

# System Design for Sustainability

## Week 3: Practice Questions

TA: Arti Agarwal

August 12, 2023

1. Which of the following are part of the Product Lifecycle stages, in Product Lifecycle Design?
  - (a) Use and maintenance.
  - (b) Raw material extraction.
  - (c) Material processing.
  - (d) Product launch and marketing.
  - (e) Product manufacturing and assembly.
  - (f) Product growth and maturity.
  - (g) End of life.
2. Which of the following statements is correct? Check all correct answers.
  - (a) Product "Reuse" refers to the reuse of the product in some other form after end of life.
  - (b) Product "Recycle" refers to using the product at end of cycle in assembly or production of another product.
  - (c) Product "Discard" refers to anything that happens to the product at the end of its life.
  - (d) Product "Remanufacture" refers to the product at the end of its life being used for material extraction.
3. In a Lifecycle Assessment (LCA), which of the following inputs and outputs are considered?
  - (a) Energy
  - (b) Transport
  - (c) By-products

- (d) Materials
  - (e) Emissions
  - (f) All of the above
4. Which of the following statements are correct for Lifecycle Design?
- (a) Lifecycle approach involves designing lifecycle stages.
  - (b) Lifecycle approach is considered a holistic approach.
  - (c) Functional approach looks at product design from functional and environmental point of view.
  - (d) Functional approach is always better than the lifecycle approach.
  - (e) None of the above.
5. How do you compare the sustainability of several products, all of which serve the same function?
- (a) We see which is more long-lasting
  - (b) We check the input materials and energy of the products and compare.
  - (c) We compare the eco costs of different products.
  - (d) All of the above.
  - (e) None of the above.