THE OPEN UNIVERSITY SRI LANKA
MASTER OF SCIENCE DEGREE IN ENVIRONMENTAL SCIENCE
LEVEL 7
FINAL EXAMINATION -2016/2017
NEP1208 ENVIRONMENTAL ECONOMICS AND MANAGEMENT

DURATION-THREE (03) HOURS

Date: 12th November 2017	Time: 09.30 a.m. -12.30 p.m.

Instructions:
> Answer **four (04) questions**. Select at least **two (02)** questions from each part

Part one

01. (a) "Although growth is a favourable outcome, there are long-term environmental implications, as the materials balance model suggests". Explain. *(10 marks)*

   (b) Distinguish the first law of thermodynamics and the second law of thermodynamics *(05 marks)*

   (c) Explain the following diagram. *(10 marks)*
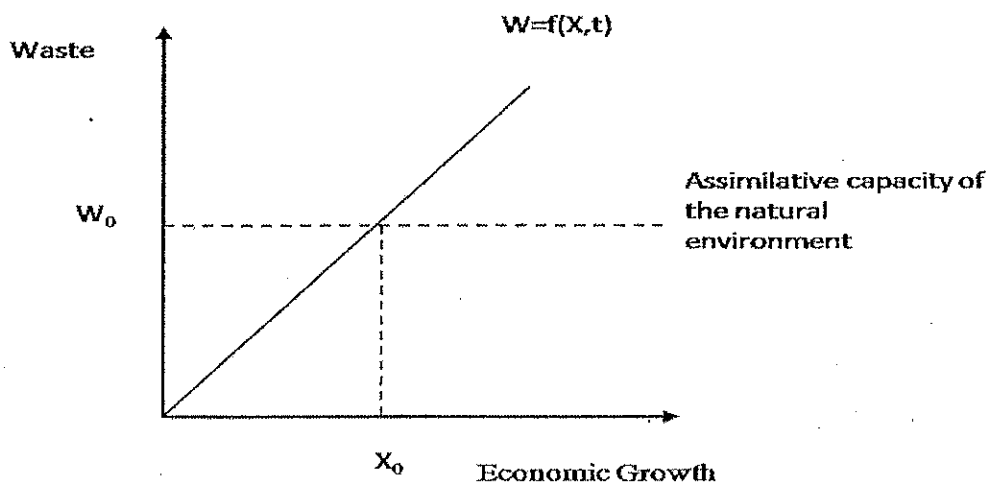
Note: The variables X and W are the level of economic growth (output) and the level of waste discharge respectively. The variable t represents technological and ecological factors.

02. (a) Distinguish between Malthusian and Ricardian economic approaches to scarcity. *(05 marks)*

   (b) According to S. Mill (1806-1873), "economic progress must be conceived as a race between technical change and diminishing returns in agriculture". Explain this statement using a diagram. *(10 marks)*

   (c) Arthur Pigou (1932) recommended "a tax on the output of industries that generate negative externalities and a subsidy on those that generate positive externalities" Explain this recommendation using a diagram. *(10 marks)*

03. (a) Define "Transactional Cost". *(05 marks)*

(b) "The Coase theorem suggests that efficient solutions to externalities can be determined through bargaining". Explain. *(10 marks)*

(c) Examine the problems with Coasian Solutions. *(10 marks)*

04. (a) Discuss the main characteristics of externalities and their implications.

(05 marks)

(b) Differentiate the marginal damage from the deadweight loss using a suitable diagram. *(08 marks)*

(c) Briefly comment on each of the following statements indicating whether it is true or false and why. *(12 marks)*

i. All externalities are bad.

ii. Externalities do not arise in communist countries.

iii. Public goods are a form of externality.

iv. Total surplus in the presence of a negative externality that has not been internalized equals: consumer surplus + producer surplus - external cost

PART II

05. (a) Distinguish market and non-market valuation techniques. *(05 marks)*

(b) Define Contingent Valuation Method. *(05 marks)*

(c) Briefly explain different stages of conducting the Contingent Valuation Method.

(08 marks)

(d) What are the various types of bias in application of the Contingent Valuation Method. *(07 marks)*

06. "Environmental economics provides the theory and logic behind arguments on the use of economic incentives and disincentives in environment and natural resource management". Explain with a suitable diagram for each. *(25 marks)*

07. (a) Define Municipal solid waste. *(05 marks)*

(b) Identify gaps existing in municipal solid waste management practices in Sri Lanka. *(10 marks)*

(c) Explain the market based instruments for solid waste management in developing countries. *(10 marks)*

08. (a) Define sustainable development. *(05 marks)*

(b) Differentiate between The Present System of National Accounting (SNA) and the environmentally adjusted net domestic product (EDP) method. *(08 marks)*

(c) What are some of policy implications of using environmentally adjusted net domestic product (EDP) method. *(12 marks)*

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