Unit 14 - Week 12: Design for Sustainability – Engineering Design Criteria and Guidelines

Question Paper Week 12

The due date for submitting this assignment has passed. Due on 2019-10-23, 23:59 IST. As per our records you have not submitted this assignment.
1) In the image below, 1. _______________ is:

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1. Minimise materials consumption during the product development phase.
2. Minimise scrap and discards.
3. Engage systems of flexible materials consumption.
4. Engage more consumption efficient systems.
5. Minimise or avoid packaging.
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- Improve Lifespan of Materials
- Minimise Materials Consumption
- Renewable and Bio-compatible Resources
- Optimization of Product Lifespan

No, the answer is incorrect.
Score: 0
Accepted Answers:
Minimise Materials Consumption

2) If I am designing a plastic cupboard, in order to minimise material consumption, my strategies can be

- design the cupboard to be modular and stackable in a manner that less packaging material is required.
- design a the cupboard with non-toxic materials.
- reduce wall thickness of the body of the cupboard and provide ribs and gussets to strengthen the walls.
- design the cupboard using metal.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Design the cupboard to be modular and stackable in a manner that less packaging material is required. reduce wall thickness of the body of the cupboard and provide ribs and gussets to strengthen the walls.

3) To reduce the material consumption in making disposable water bottles, one can adopt the following strategies

- reduce the wall thickness of the bottle
- design structural corrugation for the bottle so that wall thickness can be reduced
- design for ease of disassembly of the parts
4) In order to reduce consumption of energy, we can

- manufacture ACs by setting them to start at 24 degrees Celsius by default than 18 degrees Celsius
- design local 3D printing of products as per demand rather than transporting finished products over large distances
- sell concentrated soap solutions to be diluted before use

No, the answer is incorrect.
Score: 0
Accepted Answers:
- manufacture ACs by setting them to start at 24 degrees Celsius by default than 18 degrees Celsius
- design local 3D printing of products as per demand rather than transporting finished products over large distances
- sell concentrated soap solutions to be diluted before use

5) In case of Piramal Sarvajal Water ATMs, environmental performance optimization is achieved because

- clean water is available to all at low cost
- product sharing optimises utilisation of material resources spent in making the water ATM
- it meets the criteria of Clean Development Mechanism
- resources required to set-up tap water infrastructure to each home, for running individual purifiers not required

No, the answer is incorrect.
Score: 0
Accepted Answers:
- product sharing optimises utilisation of material resources spent in making the water ATM
- resources required to set-up tap water infrastructure to each home, for running individual purifiers not required

6) ____________ posses a huge challenge in recycling because end-of-life collection and transportation is difficult.

- Stainless Steel
- PET bottles
- Bamboo mats
- Thermocol

No, the answer is incorrect.
Score: 0
Accepted Answers:
- Thermocol
7) The following image

![Image of recycling symbols with numbers and materials]

- helps to know if the material used is disposable, bio-degradable or renewable
- provides the user with information regarding product quality
- provides the user with information about the disposing modalities of the product or its parts
- codify different materials to facilitate their identification

No, the answer is incorrect.
Score: 0
Accepted Answers:
provides the user with information about the disposing modalities of the product or its parts
codify different materials to facilitate their identification

8) If a manufacturer needs to use the codes mentioned in question 6, it should

- use a sticker pasted on the product surface
- mould the product part with the code
- mention the code in instruction manual
- place the code in a hidden part of the product

No, the answer is incorrect.
Score: 0
Accepted Answers:
mould the product part with the code

9) Go through the video: https://youtu.be/vG9Upx1ji3Q (https://youtu.be/vG9Upx1ji3Q). What is the major challenge in tetrapack recycling in India?

- availability of tetrapack
- government regulations
- technology to recycle
- collection

No, the answer is incorrect.
Score: 0
Accepted Answers:
collection