LEED AP BD+C V4- Practice Exam #1
Power Jam Study – Lori Brown

1. Which of these can contribute to MR Construction and Demolition Waste Management Planning?
   A. Excavated soil
   B. Hazardous material
   C. Fuel-derived wood
   D. Alternative daily cover (ADC)

2. The total construction waste a project sent to landfill is 64 tons. Determine the percentage of construction waste diverted from landfill. The construction waste included:
   140 tons concrete
   22 tons gypsum wallboard
   16 tons excavated soil
   2.3 tons brush and tree limbs
   3 tons cardboard
   12 tons wood

   A. 32.7%
   B. 36.1%
   C. 73.4%
   D. 75.3%

3. A project team has verified that the project is located in an area within the required distance and number of diverse uses for SS Surrounding Density and Diverse Uses. The team has an area map showing the project site, location and type of each use and the distance to each location. The project administrator realizes that they must also provide which of these documents?
   A. Hours of operation for each use
   B. Area map identifying the residential neighborhoods within the area
   C. Walking route map
   D. Owners names for each use

4. What information would help a project in determining a bicycle network for SS Credit Bicycle Facilities?
   A. Target road speed
   B. Number of building occupants
   C. Types of bicycles being used
   D. Location of crosswalks

5. A fully integrative process accounts for the interactions among all building and site systems; the Integrative Process credit serves as an introduction to the comprehensive process, rewarding project teams that apply an integrative approach to what systems?
   A. Heating and lighting
   B. Heating and domestic hot water
   C. Heating and cooling
   D. Energy and water

6. The prerequisite Integrative Process Planning and Design is mandatory for which of these types of projects?
   A. LEED BD+C: Hospitality
   B. LEED B+C: Schools
   C. LEED BD+C: Healthcare
   D. LEED BD+C: New Construction

7. Which of these would be important to the Owner's Project Requirement (OPR) document?
   A. System descriptions
   B. Manufacturer warranties
   C. Applicable codes and standards
   D. System efficiency and training

8. Which of these is most important to the success of a building's design and operation? [Choose two]
   A. Construction checklists
   B. Owner's Project Requirements (OPR)
   C. Basis of Design (BOD)
   D. Contractor submittals
   E. Lighting levels

9. A LEED BD+C: Schools project has installed photovoltaic panels (PV) on their project site and would like to achieve as many points as possible for EA Credit Optimize Energy Performance. Who would be the most beneficial to help the project to accomplish their goal? [Choose two]
   A. Energy modeler
   B. Mechanical engineer
   C. Commissioning authority
   D. Project administrator

10. A LEED BD+C: New Construction project has installed renewable energy photovoltaic (PV) panels on their site. Who must oversee the commissioning process?
    A. Photovoltaic (PV) panel installer
    B. Owner
    C. Facility manager
    D. Commissioning Authority (CxA)

11. What should be the outcome of the project's initial charrette?
    A. Targeted LEED credits
    B. Cost of systems being installed
    C. Average rainfall calculation for the project location
    D. Number of LEED APs on the project

12. What document provides the design team with the Ideas, concepts, and criteria determined by the owner to be important to the success of the project?
    A. Basis of Design (BOD)
    B. Commissioning Plan (Cx)
    C. Owner's Project Requirement (OPR)
    D. Minimum Program Requirements (MPRs)

13. After calculating the minimum number of parking spaces that a project may have in order to achieve LT Credit Reduced Parking Footprint the project team has discovered that the number is less than what is required by the local code. What should the team do?
    A. Ignore the code, meeting the LEED requirement is more important
    B. Forget trying to earn the credit
    C. Obtain parking off site and build fewer spaces on site
    D. Obtain a zoning variance from the proper municipality

14. Which of these spaces can a LEED BD+C: School project share with the local community to earn the credit SS Joint Use of Space?
    A. Administrator office
    B. Private office
    C. Playing Field
    D. Counseling office

15. To earn the credit SS Joint Use of Space a school can share which of these spaces?
    A. Administrator office
    B. Private office
    C. Gymnasium
    D. Counseling office

16. What qualifies as a LEED for Neighborhood Development location for earning the credit LT LEED for Neighborhood Development Location?
    A. Stage 1 Conditional Approval of LEED ND Plan
    B. LEED for Neighborhood Development Conditional Approval
    C. LEED for Neighborhood Development Certified Plan
    D. Stage 1 LEED for Neighborhood Development Pre-reviewed Plan

17. For LT Credit Sensitive Land Protection what individual would be beneficial to determining the existing site conditions?
    A. Arborist to determine the local wildlife and habitat
    B. Biologist to investigate ecologically endangered areas
    C. Geologist to identify the source of contamination present in a brownfield
    D. Hydrologist to conduct a soil survey of potential prime farmland area

18. For SS Credit High Priority Site, Option 3. Brownfield remediation, what must be the condition of a site to qualify as a brownfield?
    A. Exceeding high soil vapors
    B. Economically disadvantaged
    C. Fuel oil drums stored on the site
    D. Contaminated soil or groundwater

19. Which of these would qualify a project to earn SS Credit High Priority Site, Option 1. Historic District?
    A. Locate the project on a Federal Empowerment Zone site
    B. Locate on a site where the previously developed area within a ½ of the project boundary divided by the total land area is greater than or equal to 75%
    C. Locate on a site where the previously developed area within a ½ of the project boundary divided by the total land area is less than 75%
    D. Locate the project on a brownfield

20. What can EA Credit Advanced Energy Metering help a project with achieving?
    A. EA Prerequisite Minimum Energy Performance
    B. EA Prerequisite Fundamental Commissioning and Verification
    C. EA Credit Green Power and Carbon Offsets
    D. EA Prerequisite Fundamental Refrigerant Management

21. As part of the requirements for EQ Credit Thermal Comfort a commercial office building project has installed radiant heaters that plug in all individual spaces that were considered colder than acceptable. What other credit is effected by this design strategy?
    A. EA Credit Enhanced Commissioning
    B. EQ Credit Quality Views
    C. EQ Credit Enhanced Indoor Air Quality Strategies
    D. EA Credit Optimize Energy Performance

22. Where is the best location for using demountable partitions?
    A. Cafeterias, corridors, Intensive care units, private offices
    B. ER treatment rooms, cafeterias, patient rooms, administration desks
    C. Cafeterias, corridors, private offices, administration areas
    D. Patient screening, ER treatment areas, cafeterias, patient rooms

23. Which of these is a strategy for improving building envelope performance?
    A. Increase U-factor of the roof
    B. Large floor plate depth
    C. Remove exterior shading devices
    D. Decrease the U-factor of the window

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 floor to ceiling windows on all four sides of the building. 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. Reducing the need for electric lights saves money
    D. Building maintenance cost will be lower

25. When performing an energy model for a building what must be the same for the baseline and proposed design? [Choose two]
    A. Schedule of building's operation
    B. Receptacle and process loads
    C. Lighting controls
    D. Window U-values
    E. HVAC system size

26. What is the referenced standard for designing the building envelope for meeting the requirements for EA Prerequisite Minimum Energy Performance?
    A. ASHRAE 90.1-2010
    B. EPA ENERGY STAR
    C. ASHRAE 55-2010
    D. ASHRAE 62.1-2010

27. A project design team early in the design process is considering increasing the floor to ceiling window height in the building. What tool could help them in analyzing this decision early in the design approach?
    A. ENERGY STAR Target Finder
    B. ENERGY STAR Portfolio Manager
    C. Simple-box energy model
    D. IES/IDA Model Lighting Ordinance (MLO) User Guide

28. What systems must be metered for EA Credit Advanced Energy Metering?
    A. Space cooling and heating
    B. Lighting, HVAC, Hot water, chiller
    C. Plug loads, chiller, exterior lighting
    D. Exterior lighting and chiller

29. A LEED B+C: New Construction project has installed in all of the restrooms lavatory faucets with a flow rate of 0.5 gpm. In the employee lunch room a kitchen faucet with a flow rate of 2.5 gpm was installed. All restrooms have water closets with a value of 1.6 gpm. Which of these applies to the project?
    A. The design meets the prerequisite requirement as long as the gender ratio is 50-50
    B. To meet the prerequisite requirement the project will need to install flow control on the lav faucets
    C. Using captured rainwater will allow the project to achieve the minimum reduction
    D. The design does not meet the prerequisite requirement

30. What is the purpose of the WaterSense label for building fixtures and fittings?
    A. Guarantee that the Water Efficiency prerequisite will be achieved
    B. Help design team to select fixtures that meet the EPAct
    C. Ensure that fixtures are water efficient and high performing
    D. Helps the project team determine the total process water consumption for the building

31. In areas that have a high Evapotranspiration (ET_0) which of these would apply for the site's landscaped areas?
    A. No irrigation would be needed
    B. Irrigation requirement for all vegetated areas is reduced
    C. Rainfall is higher in the area and plants will need minimal irrigation
    D. Requires more irrigation

32. Which of these can be used as an alternative water source? [Choose three]
    A. Water near the project site from a large natural pond
    B. Captured graywater from lav faucets
    C. Water from a naturally occurring stream
    D. Foundation drain waste water
    E. Water discharged from an open-loop geothermal system
    F. Condensate from a condenser unit

33. For LEED BC+C: Schools what is the additional requirement for WE Credit Indoor Water Use Reduction?
    A. No food waste disposer
    B. ENERGY STAR dishwasher
    C. Discharge waste temperature is regulated
    D. Film processor water recycling unit

34. Which of these is a strategy for stabilizing an area?
    A. Silt fence
    B. Earth dike
    C. Sediment trap
    D. Permanent seeding

35. What is the requirement for achieving exemplary performance for SS Credit Rainwater Management?
    A. Manage 100% of the total volume of runoff calculated for the 95th-percentile rainfall event
    B. Manage 95% of the total volume of runoff calculated for the 85th-percentile rainfall event
    C. Manage 100% of the total volume of runoff calculated for the 98th-percentile rainfall event
    D. Manage 100% of rainwater that falls within the project boundary

36. Which of these applies to a zero-lot-line project that has no landscaping?
    A. Project is not eligible for LEED certification
    B. Project satisfies the prerequisite automatically
    C. Project team must file a petition for exemption with the USGBC
    D. Project is exempt from the prerequisite requirement if the Floor Area Ratio (FAR) is 1.0

37. What can the SS Tenant Design and Construction Document help tenants with? [Choose two]
    A. Achieve significant reductions in energy and resource consumption
    B. Improve employee productivity
    C. Reduce maintenance cost
    D. Earn additional LEED Rating System certification

38. A LEED BD+C 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 additional credits to achieve the desired 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

39. MR Credit PBT Source Reduction—Lead, Cadmium, and Copper applies to what type of project?
    A. LEED BD+C: Hospitality
    B. LEED BD+C: Schools
    C. LEED BD+C: New Construction
    D. LEED BD+C: Healthcare

40. For MR Credit Medical Furniture and Furnishings which of these parts of a chair assembly can contribute to the credit?
    A. Wheels 4%
    B. Treated fabric 5% containing added microbial treatment
    C. Metal base 20% that does not contain heavy metals and is not plated with hexavalent chromium
    D. Plastic components 30% with added antimicrobial treatments

41. What is needed by the project team to help with the building lighting design?
    A. Architectural and mechanical plans
    B. Project location
    C. Climate
    D. Green power sources

42. Thermal Comfort excludes which of these spaces for LEED for Hospitality projects?
    A. Shared office spaces
    B. Guest rooms
    C. Meeting rooms
    D. Exercise rooms

43. A project is installing $10,000 worth of gypsum wallboard. 5% pulp residue left over from a paper plant located 24 miles away and 50% recycled office paper located 34 miles away. What is the total sustainable criteria value?
    A. $5,500
    B. $9,375
    C. $10,500
    D. $5250

44. What is required for projects using natural ventilation?
    A. CO_2 monitors
    B. Operable windows
    C. Passive solar heating
    D. Seasonal wind patterns

45. How are Regional Priority credits determined?
    A. Longitude and latitude
    B. Address
    C. Zip code
    D. City and state

46. Which of the following can qualify for an innovation credit in option 1?
    A. Hand out a flyer of public transportation stops in the area
    B. Earn a credit from the pilot credit library
    C. Install an energy efficient air conditioner
    D. Provide an on-going public educational program on sustainability

47. Where can a project team find the Regional Priority credits for their project?
    A. Reference Guide
    B. USGBC Local Chapter
    C. USGBC Web Site
    D. LEED OnLine

48. Which of these is not relevant to determining reverberation time?
    A. Width and length of the room
    B. Sound-absorption coefficients of treatments
    C. NRC of wall covering material
    D. HVAC background noise

49. For SS Credit Light Pollution Reduction which of these external lights are exempt from the requirements?
    A. Building-mounted lights that are > 2 mounting heights from any lighting boundary
    B. Illuminated bollards
    C. Lighting used for theatrical purposes
    D. Landscape lighting

50. What should the project design team do to minimize light trespass in a MLO LZ1 light zone?
    A. Before curfew, most lighting should be extinguished
    B. Reduce landscape lights
    C. Keep all pathways lit all night
    D. Do not install parking lot lights

51. What is the zone air distribution effectiveness (Ez) for a ceiling supply of warm air 15°F or more above space temperature and ceiling return?
    A. 1.0
    B. 0.5
    C. 0.8
    D. 0.7

52. For MR Credit Building Life-Cycle Impact Reduction, Option 4. Whole Building Life Cycle Assessment data sets must be compliant with what standard?
    A. ISO 29130
    B. TRACI
    C. FSC
    D. ISO 14044

53. For WE Prerequisite Indoor Water Use Reduction what are the requirements for projects that install a cooling tower or evaporative condenser?
    A. Perform an alkalinity test
    B. Equip with makeup water meters and conductivity controllers and overflow alarms
    C. No once-through cooling with potable water
    D. Eliminate drift

54. MR Credit Building Product Disclosure and Optimization – Environmental Product Declarations, Option 1 Environmental Product Declaration. Products with a publicly available, critically reviewed life-cycle assessment that have at least a cradle to gate scope are valued as what percentage of a product?
    A. 100%
    B. 25%
    C. 75%
    D. 50%

55. What material for MR Credit Building Product Disclosure and Optimization – Sourcing of Raw Materials to qualifies for the credit achievement?
    A. permanently installed materials only
    B. Only material sourced locally
    C. temporary construction material and permanently installed material
    D. materials listed on the Red List

56. For MR Credit Building Product Disclosure and Optimization – Sourcing of Raw Materials to contribute toward credit achievement, wood products that are not reused, salvaged, or recycled must be certified to what standard?
    A. ISO 14044
    B. FSC
    C. Green Guard
    D. BIFMA

57. Which of these can be used to document a products material ingredient optimization for MR Credit Building Product Disclosure and Optimization – Material Ingredients Option 2. Material Ingredient Optimization? [Choose two]
    A. GreenScreen v1.2 Benchmark
    B. Cradle to Cradle Certified
    C. Manufacturer Inventory
    D. ISO 14044

58. For WE Prerequisite Outdoor Water Use reduction
    A. Athletic fields must be included
    B. Food gardens may be included or excluded
    C. Permanent irrigation is not allowed
    D. Use sod in all landscaped areas for the baseline calculation

59. What program allows utilities to call on buildings to decrease their electricity use during peak times, reducing the strain on the grid and the need to operate more power plants?
    A. Green Power
    B. RECs
    C. Demand Response
    D. Green-e

60. A LEED for Hospital project is looking to achieve Optimize Energy Performance and earn the maximum number of points. Which option should they follow?
    A. Whole-Building Energy Simulation
    B. Simple Box Energy Model
    C. ASHRAE 50% Advanced Energy Design Guide for Large Hospitals
    D. Advanced Building Core Performance

61. Which of these is useful for EA Prerequisite Fundamental Commissioning?
    A. No Smoking Policy
    B. Building Maintenance Plan
    C. Integrative pest management plan
    D. Low VOC paints and adhesives

62. What is the minimum project experience requirement for the CXA?
    A. two projects with similar scope and ten years as a CXA
    B. one project with similar scope
    C. two projects with similar scope
    D. five LEED projects at least one is LEED Silver

63. What LEED BD+C credit could help with on-going commissioning?
    A. EA Credit Building-Level Energy Metering
    B. EA Credit Advanced Energy Metering
    C. EA Credit Demand Response
    D. EQ Credit Enhanced Indoor Air Quality Strategies

64. Design order – Plug loads, Lights, HVAC, Envelope, Hot Water
    A. ?
    B. ?
    C. ?
    D. ?

65. A LEED design team changed the lighting design from using CFL to incandescent lamps. The results impacted
    A. Lighting quality
    B. Heat load
    C. Cooling load
    D. Air quality

66. Which of these would help a LEED BD+C: Schools project to earn EA Prerequisite Minimum Energy Performance?
    A. EnergyStar Dishwasher
    B. Food waste disposal
    C. Cooling tower
    D. WaterSense Fixtures

67. What is required for MR Prerequisite Storage and Collection of Recyclables for LEED BD+C: Retail projects?
    A. A minimum of 24-hour waste steam audit for at least 5 material streams
    B. A minimum of 24 hour waste steam audit for at least 4 material streams
    C. A minimum of 24-hour waste stream audit for glass and metal
    D. A minimum of 24-hour waste stream audit for cardboard

68. A project is building a new mall and following the LEED BD+C: New Construction rating system. Which of these could be used to contribute to calculating EQ Credit Quality Views?
    A. Open space
    B. Interior atria
    C. Wetlands
    D. Green roof

69. What is the total amount of outdoor air volume required for EQ Credit Indoor Air Quality Assessment Option 1. Flush-Out, Path 1. Before Occupancy?
    A. 3,500 cubic feet per square foot of gross floor area
    B. 1000 cubic feet per square foot of gross floor area
    C. 0.3 cfm
    D. 14,000 cubic feet per square foot of gross floor area

70. A 1,000 sqft project with 10 ft ceilings would requires what total volume of air to be flushed out?
    A. 35,000,000 cf
    B. 350,000,000 cf
    C. 14,000,000 cf
    D. 100,000 cf

71. Who is responsible for documenting the Basis of Design?
    A. Design team
    B. CXA
    C. Owner
    D. LEED AP

72. What credit is effected by projects earning EQ Credit Thermal Comfort?
    A. EA Prerequisite Minimum Energy Performance
    B. EQ Credit Quality Views
    C. EA Credit Enhanced Commissioning
    D. EQ Credit Low-Emitting Materials

73. What can the project team tell the school board to add to the design to increase daylight and save electricity cost?
    A. Windows
    B. Skylights
    C. Courtyards
    D. Window shades

74. Minor construction can occur to enhance appreciation of them in which buffer areas?
    A. Floodplains
    B. Wetlands and Water Bodies
    C. Lakes
    D. Streams

75. A new non-bearing partition wall measures 20 feet by 8 feet and has a 21 sf reused door. What percentage of the wall contributes to MR Credit Building Life-Cycle Impact Reduction, Option 3. Building and Material Reuse?
    A. 0.0%
    B. 13.1%
    C. 25%
    D. 100%

76. What is the minimum required gross floor area for a LEED BD+C project?
    A. 250 square feet
    B. 1000 square feet
    C. 100 square feet
    D. 10,000 square feet

77. Advanced energy metering must use meters that are capable of storing the data for how long?
    A. 12 months
    B. Five years
    C. Ten years
    D. 36 months

78. What other credit besides LT Credit Surrounding Density and Diverse Uses affects the base ratios for earning LT Credit Reduced Parking Footprint?
    A. LT Credit Bicycle Facilities
    B. SS Credit Heat Island Effect
    C. LT Credit Access to Quality Transit
    D. SS Credit Open Space

79. When the property line is adjacent to a public area that is a walkway, bikeway, plaza, or parking lot, the lighting boundary may be moved within how many feet for SS Credit Light Pollution Reduction?
    A. 10 feet from the center line
    B. 3 feet from the building perimeter
    C. 5 feet from the sidewalk
    D. 5 feet beyond the property line

80. Which of these qualify as a renewable energy source? [Choose three]
    A. Ground source heat pump
    B. Solar thermal panels
    C. PV array
    D. Wind turbine

81. Project following MR Credit Construction and Demolition Waste Management Option 2. Reduction of Total Waste Material can generate no more than how many pounds of construction waster per square foot of the building's floor area?
    A. 2.5 pounds
    B. 5.0 pounds
    C. 10.0 pounds
    D. 25.0 pounds

82. A LEED BD+C: New Construction project has 100 regularly occupied spaces. The building is 3 floors and has two bathrooms on each floor. There is one conference room on the third floor. How many individual controls are required for EQ Credit Interior Lighting?
    A. 100
    B. 101
    C. 300
    D. 91

83. Which rating system do the credits SS Credit Places of Respite, MR Credit PBT Source Reduction- Lead, Cadmium, and Copper, and SS Prerequisite Environmental Site Assessment fall under?
    A. LEED BD+C: New Construction
    B. LEED BD+C: Schools
    C. LEED BD+C: Healthcare
    D. LEED ID+C: New Construction

84. Which of these is required to qualify as a bicycle network?
    A. fast Food
    B. slow-speed roads
    C. bicycle repair station
    D. off-street trail

85. A project is documenting LT Credit Surrounding Density and Diverse Uses, Option 2. Diverse Uses. The team has provided a list of diverse uses, walking distances, and an area map showing the project site and use locations. What else must the team provide?
    A. Residential density
    B. Nonresidential density
    C. Scaled map indicating a walkable path leading to each use
    D. List of all buildings within ½ mile of the project site

86. A LEED for New Construction project is situation on a zero-lot line site. What should they do to meet the Water Efficiency Prerequisite Outdoor Water Use Reduction?
    A. Request a LEED variance
    B. Place planter boxes near the main entrance
    C. Install a vegetated roof
    D. Nothing, the project automatically achieves the prerequisite

87. A LEED BD+C: Schools project has installed photovoltaic panels on the roof. Who should be present to witness testing?
    A. LEED AP
    B. Owner
    C. Commissioning Agent
    D. Project administrator

88. A LEED BD+C: Healthcare project wants to achieve the most points possible for EA Credit Optimize Energy Performance. Which option would you recommend they use?
    A. Whole-Building Energy Simulation
    B. ASHRAE 50% Advanced Energy Design Guide for Large Hospitals
    C. Advanced Buildings Core Performance Guide
    D. CA Title 24

89. Which of these would qualify for SS Credit Joint Use of Facilities, Option 1. Make Building Space Open to the General Public?
    A. Health clinic
    B. Library
    C. Private office
    D. Gymnasium

90. Which of the following does the building manager need?
    A. Building preventative maintenance plan
    B. Construction activity pollution prevention plan
    C. Indoor air quality during construction management plan
    D. Owner's Project Requirements (OPR)

91. A project team wants to educate the facility manager on the installed building systems to improve indoor air quality. They want the facility manager to maintain the systems so that they will continue to function as intended. Which of the following should be provided to the facility manager?
    A. Vendor invoices for mechanical equipment
    B. Preventive maintenance plan for the building
    C. As-built drawings and copies of material submittals
    D. A copy of the credit documentation for the credits that were approved through LEED Certification

92. The design team and project owner decided not to pursue EA Credit, Enhanced Commissioning, but would hire a Commissioning Authority (CxA) to oversee the requirements for EA Prerequisite, Fundamental Commissioning and Verification. What is a required responsibility for the CxA to achieve the stated objective?
    A. Verify that training requirements are completed
    B. Develop system manual for commissioned systems
    C. Review contractor submittals for the commissioned system
    D. Verify installation and performance of commissioned systems