



Final exam for NetZero Design

- 1) **Which one of the following is not included in the Greenhouse Gas (GHG) reporting under Kyoto Protocol?**
 - a. Carbon dioxide (CO₂)
 - b. Methane (CH₄)
 - c. Carbon monoxide (CO)
 - d. Nitrous oxide (N₂O)

- 2) **The term Net Zero means:**
 - a. Free (Zero cost) energy
 - b. Achieving a balance when the amount of carbon we add to the atmosphere is no more than the amount removed
 - c. Buildings that rely only on natural ventilation and lighting.
 - d. Allowing new construction of buildings only if an older one is demolished – Zero new additions.

- 3) **How many distinct Life-cycle stages are there for buildings according to EN:**
 - a. 5
 - b. 4
 - c. 2
 - d. 3

- 4) **_____stage of building life-cycle Includes processes from the practical completion of construction works to the point of deconstruction or demolition of building. Includes emissions from use, maintenance, repair, replacement, refurbishment, operational energy and water use.**
 - a. Product
 - b. Construction
 - c. Use
 - d. End-of-Life

- 5) **According to GHG Protocol, there are three distinct Greenhouse Gas accounting scopes namely: Scope 1, Scope 2, and Scope 3. ____accounts direct Greenhouse Gas emissions or removals**
 - a. Scope 1
 - b. Scope 2
 - c. Scope 3
 - d. None of the above

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- 6) A building that uses no fossil fuel, Greenhouse Gas emitting energy to operate is referred to as _____.
- Zero Net Carbon Building
 - Carbon Neutral Building
 - Carbon Negative Building
 - Zero Carbon Building
- 7) A highly energy efficient building that produces on-site, or procures, enough carbon-free renewable energy to meet building operations energy consumption annually is referred to as _____.
- Zero Net Carbon Building
 - Carbon Neutral Building
 - Carbon Negative Building
 - Zero Carbon Building
- 8) Per the Architecture 2030 concept, what is the required % reduction over baseline building type by the year 2025?
- 50%
 - 70%
 - 90%
 - 100%
- 9) Carbon Positive Buildings are those that
- achieve less than zero emissions
 - achieve more than zero emissions
 - achieve zero emissions
 - None of the above
- 10) EPA's Green Chemistry program
- supports the research and development of safer chemicals and safer chemical processes through education and incentives.
 - works to incorporate risk related concepts into chemical processes and products designed by academia and industry.
 - provides cost-efficient and environmentally friendly solutions for large-scale landscaping that are designed to help preserve natural resources and prevent waste and pollution.
 - helps schools with tools and resources to establish and maintain good indoor air quality.

- 11) The state of the atmosphere at a particular location over the short term course is:**
- Atmospheric tension.
 - Climate change
 - Climate
 - Weather
- 12) According to the International Energy Agency (IEA), in 2018 the buildings and construction sector accounted for ____ of energy and process-related carbon dioxide (CO2) emissions.**
- 32%
 - 39%
 - 57%
 - 64%
- 13) The difference between Cradle-to-Grave and Cradle-to-Cradle is that the latter includes:**
- Recycling of products
 - Sensitive disposal of materials
 - There is no difference. The terms are synonymous
 - Locally procured materials at all stages of construction
- 14) Which of the following are impacts of increased precipitation?**
- Decreased durability of materials
 - Increased efflorescence and surface leaching concerns
 - Increased corrosion
 - All of the above
- 15) According to the EPA, which of the following is not a component of a "Green Building"?**
- Buildings only designed by LEED certified designers
 - Water Efficiency
 - Environmentally Preferable Building Materials and Specifications
 - Waste Reduction
- 16) According to milestones for NZE published by the World Economic Forum and IEA, what is the target year for 50% of existing buildings to be retrofitted to zero-carbon-ready levels?**
- 2025
 - 2030
 - 2040
 - 2045

17) Vernacular Architecture has which of the following characteristics?

- a. Stresses on utilizing materials within reach from the site
- b. Applies only to developing countries
- c. Not designed by architects
- d. None of the above

18) consequence of the lockdowns during the COVID 19 pandemic was ...

- a. A worsening of climate change
- b. New building techniques were developed
- c. A noticeable improvement in air quality
- d. All of the above

19) The Australian Islamic Center y Glenn Murcutt is an example of what kind of design?

- a. Biophilic
- b. Post Modern
- c. Deconstructivist
- d. Futuristic

20) According to the IEA, which of the following will be essential for achieving Net Zero by 2050?

- a. An increase tree planting
- b. Ending all new building construction
- c. Huge declines in the use of coal, oil and gas
- d. Replacing LEED with BREEAM

21) Which of the following are common sources of Federal Greenhouse Gas emissions?

- a. CO₂
- b. CH₄
- c. N₂O
- d. All of the above

22) GreenStar was developed by which organization?

- a. Passive House Institute US
- b. Green Building Initiative
- c. Green Building Council Australia
- d. MIT environmental lab

23) What is a choice of conscience?

- a. Something undesirable that is mandated by law
- b. A voluntary choice to “do the right thing”
- c. A choice that causes tax savings
- d. Something done out of getting caught

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- 24) How are fugitive emissions and refrigerant use in buildings reported?**
- In alternate years
 - Cumulatively
 - Separately
 - Together in aggregate
- 25) Green Globes was developed by ...**
- International Living Future Institute (ILFI) U.S.
 - Green Building Initiative (GBI)
 - Green Building Council Australia (GBCA)
 - U.S. Green Building Council
- 26) LEED was developed by ...**
- American Institute of Architects
 - US Environmental Protection Agency (EPA)
 - Building Research Establishment
 - U.S. Green Building Council (USGBC)
- 27) A building that is a net exporter of zero carbon energy is referred to as a ...**
- A carbon neutral building
 - Net Zero building
 - Green Star building
 - Carbon negative building
- 28) According to the National Renewable Energy Laboratory (NREL) how many definitions are there of Net zero?**
- 4
 - 2
 - 3
 - 1
- 29) Green-e-Climate is...**
- Part of the LEED certification process
 - An EPA program to certify green products
 - A primary independent third-party product certification program
 - A joint EU and US initiative to coordinate climate change response
- 30) According to the author, which of the following is an overlooked component of a “Healthy building”?**
- Its medical use
 - Aesthetics
 - Function
 - No components were overlooked