



THE OPEN UNIVERSITY OF SRI LANKA
 POSTGRADUATE DIPLOMA/MASTER IN ENVIRONMENTAL SCIENCES
 LEVEL 6
 NEP 2203/1204 – INDUSTRIAL AND URBAN ENVIRONMENTAL HAZARDS
 FINAL EXAMINATION – 2011/2012 (OPEN BOOK EXAMINATION)
 DURATION: THREE HOURS

Date: 25 March 2012

Time: 9.30 a.m. – 12.30 p.m. (3hrs)

ANSWER ANY FOUR (04) QUESTIONS ONLY

PLEASE ENSURE THAT ANSWERS FOR EACH QUESTION SHOULD BE GIVEN IN SEPARATE BOOKS

1. a). List three industrial processes where workers have to undergo thermal stress.
 b). Explain in detail the health problems that the workers suffer in such processes.
 c). Suggest the precautions that should be taken to prevent such health problems.

2. a). "There is a common misconception that compost can replace chemical fertilizer directly and the results will be immediate". Explain how compost feeds the soil microorganisms to interact with soil minerals to make soil fertile.
 b). What are the benefits of other sustainable methods such as liquid organic fertilizers such as worm-wash etc. described below:?

Organic liquid fertilizer by Dr. Lionel Weerakoon

"Locally available materials are used in the production of liquid fertilizers and microbial cultures. At present many farmers in Sri Lanka are practising these techniques and have shown promise. For this purpose leaves and tender shoots of plants such as Gliricidia, Lantana (baloliya), Erythrina (Erabadu) Moringa, Tithonia or Kepptiya are used. Many of them have insecticidal or fungicidal properties, other than providing nutrients to the growing crop. Mixing leafy material

with animal waste such as cow dung and cow urine in water, accelerate the breaking down of leafy materials. The preparation of liquid fertilizers and microbial cultures are easy and quick and not necessary to wait longer like in the preparation of compost."

3. a). "Tea and rubber plantations' productivity is decreasing after years of exploiting the virgin forests that were originally converted to plantations". What are the steps that could be taken to mitigate this effect?
 - b). Discuss possibilities of using process waste in the industry to reclaim the soil, and planting suitable trees, for biomass production, on the marginal lands in the plantations now left unattended.
4. Briefly discuss the significance of the role played by in environmental design educators who work with and educate the cultural planners, city planners, architects, and engineers in order to enhance the visual aesthetic quality of the built environment in Colombo city, to remediate the current trend towards visual pollution.
5. Disposal of solid waste is a major environmental issue in Sri Lanka and at present it has become a national concern. Although hazard solid waste disposal has been identified to be one of the major causes for environmental degradation in The National Action Plan of Sri Lanka, the most common method of municipal solid waste (MSW) disposal still remains to be open dumping. Considering the present solid waste management situation in Sri Lanka, briefly discuss the social, environmental, financial and economic viability of organic solid waste management with special emphasis on composting practices.
6. Briefly discuss the importance of the global efforts to inspire and empower individuals and communities to conserve freshwater and preserve the extraordinary diversity of life that rivers, lakes, and wetlands sustain as freshwater conservation initiative.