

ESGN 463 / 563: Quiz # (Design for Environment)

Name: _____.

Quiz Date April 7, 2011

You have 20 minutes. Open book and notes. Keep answers in the space provided. Guessing is always good if you are not sure of the answer!

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Question #1 (2pt): Particulate separation plays an important role in recycling.

A) Before separation can occur the various components must be _____.

B) Separation can then occur by exploiting differences based on, among other criteria, specific gravity, _____, and _____.

Question #2 (2pt): Explain “design for disassembly”.

Question #3 (2pt): In the Huron Valley video showing automobile recycling, an important unit operation for separating various non-ferrous metals from each other as well as from non-conducting particles, is the eddy current separator. Explain the role of conductivity and the role of specific gravity in the eddy current separator machine.

Question #4 (2pt): Plastics are difficult to recycle. Give a real-life example of how design for disassembly is used to encourage re-use of plastics.

Question #5 (2pt): The 1995 Fortune article you read, “Manufacturing for Reuse...”, predicted a future of profitable and green automobile end-of-life events. Based on your personal observations, how has that prediction worked out, both good and bad?

Bonus (2pt): Recycling glass “profitably” is nearly impossible. Why?