plants and supports wildlife
24. A project team is working with a school that has indicated to the design team that saving money operating the building is very important to them. The design includes increasing the daylighting in all spaces. What can the project team tell them about this design decision?
- A. The south side will be warmer than the north side of the building
 - B. The life expectancy of the building will be decreased
 - C. Reduces the electricity bill
 - D. Building maintenance cost will be lower
25. During the pre-design phase why is it beneficial for LEED for Schools project to have a public meeting?
- A. Opportunities to share building space or formalize other community partnerships
 - B. To identify low-cost design options
 - C. Provides a social event for the neighbors
 - D. Helps with obtaining permits
26. Which of these could help a LEED for Schools project with earning Sustainable Sites Credit Joint Use of facilities Option 1?
- A. Private Office
 - B. Health Clinic
 - C. Media center
 - D. Joint Parking
27. Which Material and Resources credit could be helped for a LEED project that has purchased insulation that is certified cradle to Cradle v3 Gold?
- A. Materials and Resources credit Building Product Disclosure and Optimization—Sourcing of Raw Materials
 - B. Materials and Resources credit Building Product Disclosure and Optimization—Material Ingredients
 - C. Materials and Resources credit Building Product Disclosure and Optimization—Environmental Product Declarations
 - D. Materials and Resources credit - Building Life-Cycle Impact Reduction

28. Materials that contribute to LEED MR Credit Building Life-Cycle Impact Reduction, Option 3. Building and Material Reuse can also contribute to
- A. MR Credit Building Product Disclosure and Optimization—Material Ingredients
 - B. LT Credit High-Priority Site
 - C. MR Credit Building Product Disclosure and Optimization – Sourcing of Raw Materials
 - D. MR Credit Building Product Disclosure and Optimization—Environmental Product Declarations

MR Credit Building Product Disclosure and Optimization – Sourcing of Raw Materials

MR Credit Building Product Disclosure and Optimization—Environmental Product Declarations. Products may be double-counted if they meet the requirements of both credits.

MR Credit Building Product Disclosure and Optimization—Material Ingredients. Products may be double-counted if they meet the requirements of both credits.

29. Which of these could contribute to Materials and Resources Credit Construction and Demolition Waste Management?
- A. Excavated soil and land clearing debris from the site
 - B. Wood Waste for Fuel
 - C. Treated wood found on site
 - D. Alternative Daily Cover (ADC)
30. Which of these is used to determine Materials and Resources Credit Construction and Demolition Waste Management Option 2?
- A. Volume of waste from two of the top five waste streams
 - B. Unused OSB and MDF board
 - C. Weight of waste generated per project gross floor area
 - D. Volume of waste generated per project average floor area
31. What standard is referenced for Indoor Environmental Quality Credit Thermal Comfort?
- A. ASHRAE 55-2010
 - B. ASHRAE 62.1 – 2010
 - C. ASHRAE 90.1 – 2010
 - D. ASHRAE 189.1-2010
32. What is the referenced standard for energy modeling for Energy and Atmosphere Credit Optimize Energy Performance?
- A. ASHRAE 90.1 - 2010
 - B. ASHRAE 90.1-2010 Appendix G
 - C. ASHRAE Advanced Energy Design Guide
 - D. Advanced Buildings Core Performance Guide
33. What standard is referenced for Energy and Atmosphere Prerequisite and Credit
- A. ASHRAE 62.1 - 2010
 - B. ASHRAE 90.1 – 2007
 - ☒ C. ASHRAE 90.1 – 2010
 - D. ASHRAE 55 – 2010
34. What needs to be signed to grant actual authority by the owner to allow a team member to register the project and accept the certification agreement?
- A. Agent's Authority Agreement Form
 - B. LEED Agreement Form
 - C. MPR
 - D. Project Scorecard

35. Which of these credits address showers?
- A. Water Efficiency Credit Outdoor Water Use Reduction, Water Efficiency Credit Indoor Water Use Reduction
 - B. Water Efficiency Credit Indoor Water Use Reduction, Location and Transportation Bicycle Facilities
 - C. Water Efficiency Prerequisite Outdoor Water Use Reduction, Water Efficiency Credit Outdoor Water Use Reduction
 - D. ?
36. What must a LEED for Neighborhood Development project have achieved to contribute to a LEED for Building Design and Construction project earning the Location and Transportation Credit LEED for Neighborhood Development Location?
- A. Silver Level
 - B. Certified
 - C. Planned and designed, anticipating Gold Level Certification
 - D. precertified
37. Which of these is included in the Sustainable Sites Prerequisite Construction Activity Pollution Prevention Construction General Permit (CGP)?
- A. Dry ponds
 - B. Native plants
 - C. Replace all site soil with premium grade top soil
 - D. Install perimeter controls
38. A LEED for New Construction project has designed a parking area with 150 parking spaces. What are the minimum requirements to earn the Location and Transportation Credit Green Vehicles?
- A. Provide 6 preferred parking spaces and 2 alternative-fueling stations
 - B. Provide 8 preferred parking spaces and 2 alternative-fueling stations
 - C. Provide 8 preferred parking spaces and 3 alternative-fueling stations
 - D. Provide 8 preferred parking spaces and 4 alternative-fueling stations
39. For the Location and Transportation Credit Green Vehicles which of these is an acceptable substitute for preferred parking spaces?
- A. Open field with no parking restrictions
 - B. A permanent discounted parking rate of at least 20% for green vehicles
 - C. Off-Site parking
 - D. Coupons for car tune-ups
40. A project is earning SS Credit: Light Pollution Reduction and is using LED lights to light the performers on stage in an outdoor theater. What should the LEED AP do?
- A. Insist the owner design an indoor theater
 - B. Switch the lights from LED to incandescent lamps
 - C. Limit the evening shows to ending at 5 PM
 - D. Tell the owner that the LED light for theatrical lighting is exempt from the credit
41. To earn the Energy and Atmosphere Credit Demand Response the project must
- A. Shift 5% of the peak energy demand during a demand response event
 - B. Shift 5% of the peak electricity demand during a demand response event
 - C. Develop a comprehensive plan for meeting the contractual commitment during a Demand Response event
 - D. Install a system that calls every employee during a demand response event

42. Which of these must be included in the Sustainable Sites Credit Site Assessment?
- A. Cost of installing on-site renewable energy systems
 - B. Locations for community gardens
 - C. Total distance to the nearest food store
 - D. Proximity of vulnerable populations to major sources of air pollution.
43. For a transit service to qualify for Location and Transportation Credit Access to Quality Transit which of these must be met?
- A. Buses must arrive before 8 AM on all weekdays
 - B. Seats belts must be installed for all passengers
 - C. Qualifying transit routes must have paired route service
 - D. All stops along the service must provide shelter
44. Which project type excludes weekends for determining Location and Transportation Credit Access to Quality Transit?
- A. Healthcare
 - B. New Construction
 - C. Schools
 - D. Retail
45. For WE Prerequisite Outdoor Water Use Reduction projects can
- A. Offset landscape irrigation using captured rainwater
 - B. Include or exclude food gardens
 - C. Exclude turf areas
 - D. Use all non-native plants
46. A design team has removed half of a planned parking lot and replaced it with native plants. What can they tell the owner about this change?
- A. Increases rainwater infiltration
 - B. Reduces transportation needs for the building
 - C. Encourages single person vehicle commuting
 - D. Improves employee health
47. Which of these would help a project to earn credit for Innovation, Option 1. Innovation?
- A. Recycling 100% of the plastic water bottles used by building occupants
 - B. Implement a program that engages and educates building users
 - C. Reduce building indoor water use by 55%
 - D. Do not install a landscape irrigation system
48. Which of these is required for Indoor Environmental Quality Prerequisite Environmental Tobacco Smoke Control?
- A. Signage must be posted within 10 feet of the main building entrance
 - B. Signage must be posted within 10 feet of all building entrances
 - C. Signage must be posted within 25 feet of the main building entrance
 - D. Signage must be posted within 25 feet of all building entrances
49. Which of these is a LEED standard that could help a project with their energy efficiency goal when purchasing equipment?
- A. SMACNA
 - B. Green Seal
 - C. ASTM
 - D. Energy Star

50. Which of these parts of a nurse's station task chair assembly contributes to Materials and Resources Credit Furniture and Medical Furnishings?
- A. Treated fabric 5% (contains added microbial treatment)
 - B. Wheels 4% (component does not contain heavy metals)
 - C. Metal base 20% (component does not contain heavy metals and is not plated with hexavalent chromium)
 - D. Treated fabric 5% (contains added microbial treatment)
51. What LEED rating system is the project following if they are earning:
- LT Sensitive Land Protection
 - SS Rainwater Management
 - EA Optimize Energy Efficiency
 - EA Renewable Energy Production
 - MR PBT Source Reduction- Lead, Cadmium, and Copper
- A. LEED for Schools
 - B. LEED for Core and Shell
 - C. LEED for Retail
 - D. LEED for Healthcare
52. A LEED project will be using a Commissioning Agent (CxA) to complete the Energy and Atmosphere Prerequisite Fundamental Commissioning and Verification, but they will not pursue the Energy and Atmosphere Credit Enhanced Commissioning. Which of these must be completed by the Commissioning Agent (CxA)?
- A. Develop system test procedures
 - B. Building Envelope Commissioning (BECx)
 - C. Develop systems manual
 - D. Provide training
53. Which of these renewable energy systems could contribute to Energy and Atmosphere Credit Optimize Energy Performance Option 1?
- A. Ground-Source Heat Pump
 - B. Install on-site photovoltaic panels
 - C. Combustion of municipal solid waste
 - D. ?
54. Location and Transportation Credit Surrounding Density and Diverse Uses Exemplary Performance?
55. Which of these would be helpful for a LEED for Schools project to determine external noise sources from Indoor environmental Quality Prerequisite Minimum Acoustic Performance?
- A. Airport Flyover Map
 - B.
 - C. ?
 - D. ?
56. Which of these would help a LEED project to earn the maximum points for Water Efficiency Credit Cooling Tower Water Use?
- A. Achieve a minimum number of ten cycles of concentration and use 50% recycled nonpotable makeup water
 - B. ?
 - C. ?
 - D. ?

57. The location of where a product or source is obtained is measured by [Exhibit]
- A. Straight line
 - B. Actual travel Distance
 - C. Point of Purchase
 - D. Within a ½ mile radius
58. Which of these would benefit a LEED for Schools project for Water Efficiency Credit Indoor Water Use Reduction?
- A. Food Steamer Table
 - B. Combination Oven
 - C. Energy Star Commerical Dishwasher
 - D. Ice Machine
59. Which of these variables would impact the total outdoor intake air flow required for a LEED Commerical building that is mechanically ventilated?
- A. MERV 8 filters
 - B. Ceiling Height
 - C. Number of Occupants
 - D. Window Locations
60. Which of these could help a project with energy use due to increasing the ventilation in the building?
- A. Install economizers
 - B. Decrease duct sizes
 - C. Smaller fans
 - D. Disconnect HVAC system thermostats
61. For Forest Stewardship Council (FSC) wood who must the Chain-of-Custody certificate be obtained from?
- A. Vendor
 - B. Grower
 - C. LEED AP
 - D. Project Manager
62. A LEED for New Construction Science Building is being designed for energy efficiency. The front of the building outside wall has an air purifying façade. Which of these strategies could help the design team assess in the preliminary analysis for reducing energy loads in the building?
- A. ?
 - B. ?
 - C. ?
 - D. Massing and orientation
63. A project purchased a combination of noncertified purchased Forest Stewardship Council (FSC) certified wood for a LEED project. After construction they discovered that a percentage of the FSC certified wood was missing the Chain-of-Custody certificate. What must the project do?
- A. Tear out the wood and replace with FSC certified wood
 - B. Recalculate the FSC-certified contribution value and remove the cost of the noncertified wood from the total cost of the wood
 - C. Recalculate the FSC-certified contribution value and include the cost of the noncertified wood in the total cost of the wood
 - D. Submit a CIR to obtain an exception

64. A LEED project purchased \$100,000 in Forest Stewardship Council (FSC) certified wood that was identified as FSC Mix 75%. What is the total value of the FSC wood credit contribution?
- A. \$25,000
 - B. \$50,000
 - C. \$75,000
 - D. \$100,000
65. A LEED for New Construction team member purchased a plastic lamp shade for \$1500 made from 10% recycled water bottles. The shade contains 50% postconsumer recycled content. What is the value for the shade for MR Credit Building Product Disclosure and Optimization—Sourcing of Raw Materials?
- A. \$75
 - B. \$150
 - C. \$750
 - D. \$3000
66. During demolition a LEED project discovered asbestos in the walls. For MR Credit Construction and Demolition Waste Management which of these applies to the calculation?
- A. Exclude from total waste
 - B. Include in total waste
 - C. ?
 - D. ?
67. Which of is appropriate for a 400,000 ft² commercial building with a large curtain wall façade for determining the air-tightness of the building envelope?
- A. Thermal Imaging
 - B. Blower door test
 - C. Water Spray
 - D. Window inspection
68. A LEED project design has reduced the Outdoor Water Use by 30% and the Indoor Water Use by 24%. Which of these has the project achieved?
- A. Outdoor Water Use Reduction Prerequisite meet, Indoor Water Use Prerequisite meet, Indoor Water Use Reduction one point earned
 - B. Outdoor Water Use Reduction Prerequisite meet, Indoor Water Use Prerequisite meet, Indoor Water Use Reduction no credit earned
 - C. Outdoor Water Use Reduction Prerequisite meet, Outdoor Water Use Credit one point earned, Indoor Water Use Reduction no credit earned
 - D. Outdoor Water Use Reduction Prerequisite meet, Indoor Water Use Prerequisite meet, Indoor Water Use Reduction two points earned
69. A LEED project plans to install a highly reflective roof and the neighbors are concerned about the glare. The team wants to earn Sustainable Sites Credit Heat Island Reduction. What should the LEED AP recommend to the design team?
- A. Change the roof to a dark material
 - B. Install a vegetated roof
 - C. ?
 - D. Raise the parapet

70. A LEED project is located in an extremely cold climate and wants to install a dark nonreflective roofing material to take advantage of the thermal gain from the roof. The team wants to earn Sustainable Sites Credit Heat Island Reduction. Which of these should the design team do?
- A. Achieve the credit by using just the nonroof areas
 - B. Submit a Credit Interpretation Request (CIR)
 - C. Place potted plants around the roof
 - D. Use the Exceptional Calculation Method
71. A LEED for Building Design and Construction Schools project is locating a new building on a site that has already had a Phase I ESA. Updates to the ESA must be made if the site's Phase 1 ESA is
- A. more than 14 days old
 - B. more than 30 days old
 - C. more than 180 days old
 - D. the Phase 1 ESA never expires
72. A previous LEED project earned an Innovation credit for a strategy used on the project. A design team would like to seek formal preapproval to submit the same strategy for a new LEED project to earn an Innovation credit. What should the design team do?
- A. Submit a project credit interpretation request (CIR)
 - B. The project is ineligible to earn the credit
 - C. ?
 - D. ?
73. Which of these types of windows are considered vision glazing?
- A. Fritted
 - B. Frosted
 - C. Patterned
 - D. Tempered
74. Which of these should be excluded when calculating the existing surrounding density for a LEED project?
- A. Buildable site
 - B. Public rights-of-way
 - C. Land set aside by a university
 - D. Unused office building
75. A LEED project building is located in a downtown area where all four sides of the building are surrounded by tall buildings. Which of these strategies could help the project for ...
- A. Window ?
 - B. ?
 - C. ?
 - D. ?
76. A 6-hour waste stream study identified a LEED for Building Design and Construction Retail project's top four recyclable waste streams. What is the first thing the LEED AP should tell the project?
- A. Identify the project's top-five recyclable waste streams.
 - B. Identify the project's top-five recyclable waste streams and three hazardous waste
 - C. Install storage and collection infrastructure for all waste
 - D. Conduct a waste stream study for a 24-hour period and identify the project's top-five recyclable waste streams.

77. Which of these Indoor Environmental Quality
- A. Plug-in
 - B. ?
 - C. ?
 - D. ?
78. How do Low Impact Development (LID) and Green Infrastructure (GI) used on a site improve upon the conventional approach for site development?
- A. ?
 - B. mimics natural hydrology
 - C. ?
 - D. ?
79. Which of these is used to calculate in the water budget analysis for optimizing water use in landscape designs?
- A. Longest month
 - B. Hottest month
 - C. Peak Watering month
 - D. ?
80. A project located in an arid climate would like to incorporate in the design the project for open spaces. Which of these landscape strategies would you recommend?
- A. Plant maple trees
 - B. Use Xeriscape in the landscaped areas
 - C. Exotic flowers
 - D. Tropical flowers and plants
81. A LEED for Building Design and Construction project is submitting design credits at the conclusion of the project's design to receive feedback and determine if the project is on track to achieve LEED certification at the preferred level. What is this called?
- A. Standard Review
 - B. Split Review
 - C. Expedited Review
 - D. Final Review
82. Which of these is considered an eligible renewable energy source?
- A. Ground-source heat pump
 - B. Solid waste combustion
 - C. Tidal energy
 - D. Passive solar
83. A LEED for Building Design and Construction project has a 30,000 ft² building footprint. The project is located on 100,000 ft² of previously disturbed land. Additional area includes a 35,000 ft² asphalt parking lot and 35,000 ft² of open space using native or adapted vegetation. How large must a vegetated roof surface be for the project to earn an exemplary performance point for SS Credit Site Development – Protect or Restore Habitat?
- A. 15,000 ft²
 - B. 35,000 ft²
 - C. 25,000 ft²
 - D. 55,000 ft²

84. Some question about which of these does this strategy address?
- A. Environmental impact
 - B. Social impact
 - C. Economic impact
 - D. ?
85. A subcontractor used an adhesive on the interior of a building that exceeded the VOC limit for meeting the requirements for EQ Credit Low-Emitting Materials. What can the project team do?
- A. Not earn the credit
 - B. Do not include the product in the calculation
 - C. Use the budget calculation method
 - D. Replace the subcontractor