



Department of Mathematics and Philosophy of Engineering
Postgraduate Diplomas/MSc in Environmental Sciences
Level 6

NEP2203/1204 - Industrial and urban environmental hazards
Final Examination - 2013/2014 (Open Book Examination)

Date: 04.04.2014

Time: 09.30 a.m.- 12.30 p.m.

Instructions

- Answer any Four (4) questions in your own words.
 - Marks will be deducted, if a direct copy from the texts or the references.
 - This paper contains 2 pages
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1. (a) "Waste disposal is done in several ways such as incineration, land-fill, energy-generation".
Discuss the advantages and disadvantages in each of these methods.
- (b) "A more environmentally beneficial way to tackle waste is to integrate production, consumption and disposal".
Describe how this can be done by giving an example.
2. "The recent incidents of chronic kidney disease in some parts of the country have highlighted the dangers of uncontrolled use of agro-chemicals in farming".
 - (a) Describe how this was detected and what causes are attributed to it, including the living style of the farming communities.

- (b) Explain what remedial actions could be taken without disrupting the livelihoods of the affected farmers.
3. “The tea industry uses chemical fertilizer and firewood for growing and processing of tea, respectively”.
- (a) Explain how these two aspects could be integrated by growing leguminous trees for enriching soil fertility and to produce firewood for drying tea.
- (b) What are the incentives that should be offered to make this solution acceptable to the industry?
4. “Rubber processing produces effluent that could be biologically treated”.
Explain how this effluent could be used to generate energy for processing.
5. Assume that you are newly appointed as an environmental officer in the Urban Development Authority and the first assignment you received is to introduce a set of guidelines to reduce the visual pollution in urbanized areas of Colombo district. Considering your responsibilities on this task, describe in brief guidelines you could introduce to reduce visual pollution.
6. The Irrigation Department has designed a large scale irrigation project using household wastewater. Assuming that you are one of the team members in that project group, critically analyse the negative and positive environmental and social impacts of the proposed project.
Considering household wastewater not as a good source of wastewater for irrigation, describe possible alternatives.