LEED Building Design & Construction Model Exam——A

Part 2(51-100)

Question 51

What item cannot be included in the calculation for Materials and Resources Credit, Building Reuse-Maintain Interior Nonstructural Elements?

A
Interior doors
B
Finished ceiling
C
Both sides, nonstructural, interior walls
D
Interior doors reused as tables

Notes:

For MR Credit 1.2 items that are reused in a way other than their original function do not count toward this credit. They may count toward MR Credit 3 instead.

Question 52

A school project team doing a renovation of a historic school is using the performance rating method for whole building energy simulation. The school will use photovoltaic panels, day lighting, under floor air distribution system and other energy saving technologies. The school will use an estimated 2,895 (103 Btu) annually vs. a baseline case of 4,763 (103 Btu). The team has fallen short of its goal to earn an exemplary performance for Energy and Atmosphere Credit, Optimize Energy Performance. What is the minimum amount of energy savings the team must find in addition to the current model to earn the point?

A
2,191 (103 Btu)
B
323 (103 Btu)
C
514 (103 Btu)
D
2,381 (103 Btu)

Notes:

To earn exemplary performance point for EA Credit 1 the project must reduce energy use by 46%.

This is because the project is stated to be a renovation.

A 46% reduction in energy use from the baseline case of 4,763 would be:
4,763 X .54 = 2,572 (103 Btu)

The team currently expects to use 2,895 (103 Btu) In order to meet the 46% requirement for exemplary performance the team must reduce energy use an additional 323 (103 Btu).
2,895(103 Btu) - 2,572(103 Btu) = 323 (103 Btu)

Question 53
A project team is discussing the daylight, views, thermal comfort, and acoustic issues to be addressed in a new school. For the project which of the following spaces is not regularly occupied?

A
Custodial office used 1 hour per day
B
Physics lab uses 1 hour per day
C
Student's locker area used 30 minutes per day
D
Kitchen used 5 hours per day

Notes:

Reference: IEQ Overview

What you need to remember is that for schools if the space is used less than an hour per day, it is usually not considered regularly occupied.

Question 54
A new construction project is modeling two rooms for Indoor Environmental Quality Credit, Daylight and Views-Daylight. The rooms have the following readings:

Room A	SF within Grid	Footcandle
A1	100	62
A2	60	48
A3	40	22
A4	100	26
Room B		
B1	200	38
B2	100	21
B3	40	42
B4	60	53

What is the percentage of compliant area?

A
80%
B
86%
C
94%
D
0%

Notes:

IEQ Credit, Daylight and Views - Daylight, Calculations

Add all qualifying spaces (greater than 25 footcandles) and divide by the total area:

Room A: 100 + 60 + 100 = 260 SF
Room B: 200 + 40 + 60 = 300 SF

Total SF = 700

(300 + 260) / 700 = 80%

Question 55
For a new building that will be mechanically ventilated, which standard is applicable to establishing minimum IAQ performance?

A
ASHRAE 55-2004
B
ASHRAE 62.1-2007
C
CIBSE AM10
D
ASHRAE 62.1-2004
E
ASHRAE 90.1-2007

Notes:

Minimum Indoor Air Quality Performance must meet the minimum requirements of Sections 4 through 7 of ASHRAE 62.1-2007, Ventilation for Acceptable Indoor Air Quality.

Naturally ventilated buildings must comply with ASHRAE 62.1-2007, paragraph 5.1.

Question 56
A schools project in a suburban location is building on a previously developed site. The project site area is 174,240 SF. The building footprint is 65,000 SF and there are 20,000 SF of access roads and parking area. There is 30,000 SF of protected habitat on the site. How much more does the project have to restore to earn a Sustainable Sites Credit, Site Development-Protect or Restore Habitat?

A
14,620 SF
B
54,620 SF
C
24,620 SF
D
17,848 SF

Notes:

See SS Credit 5.1 Sustainable Sites Credit, Site Development-Protect or Restore Habitat
The project must use Case 2 because the site was previously developed. So 50% of the site, excluding building footprint, or 20% of the total site area, including the building footprint must be restored, whichever is greater.

(174,240 - 65,000) * 0.5 = 54,620
174,240 * 0.2 = 34,848

54,620 is the greater number, so we must restore that amount of the site. The access roads and parking area are not included in the building footprint and are not included in the calculation. The site already has 30,000SF of protected habitat. So the project must restore 24,640SF more than the area already restored.

Question 57
A project team for a retail project wants to increase the daylighting of the store to offset energy costs and provide more natural light to display products. What strategies are not as important to the design of this project?

A
Vision glazing
B
Interior color schemes
C

Integration with the electric lighting system

D

Direct beam penetration

Notes:

Reference: Indoor Environmental Quality Credit, Daylight and Views-Daylight, Implementation

The vision glazing would not be as important because the focus is on the customers seeing the products using daylight not the customers looking outside to see a good view.

Question 58

A project team is attempting Indoor Environmental Quality Credit, Construction Indoor Air Quality Management both During Construction and Before Occupancy. The contractor will be using air quality testing to determine if contaminant levels have not been exceeded. What should occur after the final cleaning and before the baseline IAQ testing has begun?

A

Installing furnishings

B

Replacing all filtration media with MERV 13 filters

C

Air testing and balancing of the HVAC system

D

Completing punch list items

Notes:

Reference: Indoor Environmental Quality Credit, Construction Indoor Air Quality Management Plan-Before Occupancy, Implementation, Air Quality Testing

Tune the HVAC system before any air testing begins. This way the air being measured is the same air occupants will be breathing.

Install interior fixtures and furnishings. It is not required to install movable furnishings like workstations but it is recommended. These furnishings will likely have some off gassing.

Replace filtrating media. MERV 8 filters can be used for this process - MERV 13 filters are not required. Consider using MERV 13 filters if the project will also be attempting Indoor Environmental Quality Credit 5, Indoor Chemical and Pollutant Source Control.
Punch list items should be completed before the final cleaning so as to not add additional dirt, contaminants, etc. to the indoors.

Question 59

Which factor is used in the calculation of Materials and Resources Credit, Rapidly Renewable Materials?

A
Weight
B
Area
C
Volume
D
Cost

Notes:

Reference: Materials and Resources Credit, Rapidly Renewable Materials, Requirements

The percent of Rapidly Renewable Materials used on a project are determined by the cost of the rapidly renewable materials purchased compared to the total materials cost.

Question 60
What certification program tests and certifies hard surface flooring and associated products for compliance with criteria adopted in California for indoor air emissions of VOCs with potential health effects?

A
Green Label Plus
B
Green Label
C
FloorScore
D
SCAQMD Rule 1113

Notes:

Reference: Indoor Environmental Quality Credit, Low-Emitting Materials-Flooring Systems, Footnotes

Question 61
A new construction office project will install high-efficiency toilets, that are pressure assisted and use 1 gallon per flush, waterless urinals, and aerated faucets that use 0.25 gallons per minute. The office project will have 400 full time occupants with 100 part time occupants working 245 days per year. The project will have a rainwater collection system that can provide 4,000 gallons monthly for sewage conveyance. What is the design case total sewage generation?

A
193,172 gallons
B
216,500 gallons
C
172,500 gallons
D
220,500 gallons

Notes:

First, find FTEs.
400 + (100 part time workers/2) = 450 FTEs
If part time is stated in hours such as 3 hour per day, then divide the number of hours by 8 to determine FTE numbers. But if not stated, assume 4 hours per day or .5 FTE.

No data is given on gender, so assume 50% male and 50% female.

225 Women = 3 uses of WC per day * 1 gallon per flush = 675 gallons
225 men = 1 use per day * 1 gallon per flush + (2 uses per day * 0 gallons for waterless urinals) = 225 gallons

This question refers to sewage convenience, so there is no need to add in faucet calculations.

(675+225) * 245 work days per year = 220,500 gallons per year
Then subtract the water provided by the rainwater collection system.
4,000 gallons per month or 48,000 gallons per year

220,500-48,000 = 172,500 gallons is the design case amount.

Question 62
A lighting designer is assessing if minimum daylight measurements have been achieved. How must the measurements be done?

A
Measure all areas with direct line of site to perimeter glazing
B
Measure all occupied spaces on a 10-foot grid and record the measurements on building floor plans
C
Measure all areas located 20 feet inside and 10 feet to either side of each window
D
Use a computer simulation under clear sky conditions on September 21 at 9 a.m. and 2 p.m.

Notes:

Reference: Indoor Environmental Quality Credit, Daylight and Views-Daylight, Requirements, Option 3

When choosing the measurement option, measure all occupied spaces on a 10-foot grid.

Computer simulations must be done on September 21st at 9 a.m. and 3 p.m. (not 2 p.m.)

Measuring 20 feet inside and 10 feet to either side is for thermal comfort design, not daylighting.

Question 63
A new suburban retail project will be implemented using a bio-fuel based electrical system. Which bio-fuels are excluded from eligibility for Energy and Atmosphere Credit, On-Site Renewable Energy?

A
Pressure treated lumber
B
Corn
C
Manure
D
Landfill gas
E
Forestry biomass waste, other than mill residue

Notes:

See EA Credit, On-Site Renewable Energy
Pressure treated lumber is ineligible because it is a type of preserved wood, usually containing CCA.
Forestry biomass waste, other than mill residue is also ineligible.
Manure is eligible because it is a type of animal waste.
Corn is eligible because it is a type of agricultural crop.
Landfill gas is specifically noted as eligible in the reference guide.

Question 64
A project site is chosen in a rural area. In the charrette the project team is discussing the option of including a packaged biological wastewater treatment system to treat 100% wastewater on-site to tertiary standards. What is true about the decision to include one of these systems?

A

Public infrastructure costs would be reduced

B

The recycled water could not be used for fountains in the landscape

C

The project may earn 3 points for this decision

D

Building energy costs would be decreased

Notes:

Reference: Water Efficiency Credit, Innovative Wastewater Technologies

The project would earn 2 points for Water Efficiency Credit, Innovative Wastewater Technologies and 1 point under ID for treating 100% of wastewater on-site to tertiary standards.

One issue with packaged biological wastewater system to treat wastewater onsite is they have high initial costs.

Building energy costs would increase because these types of systems require energy to run.

Public infrastructure would be reduced to the rural area because the sewage drains would not need to be run to the site. However it is possible the city may require the sewage lines to be installed anyway.

The water could be used in the landscape. Tertiary treatment, or advanced treatment, removes specific residual substances, trace organic materials, nutrients, and other constituents that are not removed by biological processes. Tertiary-treated recycled water is safe for all human contact, except drinking.

Question 65

A general contractor is working on documenting the quantity of materials reuse for a project. If a salvaged material came from on-site, how will the contractor determine the replacement value of the material?

A

Using a comparable material in the local market, including labor and shipping

B

An estimate based on the contractor's knowledge of material prices

C

Using a comparable material in the local market, excluding labor and shipping

D

Using a comparable material in the local market and multiplying it by 45%

Notes:

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：https://d.book118.com/667046062021006042